CONFIRMED MINUTES

SPECIAL COUNCIL MEETING

2 MAY 2023

I certify that the minutes of the meeting of the Special Council held on Tuesday, 2 May 2023 were confirmed on Tuesday, 9 May 2023.

Presiding Person

CONFIRMED MINUTES
SPECIAL COUNCIL MEETING
2 MAY 2023

ATTENTION/DISCLAIMER

The purpose of this Council Meeting is to discuss and, where possible, make resolutions about items appearing on the agenda. Whilst Council has the power to resolve such items and may in fact appear to have done so at the meeting, no person should rely on or act on the basis of such decision or on any advice or information provided by a Council Member or employee, or on the content of any discussion occurring during the course of the Meeting. Persons should be aware that regulation 10 of the *Local Government (Administration) Regulations 1996* establishes procedures to revoke or change a Council decision. No person should rely on the decisions made by Council until formal written advice of the Council decision is received by that person.

The Shire of Mundaring expressly disclaims liability for any loss or damage suffered by any person as a result of relying on or acting on the basis of any resolution of Council, or any advice or information provided by a Council Member or employee, or the content of any discussion occurring during the course of the Council Meeting.

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1.0 OPENING PROCEDURES

The Presiding Person declared the meeting open at 6.32pm.

Acknowledgement of Country

Shire of Mundaring respectfully acknowledges the Whadjuk people of the Noongar Nation, who are the traditional custodians of this land. We acknowledge Elders past, present and emerging and respect their continuing culture and the contribution they make to the region.

Recording of Meeting

Members of Council and members of the gallery are advised that this meeting will be livestreamed and audio-recorded.

1.1 Record of Attendance

Council Members	Cr James Martin (President) (Presiding Person)	South Ward
	Cr Trish Cook	South Ward
	Cr Luke Ellery	South Ward
	Cr Paige McNeil (Deputy President)	Central Ward
	Cr Doug Jeans	Central Ward
	Cr Amy Collins	Central Ward
	Cr John Daw	East Ward
	Cr Claire Hurst	East Ward
	Cr Neridah Zlatnik	East Ward
	Cr Karen Beale	West Ward
	Cr Jo Cicchini	West Ward
Staff	Jonathan Throssell	Chief Executive Officer
	Mark Luzi	Director Statutory Planning
	Shane Purdy	Director Infrastructure Services
	Angus Money	Manager Planning & Environment
	Andrew Bratley	Coordinator Strategic Planning
	Ana Fernandez	Minute Secretary
Apologies	Cr Matthew Corica	West Ward
Absent	Nil	
Leave of Absence	Nil	
Guests	Nil	
Members of the Public	49	
Members of the Press	Nil	

2.0 ANNOUNCEMENTS BY PRESIDING MEMBER WITHOUT DISCUSSION

Nil

3.0 DECLARATION OF INTEREST

3.1 Declaration of Financial Interest and Proximity Interests

Council Members must disclose the nature of their interest in matters to be discussed at the meeting *(Part 5 Division 6 of the Local Government Act 1995).*

Employees must disclose the nature of their interest in reports or advice when giving the report or advice to the meeting *(Sections 5.70 and 5.71 of the Local Government Act 1995).*

Cr McNeil disclosed an interest in items 6.1 *(Decision made at the Special Electors' Meeting Held 19 April 2023)* and 6.2 (*Referral Advice – Revised North Stoneville Townsite Structure Plan 34)* as she has an interest in property proximal to the amended SP34 North Stoneville.

3.2 Declaration of Interest Affecting Impartiality

A Council Member or an employee who has an interest in a matter to be discussed at the meeting must disclose that interest *(Shire of Mundaring Code of Conduct, Local Government (Admin) Reg. 34C)*.

Cr Hurst disclosed an interest affecting impartiality in item 6.2 *(Referral Advice – Revised North Stoneville Townsite Structure Plan 34)* as her husband is a committee member of Save Perth Hills.

4.0 PUBLIC QUESTION TIME

15 minutes (with a possible extension of two extra 15 minute periods) are set aside at the beginning of each Council meeting to allow members of the public to ask questions of Council.

Public Question Time is to be conducted in accordance with Shire of Mundaring Meeting Procedures Local Law 2015.

	Summary of Question	Summary of Response
John Bell – Mt Helena		
1.	Has Council formed a position on what would occur if SP34 is approved by WAPC?	The CEO advised that part of the recommendation for item 6.2 of this agenda contemplates, if the WAPC was to consider approval, the conditions that the Shire would recommend be applied should SP 34 be approved. The Shire President advised that Council has not yet passed any motions of Council that have resolved what to do in the event SP34 is approved.

2.	What will be the financial impact to ratepayers should SP34 be approved?	Manager Planning & Environment advised that it is difficult to provide an estimate as the structure plan is still in motion and still changing. However, earlier estimates in the original LSRP265, 20 years prior, envisaged there to be between two to five million dollars in road contributions. There are other aspects of master planning communities that will need to be factored in as well.
3.	Does the Shire currently have a development contribution plan for North Stoneville?	Manager Planning & Environment advised that the Shire does not currently have a plan.
4.	What are the implications point 5 b) iii of the recommendation for Item 6.2? *"The preparation and approval of an agreement with the Shire regarding the provision and timing of community infrastructure in lieu of a Development Contribution Plan."*	Manager Planning & Environment advised a developer contribution plan has taken on a new meaning with new recent State Government state planning policies. Development Contribution Plans require a scheme amendment and there is a lot more rigour associated with quantity surveying and the annual review of that. These plans are normally associated with the growth corridors of Perth where you have large landholdings with large developments having to coordinate the delivery of the district oval, or something to that magnitude. Larger Local Governments are well versed in Development Contribution Plans, however with Local Governments like the Shire, these agreements have been dealt with directly with the developer in the past. There is still the ability to do that, and that is what we are recommending in this situation. There is legal obligation on the developer through the *Planning and Development Act* to provide for roads and therefore these do not need to be included in the agreement but other commitments by the developer such as public infrastructure and facilities do need to be resolved with the Local Government as they will ultimately be responsible for maintaining those assets.

Greg Jones - Stoneville		
1.	Is Council aware: • That the inputs that Satterley's consultants have elected to use for the Simulation Modelling report, use incorrect assumptions regarding fire ignition points and predicted fire direction and lower value data for input into the parameters required for fire prediction including: o Non-historical theoretical ignition points and fire directions without any predictable factored wind changes and have used average wind speeds over several hours and not peak wind speeds gusts experienced at the fire fronts. o Weather forecasting information from other remote weather stations with lower value data and located well away from the actual bush fires quoted; and o Not used any worst case scenario data and have used dumbed down data to produce dumbed down results? • That the report ignores the impacts of the prevailing winds from either the west or the east from the subject site and has refused to use the data from the 2008 Parkerville Stoneville bush fire? • That the bushfire management plan states JBS&G considers a bush fire approaching from the west to be the worst case bush fire scenario in terms of impact to the project area? • That a bush fire approaching from the west would heavily impact the SP34 development site and the bush fire simulation modelling would completely fail to produce a favourable outcome for the developer?	Manager Planning & Environment advised the Shire has sought professional advice on the modelling report which has identified some aspects that have detailed in the report of item 6.2 of this agenda.

5.0 PRESENTATIONS

5.1 Deputations

1.	Jenny Johnson	Item 6.2 - Referral Advice – Revised North Stoneville Townsite Structure Plan 34
2.	John Bell	Item 6.2 - Referral Advice – Revised North Stoneville Townsite Structure Plan 34
3.	Debra Bishop	Item 6.2 - Referral Advice – Revised North Stoneville Townsite Structure Plan 34
4.	Cleo Williams	Item 6.2 - Referral Advice – Revised North Stoneville Townsite Structure Plan 34
5.	Peter Brazier	Item 6.2 - Referral Advice – Revised North Stoneville Townsite Structure Plan 34

COUNCIL DECISION MOTION			**SC1.05.23**
Moved by	Cr Ellery	Seconded by	Cr Zlatnik

That in accordance with clause 4.6(4) of the *Shire of Mundaring Meeting Procedures Local Law 2015* Deputations be extended by a further 15 minutes.

CARRIED 11/0

For: Cr Martin, Cr Cook, Cr Ellery, Cr McNeil, Cr Collins, Cr Jeans, Cr Daw, Cr Hurst, Cr Zlatnik, Cr Beale and Cr Cicchini.

Against: Nil

At 7:02 pm, Cr Cicchini left the meeting.
At 7:04 pm, Cr Cicchini returned to the meeting.

6.	Jo Sheil (Stoneville Parkerville Progress Association)	Item 6.2 - Referral Advice – Revised North Stoneville Townsite Structure Plan 34

5.2 Petitions

Nil

5.3 Presentations

Nil

At 7:05 pm, as Cr McNeil had previously declared a Proximity interest in Item 6.1 and 6.2 she left the meeting during deliberation on these items.

6.0 REPORTS OF EMPLOYEES

6.1 Decision made at the Special Electors' Meeting Held 19 April 2023

File Code	GV.MTG 10.2
Author	Megan Griffiths, Acting Chief Executive Officer
Senior Employee	Megan Griffiths, Acting Chief Executive Officer
Disclosure of Any Interest	Nil
Attachments	Nil

SUMMARY

A Special Electors' Meeting (SEM) was held on 19 April 2023.

During the meeting, electors considered one motion. The motion was carried and becomes the decision from the meeting. This report provides a response to the decision from the SEM.

BACKGROUND

In accordance with section 5.33 of the *Local Government Act 1995* Council must consider all decisions made at an elector's meeting at the next ordinary Council meeting, or if that is not practicable, at the following ordinary meeting, or a special meeting called for the express purpose of considering the electors' meeting decisions.

However, due to the fact that a Special Council Meeting has been called for 2 May 2023 to consider the Shire's referral response to the WA Planning Commission's (WAPC) reconsideration of Structure Plan 34 – North Stoneville (SP34); Council has an opportunity to consider the decision made at the Special Electors' Meeting held 19 April 2023 at the 2 May Special Council Meeting, rather than waiting until the next Ordinary Council Meeting.

STATUTORY / LEGAL IMPLICATIONS

Local Government Act 1995

5.33. Decisions made at electors' meetings

(1) All decisions made at an electors' meeting are to be considered at the next ordinary council meeting or, if that is not practicable —
(a) at the first ordinary council meeting after that meeting; or
(b) at a special meeting called for that purpose,
whichever happens first.

(2) If at a meeting of the council a local government makes a decision in response to a decision made at an electors' meeting, the reasons for the decision are to be recorded in the minutes of the council meeting.

It is relevant to note that Council is not bound by the decisions of an elector's meeting. Council is required to 'consider' the elector's meeting decisions, but is not obliged to make a decision in response to any of the elector's meeting decisions. For example, Council

might choose to note the SEM decision, but take no further action. However, should Council make a decision in response to an SEM decision, it must record the reasons for the Council decision in the minutes of the Council meeting.

POLICY IMPLICATIONS

Nil

FINANCIAL IMPLICATIONS

Nil

STRATEGIC IMPLICATIONS

Mundaring Strategic Community Plan 2020 - 2030

Priority 4 - Governance

Objective 4.4 – High standard of governance and accountability

Strategy 4.4.8 – Compliance with the Local Government Act 1995 and all relevant legislation and regulations

SUSTAINABILITY IMPLICATIONS

Nil

RISK IMPLICATIONS

Risk: Reputation Council fails to consider the decision made during the Special Electors' Meeting.		
Likelihood	**Consequence**	**Rating**
Unlikely	Minor	Low
Action / Strategy		
This report considers the decisions made during the Special Electors' Meeting.		

EXTERNAL CONSULTATION

Nil

COMMENT

The decision from the SEM on 10 April 2023 (SEM2023.04.06) is:

The Shire of Mundaring Submission to DPLH RE: amended 34 – North Stoneville Plan critically evaluate the following:

1. *Limitations of bushfire simulation modelling*
2. *Inclusion of non-existent East Link as fundamentally supporting the Structure Plan*
3. *Limitations of traffic modelling utilised (North Parkerville not included)*
4. *Limitations of the Wastewater Treatment design and disposal*
5. *Significant impact/ loss of endangered Black Cockatoo Habitat*
6. *Omitted events and inconsistencies in factual information/ data across reports*

7. *Destruction of Heritage Sites and implications of Aboriginal Cultural Heritage Bill 2023 (July 1st)*
8. *Limitations of the bushfire evacuation plan*

The purpose of this Special Council Meeting is to consider the Shire's referral response to the WA Planning Commission's (WAPC) reconsideration of Structure Plan 34 – North Stoneville (SP34).

A detailed report is contained within this meeting agenda for that purpose and these matters are addressed in that report.

VOTING REQUIREMENT

Simple Majority

COUNCIL DECISION RECOMMENDATION			**SC2.05.23**
Moved by	Cr Daw	Seconded by	Cr Zlatnik

That Council notes the decisions made during the Special Electors' Meeting held on 19 April 2023.

CARRIED 10/0

For: Cr Martin, Cr Cook, Cr Ellery, Cr Collins, Cr Jeans, Cr Daw, Cr Hurst, Cr Zlatnik, Cr Beale and Cr Cicchini

Against: Nil

COUNCIL DECISION MOTION			**SC3.05.23**
Moved by	Cr Cook	Seconded by	Cr Hurst

That in accordance with clause 12.1 of the *Shire of Mundaring Meeting Procedures Local Law 2015,* Council suspends clause 6.11 of that Local Law - *Duration of Speeches.*

CARRIED BY ABSOLUTE MAJORITY 10/0

For: Cr Martin, Cr Cook, Cr Ellery, Cr Collins, Cr Jeans, Cr Daw, Cr Hurst, Cr Zlatnik, Cr Beale and Cr Cicchini

Against: Nil

In accordance with clause 12.2 of the *Meeting Procedures Local Law 2015,* the Presiding Person ruled that Council Members were able to speak for a maximum of six minutes during debate of item 6.2.

6.2 Referral Advice - Revised North Stoneville Townsite Structure Plan 34

File Code	PS.TPS 4 4.3.0.34
Author	Angus Money, Manager Planning & Environment
Senior Employee	Mark Luzi, Director Statutory Services
Disclosure of Any Interest	Nil
Attachments	1. Revised SP34 Report (Parts 1 & 2) ⇩ 2. Previous Structure Plan 34 - Plan (refused - 2020) ⇩ 3. Local Subdivision and Infrastructure Plan 265 (approved - 1999) ⇩ 4. Peer Review - Traffic Impact Assessment ⇩ 5. Peer Review - Evacuation Model ⇩ 6. Peer Review - Bushfire Management Plan / Evacuation Model ⇩

SUMMARY

The Shire has been invited to make a submission to the Western Australian Planning Commission (WAPC) on an amended version of the North Stoneville Structure Plan 34 (SP34 – refer to **Attachment 1**).

SP34 is a legacy site; recognised as Urban within the Metropolitan Region Scheme (MRS). The MRS, in conjunction with the Shire's Local Planning Scheme No.4 (LPS4), provides for an urban structure plan to be considered on the site.

This report is focussed on the reasons for refusal of the previous structure plan SP34 (**Attachment 2**) and the extent to which the revised proposal addresses Shire / WAPC concerns raised.

Measures taken to revise SP34 are acknowledged, including a reduction in lots, a preparedness to upgrade intersections early and the dedication of additional conservation land.

However, the revised SP34 continues to fail to coordinate transport infrastructure. Further, when SP34 is adjusted to better align with bushfire requirements, the further away it moves from meeting contemporary biodiversity outcomes. By reducing the lot density and diversity, it is now more akin to a 'sub' urban or sprawl outcome.

It is recommended that Council recommend that WAPC refuse SP34.

It is also recommended that LSIP 265 be revoked, as the structure plan can no longer serve as a sound basis for contemporary planning in the Hills.

It is further recommended that Council list modifications required in a scenario where approval is contemplated by WAPC as the decision-maker.

BACKGROUND

In 1987/1988, seven possible growth options for the Shire over the proceeding 20 years were considered by Council and the community as a prerequisite to the preparation of Town Planning Scheme No. 3.

The option favoured by Council in 1990 was for a new settlement to be located to the north of the Shire in the vicinity of Cameron Road. This was considered attractive as a means for providing for self-contained urban growth in a manner, perceived at the time, to have least impact on the valued Hills environment.

The new settlement was also seen as imposing minimal pressure on Great Eastern Highway, involved infrastructure contributions to Brooking Road bypass and presented an opportunity to plan and develop in an environmentally sensitive manner.

The subject area was rezoned 'Special Purposes – Comprehensive Townsite Development' when TPS3 was gazetted in March 1994.

Local Subdivision Infrastructure Plan 265 (LSIP 265) (**Attachment 3**) was noted by the WAPC as the basis for rezoning the subject property under the MRS. When LPS4 was gazetted in 2014, LSIP 265 was continued as Structure Plan 34. LSIP 265 is currently an approved structure plan under LPS4, which the current application intends to modify.

The table below contains a summary of previous decisions regarding the subject property.

Date	Action/Decision
August 1990	North Stoneville selected by Shire as a site for a new townsite.
March 1994	Gazettal of Town Planning Scheme No.3 (TPS3).
January 1997	LSIP 265 lodged and request to initiate MRS Amendment made.
July 1997	LSIP 265 advertised for public comment.
December 1997	Council report prepared on submissions. Decision was to defer a final decision pending additional work being undertaken.
February 1998	Council resolved to approve LSIP 265. At the time, LSIPs required approval from both the Shire and WAPC. This was changed by the Regulations in 2015, which withdrew determining powers from local governments. Specifically, information was to be provided on: • Salinity • Staging and implementation • Preparation of a Precinct Plan for the Village Centre Precinct • Removal of battleaxe legs • Cost-sharing arrangements related to road design and construction

	• Negotiations with Swan Transit for the extension of existing bus services; and • Development of the commercial centre that is commensurate with anticipated population growth.
January 1999	After modifications were made, WAPC notes LSIP 265 as the basis for rezoning under the MRS.
July 2000	MRS amendment 1019/33 advertised. The purpose of this amendment was to transfer land in the North Parkerville and North Stoneville townsites into the Urban zone. The Environmental Protection Authority (EPA) determined that the amendment did not require further environmental assessment.
April 2003	MRS Amendment 1019/33 approved. The MRS amendment was modified by the WAPC such that, rather than proceed with the rezoning to Urban, it instead be rezoned to Urban Deferred primarily due to issues relating to waste water treatment associated with development of this land.
September 2008	Council resolved to advise the WAPC to lift the Urban Deferred status of subject property pending review of LSIP 265.
February 2014	Local Planning Scheme No. 4 Gazetted and LSIP 265 adopted as SP34, with an obligation on the proponent to review LSIP 265.
November 2016	Urban Deferred status lifted. The parts zoned Urban Deferred under the MRS were then zoned Urban.
August 2019	Council resolved to recommend to the WAPC that SP34 be refused (**SC9.08.19 - Link - Council Minutes - SP34**)
July 2020	SP34 was refused by the WAPC, as it was not satisfied that bushfire risk arising from the proposal is acceptable having regard to the objectives and intent of State Planning Policy 3.7 - Planning in Bushfire Prone Areas (SPP3.7), the Guidelines for Planning in Bushfire Prone Areas, and State Planning Policy 3.4 - Natural Hazards and Disasters. In addition, the WAPC was not satisfied that the proposal appropriately addressed State Planning Policy 2.0 Environment and Natural Resources and State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region given the extent of clearing of vegetation required to facilitate development.
July 2020	Council resolved to endorse a MRS Amendment report and request the WAPC to amend the MRS zoning of 4685 (Lot 48) Stoneville Road from Urban/Rural to Rural (**SC1.07.20**) Link - Council Minutes - MRS Amendment.

June 2021	The WAPC resolved to defer making a decision regarding the MRS Amendment.
November 2022	The State Administrative Tribunal (SAT) made orders for the applicant to provide an amended SP34 and any supporting information to the WAPC by 31 January 2023. The SAT also invited the WAPC to reconsider its refusal decision before 30 June 2023.

The Shire's role in administering the initial assessment process under *Part 4 – Structure plans Section 17 & 18* was fulfilled in August 2019. At that stage, Council raised numerous concerns with the SP34, and resolved to recommend it be refused by WAPC for five principal reasons:

1) Community safety due to capacity constraints on the surrounding road network.
2) Absence of a coordinated response to provision / upgrade/ contribution toward road infrastructure.
3) Bushfire risks.
4) Environmental impact; and
5) Public transport concerns.

WAPC's refusal decision was issued primarily in relation to state planning policies relating to bushfire risks (evacuation), natural hazards and disasters and the proposed extent of vegetation clearing. The proponent lodged an appeal, and WAPC's reasons for refusal thereafter set the scope of the State Administrative Tribunal mediation.

Following a lengthy two year mediation process between the proponent and the State, the State Administrative Tribunal (SAT) ordered the WAPC reconsider its refusal of SP34. The Shire has requested to be a party to the mediation, but to date, has not been invited. It is understood various state agency positions may have informed the latest iteration of SP34.

In July 2022, Council's concerns regarding the suitability of SP34, or other urban structure plans, resulted in a request to WAPC to initiate an amendment to the Metropolitan Region Scheme; changing the site from Urban to Rural. WAPC is yet to make a decision to initiate and advertise the amendment.

The following analysis involves three parts:

a) Identifies relevant legislative and policy changes since the previous WAPC decision.
b) Identifies how the revised SP34 addresses the reasons for refusal, Shire (blue) and WAPC (red) in relation to:
    i. Traffic
    ii. Bushfire; and
    iii. Environment.

    Not all the issues raised by the Shire were sustained by WAPC in its decision. As such, these have not been re-examined.
c) Commentary is provided on outstanding issues, to inform requested modifications if approval is contemplated by the determining body.

Planning Framework Changes

Before considering SP34 plans, and the Shire's position on the latest changes, it is appropriate to reflect on the 'planning framework' more generally. This term relates to the collective operation of both strategic and statutory planning tools.

High level strategic plans guide the growth in the Perth and Peel region, that then cascade down to local government based planning controls that apply on an individual lot.

The planning system seeks to reconcile two conflicting principles 1) a level of predictability and certainty over the long term, and 2) flexibility to respond to new circumstances.

Strategic plans attempt to set out a plan for the future, based on the best information at that time. As information and knowledge grows the planning framework must also be reviewed and respond.

Since Council's initial response in August 2019, there have been numerous changes to the local and state planning framework. Changes considered relevant to SP34 are identified in the table below:

Date	Key Changes in Planning Framework since August 2020
August 2020	WAPC refused SP34
Dec 2020 and 2021	Amendments to the Regulations, with the most notable changes including: - A new 10-year limited lifespan of Structure Plans (WAPC endorsed LSIP 265 in January 1999 [24 years ago]). - Powers allowing WAPC to revoke previous approvals to structure plans that are inconsistent with legislation and state planning policies under *Schedule 2 Part 4 Clause 28 of the Regulations*.
2021	Introduction of Version 1.4 of the Guidelines for Planning in Bushfire Prone Areas, including new sections relating to: • Legacy approvals and discretionary decision making which provides guidance on how to consider planning applications where previous approvals have been issued prior to SPP3.7 (2015). These guidelines will be discussed in more detail below. • Guidance on requirements for an emergency evacuation plan. Revised Draft SPP3.7 and Guidelines were released during the preparation of this report (21 April 2023). These have not been referred to further as DPLH have explicitly stated that the latest version of the Guidelines are for public comment and are not intended for 'decision-making'.

2021	*Draft State Planning Policy 2.9 - Planning for Water (SPP2.9)*, which promotes the use of recycled water, a connection to sewer, the revegetation / rehabilitation of waterways.
2022	Shire's Public Open Space Strategy and the Shire's renewed expectation for 5% POS contributions to continue to form part of the Shire's position was again forwarded to the Commission in November 2022 for approval to advertise. As will be discussed, 5% Public Open Space contribution for Rural Residential lots appears not to form part of the revised proposal. The Shire contains approximately 6,810 hectares of POS which is 6,583 hectares more POS than is required (based on a 10% POS for urban areas). As a result, the Shire adopted a strategic position to be far more circumspect when invited to manage additional Crown land. *"…When identifying POS to be ceded in subdivisions, preference should be given to land that:* • *is contiguous with existing POS and/or watercourses;* • *will have community benefit and environmental significance; or in the opinion of Council has -special historical or cultural significance* *Before supporting the creation/management of POS, the Shire may consider the following, in addition to any other relevant planning matters:* • *the location of proposed POS is appropriate, taking into account matters such as bushfire risk;* • *if there is a demonstrated public need that is currently not being met warranting its creation;* • *if the land is needed to protect an historical artefact of cultural importance;* • *appropriate measures for management of the land the designation is supported by appropriate technical reports…."*
2023	The Local Biodiversity Strategy (LBS) and Watercourse Hierarchy Strategy (WcHS) were adopted by Council.

Changes made to SP34

All documentation associated with the revised proposal can be found here – Link - *Amended SP34 Proposal*. Because it was not made clear, Figure 1 has been prepared by Shire officers to outline the key spatial changes proposed. .

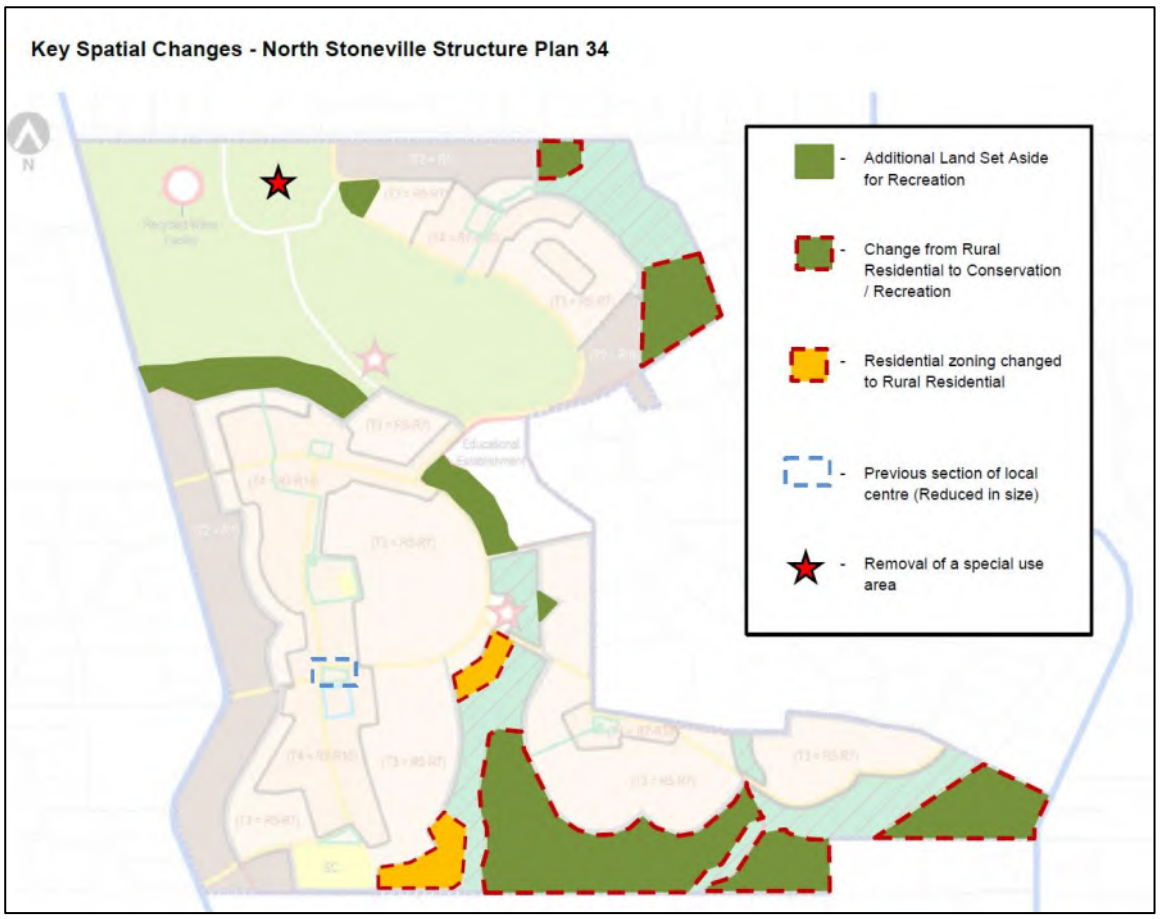


Figure 1. Key Spatial Changes

Other changes of note that have been made to SP34 since previously considered by Council in August 2019:

1. 1400 lots to 1,001 lots.
2. Lot size diversity and density reduced (removal of medium density in favour of larger residential lots). Residential zoned properties with density bands of R5-R12.5 and R12.5-R25 being replaced with density bands of R5-R7 and R7-R10.
3. Conservation reserve increased from 100ha to 193ha (including special use site 11ha adjoining waste water plant).
4. Estimated population reduced from 3,948 to 2803 residents.
5. Lot 1 (340 Roland Road) no longer forms part of SP34. This change results in a proposed school now being fully contained on 4685 Stoneville Road, and no Rural Residential zoned lots in between the school site and the outer boundary of the structure plan area.
6. Potential 'Special use' locations being reduced from three to two.
7. Rural Residential zoned lots in the south-eastern portion of the structure plan area being replaced by conservation/recreation areas.
8. Remaining Rural Residential lots proposed to be cleared to an Asset Protection Zone standard.

9. The local centre being reduced in area resulting it being contained on the south-eastern corner of an intersection for connector roads.
10. More 'T4' precinct areas now being proposed which according to the Transect Design Guide will allow for some mixed uses (the intended uses are not specified).

STATUTORY / LEGAL IMPLICATIONS

Planning and Development (Local Planning Schemes) Regulations 2015

Section 31 of the *State Administration Tribunal Act 2004*, allows for matters the subject of appeal to be reconsidered by the original determining authority. Clause 22 of the Deemed Provisions provides that the WAPC may approve or refuse a proposed structure plan.

If approved, the Structure Plan must be given due regard by relevant decision makers when determining relevant proposals, including applications for development and subdivision approval under clause 27 of the Deemed Provisions.

Structure Plan approvals are usually for a period of 10 years (now being the default under clause 28 of the Deemed Provisions), or as specified in a condition of approval.

Metropolitan Region Scheme

4685 (Lot 48) Stoneville Road is zoned Rural and Urban under the MRS. Figure 2 shows the extent of the Rural and Urban zones under the MRS.

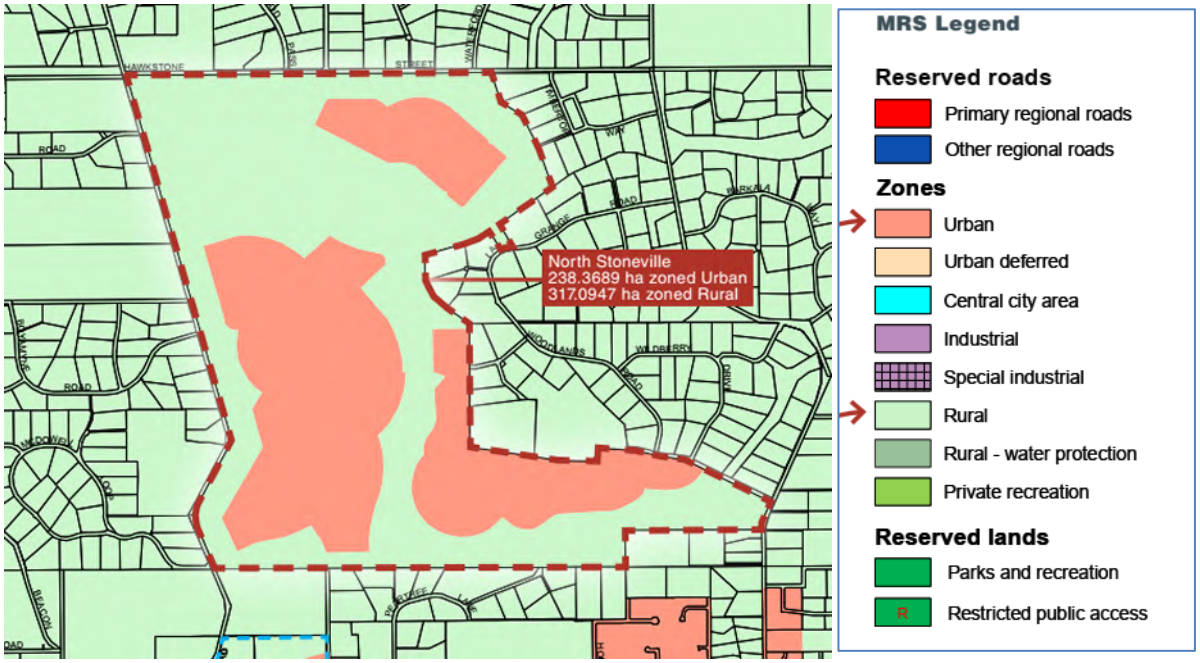


Figure 2 – Existing MRS zonings for the structure plan area

Local Planning Scheme No. 4

4685 (Lot 48) Stoneville Road is zoned 'Development' under LPS4, which establishes the statutory basis for a revised structure plan to be required.

POLICY IMPLICATIONS

There are no policy implications in making a referral response to the WAPC, noting that the WAPC must give due consideration to state planning policies in reconsidering the matter.

State Planning Policies (SPP) are regarded as high level land use policies that can relate to specific issues or locations. Policies, such as the *State Planning Policy 3.7 - Planning in bushfire prone areas*, cannot be applied in a mandatory way and cannot limit the operation of a scheme.

Policies are a mechanism to guide discretion. A planning scheme, including the Metropolitan Region Scheme, has effect as if enacted by the *Planning and Development Act 2005*. Policy is different. A state planning policy, even if gazetted by the governor, is not law. Policy must be weighed and balanced in the exercise of discretion.

WAPC (and SAT) are therefore statutorily compelled to consider SP34 given the MRS Urban zone and cannot interpret and apply SPP's as absolute mandatory requirements.

FINANCIAL IMPLICATIONS

If WAPC refuse SP34 again, the matter could proceed to further mediation or a final hearing, with SAT determining the matter. If the Shire is granted its request and is able to become a party to the mediation, this would incur legal costs.

Should SAT or the WAPC resolve to approve SP34 in its revised form, officers note the following exposure to significant costs including:

1. Road infrastructure shortfalls due to the absence of a district transport plan endorsed and by the State across City of Swan, MRWA and the Shire. This may, for example, result in the Shire having to pursue land acquisition and significant work costs to construct a Roland Road realignment with Brooking Road or other associated works;
2. Management of additional conservation reserves, including long strips of land that abut residential areas to an Asset Protection Zone standard; and
3. Shortfalls in relation to meeting future recreational needs may occur, with the absence of a senior oval within the revised SP34 plan.

Notwithstanding Council's strong opposition to an urban townsite in the location – the revised proposal involves 25% less lot yield, which will reduce future rates income and the funds available to manage public reserves.

STRATEGIC IMPLICATIONS

Mundaring Strategic Community Plan 2020 - 2030

Priority 3 - Built environment

Objective 3.3 – Regulated land use and building control to meet the current and future needs of the community

Strategy 3.3.1 – Incorporate appropriate planning controls for land use that meet current and future needs without compromising the highly valued character of the natural and built environment

Local Planning Strategy

Council's resolution to seek an MRS amendment to rezone the site from Urban to Rural renders the existing expectations within the Shire's adopted Local Planning Strategy (LPS) as largely obsolete.

However, as the LPS is also a WAPC endorsed strategy (endorsed in 2013), it will remain relevant for decision makers. The Shire's Local Planning Strategy (LPS) is aligned to the State's strategic planning framework and contains specific strategies related to SP34 (LSIP 265).

Local Planning Strategy	Revised SP34
"Require further review of LSIP 265 once urban deferment is lifted, including reconsideration of wastewater treatment plant site (including buffer and woodlot) if wastewater treatment for this development area is to take place outside of the LSIP area.	SP34 represents a review of LSIP 265. Waste water is intended to be managed within the site.
Seek to achieve at least equivalent protection of local natural areas in a review of LSIP 265.	SP34 achieves a greater level of environmental protection compared to LSIP 265 (addressed separately in this report).
Review existing work on external road network upgrading requirements based on review of LSIP 265 and determine cost sharing contributions, developer and Shire responsibilities, and timing of required actions for external road upgrading. Identify and progress any other land transactions required to enable required external road upgrading.	The DPLH were provided the Shire's initial work on a district traffic assessment, to work through matters with relevant agencies. The Shire remains unconvinced that the Traffic Impact Assessment (TIA) sufficiently commits to the necessary road upgrades as detailed below. Officers advise that in the absence of another agreement, the planning system cannot reasonably impose the level of contribution to external roads previously envisaged under LSIP 265.
Include appropriate consultation and negotiation with the City of Swan in the review of LSIP 265 and external road network construction and upgrading requirements.	As above
Negotiate with the Public Transport Authority and, if needed, actively lobby for timely provision of public transport to the townsite once urban development proceeds.	Lobbying for better public transport to the townsite would occur if/when development proceeds noting the proponent is prepared to enter into discussion regarding a privately operated bus.

Upon lifting of urban deferment, progress renaming of area to a separate locality distinct from Stoneville."	Renaming the area to a separate locality distinct from Stoneville would only need to be progressed should SP34 be approved by the WAPC.

In considering the Shire's request to rezone the site, the WAPC resolved to undertake a review of the Hills settlement pattern. This gesture is acknowledged and it is important the State contributes to the role the Hills should play in accommodating future housing needs. However, officers suggest that this not be an in-house review completed by DPLH officers, but that the exercise be an open, inclusive and transparent process with opportunities for community involvement and as part of the Shire's review of LPS scheduled for 2025/26.

SUSTAINABILITY IMPLICATIONS

There are no sustainability implications in providing a referral response on SP34.

A proposal of this kind has various competing sustainability elements with those most relevant discussed in the comment section below. Whether a discrete urban townsite in a rural area is a sustainable growth proposition is not the subject of this report.

Residential density can be a source of much debate. Higher residential densities positioned close to centres provide greater efficiency and sustainability benefits, in terms of limiting sprawl, facilitating more walkable / viable commercial hubs, public transport and increasing the number of residents served per kilometre of road and other infrastructure.

Previously SP34 proposed various density codings ranging from RR2 to R80. Although the Shire raised some concerns regarding evacuation, there was no major concerns raised by the Shire in relation to the arrangement of densities.

In broad terms, a key question is whether the revised proposal represents a more sustainable urban form proposition.

Land is a valuable non-renewable resource. If the site must be developed, efficient use must be made of it. On this basis, the revised SP34 could arguably be a less sustainable response given:

- Reduction in lot density and diversity reduces walkability and increases car-dependence. Lot proposed between 1012sqm-2000sqm still require upkeep and are less likely to fulfil social needs for greater housing options for 'ageing in place', downsizing or provide affordable alternatives for young families.
- 25% reduction in lots (and therefore retail spending in the area) will affect the viability and retail offering and retail floor space; triggering the need for more car trips to centres outside of the locality. Of note, the reduced residential catchment has not been factored into the proponent's Commercial Strategy.

From an environmental perspective, 46 additional hectares are proposed to be designated for conservation. Almost twice as much land is proposed to be ceded to the Shire (from 100ha to 193ha). Notwithstanding the net environmental benefit of the additional conservation land, the Shire is ultimately responsible for managing the reserves and the locality in the long term. Council may wish to reflect on the prospect, that – and

notwithstanding Council's strong opposition to a urban townsite in the location – if approved, the revised SP34 proposes a 25% reduction in rate revenue, and with almost a 100% increase in conservation land, with new interface areas requiring intensive fuel load management.

Alternatively, Council may form the view that the environmental benefit justifies the additional management costs. Environmentally, the revised proposal performs better than the original SP34, but is a less financially sustainable proposition for the Shire as the future managing authority.

From a social perspective, the proposal continues to overlook the Shire's expressed recreational needs for a senior oval. Further, documentation in relation to evacuation refers to the potential for an evacuation centre within the estate; however, this facility is not committed to within the Structure Plan documentation.

If the decision maker forms the view that, the revised plan satisfies previous concerns, it is recommended the Shire advise:

1. Modifications are made to include smaller lots and reintroduce some additional medium density near the local centre into the revised SP to achieve greater alignment with the intent of LSIP 265.
2. That the Shire believes the conservation reserves proposed present an unreasonable management burden, and state agencies should be invited to accept this management burden in the first instance; and
3. SP34 be redesigned to accommodate a senior oval and commitments regarding evacuation centre be spatially accommodated within the SP.

RISK IMPLICATIONS

Risk: The revised SP34 presents some significant financial and compliance risks over the long term for the Shire.		
Likelihood	**Consequence**	**Rating**
Almost Certain	Major	High
Action / Strategy		
This report recommends a conservative and balanced approach to risk by basing its recommendation on an examination of SP34 against the relevant parts of the planning framework and consolidating its position on road infrastructure. This suggested course does not eliminate the risks but provides a prudent basis on which to respond to reputation, compliance and financial impacts.		

EXTERNAL CONSULTATION

The amended SP34 is currently being advertised by the WAPC from 10 March 2023 until 8 May 2023. As a referral authority, the Shire has been invited by the WAPC to provide a recommendation on the amended plan.

COMMENT

The Approach

Council's position has been made clear: urban development is no longer supported. This conclusion and the justification to amend the MRS is based upon an assessment of the previous SP34 proposal.

Some in the community may wish for Council to simply condemn the revised plans outright. Ultimately however, the Shire is not the decision maker of SP34; it cannot obstruct consideration of this proposal by initiating an amendment nor alter its strategic planning framework without WAPC approval.

WAPC is defending its decision. The points of contention are expressed within WAPC's reasons for refusal. It is therefore prudent for the Shire to focus its recommendation on the WAPC's reasons for refusal.

WAPC and SAT must base their assessment against the relevant aspects of the planning framework. The following has been prepared to assist in this regard.

The following analysis identifies how the revised SP34 addresses the reasons for refusal, Shire (blue) and WAPC (red) in relation to:

i. Traffic
ii. Bushfire
iii. Environment.

Not all the issues raised by the Shire were sustained by WAPC in its decision. Matters such as the waste water treatment facility and the Local Water Management Strategy were addressed in the officer's previous report.

Further, commentary is provided on outstanding issues, to inform requested modifications if approval is contemplated by the determining body.

The Proposal

Pertinent findings of the technical reports have not been elevated or clearly expressed within the Structure Plan – Part 1. Given the volume of material released, officers are concerned that the process of advertising has not afforded sufficient time to identify all errors and omissions.

Some are cosmetic (i.e. 'F'reat Eastern Highway is presented throughout TIA), but some are of material importance to the Structure Plan. It was necessary for officers to outline those identified during the assessment to be clear on the proposal before providing comment.

By way of example:

- Table 1 Percentage of natural area (Conservation)
    - 193.1169ha is not a percentage.
    - Total conservation land proposed totals 182ha as there is no Conservation Covenant No.9 (11ha) which is contrary to Table 7, illustrated on the plans.
    - A correction is also required to section 6.8 and 6.9.

- The 120ha of Rural Residential requires correction, as large portions have now been identified for Conservation reserves.
- Public Open Space calculations are incorrect in Part 2 as the proponent uses the total 'restricted' open space to total 31ha, when only 4.86ha of restricted POS can be attributed as POS. Including the Shire's 5% contribution for Rural Residential land, a total of 26.5ha is required with 25.8ha provided (i.e. a shortfall of 0.7ha). Although corrections are required, these numbers become somewhat immaterial given the vast extent of Conservation reserve proposed to be ceded.

- Part 1 - Plan 1
  - Area east of the Recycled Water Facility (RWF) is identified as a Special Use site in Figure 24 (and in other documentation in Appendices); however this use conflicts with the purpose of 'Conservation / Recreation' reserve shown in Plan 1.
  - As critical infrastructure, the RWF requires localised clearing to achieve a Bushfire Attack Level 12.5. It is represented as a circle adjacent to a Conservation Reserve and the clearing footprint is not accurately represented and may spill into, and conflict with, the intent of the Conservation Reserve proposed.
  - Plan 1 should include reference to the proposed 5m widening of Roland Road reserve, as this has a material spatial implication and alters other land calculations completed throughout reports.

- 5.0 Staging
  - As stated within the Microsimulation Evacuation Modelling Report (MEMR), upfront upgrades are required to key intersections. Both the MEMR and the Bushfire Management Plan propose limiting the development to 400 lots until Eastlink is constructed. It is unclear why these materially significant staging commitments are not embedded within Part 1 of the SP.
  - Staging, and corresponding commitments to upgrade surrounding roads/intersections should be consistent across the documentation.

- 7.0 Local Development Plans
  - Ambiguity exists regarding the ultimate lot numbers. 7.1 (f) and 7.2 makes reference to WAPC's R-MD Codes (for lots above R25 only) however this density does not form part of the revised SP34, and its assumed this is a mistake.
  - The proposed R7 density does not currently exist under the Residential Design Codes and development standards are not addressed in the Transect requirements.
  - The Residential Coding Plan is said to not be available until the time of subdivision, raising doubt about the ultimate lot numbers proposed.
  - T4 makes provision for large areas, spread out throughout the site, to contemplate mixed-use on 1000-1500 sqm lots within the Transect T4 – Village. More specific / limited areas for mixed use with smaller lots should be identified near the local centre.

- 9.0 Other Requirements

    - Clarity is required in regard to the road / intersection upgrade commitments, with officer comments / clarifications in red below.

      'In implementing the development of the subject land, as contemplated by the structure plan, the proponent will carry out and fund the following proposed road upgrades:
        - *A dedicated left turn lane ~~to~~ from Stoneville Road west bound onto Toodyay Road;*
        - *A dedicated left turn lane ~~land~~ ~~on~~ from Roland Road west bound onto Toodyay Road;*
        - *Upgrade of the proposed northern structure plan roundabout on Roland Road from Fringeleaf Road to a two lane north-bound carriageway with a 150m merge facility;*
        - *Construction of the missing portion connecting Hawkstone Street and Woolhouse Land (previously known as Cameron Road) along the northern boundary of structure plan area;*
        - *Upgrade of the intersection of Great Eastern Highway and Seaborne Street with localised widening of Seaborne Street, island treatment and a 'U' turn facility on GEH as detailed in Section 5.4 of the TIA;*

      The Microsimulation Evacuation Modelling Report states:
      'As part of NSSP [North Stoneville Structure Plan] an emergency evacuation centre to the relevant standards required by planning, building and emergency agencies, or neighbour safe places is proposed'.

      Neither the Structure Plan - Part 1 or the Bushfire Management Plan make any reference to an evacuation centre or similar and no spatial allocation / or location is specified on the Plan 1 (pg.12). Given the strict clearing footprint required, an evacuation centre should be identified within the Structure Plan – Part 1 and form part of the supporting reports, including the BMP.

As a minimum, any decision maker should expect an application to clearly express what is proposed. It is recommended the Shire recommend refusal on the basis the proposal does not comply with the content expectations of structure plans as required by Clause 16 subclause (1A) of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

The following section explores to what extent the revised SP34 addresses previous Shire / WAPC concerns raised.

TRAFFIC

Acknowledges it would be inconsistent with orderly and proper planning to support Structure Plan 34 as the traffic generated would exacerbate capacity constraints on the surrounding road network; compromising community safety.

Recommends the Western Australian Planning Commission refuse Structure Plan 34 due to the absence of a coordinated response to the provision/upgrade of/contribution toward road infrastructure.

Council

*b. the proposal has not demonstrated that vehicular access and egress serving the structure plan will be available and safe during a bushfire event, when consideration is given to the suitability of the broader existing road network in providing for the evacuation of residents and vulnerable members of the community and accommodating emergency service vehicle*s;

Western Australian Planning Commission

The Shire's main concern in relation to capacity constraints on the surrounding road network including both day-to-day traffic and in an emergency situation. Of note, WAPC's concerns were limited to ensuring safe evacuation and emergency access in a bushfire event, which has been subject to more technical justification.

In consideration of the original SP34, DPLH officers advised WAPC that:

> *Following the Council's resolution, a series of discussions were undertaken with the key stakeholders, which included representatives from MRWA, the Shire, City of Swan and the Department of Planning, Lands and Heritage. Through this process, the proponent prepared a revised TIA which proposes improvements to the broader regional road network, including the Seaborne Street/Great Eastern Highway intersection to facilitate the staged development of the site to 2031. Post-2031 the construction of Eastlink would address long term regional traffic needs in the local sub-region. As a result of these discussions, broader transport considerations arising from the proposal have largely been resolved and recent advice from MRWA has confirmed this.*

Shire officers do not share the DPLH opinion that *'broader transport consideration arising from the proposal have largely been resolved',* as will be detailed below.

In response to WAPC concerns, the applicant prepared a:

- Traffic Impact Report (TIA)
- Bushfire Simulation Modelling Report

The Shire engaged Stantec and Bushfire Prone Planning to undertake peer reviews. Before discussing the key contentions, some history regarding the traffic and road improvements in the location is necessary.

Previous Agreement

The Shire's previous approval of LSIP 265 (1505 lots) was predicated on progressing a road infrastructure contributions arrangement with the developers of North Stoneville and North Parkerville; which identified local network upgrades required to manage traffic generated from the North Stoneville and North Parkerville townsites.

LSIP 265, and the road contributions that were foreshadowed, formed the basis to support the MRS amendment. As stated within the Council minutes (24 March 1998):

> *'The proponents have acknowledged in the Technical Guidelines of the LSIP of their obligation to negotiate with Council to determine the cost-sharing arrangements relating to the planning, design, construction and/or upgrading of the external road network to provide access to the development site and to reach agreement between the two parties on the infrastructure contribution to be made to Council….*
>
> *The requirement for cost contributions shall form a condition on subdivision approval. In this regard it is point out that some form of upgrading will be required to parts of Brooking Road, Roland Road, Beacon Road, Brindle Road, Stoneville Road, Cameron Road and provision made for the Brooking Road by-pass and the Hills Spine link to Toodyay Road.'*

The agreement was overseen by the then Department of Planning (now DPLH) but was never finalised. At that time, no upgrades were identified in relation to regional intersections. Traffic volumes and interstate freight movements have significantly increased since the agreement was prepared 20 years ago.

Other aspects and assumptions regarding the wider road network have also changed, for example, and as illustrated in (Figure 3):

1. Main Roads WA has progressed investigations regarding preferred intersection locations along the future Eastlink corridor, which no longer aligns with the previous (north-south) portion of the Hills Spine Route (see 1 in the image below).
2. Based on the new interchange locations, doubt has been raised by the City of Swan, Main Roads WA and the Shire regarding the need for a Hills Spine Route (see 2).
3. The North Parkerville site remains 'Urban Deferred' (see 3), and uncertainty exists in relation to the potential contribution to road infrastructure.
4. A Roland Road by-pass to Brooking Road was envisaged to take the pressure off Seaborne Street and provide north-south access to both townsites; but now may not represent the most environmentally sound response to managing traffic volumes (see 4); and
5. Eastlink will be subject to further design work over the coming years - WAPC's sub-regional structure plan notes this as a long-term (2031-2050) initiative.

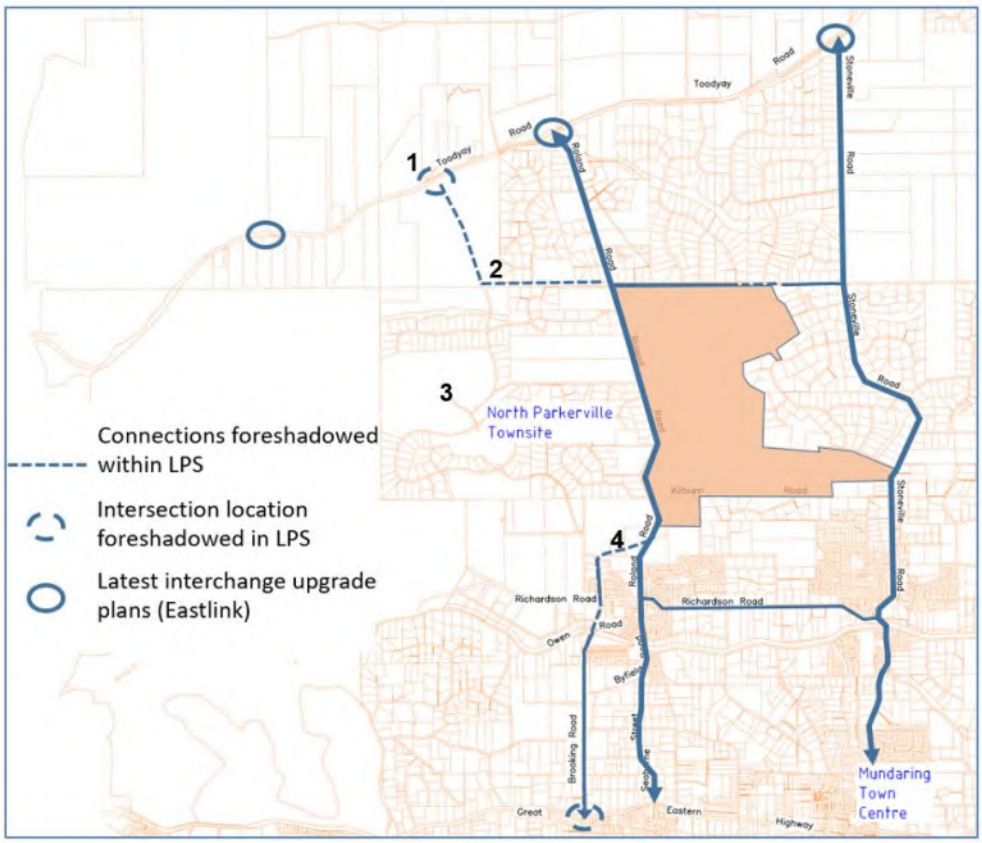


Figure 3. District Road Network Planning

After the Shire provided the WAPC with its original response to SP34, it also provided the DPLH with the progress made on reviewing the district traffic arrangements. This component of work was provided to the State because the locality involves multiple jurisdictions (City of Swan, Main Roads, and Shire of Mundaring).

LSIP 265 was supported during a period when the Shire was a determining authority and had greater traction / influence to enter into agreements. The revised SP34 involves 500 fewer lots than that proposed in LSIP 265, and the foreshadowed road upgrades 30 years ago may no longer be justified. In the absence of a State developed district transport plan, the proponent identifies improvements that, in their opinion, fairly and reasonably relate to SP34.

The TIA has been peer reviewed. A summary of the external strategic improvements and when they will be implemented are illustrated in Figure 4; noting this diagram is the Shire's officers attempt to consolidate visually statements made throughout the TIA, Bushfire Simulation Model and Structure Plan Document Part 1.

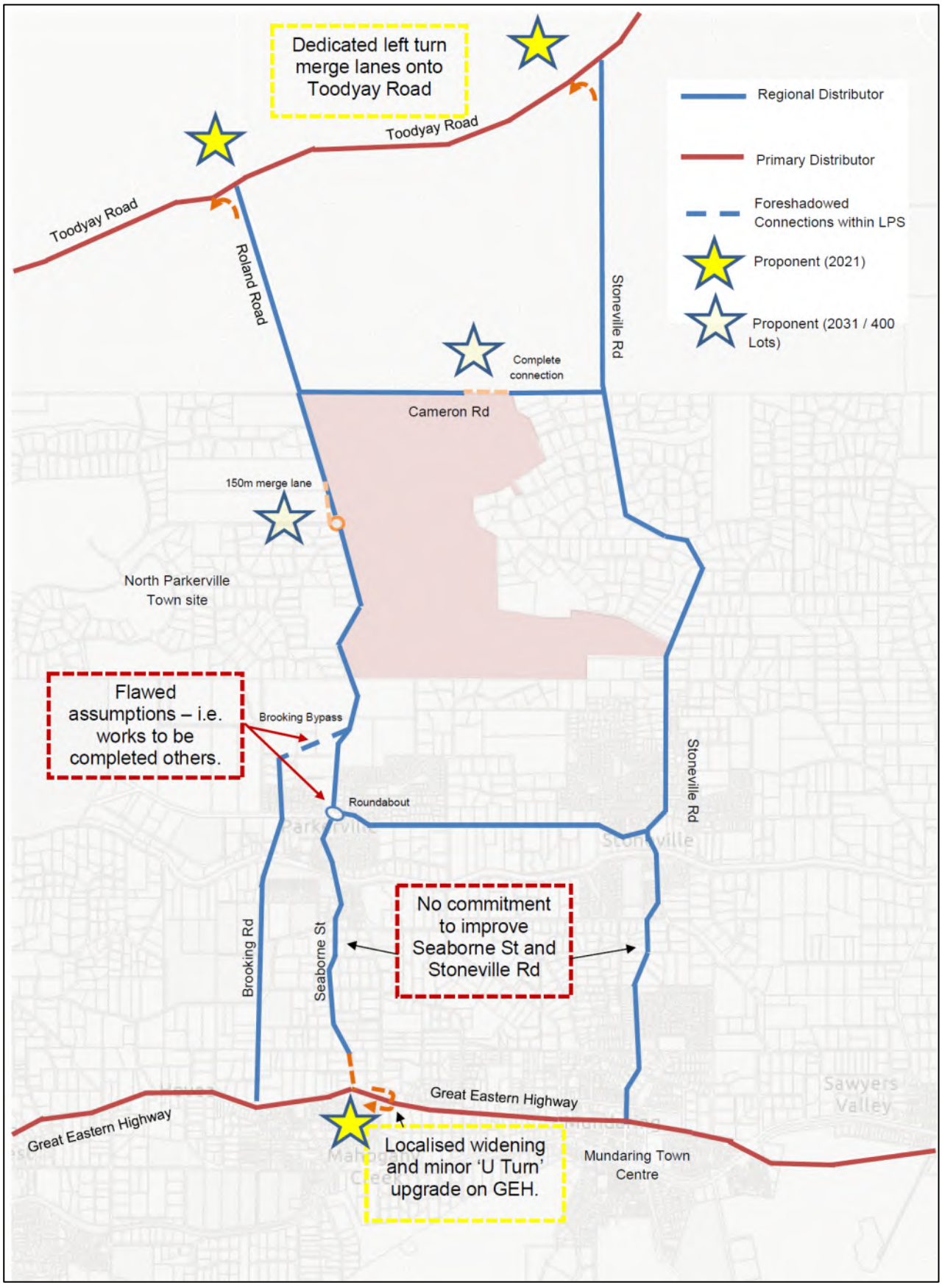


Figure 4. Revised SP34 Network Improvements (Officer concerns in red)

The TIA states:

> *'The road network developed for the model has been updated following extensive discussions with the Shire of Mundaring to include the future road network modifications planned by the Shire which include Brooking Road extension/realignment and Fringeleaf Drive eastbound extension.…'*

However, the Shire has not been involved in this project for the two year mediation process and refutes the comment 'following extensive discussions'. Officers also note the following statement in the TIA:

> *"As part of early road upgrade works, requested by WAPC, several existing intersections within the locality will be upgraded prior to commencement of LSP. This is particularly important in case of Great Eastern Highway Seaborne Street intersection as it would start experience capacity issues before 2031 and EastLink project under Great Eastern Highway traffic growth trend, regardless of the North Stoneville LSP development. Similarly, the existing Toodyay Road/Roland Road intersection will also undergo upgrade works to provide its operation and safety particularly during bushfire evacuation events.*

It is not clear on what basis the WAPC supports the proposed upgrades, however if there has been some preliminary support expressed, this is contrary to a foundational premise of LSIP 265, (adopted by WAPC) which foreshadowed more significant contributions to the surrounding road network.

The revised proposal involves 25% reduction in lots (and therefore a reduction in traffic generated from approximately 11,200 to 8,000 vehicles / day) and has concluded:

> *The existing road network at the subject locality is generally of good standard and would require only limited upgrades to support the anticipated increased in traffic activity as a result of the proposed North Stoneville LSP.*

This conclusion is not supported by the outcomes of the Shire's independent peer review (**Attachment 4**) as follows.

Capacity Constraints

The proposed access strategy in the TIA relies heavily on the intersection of Great Eastern Highway (GEH) / Seaborne Street as one of the main intersections for development traffic to access the strategic road network. Concerns regarding the capacity of the right-hand turn movement onto GEH travelling west has been addressed with a proposed U-turn facility. This involves limited intervention with the addition of signage and pavement marking at the existing Great Eastern Highway/Craven Road intersection.

The TIA states:

> *'The proposed U-turn facility at the Great Eastern Highway/Craven Road intersection plays an important role in alleviating the traffic load and improving the overall intersection operation at GEH'.*

Stage 2 of the modelling completed assumes Brooking Road deviation and Eastlink will be completed by others, and subsequently concludes that the GEH/Seaborne intersection will have improved operation when traffic is reassigned to these other routes. The Shire cannot confirm Brooking Road deviation will ever occur, and while planning is underway,

the future and timing of Eastlink is heavily dependent on significant Federal / State funding.

The crash data in Section 3.4 shows that nine (9) serious right-angle crashes have been recorded at the intersection of GEH / Seaborne Street over the past 5 years. During the preparation of this report, a fatal accident occurred on 13 April 2023 at this intersection.

SP34 will substantially intensify the demand for this movement and while the TIA includes a proposed upgrade to this intersection, the proposed upgrade does not address the high number of serious crashes recorded for this intersection. It is understood, Stage 1 (400 lots) results in the right hand turn at Seaborne Street westbound onto GEH operating at 88% capacity, which exceeds Ausroads practical threshold levels (80%) for 'un'signalised intersections.

Seaborne Street intersects with GEH on a bend, and the topography in the location is undulating. Cars turning left east-bound will need to accelerate up an incline, and move across two lanes of traffic at 80km/hr, within 270m to undertake U turn at Craven Road. SIDRA modelling assumes that 132 v/hr in Stage 1 and 150 v/hr at Stage 2 will use the U turn, although this number may be higher. The additional west-bound traffic created by the U-turn facility, will further compromise the performance of this critical intersection, yet has not been accounted for in the SIDRA modelling.

The ability to install a U–turn at Craven Street for the potential volume of traffic in terms of queuing lengths, turning circle (for cars with trailers, various trucks and Transperth buses) is likely to be inadequate without extensive work; and this also assumes sufficient space is available.

The Brooking Road / Roland realignment extension was intended to ease pressure on Seaborne Street but remains contingent on contributions from the future townsites.

Statements such as:

> "*Seaborne Street, benefitting from new Brooking road realignment route, is estimated carry up to a maximum of 1,980 vpd additional LSP traffic at the southernmost end. Similarly to Roland Road a road profile comprising 2 x3.5m wide trafficable lane and 2.5m wide shoulders with sealed width of 1.5 would also be sufficient for Seaborne Street to accommodate this level of traffic"*

Seaborne Street has a rural road configuration with a 7m carriageway width (Stoneville 8m), with comments above suggesting these roads would be need to be widened to 10 metre sealed carriageway. There is no clear commitment to contribute to future widening. Further, it may not necessarily align with the Shire's position that Seaborne Street should be widened or perform this function, particularly given the design challenges with the intersection at GEH. Instead, the Shire envisaged Brooking Road fulfilling an important north-south connection and safer connection with GEH.

Officers note the proponents seek to defer commitments:

> *'The ultimate road standards and cross-sections to be implemented will be determined during the detail design stages of the project through liaison with the local government technical departments and/or relevant state agencies. The contribution towards road network upgrades should be made on fair and equitable*

basis through appropriate development contribution schemes where funding its typically determined on impact basis.'

If the TIA assumptions were accurate, clearly presented and consistent with a broader strategy, deferring the fine-grain details and relying on the subdivision process to secure road upgrades would be reasonable at structure planning stage. The assumptions are not clear and no district plan or agreement exists. Depending on other stakeholders to complete works/upgrades, and presenting vague commitments regarding road contributions is not in keeping with the intent and spirit of the original LSIP 265. The proposal continues therefore to be inconsistent with orderly and proper planning.

If the proponent wishes to continue to disregard the principles on which LSIP 265 was based, it is recommended Council advocate that WAPC revoke LSIP 265 as a basis for structure planning in the locality.

Bushfire Simulation Modelling Report

In response to concerns raised regarding evacuation, the proponent prepared a simulation model. **Attachment 5** provides a more in-depth peer review of the evacuation model identifying some limitations of the exercise/assumptions. This type of assessment is not commonplace and there is limited policy guidance.

Although questions have been asked, it is unknown whether Main Roads WA actively participated in mediation sessions. It is understood that DFES have been involved in mediation.

The Microsimulation Evacuation Modelling Report, presumably informed by state government expectations/parameters, concludes that existing intersections at Roland / Toodyay and Stoneville / Toodyay currently fail to provide safe evacuation options for Shire of Mundaring and City of Swan residents (refer to Figure 5).

This finding vindicates the Shire's reservations regarding intersection capacity issues in an emergency situation.

The proponent now claims the development SP34 will deliver a safer evacuation scenario than the existing situation, as the revised SP34 will involve the construction of dedicated left hand turns onto Toodyay Road from Roland Road and Stoneville Road.

Officers note that another interpretation of these results is that state agencies and in particular, Main Roads WA / DFES, have not yet had the benefit of this modelling. The onus should rest with State agencies to resolve these deficiencies with the network, regardless of SP34. The modelling outcome cannot reasonably justify SP34 – and it is recommended Main Roads WA be requested to progress upgrades to Roland and Stoneville Roads as a matter of priority.

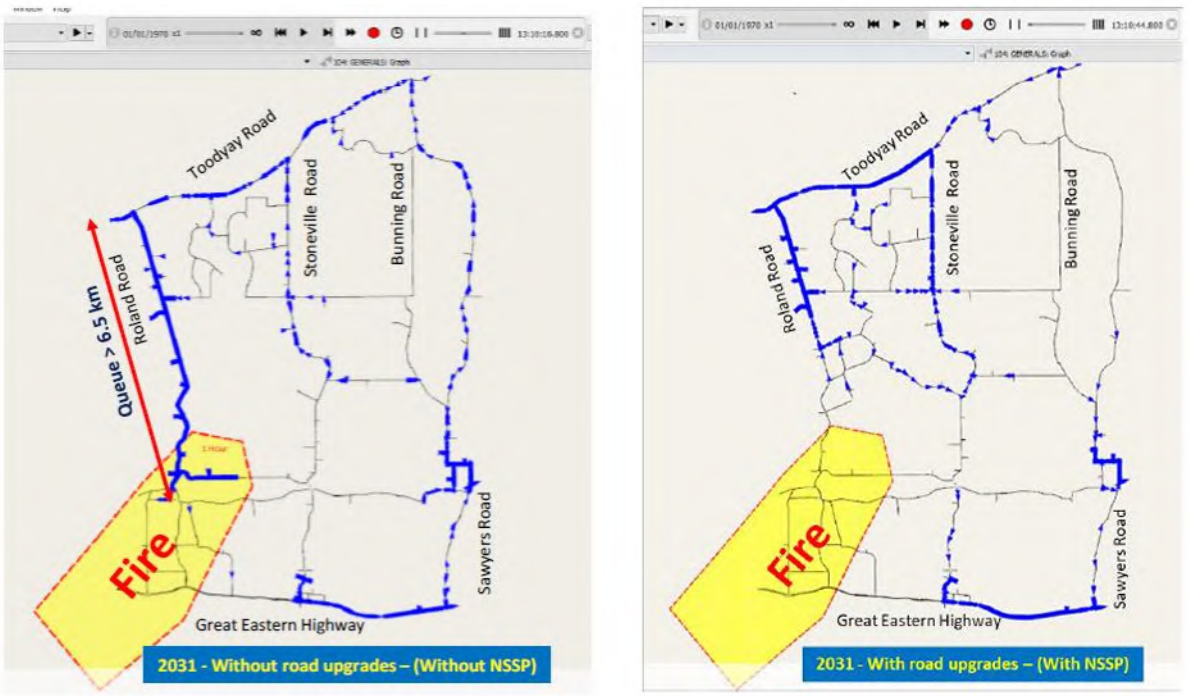


Figure 5. Evacuation model identified critical issues with northern escape onto Toodyay Road

As expressed within the peer review, the Microsimulation Evacuation Modelling Report should include a scenario that includes the closure of Roland Road as this occurred during the 2008 Parkerville bushfire event. Officers also note that Stoneville Road was closed in the Parkerville Stoneville Mt Helena Bushfire in 2014. As stated in the peer review:

> *'For the proposed development, Roland Road is the primary connecting road to the identified 'major evacuation corridors/roads' of Toodyay Road and GEH. Stoneville Road perform the same function but will not be as directly access from the proposed development site as Roland Road.*
>
> *Consequently, I question why the noted "potential for significant bushfire behaviour from the east and west of the site", has not been assessed as part of this evacuation analysis.*

The peer review also notes the microsimulation model includes limitations that could account for human behaviour. The peer review also notes the modelling provided does not address common situations where fires change direction or trees fall across roads.

Officers acknowledge that it is modelling exercise and it is a tool only. It is understood CSIRO expressed an opinion about the modelling in the local Echo newspaper, stating that:

"the science that they've employed to do this is basically the best available for the that job and they've gone to great lengths to try and ensure that it's as meaningful and applicable as possible to the conditions".

These comments are noted, but local knowledge and realities should be factored into the modelling work wherever possible.

In summary:

- The plan does not provide for the coordination of key transport infrastructure as key assumptions within the TIA are incorrect;

- TIA overly depends on the GEH / Seaborne intersection, assumes the Brooking Road / Roland realignment, widening of Seaborne Street and Stoneville Road, and Roland Rd/Richardson roundabout will be constructed by others. These assumptions generate fatal flaws in the traffic modelling, proposed intersection upgrades and staging.

- Notwithstanding a reduction in lots and therefore traffic generated, the Shire's previous concerns regarding traffic generated remain relevant as Seaborne / GEH intersection will remain unsafe and cannot be reasonably managed 'day-to-day'.

- Shire notes evacuation modelling has been completed highlighting deficiencies when accessing the regional road network from Roland and Stoneville Roads. State agencies such as Main Roads WA should be requested to address these evacuation failings independently of SP34.

- WAPC be advised that the TIA is inconsistent with their guidelines as detailed within the Peer Review in **Attachment 3**.

- The closure of Roland Road was required in 2008. The bushfire evacuation modelling should explore scenarios where the significant potential of east –west bushfires affects Roland and Stoneville Roads.

- The modelling approach should include means to simulate human behaviour as this would be an important aspect in developing more realistic evacuation simulation.

BUSHFIRE RISKS

i. *SP34 represents a Strategic Proposal under State Planning Policy 3.7, which will result in the introduction or intensification of development or land use in an area that has an extreme Bushfire Hazard Level and/or Bushfire Attack Level 40 or FZ. Zones of extreme Bushfire Hazard Level will remain within SP34 upon completion. Approval of SP34 could therefore be said to be at odds with Clause 6.7 of WAPC's SPP 3.7.*

ii. *State Planning Policy 3.7 necessitates the application of the precautionary principle (Clause 6.11); and Western Australian Planning Commission should therefore acknowledge the recent history of significant fire events in the locality, challenges of achieving safe evacuation, challenges on the capacity of cellular communications network, and the impact of climate change and an increase in more extreme weather conditions.*

Council

1. The Commission is not satisfied that bushfire risk arising from the proposal is acceptable having regard to the objectives and intent of State Planning Policy 3.7 - Planning in Bushfire Prone Areas and the Guidelines for Planning in Bushfire Prone Areas, as:

a. the proposal will result in an increase in the bushfire threat to people, property and infrastructure and will increase vulnerability to bushfire contrary to policy objectives 5.1 and 5.2 of the Policy;…

d. the proposal is not supported by the State authority responsible for emergency services; and

e. given the uncertainty that bushfire risk can be acceptably reduced or managed, the precautionary principle of clause 6.11 of SPP 3.7 applies.

2. As bushfire risk arising from the proposal is not acceptable, the proposal is inconsistent with the stated policy objective 4 of State Planning Policy 3.4 - Natural Hazards and Disasters which seeks to minimise the adverse impact of natural disasters, including bushfires, on communities, the economy and environment.

Western Australian Planning Commission

Importantly, WAPC reasons for refusal rest on judgement exercised regarding the suitability of the proposal relative to the objectives of SPP3.7 and the Guidelines. Whereas Council previously interpreted Clause 6.7 as an absolute requirement and was not sustained by WAPC.

Legacy Site

The Guidelines for Planning in Bushfire Prone Areas (Guidelines) were amended in December 2021 with some pertinent clarifications added to Section 2 – Policy Framework Overview. Under the Section 2.7, SP34 site would now be regarded as a 'legacy site', with the Guidelines making the following relevant statements:

- *Often legacy sites are unable to demonstrate compliance with SPP3.7 or Guidelines;*
- *Significant re-design may be required to demonstrate risks can be mitigated;*
- *Prior approval does not ensure a subsequent approval;*
- *Previous designs may need to be modified to achieve compliance with the bushfire protection criteria.*

In addition, the Guidelines note that some of the additional bushfire mitigation measures may include, but are not limited to:

1. improvements to the local and broader road network to facilitate improved access to and within the site
2. provision of additional emergency access ways
3. provision of additional strategic or private water tanks
4. a reduction in the number of lots
5. an increased area of public open space managed in a 'low-threat' state
6. provision of additional hazard separation.

The revised plans go some way to respond to new legacy site Guidelines, including:

1. commitment to upgrade key regional intersections upfront
2. emergency access ways are provided and widened (from 6 metres wide to 12 metres wide)
3. reticulated water is proposed
4. a lot reduction by approximately 25%
5. additional conservation land is proposed with strips adjacent to residential areas to be managed to a low threat state
6. Lot 1 has been removed which reduces the number of building envelopes (and therefore habitable development) from high bushfire risk areas, although now results in a school site (a vulnerable use) directly abutting an extreme bushfire hazard (rural land)
7. natural Living Lots will be managed entirely to a low threat / Asset Protection Zone (APZ) standards, as opposed to unmanaged vegetation being retained within the lots, attempting to reduce the bushfire risk to the lots and project area as a whole.

The revisions, as a package, could be interpreted as meaningfully addressing the new 'legacy site' criterion, but judgement must be exercised.

Officers note that the proposal does not necessarily represent a significant re-design and does not sufficiently demonstrate that bushfire risks can be mitigated without significant impact on vegetation.

A peer review was completed in relation to bushfire risks (refer to **Attachment 6**) and identified the following.

Peer Review

The peer review found that the pre-development and post-development representations of vegetation is acceptable. Concerns are raised in regard to the management obligations the plan introduces.

Management

1. Approximately 34 ha of the development site is planned to be Active POS or Special Sites. Much of this land currently supports native vegetation (with pastures on the balance). It is proposed that this land will be managed (in perpetuity) so the remaining vegetation can be regarded as low threat in accordance with AS 3959:2018 vegetation classification exclusions.

   This is a significant management requirement, and it should be identified who will have the responsibility for managing the vegetation on this land and identify the mechanism of enforcement.

   The same comments relate to the proposed management of road verges that are planned to form APZ's existing outside future lots and adjacent to conservation vegetation. Officers also add that, once verges are cleared and grasses and weeds established, regular management of verge areas must also include traffic management costs and are not straightforward fuel reduction activities for a managing authority.

2. The combined area of proposed POS and APZ's on public land potentially represents a significant management requirement.

   "Where native forest is proposed to be maintained in a low threat state it needs to be appreciated that during summer Mundaring usually has 2 to 6 significant leaf drops on very hot days when trees are stressed, in the order of greater than 2t/ha. Jarrah exhibits a strong correlation between rainfall deficit and leaf drop.

   The implication of this statement, along with other issues managing forest vegetation, is that it is a significant undertaking (cost and labour) to limit fuel loads to low threat levels through every summer consistently for large areas of Jarrah/Marri forest".

   "Natural Living Lots" will be managed entirely to low/APZ standards, as opposed to unmanaged vegetation being retained within the lots, which reduces bushfire risk to the lots and project are as a whole".

3. Smaller lots, with a greater percentage of each lot incorporated into a required and acceptable sized APZ, would present a better risk reduction outcome by reducing the extents of available unmanaged bushfire fuels within village boundaries. However, it is acknowledged this may not align with other objectives. This becomes a balancing act between environmental and/or lifestyle values versus acceptable levels of bushfire risk for decision makers.

Peer review highlights whether the proposed measures can be practically implemented and maintained for the life of the development or land use. By way of example, the Active POS and creeklines are intended to be classified as low bushfire hazard level. The peer review highlights that they could still support a surface fire – even in this state. Shire officers note that, in a drying climate, the creeklines should ideally be substantially revegetated and development set back accordingly; with bushfire risk management adjusted to accommodate important environmental restorative works, not the other way round.

It is difficult to understand how the proposed 'Natural Living Lots' will promote natural living, particularly as all vegetation on the one hectare sites is proposed to be modified to achieve fuel loads consistent with an APZ. This level of fuel reduction would only retain 15% tree canopy across the 1 hectare lots. Officers acknowledge this forms part of a package of measures, however this considered excessive, unsubstantiated by current bushfire requirements (which only require APZ standards be applied around habitable buildings not entire rural lots), and out of step with the Shire's more balanced approach to Rural Residential areas.

Landscape Hazard Assessment

The peer review notes, due to the limitations of the Guidelines, the BMP has not comprehensively addressed the potential broader landscape threats (i.e. in particular bushfire attack from embers). Beyond imposing a Bushfire Attack Level (BAL) requirement, the Guidelines do not address high load ember attacks into the site and the potential impacts of consequential fires. Yet for the proposed development, this will potentially be the greatest threat. The Guidelines do not require any assessments for large developments surrounded by extreme bushfire hazard vegetation, that differs significantly from those required for a one or two lot subdivision.

When taking a precautionary approach, officers suggest that technical compliance with the Bushfire Hazard Level Assessment within the Guidelines does not mean it is compliant and satisfactorily meets the intent of SPP3.7, in relation to the identification of and mitigation of bushfire risks. Similar to that of the evacuation assessment, additional guidance to assess landscape risks would appear worthwhile.

On this point, it may be appropriate for the WAPC to consider the relevance of any proposed changes to the Guidelines regarding landscape hazard assessment, and SP34's appropriateness in this regard.

Asset Protection Zones in Crown Reserves

A BAL contour map should be required to demonstrate that the BAL 29 requirement can be met. This is an expectation of Structure Plans as expressed within 4.2 of the *Guidelines*. The Peer review also raises concern regarding the justification for SP34 imposing APZ dimensions to achieve a BAL-19 rating as this means low fuels zones are created in conservation reserves and road verges. The Peer review notes there are other ways of managing risk such as the building construction approach.

The Shire never permits an individual owner to reduce their building construction costs by allowing substantial vegetation modification to occur on adjoining reserves. This mitigation approach establishes a very poor precedent.

Clearing Footprint – Critical Infrastructure / Vulnerable Uses

Further explanation and justification is required in relation to the representation of the 'clearing footprint' of the Recycled Treatment Plant (RTP), school sites and the mooted evacuation centre. The RTP is critical infrastructure and clearing will be required to achieve a BAL12.5. An evacuation centre requires very conservative separation distance to classified vegetation. The school sites are vulnerable uses and also need significant clearing and separation distances. Officers therefore agree with the peer review that:

> *'It is necessary at this strategic stage of planning, to identify on the applicable maps, the area of land on school sites (and other critical / vulnerable uses) [sic] that can satisfy the radiant heat transfer limitations.'*

It may be, for example, that these particular land uses need to be repositioned centrally into the site.

ENVIRONMENT

iii. It would be premature for the Western Australian Planning Commission to determine SP34 in the absence of the necessary environmental approvals from State and Commonwealth governments, given the extent of vegetation clearing that would result from the proposed SP34 including the urban footprint, road layouts, the position of the waste water plant and bushfire mitigation works.

Council

c. the Bushfire Management Plan supporting the Structure Plan relies on the significant clearing of vegetation of high biodiversity and landscape amenity value within the site.

In this regard, the Commission is not satisfied that:

• the proposal achieves an appropriate balance between bushfire risk management measures, biodiversity conservation values, and landscape amenity, with consideration of the potential impacts of climate change as required under policy objective 5.4 of the Policy; and

• there is no certainty that the intended level of bushfire mitigation can be achieved in the absence of Commonwealth approval under the Environment Protection and Biodiversity Conservation Act being given to the clearing of vegetation.

3. The Commission is not satisfied that the proposal appropriately addresses the objectives and policy measures of State Planning Policy 2.0 Environment and Natural Resources and State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region given the extent of clearing of vegetation required to facilitate development.

Western Australian Planning Commission

The Shire's Local Planning Strategy provides for LSIP 265 and acknowledges the vegetation within the urban cells is committed by zoning. Hence the officer's advice to Council on the previous SP34 was that the Shire has limited grounds to refuse SP34 on the basis of the proposed clearing of vegetation.

In determining applications, the WAPC can nevertheless approach these matters differently, and in this case, afforded weight to its own state planning policies.

WAPC agreed with the Shire's concerns regarding the outstanding approvals from the Commonwealth. It is noted that, an approval has still not been issued by the Commonwealth, and these concerns can therefore be sustained.

Clearing and bushfire risk management actions are likely to adversely affect habitat critical to the survival of three threatened species:

- Baudin's Black Cockatoo Calyptorhynchus baudinii (Endangered)
- Carnaby's Black Cockatoo Calyptorhynchus latirostis (Endangered); and
- Forest Red-tailed Black Cockatoo Calyptorhynchus banksia naso (Vulnerable).

Additional environmental reports were provided as part of the *EPBC Act referral*. The additional information included:

- Black Cockatoo Breeding habitat survey (Additional survey Oct-Nov 2019)
- Targeted flora survey for species including the Acacia aphylla and Grevillea flexuosa (2020)
- Construction Environmental Management Plan (CEMP); and
- Conservation Area Management Plan (CAMP).

Mapping

The total number and placement of habitat trees on the site is inferred, based on surveys within selected quadrats within the site. The number of habitat trees was estimated to be 6098 and the number to be retained within a proposed conservation area was estimated at 1620.

Given the passage of time, it is noted that the proponent could have completed more detailed mapping and ensured this informed the urban design response, however this has not occurred (see Figure 6). Ordinarily the Shire expects structure plans to be designed around and respond to key environmental features. This has not occurred as there is a presumption that the urban cells can be completely cleared.

Similarly, with dieback mapping, the extent of dieback is critical to informing design and long term management priorities. The Environmental Assessment (Alan Tingay and Associates) prepared in 1995 for the LSIP identified that remnant vegetation in the northern portion of 4685 Stoneville Road, was affected by the disease Phytophthora dieback. These locations now form part of the conservation area purposed for the amended SP34.

Given the historical presence of the disease, a Comprehensive Dieback Assessment Plan and mapping is required that includes identification of protectable areas (if any) most at risk of infestation. Climate change is expected to exacerbate the spread of dieback in the locality.

Conservation Covenants

Reference to 'Conservation covenants' is not supported. Conservation covenants are ordinarily voluntary arrangements between private landowners of large bush blocks and the Commissioner of Soil and Land Conservation under the *Soil and Land Conservation Act 1945*. While it would be appropriate for management plans to be established and largely fulfilled by the developer before Conservation reserves are ceded to the Crown,

officers question the idea of creating ‘conservation covenants’ on public reserves, as this approach would add unnecessary administrative burden on the managing authority.

SPP’s

SPP 2.0 Environment and Natural Resources contains a range of policy provisions that support the protection and enhancement of waterways, and retention of existing native vegetation, through decision making for subdivision and development proposals. Clause 5.5 provides particularly for protection of areas of high biodiversity including habitat for threatened fauna, and safeguarding and enhancing linkages between terrestrial and aquatic habitats. The revised plans for SP34 include less clearing of habitat for threatened fauna compared to the previous plans, but would still result in the loss of important habitat for threatened fauna, reduce the linkages between habitats, and clearing of areas of native vegetation in very good condition.

Bushfire mitigation strategies include management of the linear POS following a watercourse north-south as low threat vegetation, which would limit the restoration and enhancement of the waterway. Therefore, the revised proposal may be considered as lower environmental impact than the previous proposal, but is still arguably inconsistent with SPP 2.0.

SPP 2.8 Bushland Policy for the Perth Metropolitan Region contains policy provisions for local bushland (within the Perth Metropolitan Region but outside of Bush Forever sites). It requires that decision-making should have regard to the protection of significant bushland sites identified through planning processes and formally endorsed by Council and WAPC, which relates to Local Natural Area (LNA) identified through the Shire’s LPS4 and Local Planning Strategy. It also states that decision-making should support a general presumption against the clearing of bushland containing specially protected fauna or other listed values.

The revised plans reduce the extent of clearing of ‘Protection’ Category LNA through reducing the number of rural lots in the southern portion. Bushfire mitigation measures requiring 85% clearing for rural lots on the western edge of the site will result in the loss of Protection Category LNA (this is mapped in Degraded – good condition). As noted above, the revised plans reduce the environmental impact but do still result in the clearing of habitat for threatened fauna, and may therefore be considered still inconsistent with SPP 2.8.

It must be acknowledged that both of these SPPs pre-date the WAPC decision to rezone areas within SP34 from Urban Deferred to Urban in 2016.

The Shire’s recently adopted Local Biodiversity Strategy (LBS) includes key watercourses and previously mapped Regional Ecological Linkages within a Wildlife Corridor Network, and lists ‘Strengthen Wildlife Corridor Network’ as an important principle. Significant portions of the Regional Ecological Linkages are proposed to be cleared or heavily modified to ‘Landscaped POS’, however, the majority of this clearing is in accordance with the LNA ‘committed by zoning’ designation within the Local Planning Strategy. Requirements to clear 85% of rural lots within the revised plans would limit habitat and connectivity values. The watercourse running north-south within the subject site is included in the Wildlife Corridor Network.

The Watercourse Hierarchy Strategy developed in conjunction with the LBS includes a principle to *'focus on protecting and rehabilitating ecological function and biodiversity along watercourse corridors, especially through urban and rural residential areas'.*

The Watercourse Hierarchy Strategy includes actions to revegetate gaps in foreshore areas to reduce habitat fragmentation and notes that 'native revegetation designed to maintain low bushfire risk (eg. plants less than 20cm height) is not usually compatible with foreshore improvement.' As the climate changes, healthy waterway corridors that linking waterbodies (in this case dams), will become integral to sustaining biodiversity long term.

The requirement to maintain the linear POS following a watercourse north-south as low threat vegetation is inconsistent with the Shire's adopted Watercourse Hierarchy Strategy and will limit the health and habitat value of the watercourse. It is also not clear the extent to which revegetation will be able to be achieved immediately surrounding the retained waterbodies.

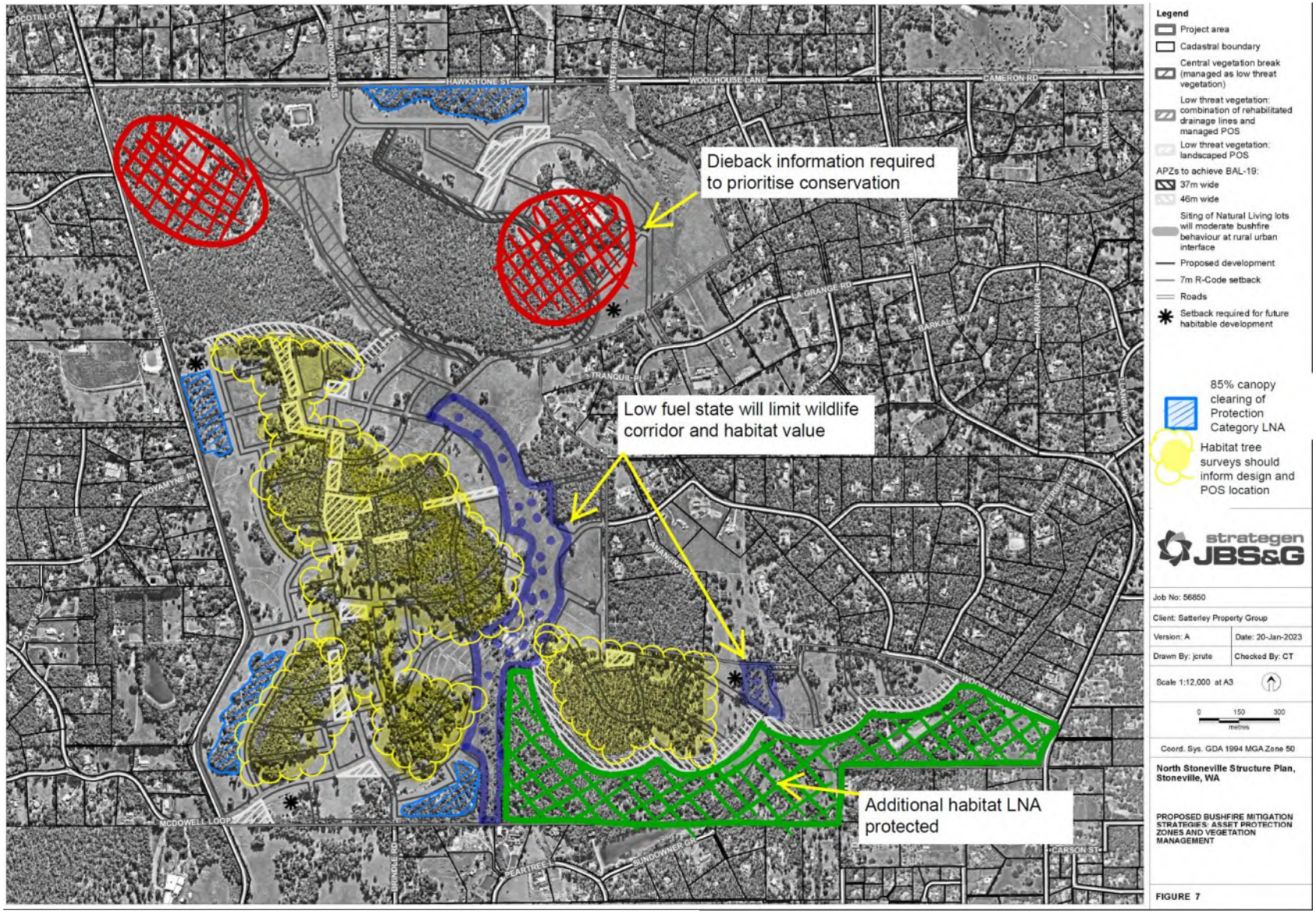


Figure 6. Shire officer comments. Environmental considerations

Balancing Bushfire and Biodiversity

The question before the decision maker is does the revised proposal achieve an appropriate balance between bushfire risks, biodiversity conservation values, landscape amenity and accommodate climate change considerations?

Significant clearing is still proposed, within the urban cell, on future parks, rural residential lots, and along the interface of conservation areas. Waterways will be only partially restored due to the need to maintain a low threat state of vegetation, which is contrary to the expectations within SPP2.0 and the Shire's Watercourse Hierarchy Strategy. Retaining dams and protecting the waterways within a reserve is a positive outcome, however the revegetation / restoration of these critical ecological links is proposed to be limited.

Officers note that although greater land is intended to be reserved for conservation, within the context of the Shire's new strategies, the previous reasons for refusal expressed by the WAPC remain relevant.

Other Matters

Previous concerns of Council in relation to the Recycled Treatment Plant (RTP), the Local Water Management Strategy, and Aboriginal heritage have been addressed by the consultant and were not sustained by the WAPC and therefore are not matters subject to further review in this report.

While concerns have been raised in relation to the RTP and the reuse of treated waste water, these matters are regulated by the Department of Health, and the Department of Water and Environmental Regulation. The Shire is not well placed to sustain these concerns noting the proposal has not changed, and the WAPC did not sustain these concerns in its determination.

In regard to Aboriginal heritage, officers acknowledge there is a new *Aboriginal Cultural Heritage Act 2021* (ACH Act) which should be considered. Section 18 consent was issued to the landowner in November 1998 under the previous *Aboriginal Heritage Act 1972*. A section 18 consent granted prior to 22 December 2021 are now known as an historical AH Act section 18 consents. The revised SP34 presents no material changes to the manner in which Ministerial conditions are intended to be met. If there are additional approvals required, in relation to necessary road works, these would be subject to separate approval processes under the new ACH Act.

Conclusion

Notwithstanding the structure plan documentation appears hastily prepared, the amendments are meaningful.

The 25% reduction in lots, the increase of conservation reserves and the offer to fund upgrades to key network intersections upfront are noted. These are material improvements on the previous proposal, however they create other issues.

Officers conclude that the documentation does not achieve the minimum information standards expected in the *Planning Regulations*. Of particular note is the ambiguity of the proponent's proposal, the commitments and staging. By way of example, if the development is limited to 400 lots until Eastlink is constructed – this critical staging threshold should not be overlooked within Part 1 of the Structure Plan documentation.

Peer review highlights the assumptions within the Traffic Impact Assessment are highly questionable. The peer review notes the TIA does not meet WAPC Guidelines. A fatal flaw of the proposal continues to be the over-reliance on Seaborne / GEH intersection.

It is clear the scale and magnitude of road contributions previously envisaged under LSIP 265 cannot be met by the current planning system. Further, the proponent is now compelled to upgrade regional intersections, which reflects a degree of under-investment by the State. The reluctance of the proponent to openly commit to local road upgrades in this context is understandable – but is not in keeping with the intent of LSIP 265.

The evacuation model affirms the Shire's previous concerns regarding bottleneck issues in an emergency. Additional scenarios that reflect actual events in the locality (including east-west fire and the potential closure of Roland and Stoneville Roads) are obvious oversights.

It is acknowledged the revised proposal addresses the 'new' criteria relating to legacy sites within the Guidelines. However, the bushfire treatments are considered excessive, will undermine establishing ecological corridors along waterways and largely depend on the Shire accepting management control of almost 42% of the site (34% as Conservation Reserve).

The revised proposal demonstrates that when SP34 is adjusted to better align with contemporary bushfire requirements, the further away it moves from meeting contemporary biodiversity outcomes. By reducing the lot density and diversity, it is now more akin to a 'sub' urban or sprawl outcome. This was exactly what the Shire intended to avoid in identifying a discrete townsite 20-30 years ago.

For the reasons above, it is recommended Council request WAPC 'revoke' LSIP 265 as it no longer provides a sound basis for proponents to meet contemporary planning expectations.

It is recommended Council recommend refusal of the revised SP34.

In a scenario that the decision maker is of the view to approve the proposal, a series of modifications have been recommended.

VOTING REQUIREMENT

Simple Majority

RECOMMENDATION

That Council:

1. Recommends to the Western Australian Planning Commission that the amended North Stoneville Structure Plan 34 be **refused** for the following reasons:

    i. The revised SP34 documentation does not meet the minimum information requirements expressed in *Clause 16 (1A) Part 4 Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations* in relation to lot numbers, coordination of key transport infrastructure and proposed staging.

    ii. Acknowledges it would be inconsistent with orderly and proper planning to support Structure Plan 34 as the traffic generated would exacerbate capacity constraints on the surrounding road network; compromising community safety.

    iii. Recommends the Western Australian Planning Commission refuse Structure Plan 34 due to the Traffic Impact Assessment and subsequent proposed upgrades being based on incorrect assumptions that works will be completed by others, noting there is an absence of a coordinated response to the provision/upgrade of/contribution toward road infrastructure and the TIA does not comply with WAPC Guidelines.

    iv. The Shire is not satisfied that bushfire risk arising from the proposal is acceptable having regard to the objectives and intent of State Planning Policy 3.7 - Planning in Bushfire Prone Areas and the Guidelines for Planning in Bushfire Prone Areas, as:
        i. the proposal will result in an increase in the bushfire threat to people, property and infrastructure and will increase vulnerability to bushfire contrary to policy objectives 5.1 and 5.2 of the Policy;
        ii. given the uncertainty that bushfire risk can be acceptably reduced or managed, the precautionary principle of clause 6.11 of SPP 3.7 applies.
        iii. Evacuation modelling has not included an east-west scenario involving the closure of Roland Road and / or Stoneville Road and the Shire is therefore not satisfied that the findings meaningfully reflect the reality of bushfire risks in the Hill's environment.

    v. As bushfire risk arising from the proposal is not acceptable, the proposal is inconsistent with the stated policy objective 4 of State Planning Policy 3.4 - Natural Hazards and Disasters which seeks to minimise the adverse impact of natural disasters, including bushfires, on communities, the economy and environment.

    vi. The revisions do not take into account the Shire's Draft Public Open Space Strategy, Water Hierarchy Strategy, and Local Biodiversity Strategy;

vii. The Bushfire Management Plan supporting the Structure Plan continues to rely on the significant clearing of vegetation of high biodiversity and landscape amenity value within the site.

In this regard, the Shire is not satisfied that:

- The proposal achieves an appropriate balance between bushfire risk management measures, biodiversity conservation values, and landscape amenity, with consideration of the potential impacts of climate change as required under policy objective 5.4 of the Policy.

- There is no certainty that the intended level of bushfire mitigation can be achieved in the absence of Commonwealth approval under the *Environment Protection and Biodiversity Conservation Act* being given to the clearing of vegetation.

- That the proposal appropriately addresses the objectives and policy measures of State Planning Policy 2.0 Environment and Natural Resources and State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region and having regard to the Shire's Watercourse Hierarchy Strategy and Local Biodiversity Strategy given the extent of clearing of vegetation required to facilitate development.

2. Requests the Western Australian Planning Commission to revoke LSIP 265 in accordance with Schedule 2 Part 4 Clause 28 (3)(c) of the *Planning and Development (Local Planning Schemes) Regulations 2015* as the structure plan can no longer serve as a sound basis for contemporary planning in the Hills, as significant legislative changes in State planning policies have occurred; particularly in relation to the natural environment, bushfire, and developer contribution arrangements since the approval of LSIP 265 in 1999.

3. Advise WAPC that Main Roads WA / DFES have not had the benefit of the evacuation modelling outcomes but that the onus should rest with State agencies to resolve existing deficiencies with the regional network as a matter of priority and regardless of the outcome of SP34.

4. The Shire encourages the WAPC to 'seriously entertain' the *Draft State Planning Policy 3.7 - Planning in Bushfire Prone Areas* in their deliberations, to the greatest extent possible, to ensure future community safety.

5. Advise the Western Australian Planning Commission that should it entertain approving Structure Plan 34 as proposed:

a) Not to presume the Shire of Mundaring will readily accept management control of the additional Conservation reserves or the costs associated with the ongoing management burden imposed.

b) The following modifications to SP34 are recommended:

i. Suitable Asset Protection Zones around critical infrastructure / evacuation centre and vulnerable land uses (schools) be determined upfront and spatially represented on Structure Plan 1 – Structure Plan Map;

ii. modifications are made to include additional medium density near the local

centre into the revised SP to achieve greater alignment with the intent of LSIP 265, with supporting reports adjusted accordingly;

iii. The preparation and approval of an agreement with the Shire regarding the provision and timing of community infrastructure in lieu of a Development Contribution Plan.

iv. The preparation of Local Development Plans in the circumstances set out by Draft Liveable Neighbourhoods and to restrict direct access from proposed lots onto Roland Road.

v. Detailed design consideration being given to on-street embayment parking, end-of-trip facilities and bus stops.

vi. Consideration of the co-locating of utility infrastructure.

vii. The requirement for a shared senior size oval with the proposed public primary school in accordance with the Shire's Recreation Facilities Informing Strategy.

viii. Roland Road reserve is being shown as widened by five (5) metres along SP34's western boundary so as to retain existing vegetation and provide for the installation of a dual use path and services.

ix. The 'R7' notation on the structure plan being removed, or development standards introduced or the R7 replaced by a low density coding which is stipulated under State Planning Policy 7.3 – Residential Design Codes Volume 1.

x. The Shire does not support the introduction of 'Conservation Covenants' over Crown land.

xi. Revegetation around water bodies should be prioritised and accounted for within supporting documentation.

xii. That the following be incorporated into the Streets Transect Design Guide:
On streets abutting land:

- Zoned Residential – one tree per 10m or one tree per lot (whichever is the greater) unless otherwise determined by the Shire.

- Zoned Rural Residential – one tree per 15m unless otherwise determined by the Shire.

- Zoned Local Centre – one tree per 10m or one tree per lot (whichever is the greater), unless otherwise determined by the Shire.

- Mixed-use land uses proposed throughout T4, should be spatially limited to land in immediate proximity to the local centre.

c. Other corrections recommended (but not limited to):

I. Table 1 Percentage of natural area (Conservation)
   i. 193.1169ha is not a percentage.

ii. Total conservation land proposed totals 182ha as there is no Conservation Covenant No.9 (11ha) which is contrary to Table 7, illustrated on the plans.
iii. A correction is also required to section 6.8 and 6.9.
iv. Public Open Space calculations are incorrect in Part 2 as the proponent uses the total 'restricted' open space to total 31ha, when only 4.86ha of restricted can be attributed as POS. Including the Shire's 5% contribution for Rural Residential land, a total of 26.5ha is required with 25.8ha provided (i.e. a shortfall of 0.7ha).

II. Part 1 - Plan 1
i. Area east of the Recycled Water Facility is identified as a Special Use site in Figure 24 (and in other documentation in Appendices), however this use conflicts with the purpose of 'Conservation / Recreation' reserve shown in Plan 1.
ii. As critical infrastructure, the Recycled Water Facility requires localised clearing to achieve a Bushfire Attack Level 12.5. The clearing footprint must be accurately represented on Plan 1 and must demonstrate that it will not conflict with the Conservation reserve proposed.
iii. Plan 1 should include reference to the proposed 5m widening of Roland Road reserve, as this has a material spatial implication and alters other land calculations completed throughout reports.

III. 5.0 Staging
i. Both the Microsimulation Evacuation Modelling Report and the Bushfire Management Plan propose limiting the development to 400 lots until Eastlink is constructed. These materially significant thresholds must be expressed as stages within Part 1 of the SP;
ii. Staging, and corresponding commitments to upgrade surrounding roads/intersections must be based on a Shire of Mundaring, City of Swan, WAPC endorsed District Road Study and made clear in the documentation.

IV. 7.0 Local Development Plans
i. Ambiguity exists regarding the final lot numbers. 7.1 (f) and 7.2 makes reference to WAPC's R-MD Codes (for lots above R25 only) however this density does not form part of the revised SP34, and its assumed this is a mistake.
ii. The proposed R7 density does not currently exist under the Residential Design Codes and development standards are not addressed in the Transect requirements;
iii. The Residential Coding Plan is said not to be available until the time of subdivision raising doubt about the ultimate lot numbers proposed.
iv. T4 makes provision for large areas, spread out throughout the site, to contemplate mixed-use on 1000-1500 sqm lots within the Transect T4 – Village. It is assumed the proponent does not want mixed-use development throughout T4, but that is what is proposed. More specific / limited areas for mixed use with smaller lots should be identified near the local centre.

V. 9.0 Other Requirements

i. Clarity is required in regard to the road / intersection upgrade commitments, with officer comments in red below.

'In implementing the development of the subject land, as contemplated by the structure plan, the proponent will carry out and fund the following proposed road upgrades:

i. A dedicated left turn lane ~~to~~ from Stoneville Road west bound *onto Toodyay Road;*

ii. A dedicated left turn lane ~~land~~ ~~on~~ from Roland Road west bound onto Toodyay Road;

iii. Upgrade of the proposed northern structure plan roundabout on Roland Road from Fringeleaf Road to a two lane north-bound carriageway with a 150m merge facility;

iv. Construction of the missing portion connecting Hawkstone Street and Woolhouse Land (previously known as Cameron Road) along the northern boundary of structure plan area;

v. Upgrade of the intersection of Great Eastern Highway and Seaborne Street with localised widening of Seaborne Street, island treatment and a 'U' turn facility on GEH as detailed in Section 5.4 of the TIA;

The Microsimulation Evacuation Modelling Report states:

'As part of NSSP an emergency evacuation centre to the relevant standards required by planning, building and emergency agencies, or neighbour safe places is proposed'.

Neither the Structure Plan - Part 1 or the Bushfire Management Plan make any reference to an evacuation centre or similar and no spatial allocation / or location is specified on the Plan 1 (pg.12). Given the strict clearing footprint required, an evacuation centre should be identified within the Structure Plan – Part 1 and form part of the supporting reports, including the BMP.

COUNCIL DECISION MOTION			**SC4.05.23**
Moved by	Cr Ellery	Seconded by	Cr Cook

That the recommendation for *Item 6.2 – Referral Advice – Revised North Stoneville Townsite Structure Plan 34*, be considered in two parts:

- Points one to four; and
- Point five.

CARRIED 10/0

For: Cr Martin, Cr Cook, Cr Ellery, Cr Collins, Cr Jeans, Cr Daw, Cr Hurst, Cr Zlatnik, Cr Beale and Cr Cicchini

Against: Nil

COUNCIL DECISION RECOMMENDATION			**SC5.05.23**
Moved by	Cr Hurst	Seconded by	Cr Daw

That Council:

1. Recommends to the Western Australian Planning Commission that the amended North Stoneville Structure Plan 34 be **refused** for the following reasons:

    i. The revised SP34 documentation does not meet the minimum information requirements expressed in *Clause 16 (1A) Part 4 Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations* in relation to lot numbers, coordination of key transport infrastructure and proposed staging.

    ii. Acknowledges it would be inconsistent with orderly and proper planning to support Structure Plan 34 as the traffic generated would exacerbate capacity constraints on the surrounding road network; compromising community safety.

    iii. Recommends the Western Australian Planning Commission refuse Structure Plan 34 due to the Traffic Impact Assessment and subsequent proposed upgrades being based on incorrect assumptions that works will be completed by others, noting there is an absence of a coordinated response to the provision/upgrade of/contribution toward road infrastructure and the TIA does not comply with WAPC Guidelines.

    iv. The Shire is not satisfied that bushfire risk arising from the proposal is acceptable having regard to the objectives and intent of State Planning Policy 3.7 - Planning in Bushfire Prone Areas and the Guidelines for Planning in Bushfire Prone Areas, as:
        i. the proposal will result in an increase in the bushfire threat to people, property and infrastructure and will increase vulnerability to bushfire contrary to policy objectives 5.1 and 5.2 of the Policy;
        ii. given the uncertainty that bushfire risk can be acceptably reduced or managed, the precautionary principle of clause 6.11 of SPP 3.7 applies.
        iii. Evacuation modelling has not included an east-west scenario involving the closure of Roland Road and / or Stoneville Road and the Shire is therefore not satisfied that the findings meaningfully reflect the reality of bushfire risks in the Hill's environment.

    v. As bushfire risk arising from the proposal is not acceptable, the proposal is inconsistent with the stated policy objective 4 of State Planning Policy 3.4 - Natural Hazards and Disasters which seeks to minimise the adverse impact of natural disasters, including bushfires, on communities, the economy and environment.

    vi. The revisions do not take into account the Shire's Draft Public Open Space Strategy, Water Hierarchy Strategy, and Local Biodiversity Strategy;

    vii. The Bushfire Management Plan supporting the Structure Plan continues to rely on the significant clearing of vegetation of high biodiversity and

landscape amenity value within the site.

In this regard, the Shire is not satisfied that:

- The proposal achieves an appropriate balance between bushfire risk management measures, biodiversity conservation values, and landscape amenity, with consideration of the potential impacts of climate change as required under policy objective 5.4 of the Policy.
- There is no certainty that the intended level of bushfire mitigation can be achieved in the absence of Commonwealth approval under the *Environment Protection and Biodiversity Conservation Act* being given to the clearing of vegetation.
- That the proposal appropriately addresses the objectives and policy measures of State Planning Policy 2.0 Environment and Natural Resources and State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region and having regard to the Shire's Watercourse Hierarchy Strategy and Local Biodiversity Strategy given the extent of clearing of vegetation required to facilitate development.

2. Requests the Western Australian Planning Commission to revoke LSIP 265 in accordance with Schedule 2 Part 4 Clause 28 (3)(c) of the *Planning and Development (Local Planning Schemes) Regulations 2015* as the structure plan can no longer serve as a sound basis for contemporary planning in the Hills, as significant legislative changes in State planning policies have occurred; particularly in relation to the natural environment, bushfire, and developer contribution arrangements since the approval of LSIP 265 in 1999.

3. Advise WAPC that Main Roads WA / DFES have not had the benefit of the evacuation modelling outcomes but that the onus should rest with State agencies to resolve existing deficiencies with the regional network as a matter of priority and regardless of the outcome of SP34.

4. The Shire encourages the WAPC to 'seriously entertain' the *Draft State Planning Policy 3.7 - Planning in Bushfire Prone Areas* in their deliberations, to the greatest extent possible, to ensure future community safety.

CARRIED 10/0

For: Cr Martin, Cr Cook, Cr Ellery, Cr Collins, Cr Jeans, Cr Daw, Cr Hurst, Cr Zlatnik, Cr Beale and Cr Cicchini

Against: Nil

8.14pm Meeting Adjourned

COUNCIL DECISION MOTION			**SC6.05.23**
Moved by	Cr Daw	Seconded by	Cr Collins

That the meeting be adjourned until 8.25pm.

CARRIED 10/0

For: Cr Martin, Cr Cook, Cr Ellery, Cr Collins, Cr Jeans, Cr Daw, Cr Hurst, Cr Zlatnik, Cr Beale and Cr Cicchini

Against: Nil

8.26pm Meeting Resumed

The meeting resumed with the following Council Members in attendance:

Council Members	Cr James Martin (President) (Presiding Person)	South Ward
	Cr Trish Cook	South Ward
	Cr Luke Ellery	South Ward
	Cr Doug Jeans	Central Ward
	Cr Amy Collins	Central Ward
	Cr John Daw	East Ward
	Cr Claire Hurst	East Ward
	Cr Neridah Zlatnik	East Ward
	Cr Karen Beale	West Ward
	Cr Jo Cicchini	West Ward

COUNCIL DECISION RECOMMENDATION			SC7.05.23
Moved by	Cr Ellery	Seconded by	Cr Beale

5. Should the Western Australian Planning Commission, **against the strong recommendation for refusal by Council,** entertain approving Structure Plan 34 as proposed:

a) Not to presume the Shire of Mundaring will readily accept management control of the additional Conservation reserves or the costs associated with the ongoing management burden imposed.

b) The following modifications to SP34 are recommended:

i. Suitable Asset Protection Zones around critical infrastructure / evacuation centre and vulnerable land uses (schools) be determined upfront and spatially represented on Structure Plan 1 – Structure Plan Map;

~~ii. modifications are made to include additional medium density near the local centre into the revised SP to achieve greater alignment with the intent of LSIP 265, with supporting reports adjusted accordingly;~~

iii. The preparation and approval of an agreement with the Shire regarding the provision and timing of community infrastructure in lieu of a Development Contribution Plan.

iv. The preparation of Local Development Plans in the circumstances set out by Draft Liveable Neighbourhoods and to restrict direct access from proposed lots onto Roland Road.

v. Detailed design consideration being given to on-street embayment parking, end-of-trip facilities and bus stops.

vi. Consideration of the co-locating of utility infrastructure.

vii. The requirement for a shared senior size oval with the proposed public primary school in accordance with the Shire's Recreation Facilities Informing Strategy.

viii. Roland Road reserve is being shown as widened by five (5) metres along SP34's western boundary so as to retain existing vegetation and provide for the installation of a dual use path and services.

ix. The 'R7' notation on the structure plan being removed, or development standards introduced or the R7 replaced by a low density coding which is stipulated under State Planning Policy 7.3 – Residential Design Codes Volume 1.

x. The Shire does not support the introduction of 'Conservation Covenants' over Crown land.

xi. Revegetation around water bodies should be prioritised and accounted for

within supporting documentation.

xii. That the following be incorporated into the Streets Transect Design Guide:
On streets abutting land:

- Zoned Residential – one tree per 10m or one tree per lot (whichever is the greater) unless otherwise determined by the Shire.
- Zoned Rural Residential – one tree per 15m unless otherwise determined by the Shire.
- Zoned Local Centre – one tree per 10m or one tree per lot (whichever is the greater), unless otherwise determined by the Shire.
- Mixed-use land uses proposed throughout T4, should be spatially limited to land in immediate proximity to the local centre.

c. Other corrections recommended (but not limited to):

I. Table 1 Percentage of natural area (Conservation)
   i. 193.1169ha is not a percentage.
   ii. Total conservation land proposed totals 182ha as there is no Conservation Covenant No.9 (11ha) which is contrary to Table 7, illustrated on the plans.
   iii. A correction is also required to section 6.8 and 6.9.
   iv. Public Open Space calculations are incorrect in Part 2 as the proponent uses the total 'restricted' open space to total 31ha, when only 4.86ha of restricted can be attributed as POS. Including the Shire's 5% contribution for Rural Residential land, a total of 26.5ha is required with 25.8ha provided (i.e. a shortfall of 0.7ha).

II. Part 1 - Plan 1
   i. Area east of the Recycled Water Facility is identified as a Special Use site in Figure 24 (and in other documentation in Appendices), however this use conflicts with the purpose of 'Conservation / Recreation' reserve shown in Plan 1.
   ii. As critical infrastructure, the Recycled Water Facility requires localised clearing to achieve a Bushfire Attack Level 12.5. The clearing footprint must be accurately represented on Plan 1 and must demonstrate that it will not conflict with the Conservation reserve proposed.
   iii. Plan 1 should include reference to the proposed 5m widening of Roland Road reserve, as this has a material spatial implication and alters other land calculations completed throughout reports.

III. 5.0 Staging
   i. Both the Microsimulation Evacuation Modelling Report and the Bushfire Management Plan propose limiting the development to 400 lots until Eastlink is constructed. These materially significant thresholds must be expressed as stages within Part 1 of the SP;
   ii. Staging, and corresponding commitments to upgrade surrounding roads/intersections must be based on a Shire of Mundaring, City of Swan, WAPC endorsed District Road Study and made clear in the documentation.

IV. 7.0 Local Development Plans

i. Ambiguity exists regarding the final lot numbers. 7.1 (f) and 7.2 makes reference to WAPC's R-MD Codes (for lots above R25 only) however this density does not form part of the revised SP34, and its assumed this is a mistake.
ii. The proposed R7 density does not currently exist under the Residential Design Codes and development standards are not addressed in the Transect requirements;
iii. The Residential Coding Plan is said not to be available until the time of subdivision raising doubt about the ultimate lot numbers proposed.
iv. T4 makes provision for large areas, spread out throughout the site, to contemplate mixed-use on 1000-1500 sqm lots within the Transect T4 – Village. It is assumed the proponent does not want mixed-use development throughout T4, but that is what is proposed. More specific / limited areas for mixed use with smaller lots should be identified near the local centre.

V. 9.0 Other Requirements

i. Clarity is required in regard to the road / intersection upgrade commitments, with officer comments in red below.

'In implementing the development of the subject land, as contemplated by the structure plan, the proponent will carry out and fund the following proposed road upgrades:

i. A dedicated left turn lane ~~to~~ from Stoneville Road west bound *onto Toodyay Road;*
ii. A dedicated left turn lane ~~land~~ ~~on~~ from Roland Road west bound onto Toodyay Road;
iii. Upgrade of the proposed northern structure plan roundabout on Roland Road from Fringeleaf Road to a two lane north-bound carriageway with a 150m merge facility;
iv. Construction of the missing portion connecting Hawkstone Street and Woolhouse Land (previously known as Cameron Road) along the northern boundary of structure plan area;
v. Upgrade of the intersection of Great Eastern Highway and Seaborne Street with localised widening of Seaborne Street, island treatment and a 'U' turn facility on GEH as detailed in Section 5.4 of the TIA;

The Microsimulation Evacuation Modelling Report states:

'As part of NSSP an emergency evacuation centre to the relevant standards required by planning, building and emergency agencies, or neighbour safe places is proposed'.

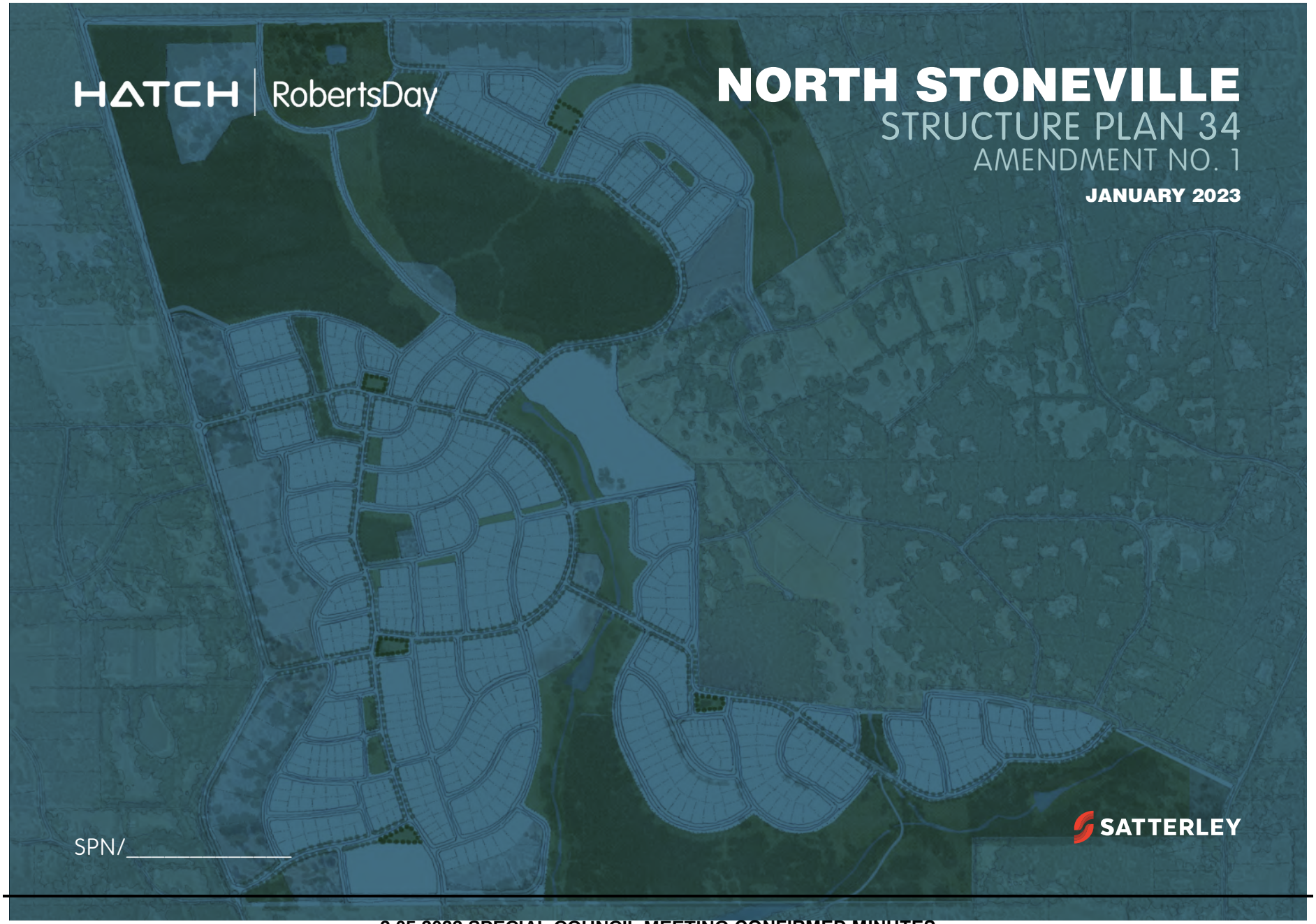
Neither the Structure Plan - Part 1 or the Bushfire Management Plan make any reference to an evacuation centre or similar and no spatial allocation / or location is specified on the Plan 1 (pg.12). Given the strict clearing footprint required, an evacuation centre should be identified within the Structure Plan – Part 1 and form part of the supporting reports, including the BMP.

6. Acknowledges that the review of revised SP34 proposal reaffirms Council's reasons for its request to rezone the subject land to rural.

CARRIED 6/4

For: Cr Martin, Cr Ellery, Cr Collins, Cr Zlatnik, Cr Beale and Cr Cicchini

Against: Cr Cook, Cr Jeans, Cr Daw and Cr Hurst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NORTH STONEVILLE
STRUCTURE PLAN 34
AMENDMENT NO. 1
JANUARY 2023
SATTERLEY
SPN/_____

Revision	Date	Description
A	18 Jan 2023	Working draft to Client
B	25 Jan 2023	Issued for lodgement

HATCH | RobertsDay

PROJECT TEAM

HATCH ROBERTSDAY
Town Planning, Urban Design + Place Making

JBS+G
Environment + Bushfire Management

COSSILL & WEBLEY / MCDOWALL AFFLECK
Engineering

TRANSCORE
Transport Planning, Traffic Engineering + Transport Modelling

FARLANE
Urban Economics (Now Hatch Urban Solutions)

EMERGE ASSOCIATES
Hydrology

PLAN E
Landscape

SNAPPY GUM HERITAGE SERVICES
Aboriginal Heritage

CITATION

This document should be cited as follows:
North Stoneville Structure Plan (2023), prepared by Hatch RobertsDay.

www.hatchrobertsday.com

This document was prepared by Hatch RobertsDay for Satterley

Urban Design:	Peter Ciemitis
Place Planner:	Zanda Cameron
Graphics and Maps:	Ruth Franca / Tanja Gerum
Project Manager:	Duane Cole
Approved by:	Duane Cole

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


HAWKESTONE STREET (FORMALLY CAMERON ROAD)
ROLAND ROAD
STONEVILLE ROAD
N
NTS
FIGURE 1: MASTERPLAN
Plan Produced by Hatch RobertsDay 2022

EXECUTIVE SUMMARY

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 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	3,948 people		4.2
Number of high schools	1 x private Anglican School (1 x Government High School abutting SP34 boundary)		4.5.2
Number of primary schools	1 x Government Primary School		4.5.1
Estimated commercial / entertainment floor space	1,500 sqm		4.4
Estimated area of public open space to be ceded:	45.7 ha (30.482 ha of Urban area)		4.7.4
Estimated area of credited public open space:	21.121 ha of Urban area		4.7.4 (Table 7)
Percentage of natural area (Conservation)	193.1169 ha		4.7.1

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

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Source: Cossill & Webley, March 2017

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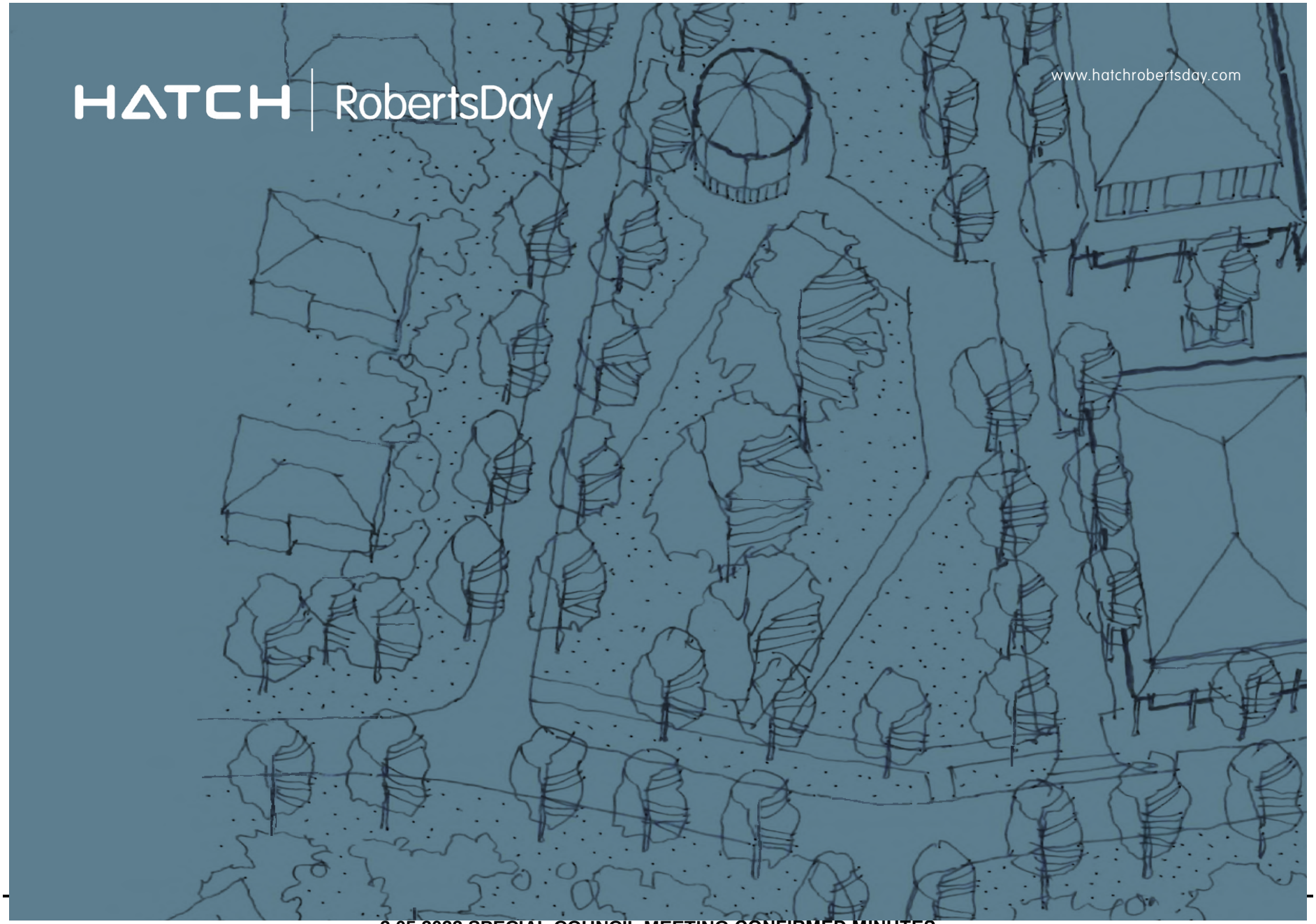
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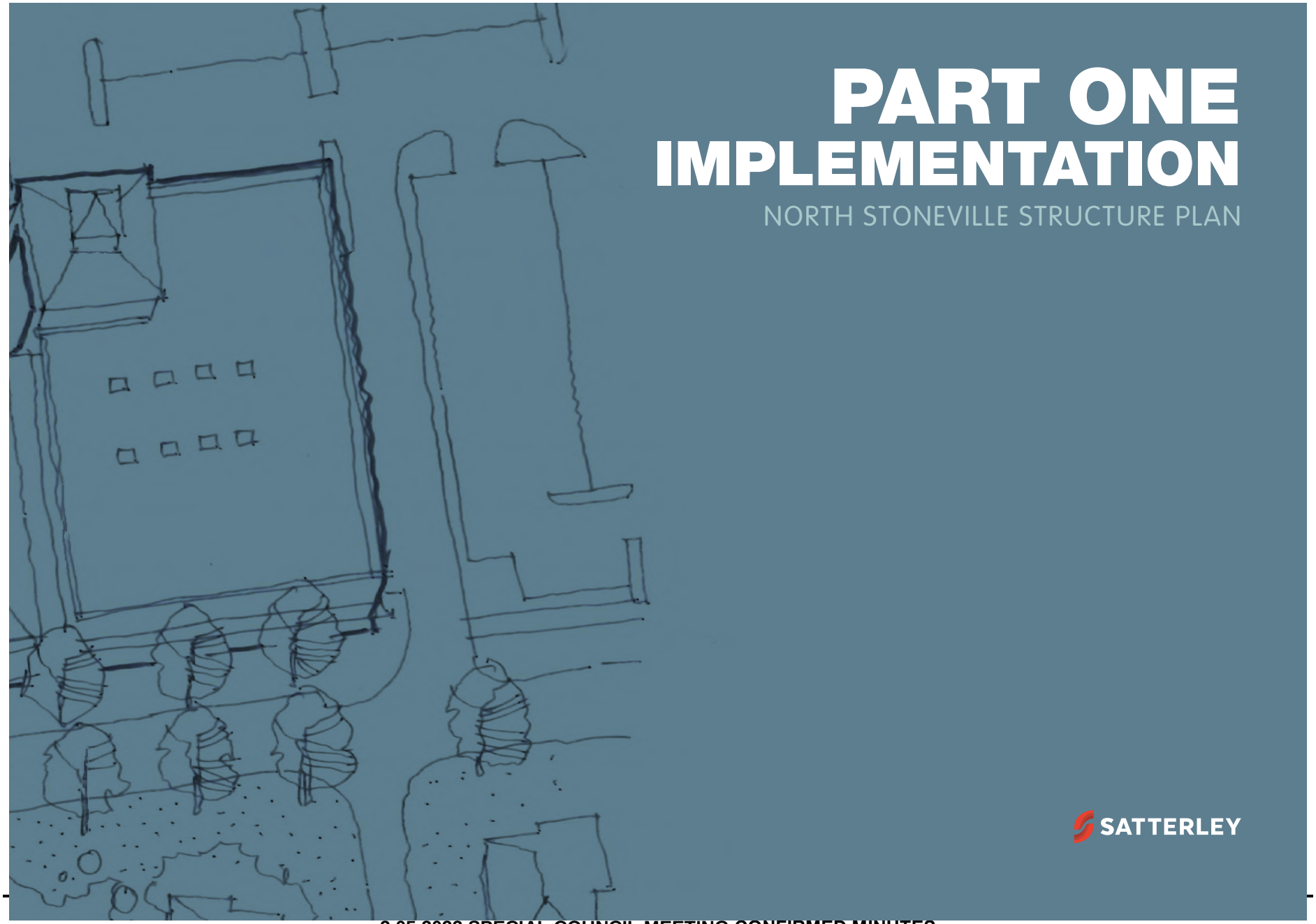
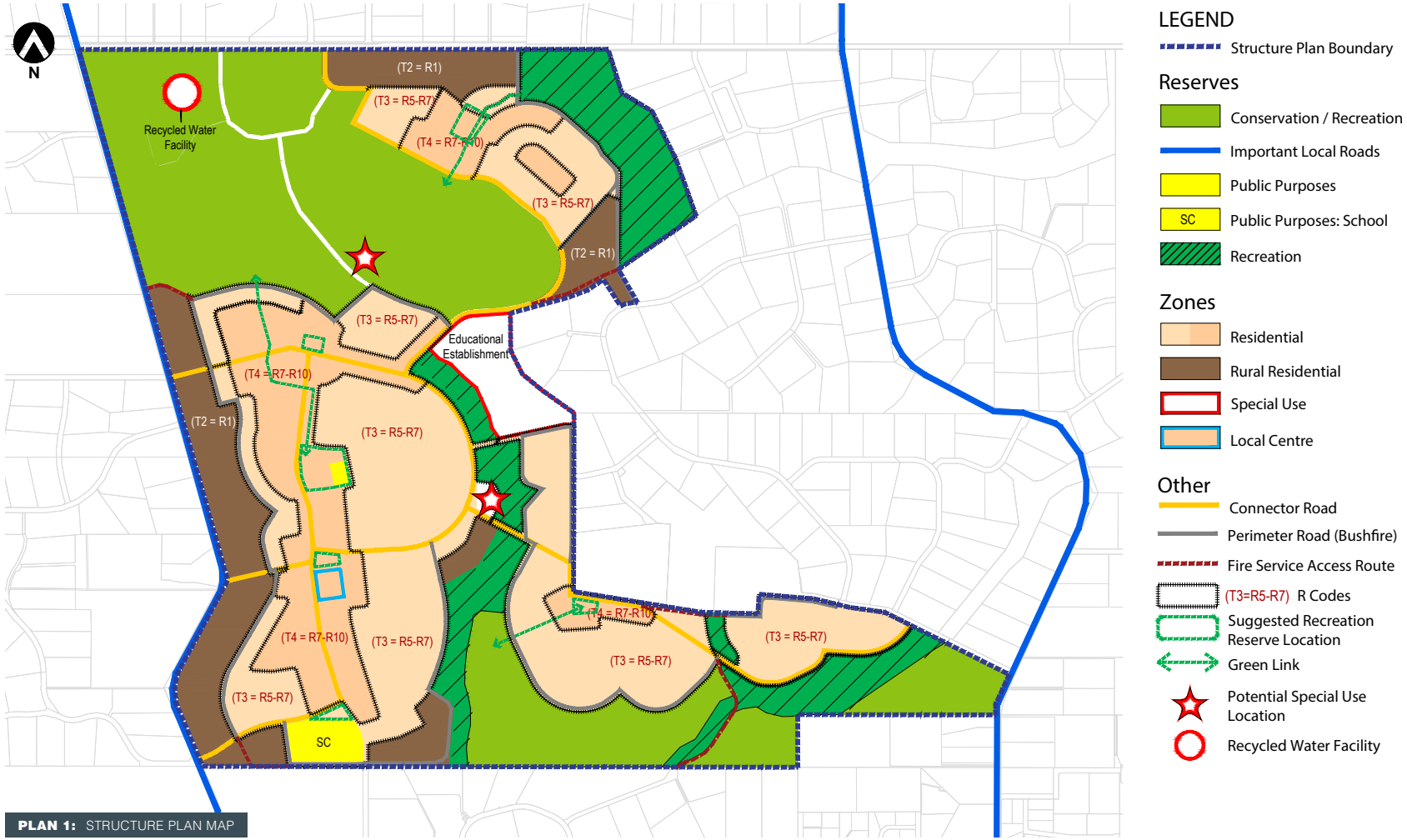


PART ONE
IMPLEMENTATION

NORTH STONEVILLE STRUCTURE PLAN

SATTERLEY

PART ONE: IMPLEMENTATION



PLAN 1: STRUCTURE PLAN MAP

Plan Produced by: Hatch RobertsDay, 2022

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 or development is to have 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 west with construction of road access to Roland Road.

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 2).

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 in excess of 193.1169ha for a Conservation/Recreation Reserve and 31.4820ha Public Open Space (Recreation Reserve).

6.9 Of the 31.4820 ha of Public Open Space, 23.4 ha can be credited for the purposes of calculating Public Open Space under Liveable Neighbourhoods. Public Open Space is in excess of the 10% requirement for Urban zoned land under Liveable Neighbourhoods.

6.10 A Conservation Management Plan is to be prepared in consultation with the Shire of Mundaring prior to the transfer of the land for conservation purposes to the Crown for management by the Shire.

7.0 Local Development Plans

7.1 Local Development Plans are to be prepared pursuant to the **Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2** - Deemed Provisions for Local Planning Schemes for lots with one or more of the following characteristics:

a) Lots obtaining rear vehicular access via a laneway.

b) Lots containing a direct boundary interface with public open space.

c) Lots fronting Roland Road.

d) Lots with a Bushfire Attack Level (BAL) rating of 12.5 or higher.

e) Rural-residential lots.

f) For lots coded R25 or higher that require modifications to the R-Codes deemed-to-comply requirements as outlined in WAPC's Planning Bulletin 112/2015 (R-MD Codes).

g) In other circumstances approved by the Shire of Mundaring.

7.2 Local Development Plans for MRS Urban zoned lots subject to clause 7.1 are to address the following:

a) Preferred garage locations.

b) Orientation and outlook.

c) Any corner treatments or other elements requiring extra design attention to address an important view from the public domain or terminating vista.

d) Building placement and setbacks.

e) Open space and site coverage.

f) Any other design element identified in the WAPC's R-MD Codes (for lots above R25 only).

7.3 Local Development Plans for Rural Residential lots are to address the following:

a) Building envelope.

b) Asset protection zone (for bushfire).

c) Vehicle access point and driveway location.

d) Any special requirements relating to drainage, if applicable.

e) 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:

a) 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."

b) 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

In implementing the development of the subject land, as contemplated by the structure plan, the proponent will carry out and fund the following proposed road upgrades:

- A dedicated left turn to Stoneville Road
- A dedicated left turn land on Roland Road
- Upgrade of the northern structure plan roundabout on Roland Road
- Construction of the missing portion connecting Hawkstone Street and Woolhouse Lane (previously known as Cameron Road) along the northern boundary of structure plan area
- Upgrade of the intersection of Great Eastern Highway and Seaborne Street

Similarly, upon receipt of an approval, the proponent undertakes to prepare a revised LWMS to reflect any modifications and to ensure successful implementation.

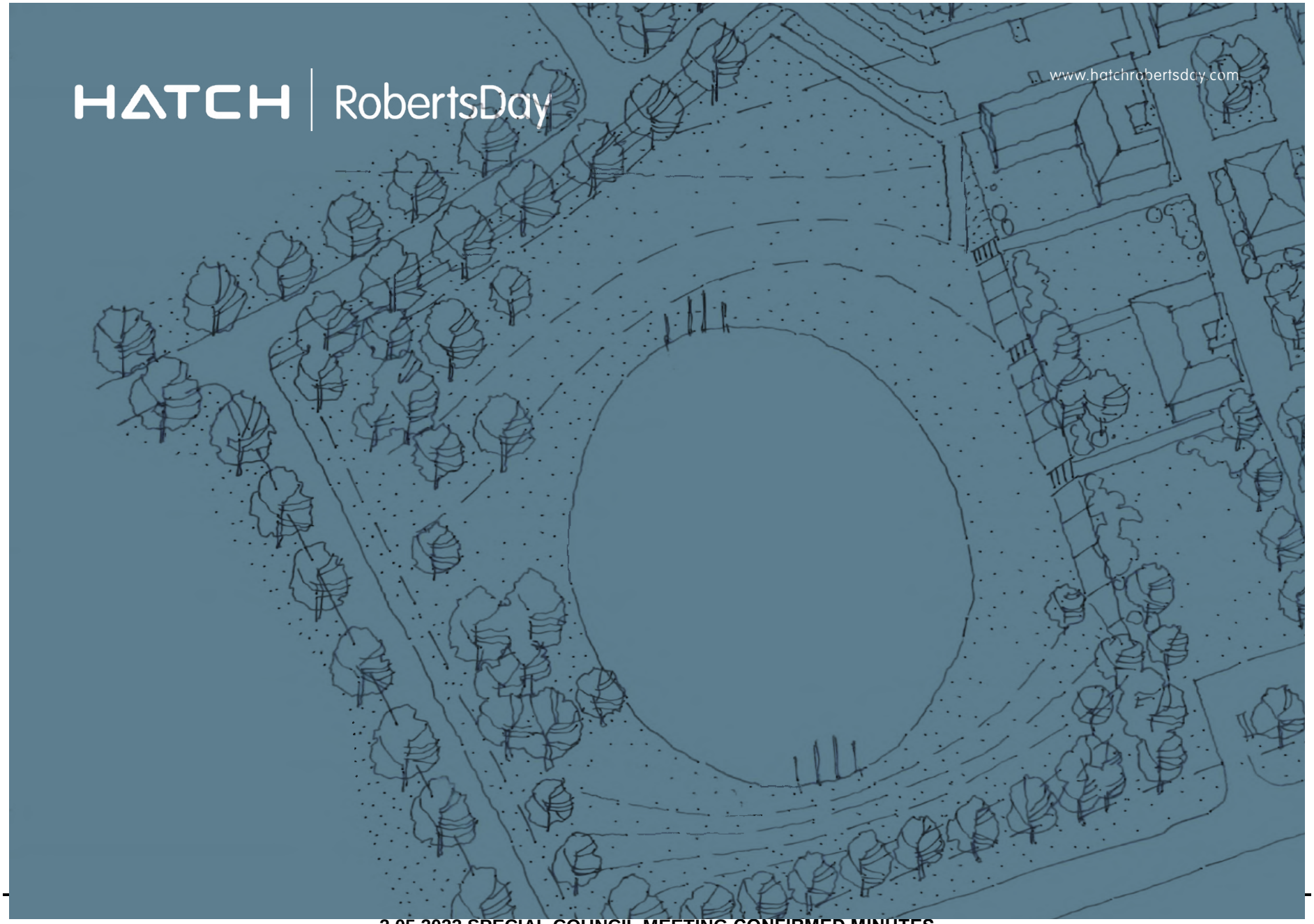
10.0 Additional Information

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	Western Australian Planning Commission
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	Shire of Mundaring / Department of Biodiversity, Conservation and Attractions

Artwork Source: RobertsDay, 2018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PART TWO
EXPLANATORY

NORTH STONEVILLE STRUCTURE PLAN

SATTERLEY

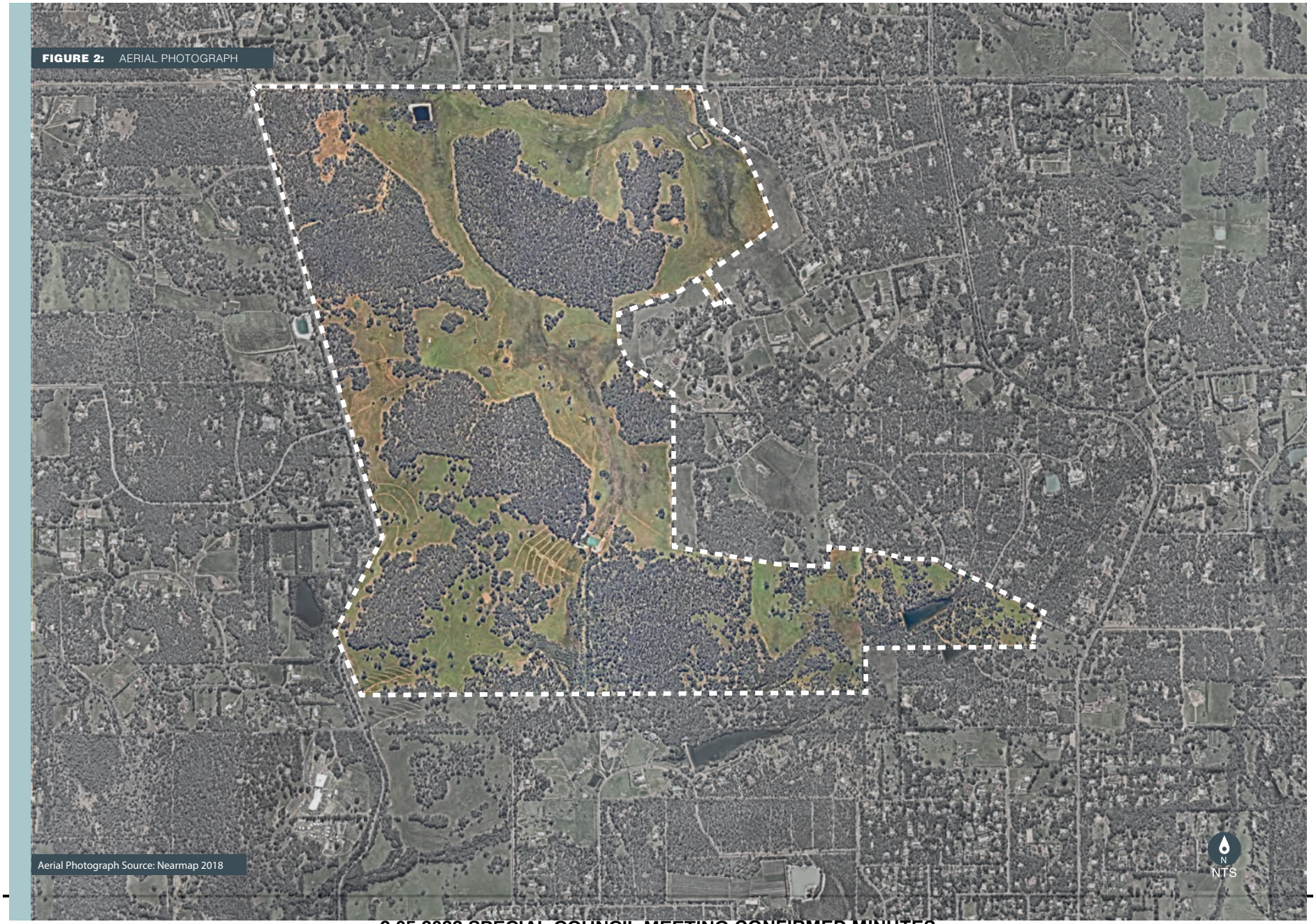
FIGURE 2: AERIAL PHOTOGRAPH
Aerial Photograph Source: Nearmap 2018
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1.0 PLANNING BACKGROUND

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 and concentrate growth into discrete town sites.

Local Subdivision and Infrastructure Plan No. 265 (LSIP 265) was approved by Council in 1998 and endorsed 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 adoption of the Shire of Mundaring Local Planning Scheme no. 4 (LPS4) in 2014, renamed LSIP 265 to Structure Plan 34 (SP34). The approved SP34 comprises approximately 1700 lots, a neighbourhood centre, a primary and high school and public open space.

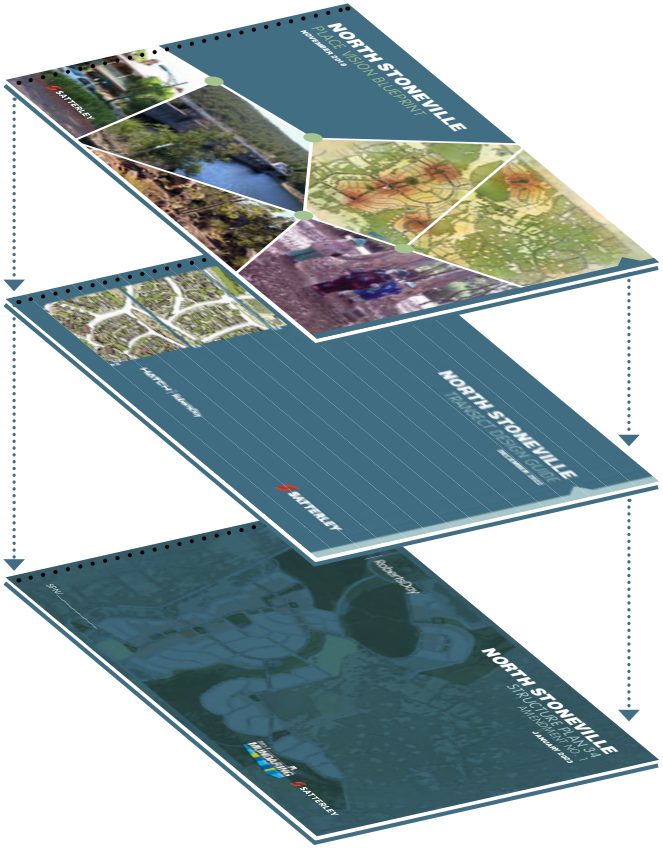
1.1.2 Purpose

SP34 has not been updated since 1999 and is now outdated with regard to contemporary policy and practice, including bushfire mitigation and environmental protection.

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 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

FIGURE 3: SUPPORTING DOCUMENTS

1.2 Supporting Documents

1.2.1 Overview

Additional work has been undertaken to inform 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 3,948 residents.

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

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 2 for a copy of the North Stoneville Transect Design Guide.

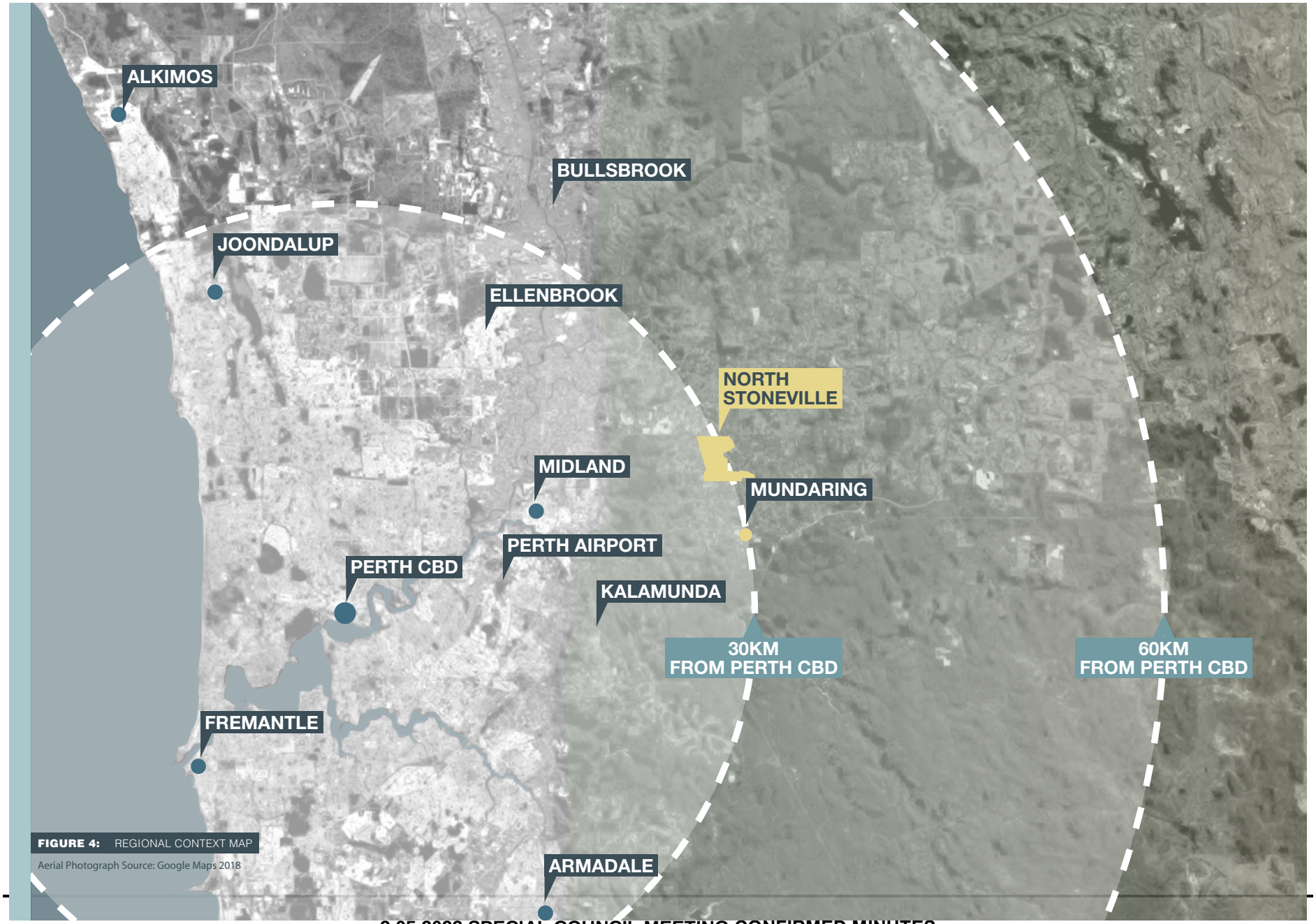
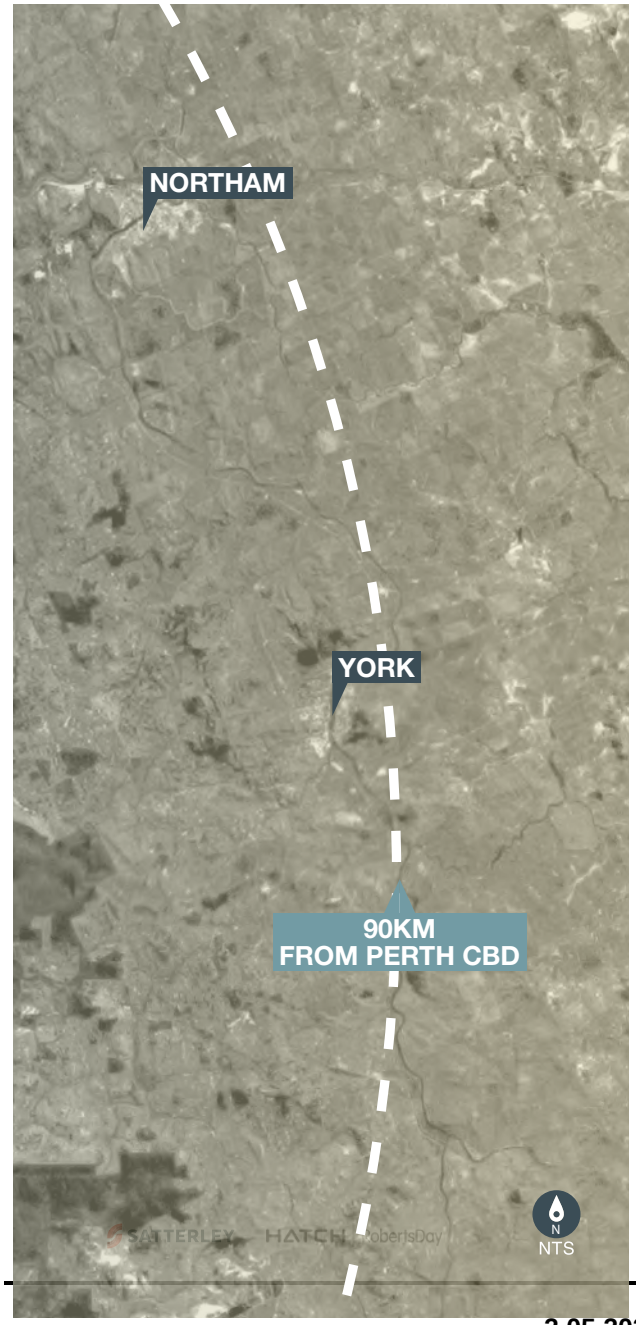


FIGURE 4: REGIONAL CONTEXT MAP

Aerial Photograph Source: Google Maps 2018



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 Plan. 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).

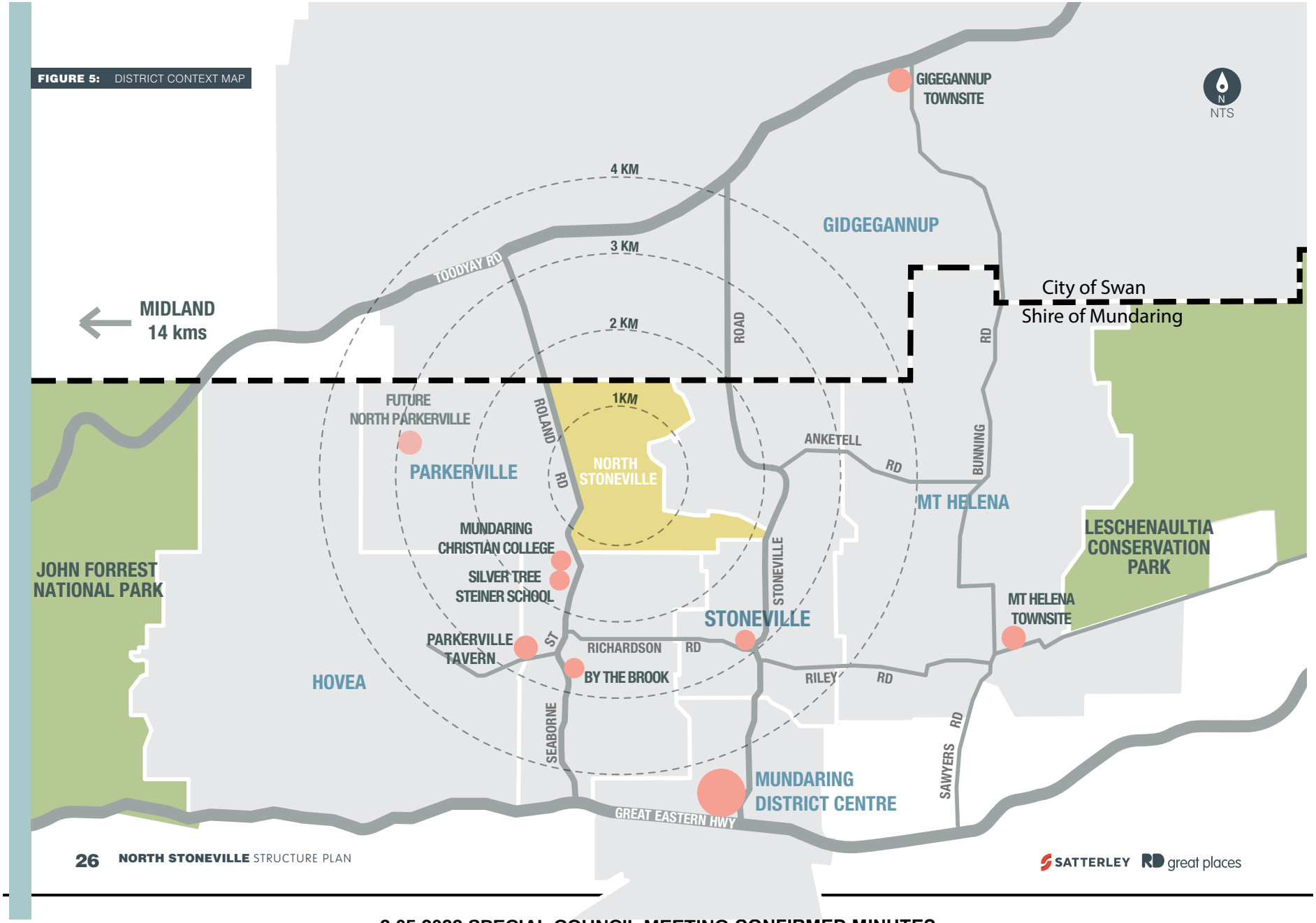


FIGURE 5: DISTRICT CONTEXT MAP
GIGEGANNUP TOWNSITE
NTS
4 KM
3 KM
2 KM
1KM
GIDGEGANNUP
TOODYAY RD
City of Swan
Shire of Mundaring
MIDLAND
14 kms
ROAD
RD
FUTURE
NORTH PARKERVILLE
ROLAND
PARKERVILLE
NORTH
STONEVILLE
ANKETELL
BUNNING
MT HELENA
MUNDARING
CHRISTIAN COLLEGE
SILVER TREE
STEINER SCHOOL
JOHN FORREST
NATIONAL PARK
LESCHENAULTIA
CONSERVATION
PARK
STONEVILLE
MT HELENA
TOWNSITE
PARKERVILLE
TAVERN
ST
RICHARDSON
RD
BY THE BROOK
HOVEA
RILEY
SEABORNE
SAWYERS
MUNDARING
DISTRICT CENTRE
GREAT EASTERN HWY
26 NORTH STONEVILLE STRUCTURE PLAN
SATTERLEY
great places

1.3.1.2 District Context

North Stoneville is located in the Shire of Mundaring, which has a population of 38,157 at 2016[1].

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[1]. 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%[1]. 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%)[1]. 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 accomodate 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 maintanance.

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)[2]. 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.

[1]Data from 2016 Census, Australian Bureau of Statistics [2]RP Sales Data 2017

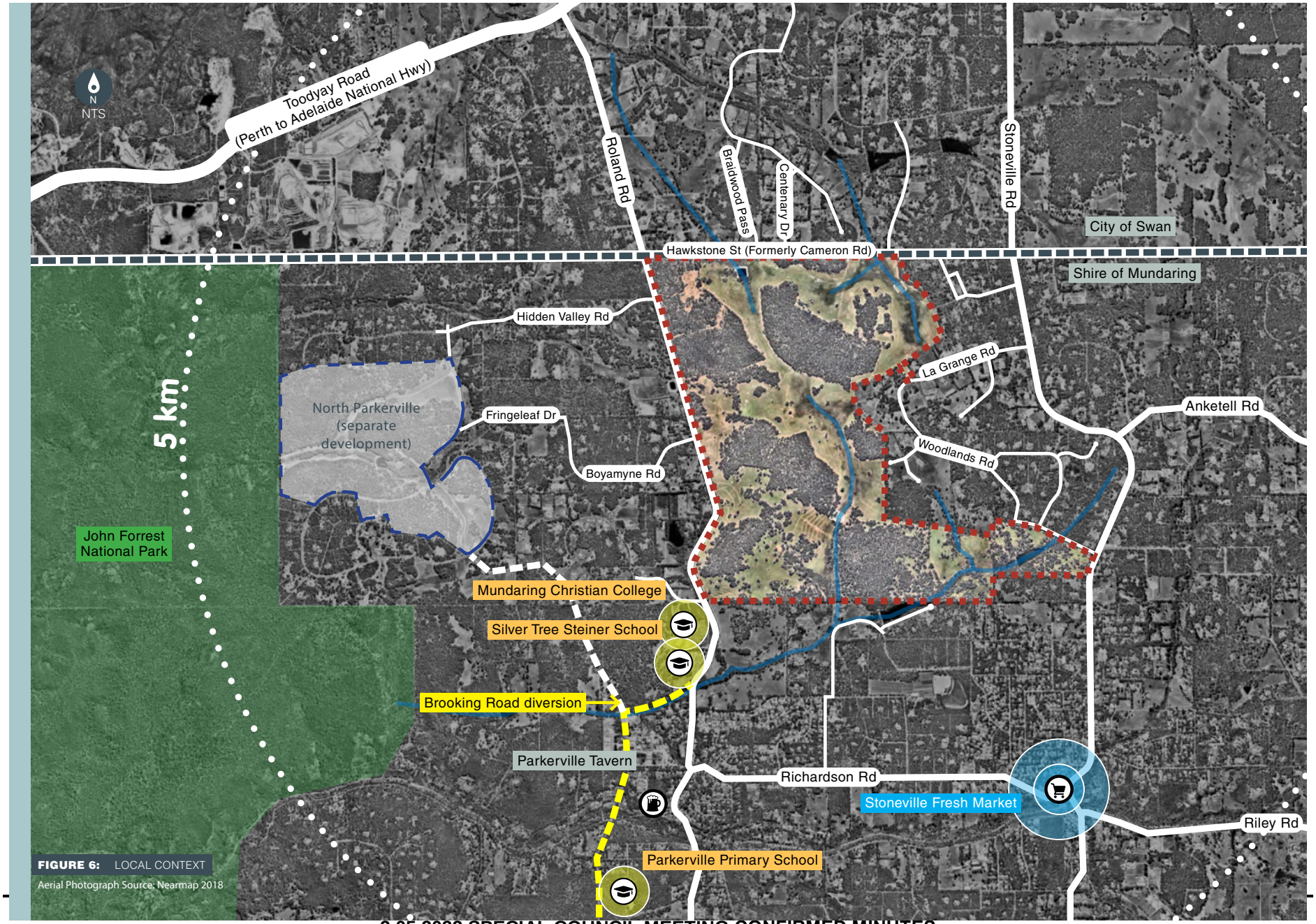
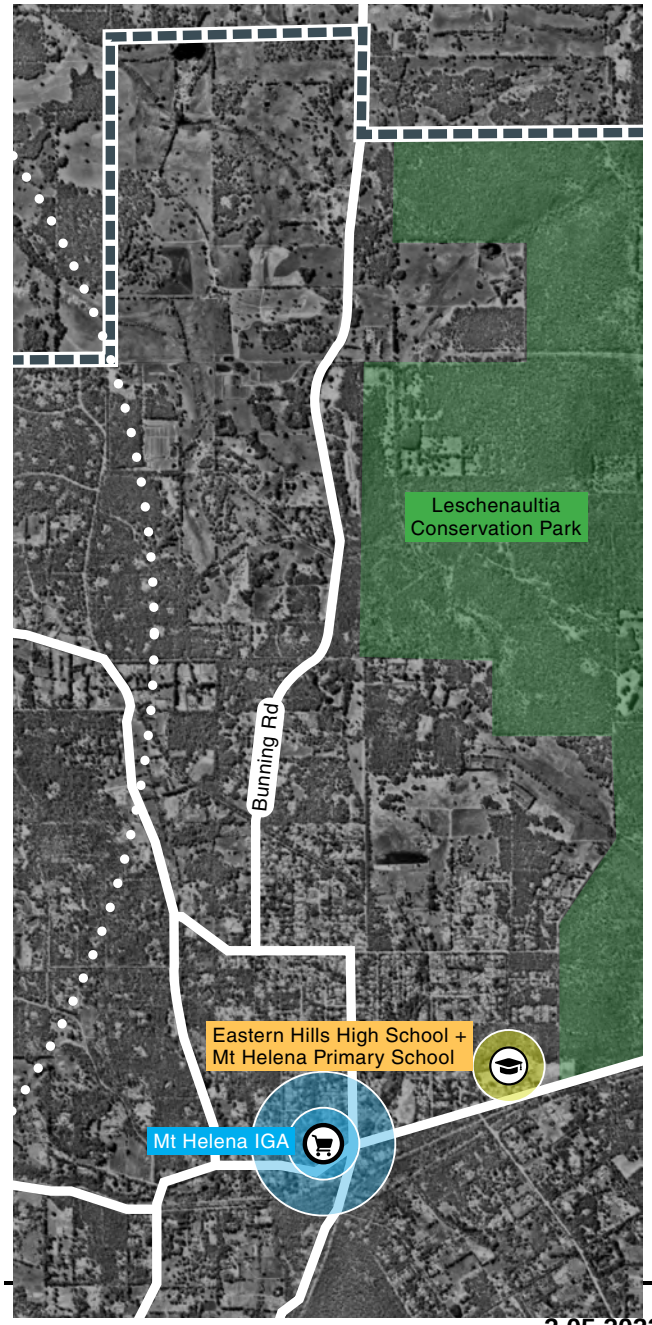


FIGURE 6: LOCAL CONTEXT
Aerial Photograph Source: Nearmap 2018



1.3.1.3 Local Context

The Site is surrounded by an established network of rural style roads comprising Roland Road to the west, Cameron (Hawkestone) 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 (formerly Cameron Road) to the north of the site serves as 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[1]. 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).

[1]Data from 2016 Census, Australian Bureau of Statistics

PART TWO: EXPLANATORY

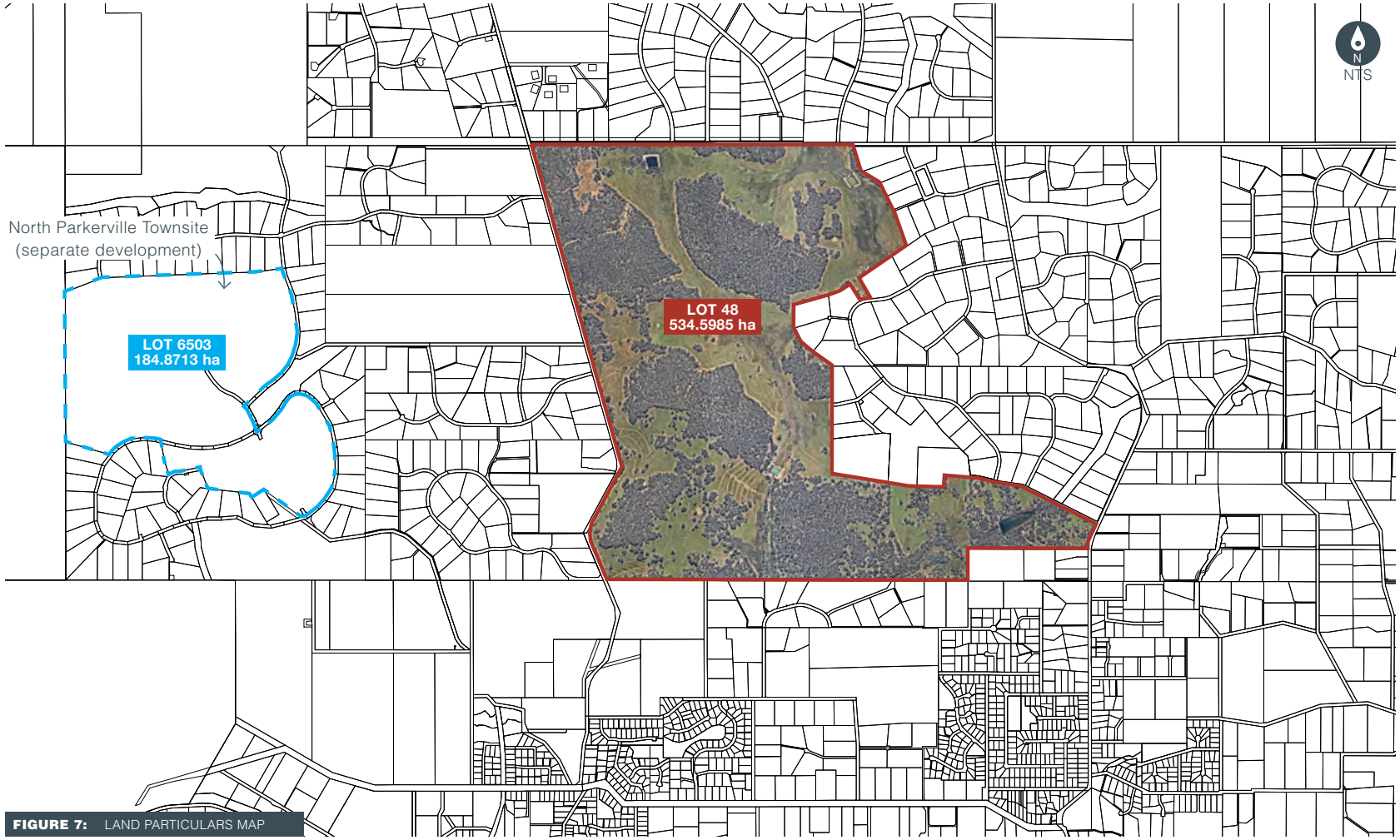


FIGURE 7: LAND PARTICULARS MAP

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 siginficant 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

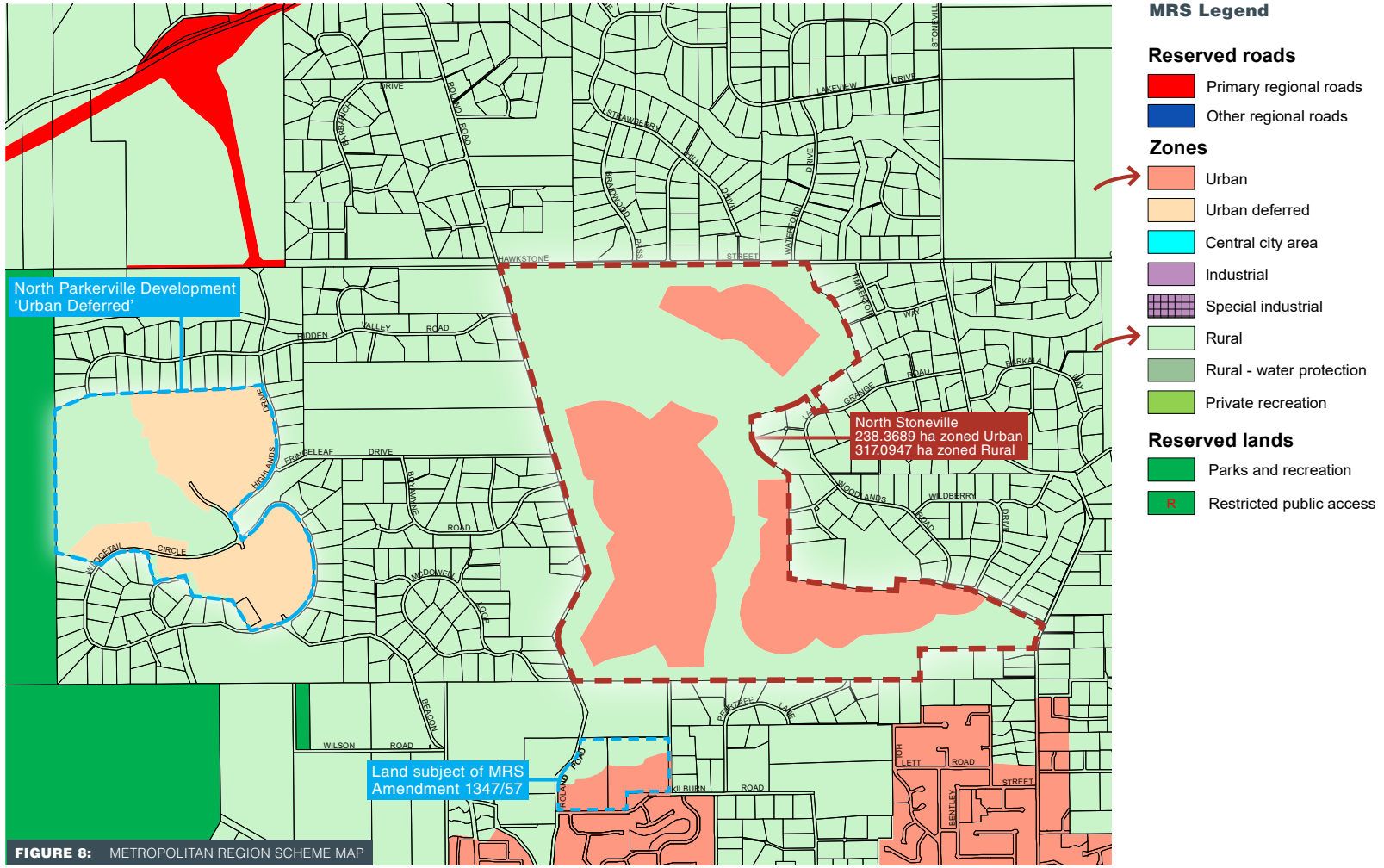
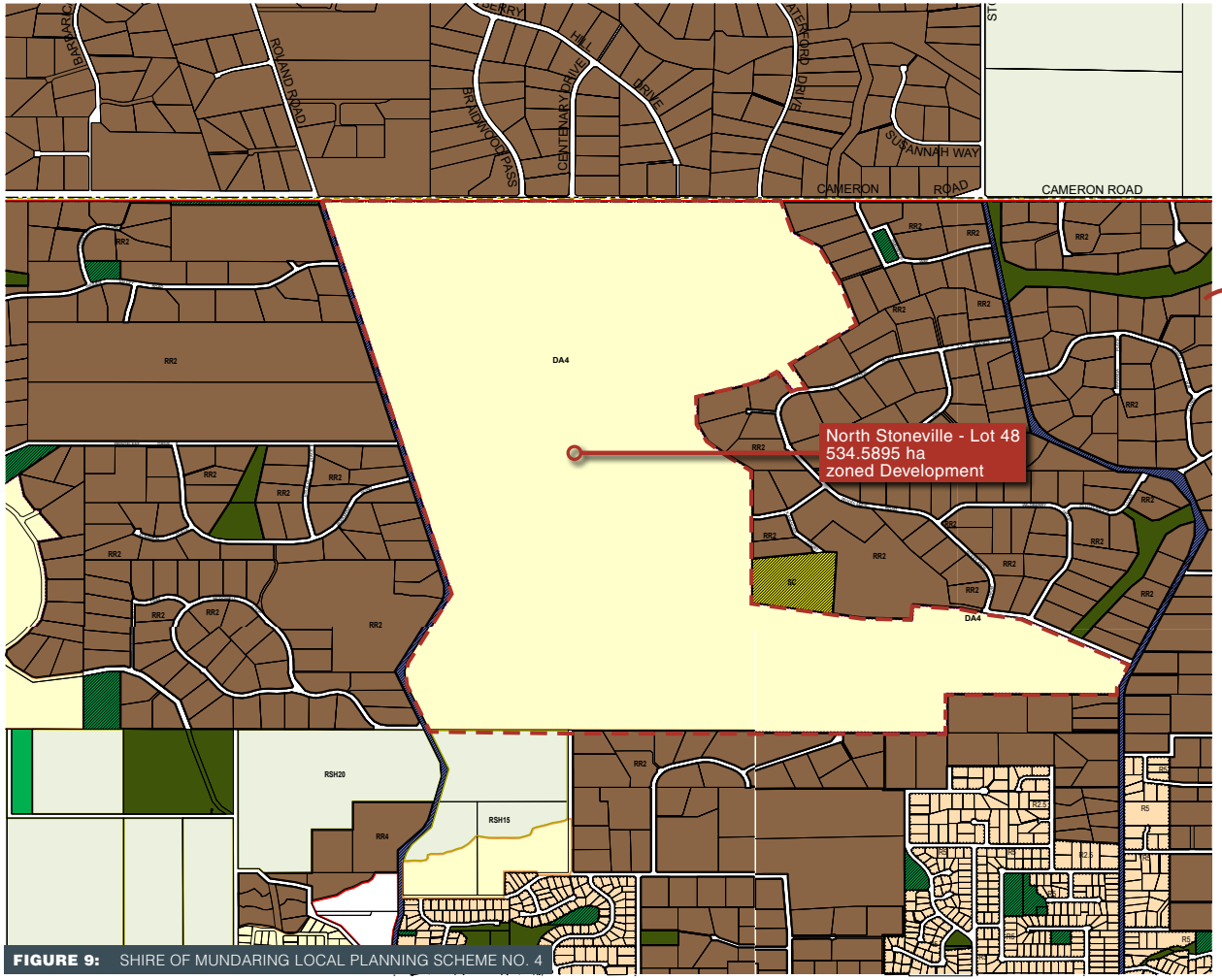


FIGURE 8: METROPOLITAN REGION SCHEME MAP

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

N

NTS

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

Map Source: WAPC 2018

PART TWO: EXPLANATORY

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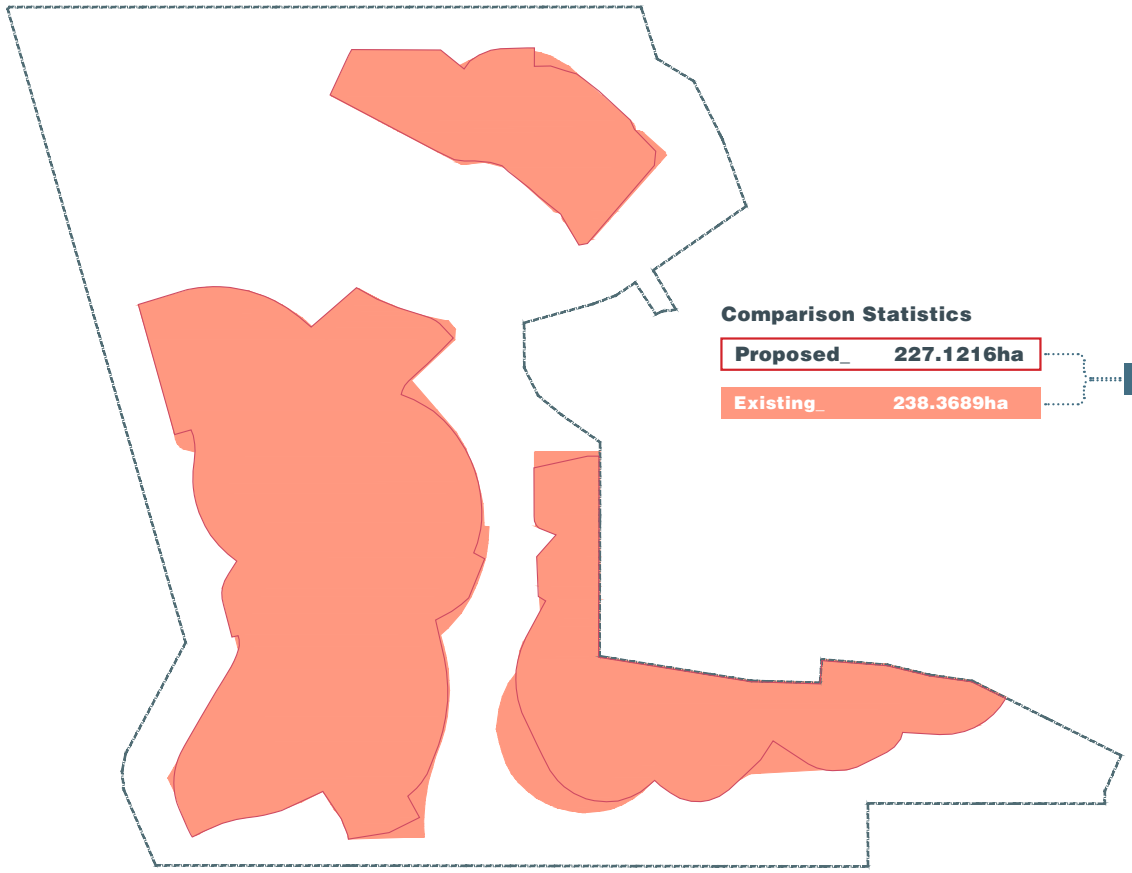


MRS Data Source: WAPC 2018
Map Produced by Hatch RobertsDay 2022

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 MRS, 43% of the site is zoned Urban while the balance is zoned Rural.

Table 4 summarises the land area covered by each MRS zone. Figure 8 depicts the spatial extent of each MRS zone.

The MRS Urban boundaries are based on LSIP 265.

As depicted at Figure 10, the updated design presented at section 3 of this report achieves a similar, but slightly smaller footprint of MRS Urban zoning, and is supported by a design rationale based on the land's capability to accommodate residential development, which is responsive to topography, while avoiding significant environmental features. 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).

PART TWO: EXPLANATORY

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

1.4.2 Planning Framework

Amendment No.1 to SP34 was prepared with due regard to all planning and related strategies and policies. A summary of the planning and design considerations in the relevant documents are contained in Appendix 1:

Amendment No.1 to SP34 is consistent with the following:

REGULATION	STRATEGIES	PLANNING POLICIES
▪ Environment Protection and Biodiversity Conservation Act 1999 ▪ Aboriginal Heritage Act 1972 ▪ MRS Amendment 1019/33 (North Stoneville)	▪ Perth and Peel@3.5million: The Transport Network (WAPC, 2018) ▪ Shire of Mundaring Local Planning Strategy (Shire of Mundaring, 2012) ▪ Shire of Mundaring Local Commercial Strategy (Essential Economics Pty Ltd, 2018) ▪ Shire of Mundaring Public Open Space Strategy (Shire of Mundaring, 2001)	STATE PLANNING POLICIES ▪ SPP 1.0: State Planning Framework Policy (WAPC, 2017) ▪ SPP 2.0: Environment and Natural Resources Policy (WAPC, 2003) ▪ SPP 2.8: Bushland Policy for the Perth Metropolitan Region (WAPC, 2010) ▪ SPP 2.9: Water Resources (WAPC, 2006) ▪ SPP 2.10: Swan-Canning River System (WAPC, 2006) ▪ SPP 3.0: Urban Growth and Settlement (WAPC, 2006) ▪ SPP 3.1: Residential Design Codes (WAPC, 2018) ▪ SPP 3.7: Planning in Bushfire Prone Areas (WAPC 2015) DEVELOPMENT CONTROL AND OPERATIONAL POLICIES ▪ Liveable Neighbourhoods (WAPC 2009) ▪ Local Planning Policies ▪ Shire of Mundaring Street Trees Policy (PS-08 2018)

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, 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, 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.

Design of the street network needs to be considered carefully 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.

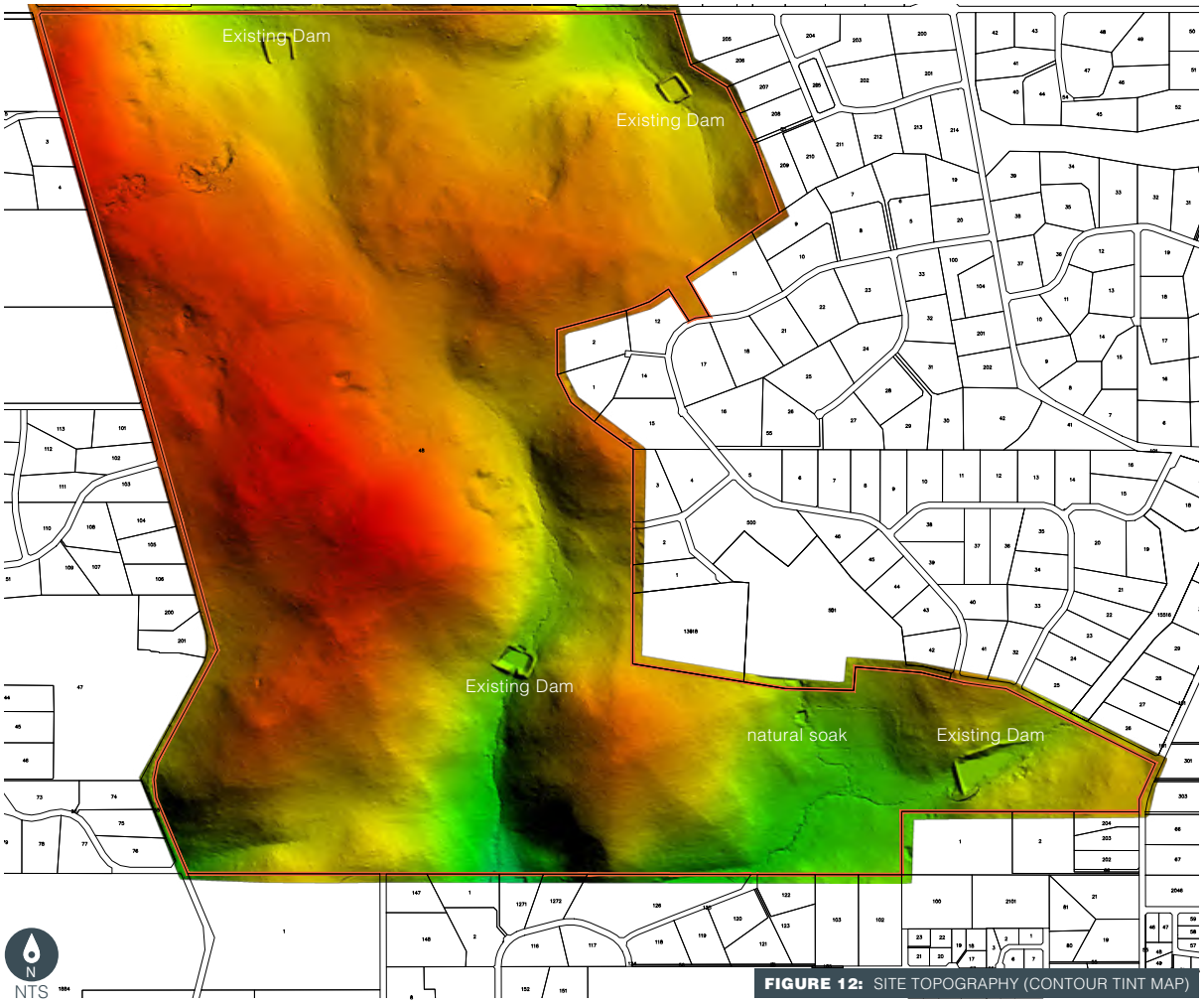


FIGURE 12: SITE TOPOGRAPHY (CONTOUR TINT MAP)

Data Source: MNG Surveyors 2017

SATTERLEY HATCH | RobertsDay

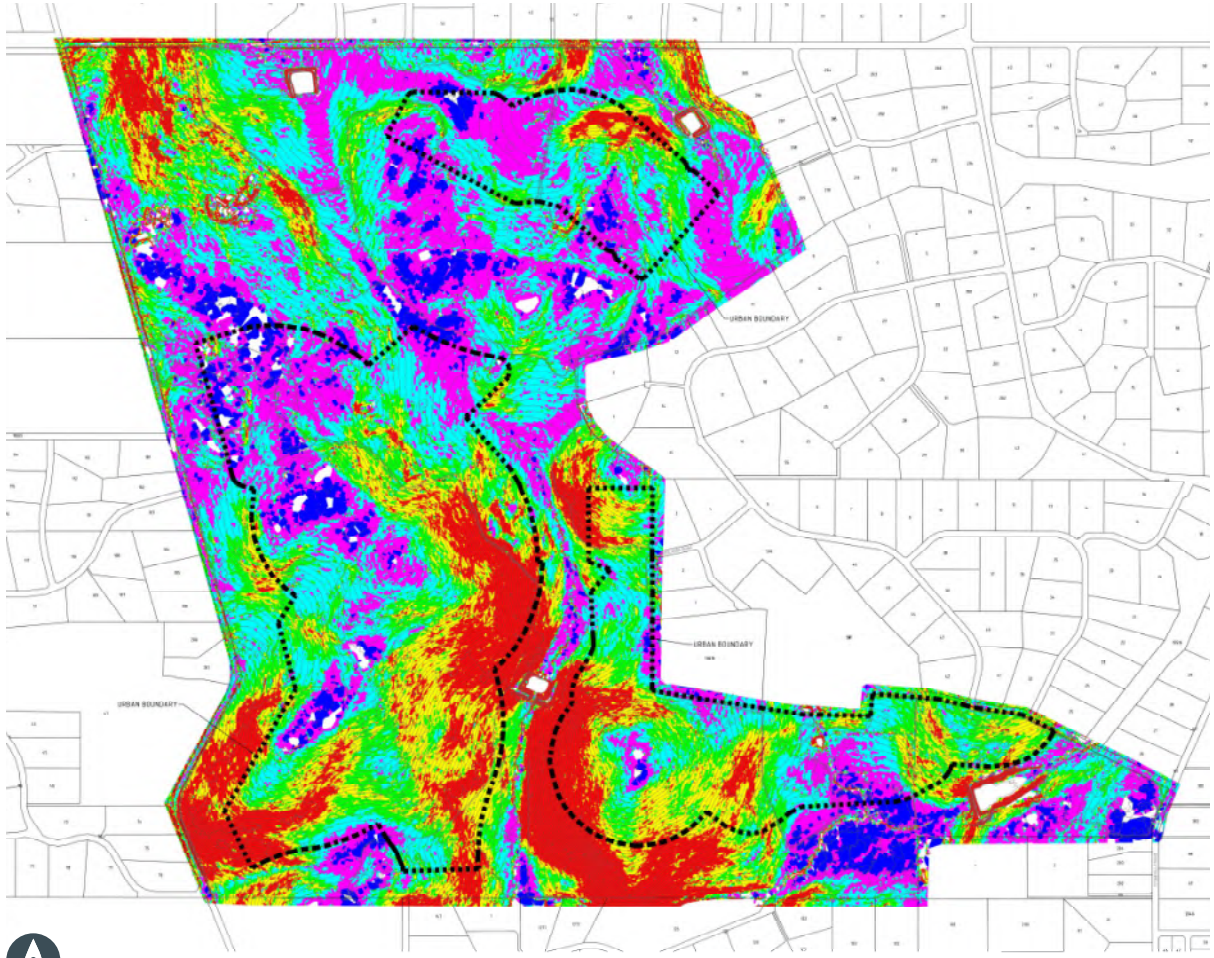


FIGURE 13: SLOPE ANALYSIS MAP

Data Source: Cossill & Webley 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.

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 sheok 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.

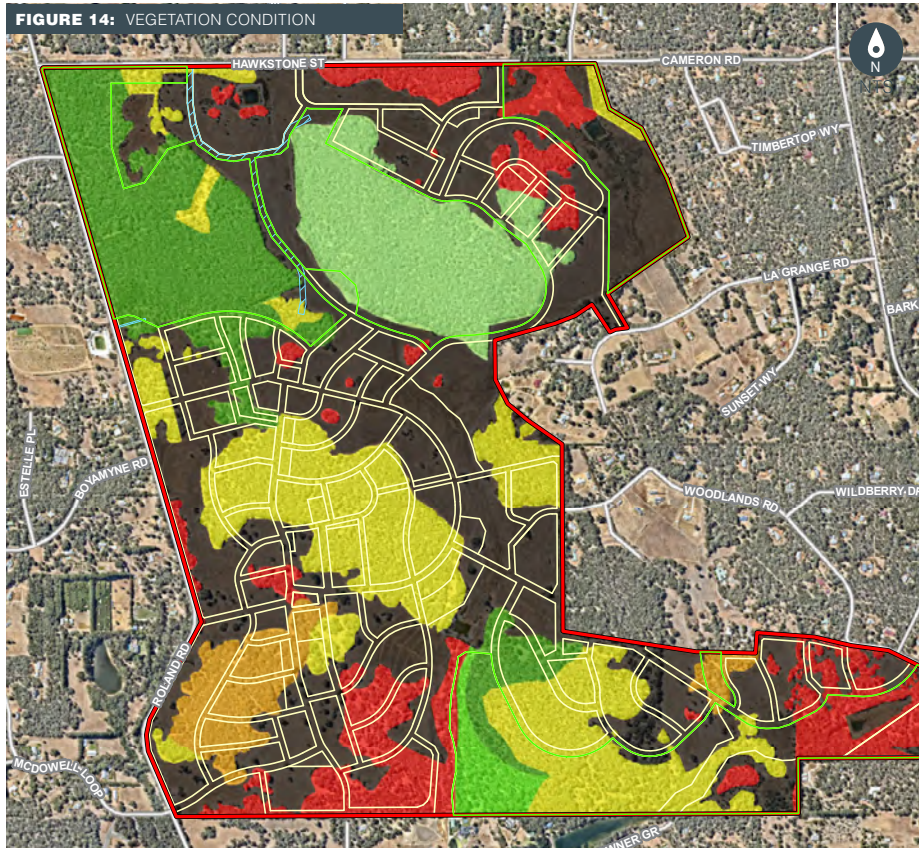
Flora and vegetation surveys of the subject site conducted in Spring 2016 and Spring 2017 by then Strategen (now JBS&G) did not identify the presence of any ecological community or flora species of State or Commonwealth conservation significance on the site.

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.

Refer Appendix 7, Environmental Assessment.

FIGURE 14: VEGETATION CONDITION



Map Source: JBS&G 2022

2.2.2 Fauna and Habitat

Strategen advise that the following 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 approimately 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 7) for mitigation and management strategies.

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 are therefore not relevant to the ongoing management of the site.

Refer to Appendix 6, Local Water Management Strategy.

Photo locations

PHOTO 4: EASTERN DAM - SUMMER 2017

Source: RobertsDay, 2017

PHOTO 5: CENTRAL WATERCOURSE (SOUTH) - SUMMER 2017

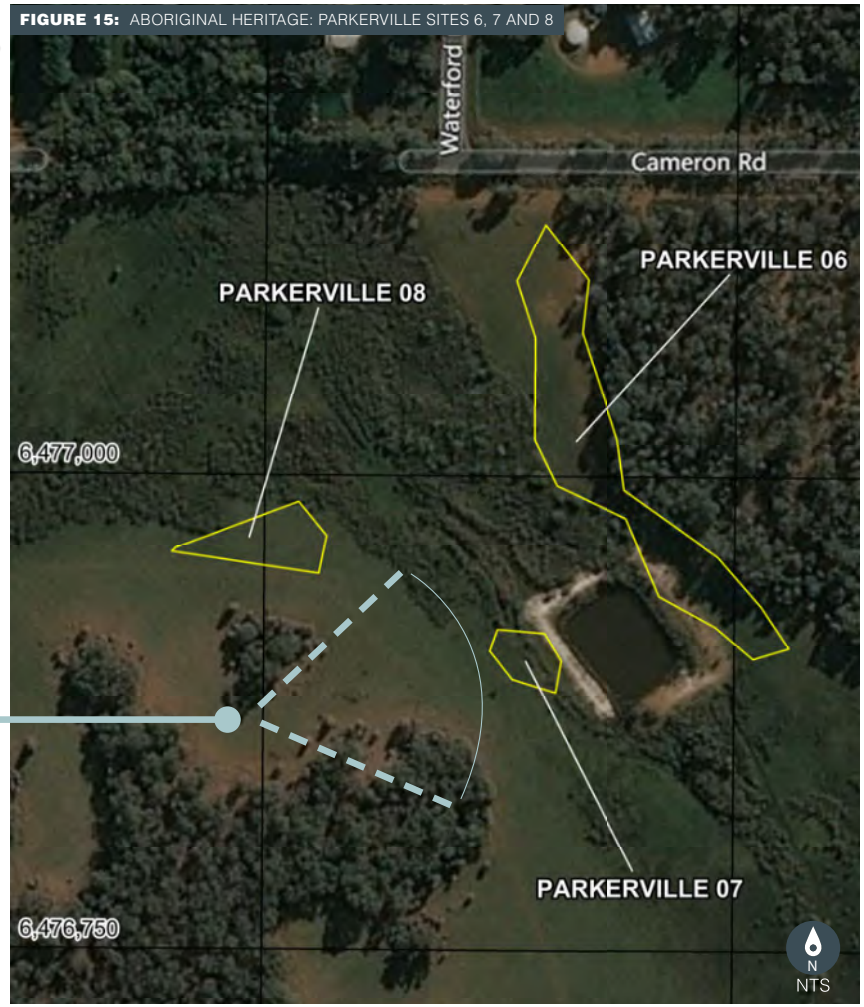
Source: RobertsDay 2017

PHOTO 6: SMALL DAM / NATURAL SOAK (EAST) - WINTER 2018

Source: Satterley, 2018

PART TWO: EXPLANATORY

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



Map Source: Snappy Gum Heritage Services Pty Ltd 2018

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

Photo Source: Emerge Associates 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/- Ethnosciences has provided 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 hilltop 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 villge cores to their rural peripheries.

FIGURE 16: PATTERNS OF HILLS SETTLEMENTS AND TOWNSHIPS Source: RobertsDay, 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 Hills Towns, has informed the design approach. Many of the best examples of historic hills settlements 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.

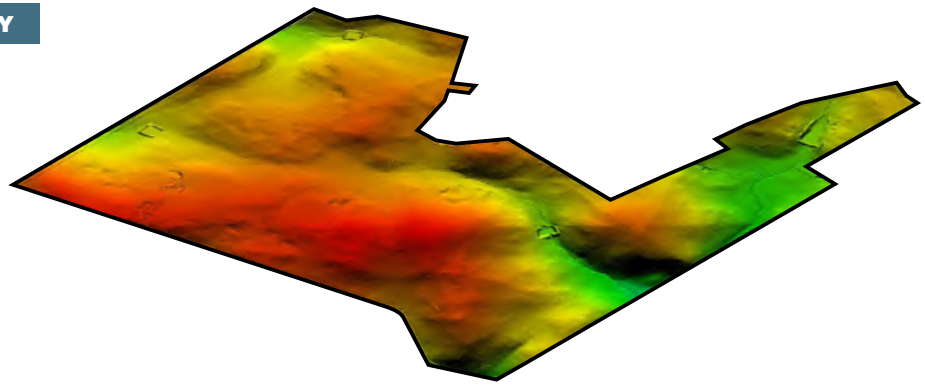
3.2 Design Process

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

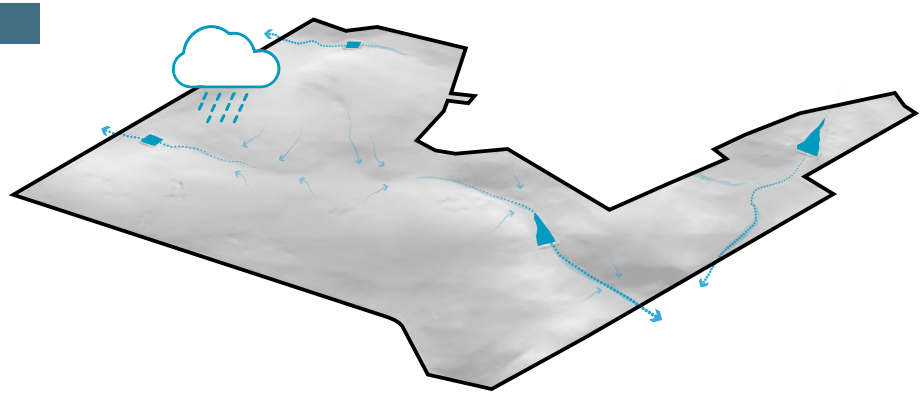
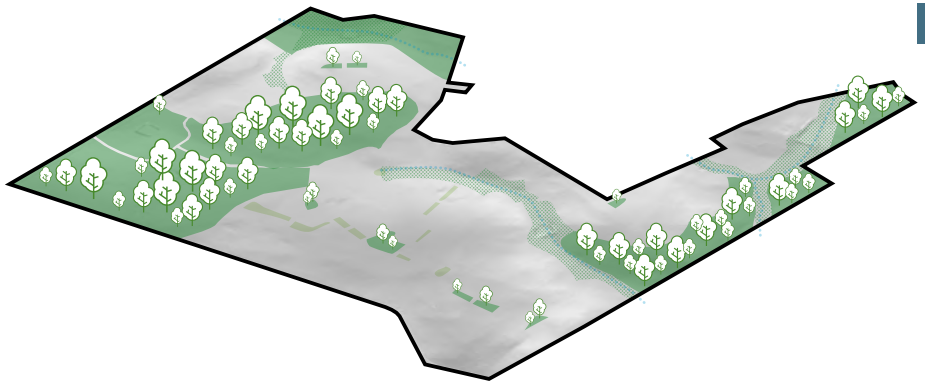


FIGURE 17: DESIGN PROCESS

Plans produced by Hatch RobertsDay, 2022

CONSERVATION + POS 3



ADD SCHOOL 4

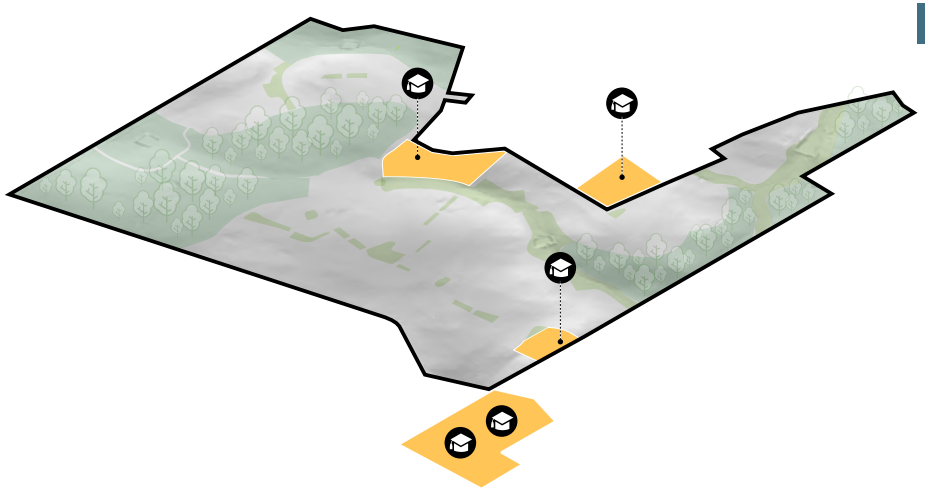
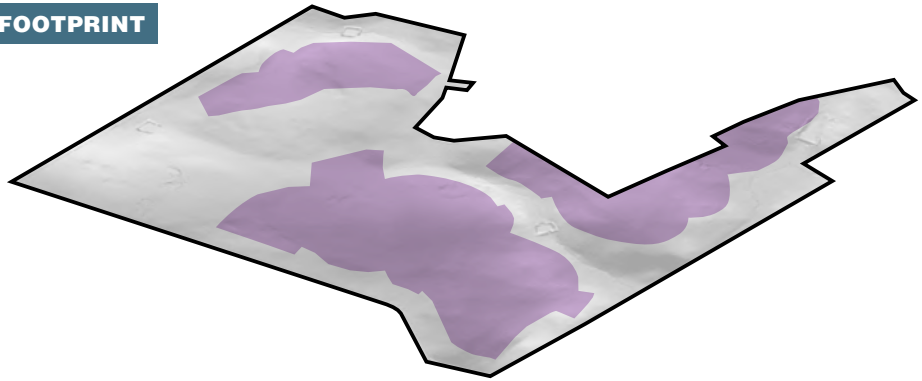


FIGURE 17: DESIGN PROCESS (CONTINUED)

Plans produced by Hatch RobertsDay, 2022

PART TWO: EXPLANATORY

5 DEFINE DEVELOPMENT FOOTPRINT



6 IDENTIFY FLAT SITES

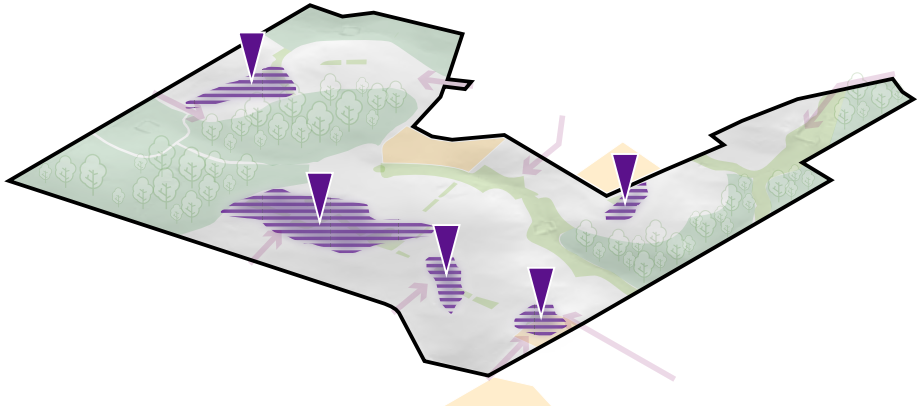
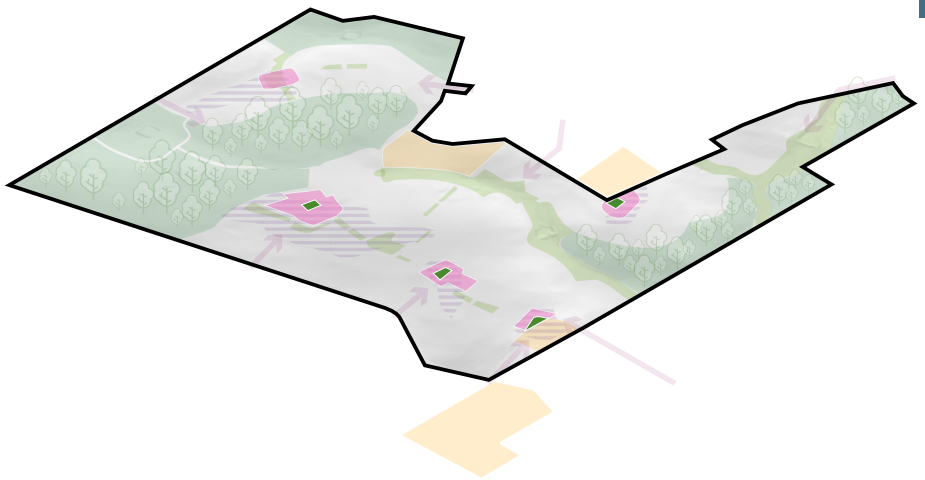


FIGURE 17: DESIGN PROCESS (CONTINUED)

Plans produced by Hatch RobertsDay, 2022

SHAPE VILLAGE NODES 7



CONNECT VILLAGE CORES 8

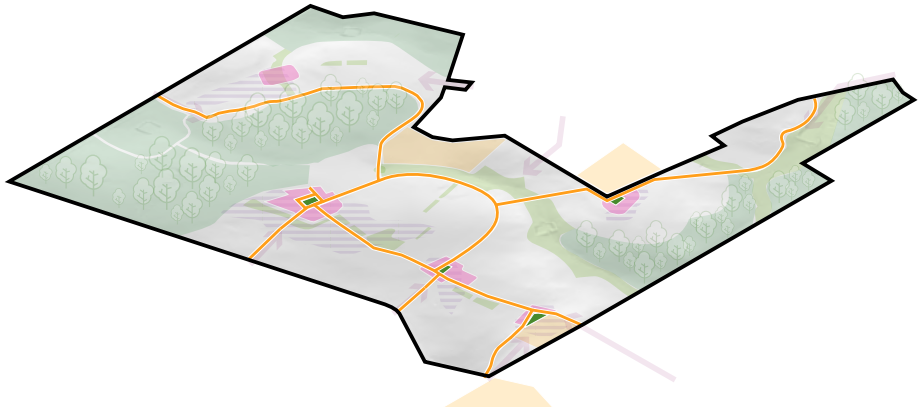
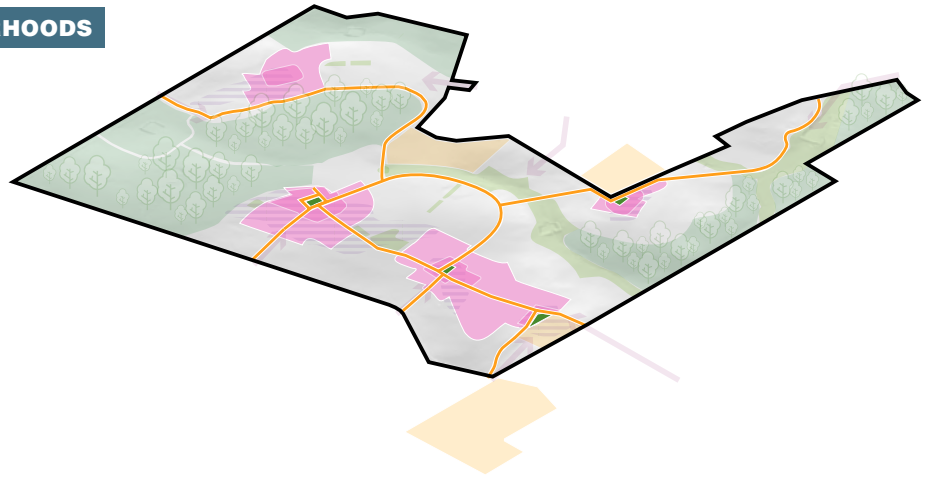


FIGURE 17: DESIGN PROCESS (CONTINUED)

Plans produced by Hatch RobertsDay, 2022

PART TWO: EXPLANATORY

9 ESTABLISH NEIGHBOURHOODS



10 BUSHFIRE PERIMETER ACCESS

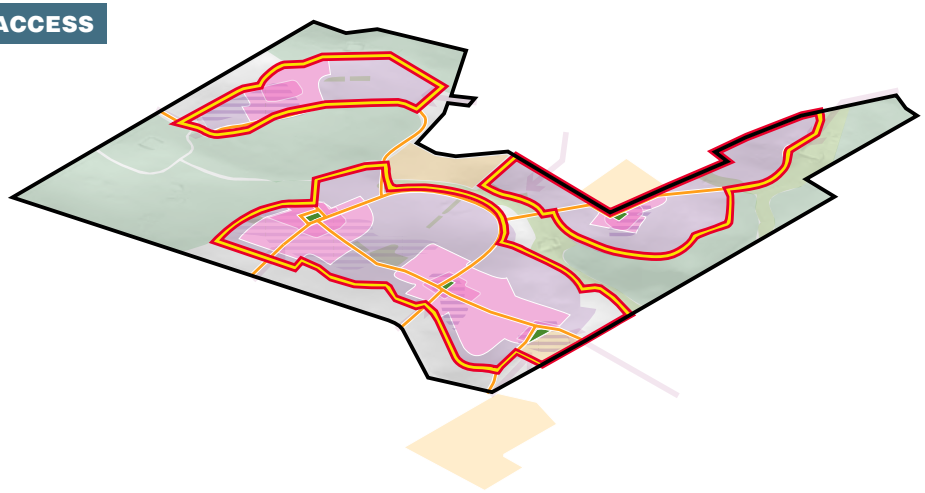


FIGURE 17: DESIGN PROCESS (CONTINUED)

Plans produced by Hatch RobertsDay, 2022

FIGURE 17: DESIGN PROCESS (CONTINUED)

Plans produced by Hatch RobertsDay, 2022

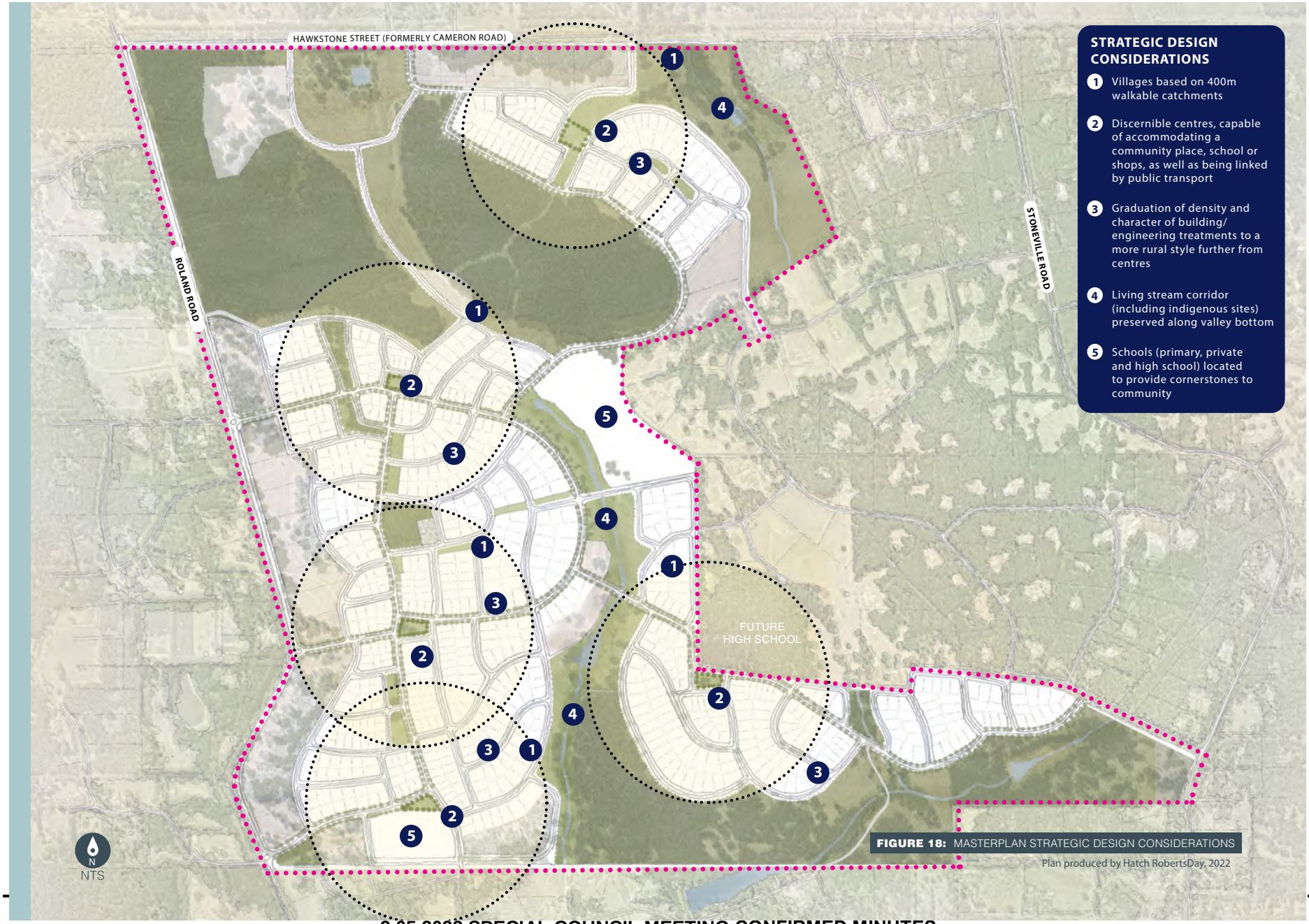


FIGURE 18: MASTERPLAN STRATEGIC DESIGN CONSIDERATIONS

Plan produced by Hatch RobertsDay, 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 (ie, 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.

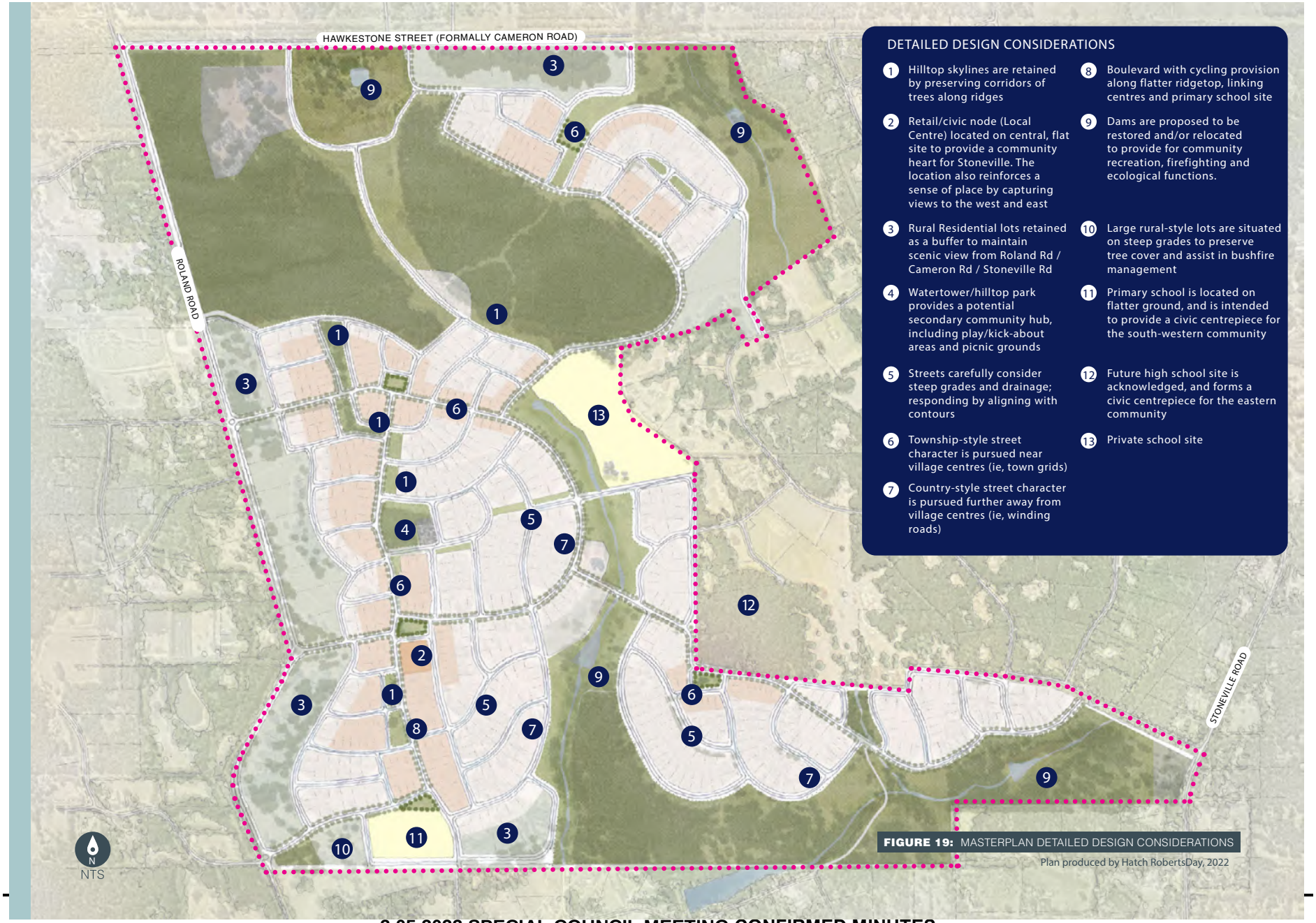


FIGURE 19: MASTERPLAN DETAILED DESIGN CONSIDERATIONS

Plan produced by Hatch RobertsDay, 2022

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.

Typically, smaller lots frame village greens while larger lots (1,000sqm +) are located where steeper topography is apparent. Over 70% of the lots are expected to be above 1,000sqm.

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 the acceptable R-Code density ranges for which subdivision shall conform, with consideration to the established locational criteria at Part 1.

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

Table 6: R-Code Indicative Density Range

R-Code	Indicative Lot Sizes	Lots	%
Natural Living *('Rural Residential' not covered by R-Codes)*	10,000 m2	42	4.2%
R5 – R7	2,000 m^2 – 1,428 m^2	647	64.6%
R7 – R10	1,428 m^2 – 1,012 m^2	312	31.2%
	TOTAL	1,001	100.0%

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

Rural Living 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.

PART TWO: EXPLANATORY

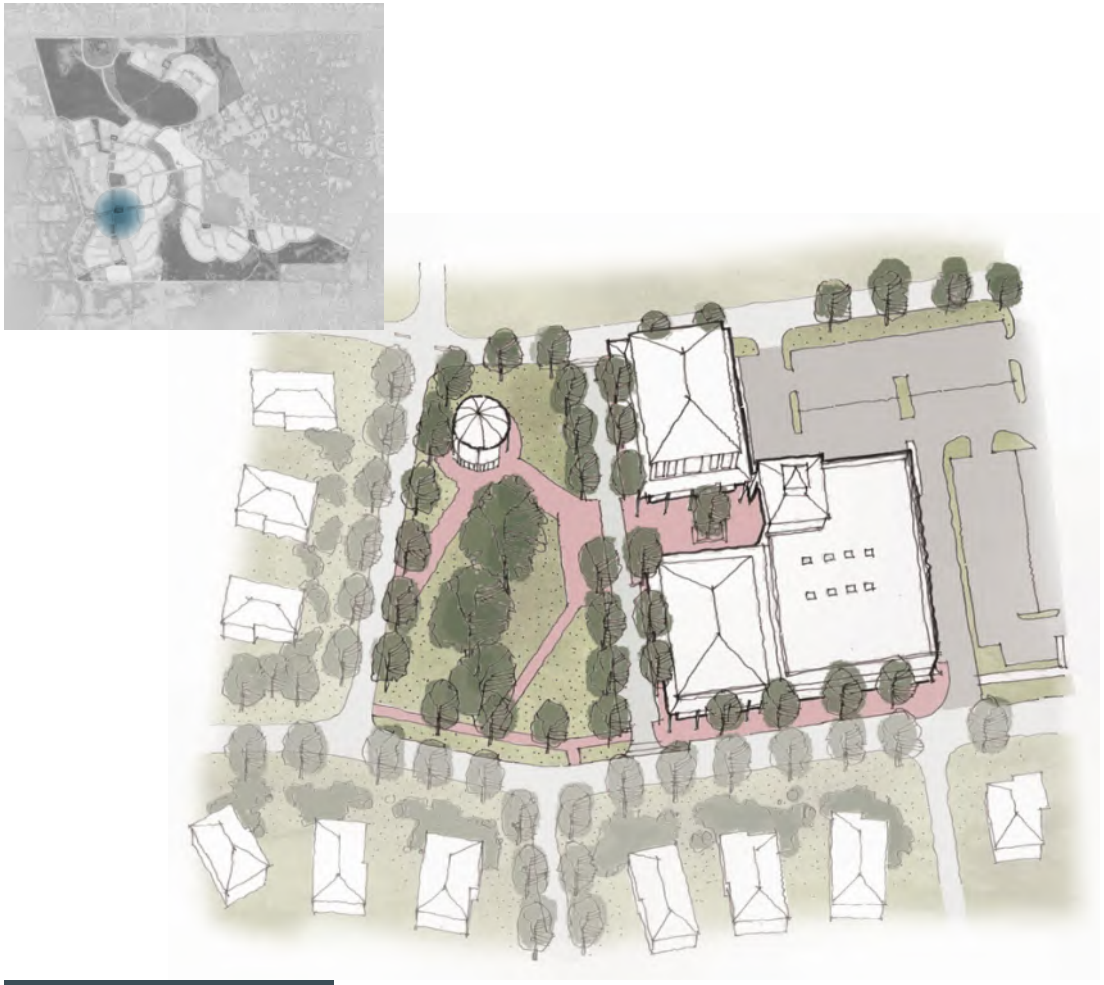


FIGURE 20: LOCAL CENTRE CONCEPT

Concepts produced by RobertsDay, 2018

4.4 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 850m2 net lettable area of convenience retail activity;
- Two convenience hospitality offerings such as a café/ wine bar, each of approximately 50m2 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 3, Commercial Strategy.

FIGURE 21: PRIMARY SCHOOL CONCEPT

Concepts produced by RobertsDay 2018

4.5 Schools

4.5.1 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 signficant 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.

PART TWO: EXPLANATORY

4.5.2 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.

4.5.3 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.

4.6 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.

4.7 Open Space and Landscape Response

4.7.1 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.

4.7.2 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 though 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.

4.7.3 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.

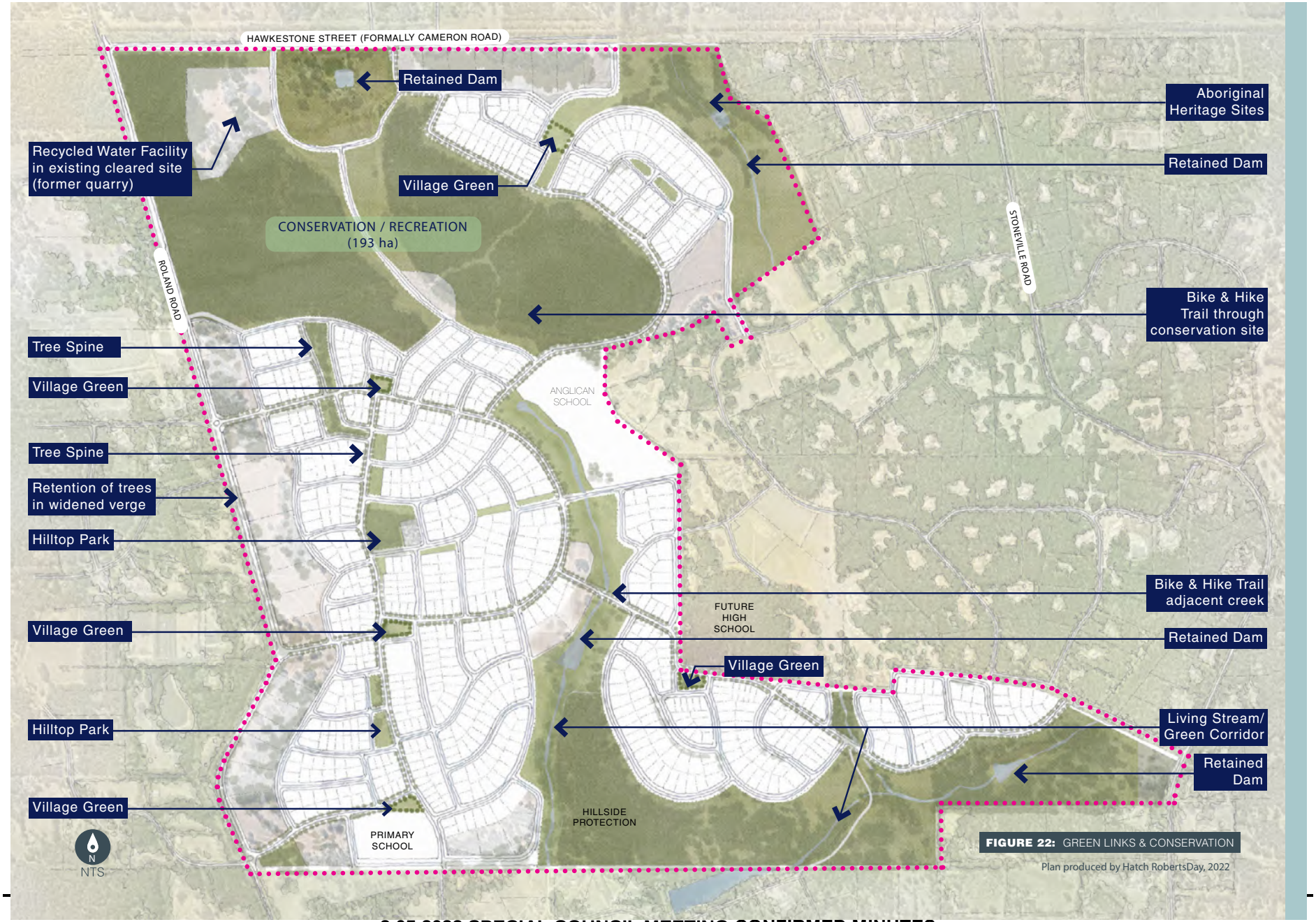


FIGURE 22: GREEN LINKS & CONSERVATION

Plan produced by Hatch RobertsDay, 2022

PART TWO: EXPLANATORY

4.7.4 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 steam, which will be used by the most amount of residents and visitors of the future North Stoneville community.

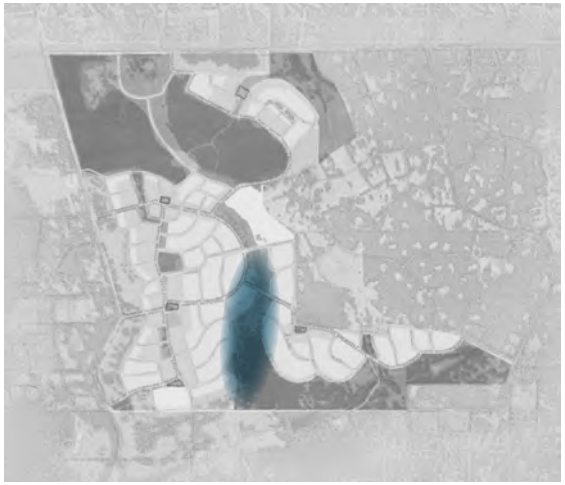
Refer Figure 23, landscape concept plan – central dam.

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



4.7.5 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.

In addition to the 193.1ha of Conservation Covenant / Recreation Reserve, 31.4ha of POS will be created.

Of the 31.4 hectares of POS that will be ceded, at least 23.4 hectares can be credited as POS for the purposes of demonstrating compliance with the Liveable Neighbourhoods 10% requirement.

As shown at Table 7, 13.4% POS is achieved.

The POS within the North Stoneville Townsite is proposed in a variety of locations including adjacent the existing drainage areas, around areas of existing vegetation or landform earmarked for retention, in addition to high and low points of the site to provide a variety of landscape typologies.

Some POS areas will provide an important drainage function. Bio-retention basins (to accommodate the 1 exceedence per year event) will be incorporated at key locations and will be planted with native reeds and sedges that will assist in the stripping of nutrients prior to infiltration.

Allowance for the major event drainage (1% annual exceedance probability - AEP) will be aligned where possible with existing flow paths, dams and low points within and adjacent to the creek line. 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 2) provides further details for how the function and landscape response will alter dependant on the open space's rural or urban setting.

Refer Figure 24, Indicative POS Plan.

4.7.6 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

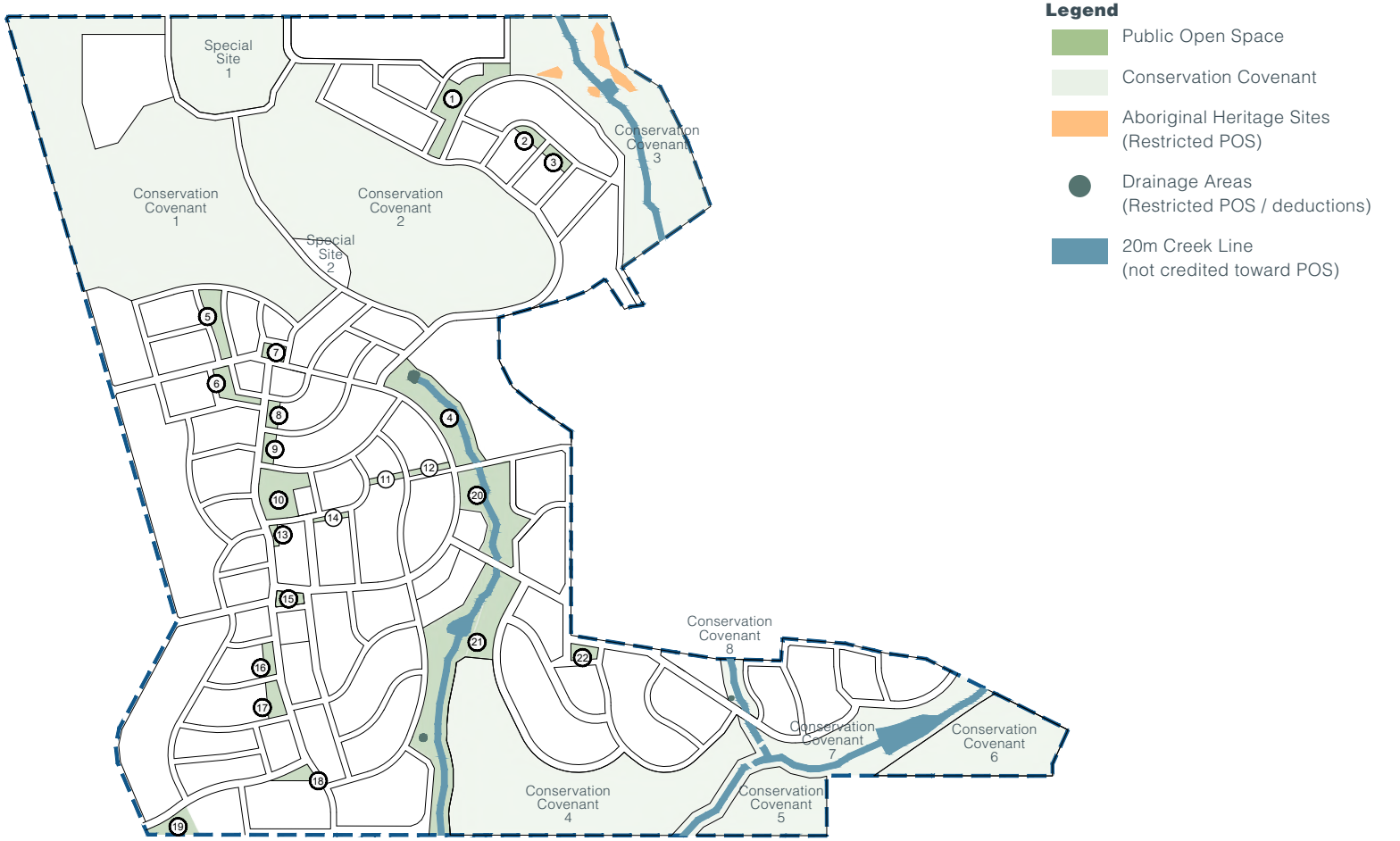


FIGURE 24: INDICATIVE PUBLIC OPEN SPACE PLAN

Plan produced by Hatch RobertsDay, 2022

Table 7: Indicative Public Open Space Schedule

Total Structure Plan Area less			**534.5985**
Conservation Covenant Areas	193.1169		
Roads within Conservation Areas	3.8510		
Special Sites	2.6502		
Total Net Site Area		199.6181	334.9804
Deductions			
Primary School	4.3000	100.5057	
Private (Anglican) School	12.0451		
Local Centre	1.0461		
Water Infrastructure (Tower)	0.5401		
Recycled Water Infrastructure	8.6780		
Dedicated Drainage Reserve	0.8387		
Rural (Rural Living Lots)	62.3793		
Gross Subdivisible Area (for POS calculation) (includes parts of Urban AND Rural MRS Zones)			234.4747
Local Public Open Space @ 10% due			23.4475
Public Open Space Contribution			
May comprise: -minimum 80 percent unrestricted public open space -minimum 20 percent restricted use public open space		18.7580 4.6895	23.4475
Public Open Space Provided			
Total Restricted public open space provided	10.3610		
Total Unrestricted public open space provided	21.1210		
Total Public Open Space Provided			**31.4820**
Percentage public open space provided			**13.43 %**

Table 7 (continued)

ID	TYPOLOGY	AREA	UNRESTRICTED	RESTRICTED
1	Covenant Area	50.2442		
2	Covenant Area	47.9518		
3	Covenant Area	22.6518		
4	Covenant Area	28.9175		
5	Covenant Area	7.0018		
6	Covenant Area	10.5013		
7	Covenant Area	13.3935		
8	Covenant Area	1.3083		
9	Covenant Area	11.1467		
1	Special Site	1.5682		
2	Special Site	1.0820		
1	Local POS	2.4170	2.4170	
2	Local POS	0.3597	0.3597	
3	Local POS	0.4000	0.4000	
4	Local POS	4.2012	1.6023	2.5989
5	Local POS	1.1104	1.1104	
6	Local POS	0.7528	0.7528	
7	Local POS	0.3808	0.3808	
8	Local POS	0.3607	0.3607	
9	Local POS	0.4007	0.4007	
10	Local POS	2.1142	2.1142	
11	Local POS	0.2321	0.2321	
12	Local POS	0.2776	0.2776	
13	Local POS	0.1495	0.1495	
14	Local POS	0.1867	0.1867	
15	Local POS	0.4180	0.4180	
16	Local POS	0.4114	0.4114	
17	Local POS	0.6067	0.6067	
18	Local POS	0.4285	0.4285	
19	Local POS	0.8947	0.8947	
20	Local POS	4.4251	2.4474	1.9777
21	Local POS	10.5277	4.7433	5.7844
22	Local POS	0.4265	0.4265	
		227.2491	21.1210	206.1281
Entire Subject Site		534.3229		
Special Sites Total		2.6502		
Covenant Areas Total		193.1169		
Local POS Total		31.4820		
Overall POS Typologies		227.2491		

PART TWO: EXPLANATORY

4.8 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 8), and addresses the key requirements of State Planning Policy 3.7: Planning in Bushfire Prone Areas (SPP 3.7), including:

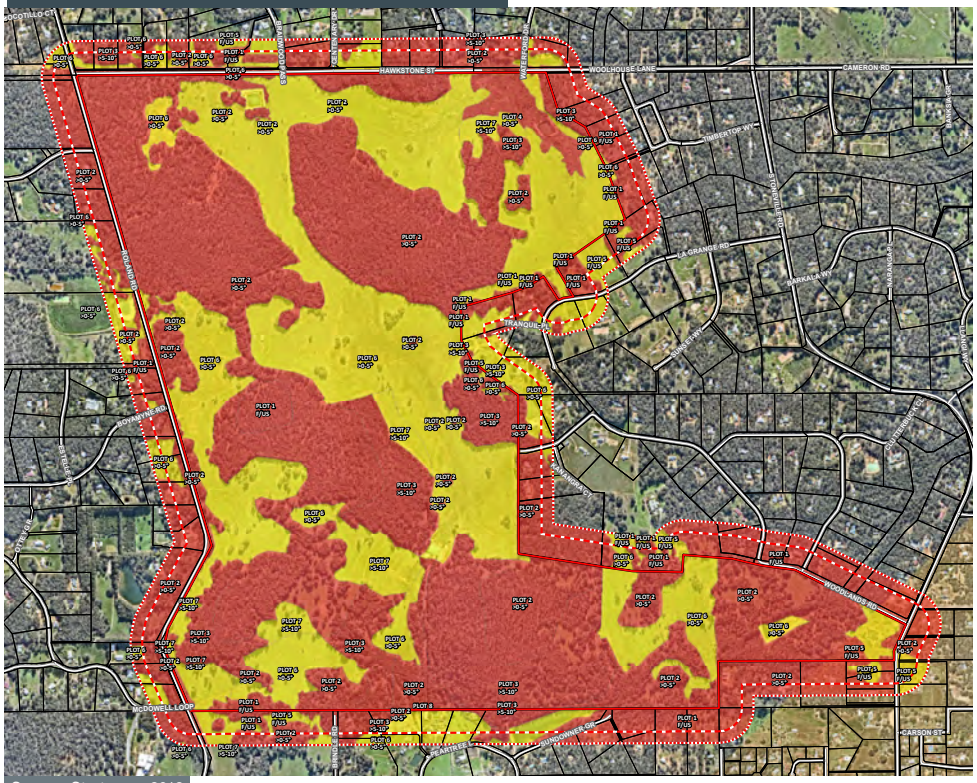
- A bushfire hazard level (BHL) assessment or where lot layout is known, a Bushfire Attack Level (BAL) contour assessment to determine the indicative acceptable BAL ratings across the site
- Identification of any bushfire hazard issues arising from the above assessment.
- Assessment against the bushfire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

The BMP is required to be 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 manage the bushfire risk to future residents.

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.

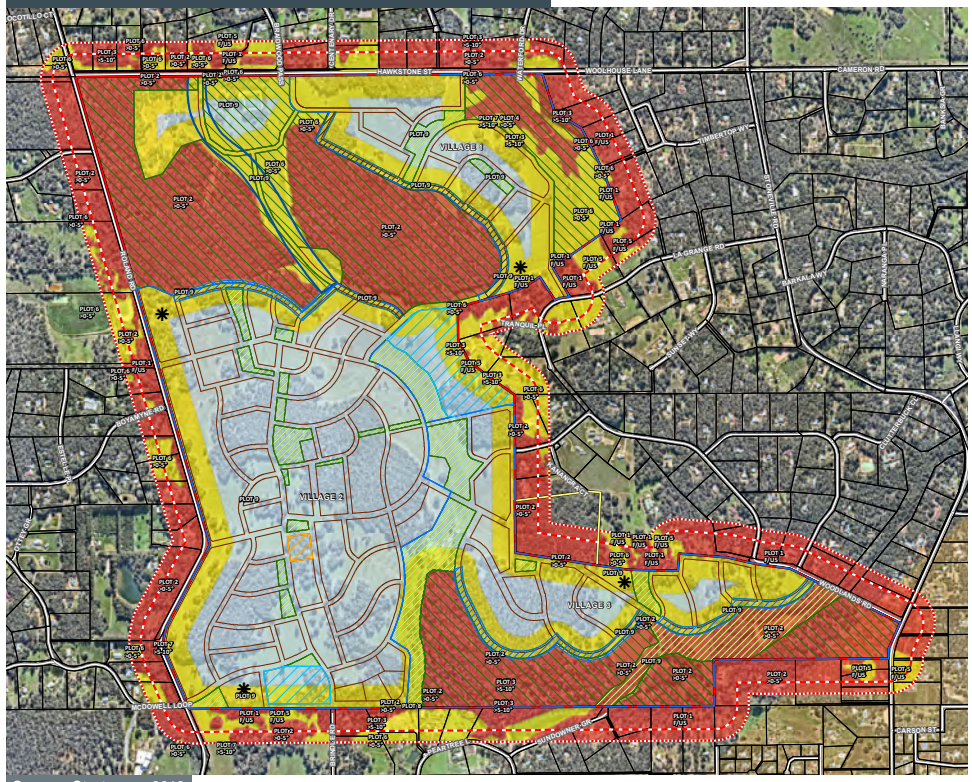
FIGURE 25: PRE-DEVELOPMENT BUSHFIRE HAZARD LEVEL



Source: Strategen, 2018

- Modelling and 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). Base on these findings, and for the improved safety of the existing and future communities, the proponent has committed to upgrading the Toodyay Road intersections at Roland Road and Stoneville Road (refer Part 1, section 9.0).

FIGURE 26: POST-DEVELOPMENT BUSHFIRE HAZARD LEVEL



Source: Strategen, 2018

- 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 defendable 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

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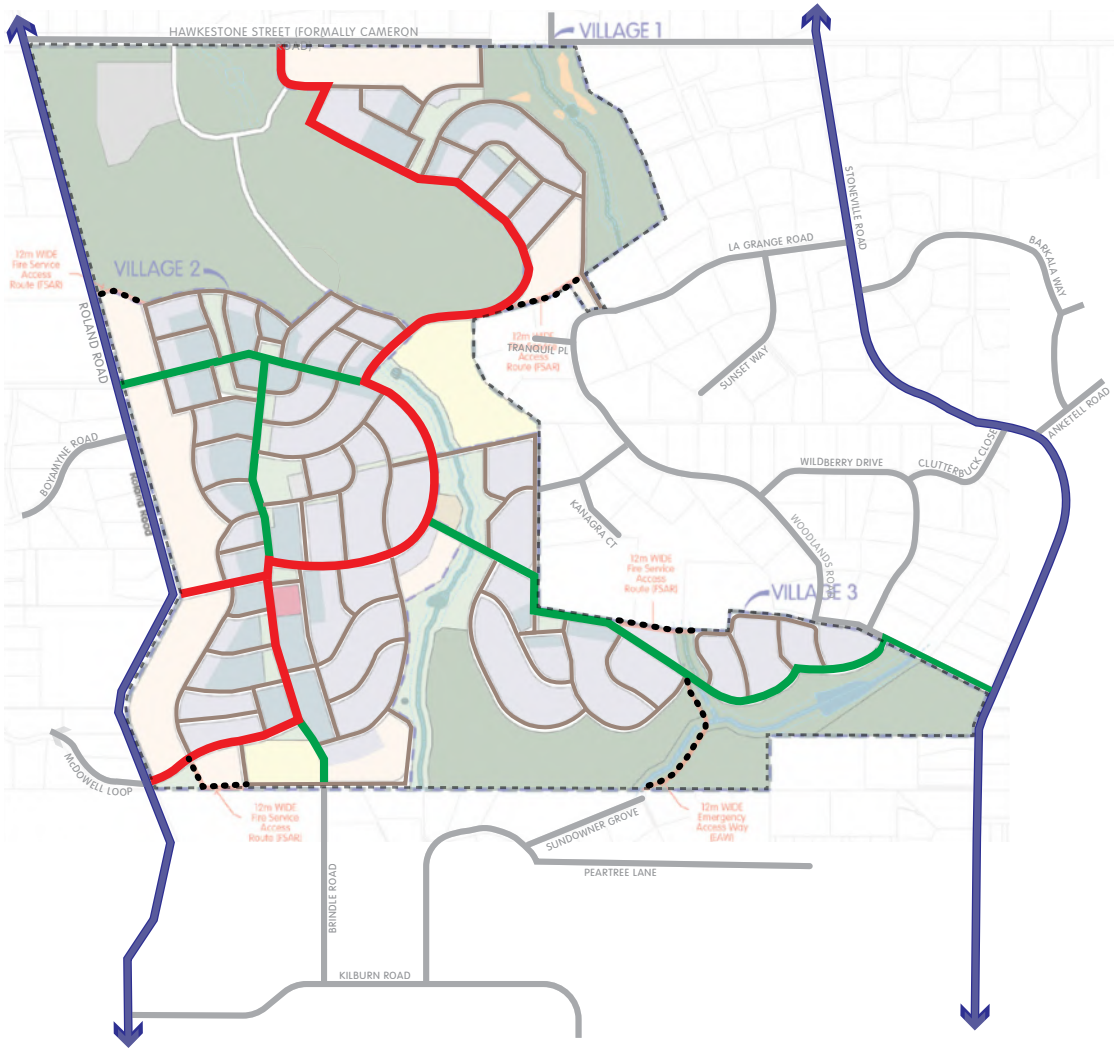

LEGEND TYPE

- Important Local Roads
- Neighbourhood Connector B
- Access Street A
- Access Street
- 12m Fire Service Access

FIGURE 27: HATCH LSP HIERARCHY PLAN

Plan Produced by Hatch RobertsDay, 2022

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4.9 Transport

4.9.1 Overview

This section summarises the key findings of the Transport Impact Assessment (Appendix 5), completed by Transcore.

Transcore produced a traffic model to assess the impacts of the proposal on the existing road network.

The Shire has plans to divert Roland Road to an extension of Brooking Road, which will then provide a direct link to Great Eastern Highway to the south.

Traffic modelling conducted by Transcore suggests that the Structure Plan will generate traffic volumes of approximately 8,000 vehicles per day (both inbound and outbound trips).

The street network of the Structure Plan area has been designed based on WAPC Liveable Neighbourhoods principles, supported by the Transect Design Guide (Appendix 2).

4.9.2 Integration with Surrounding Network

Refer to Table 8 and Figure 28 for numbered references made in the text.

The Structure Plan proposes 10 connections to the existing, surrounding road network. This enable the disbursement of traffic on an equitable basis. Table 8 itemises the connections and references the intersection type expected to address the traffic management needs for each circumstance (public primary and private K-12 schools).

The proposed Structure Plan street network is designed to accommodate the anticipated future traffic from within the locality associated with the proposed two new schools.

Table 8: 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

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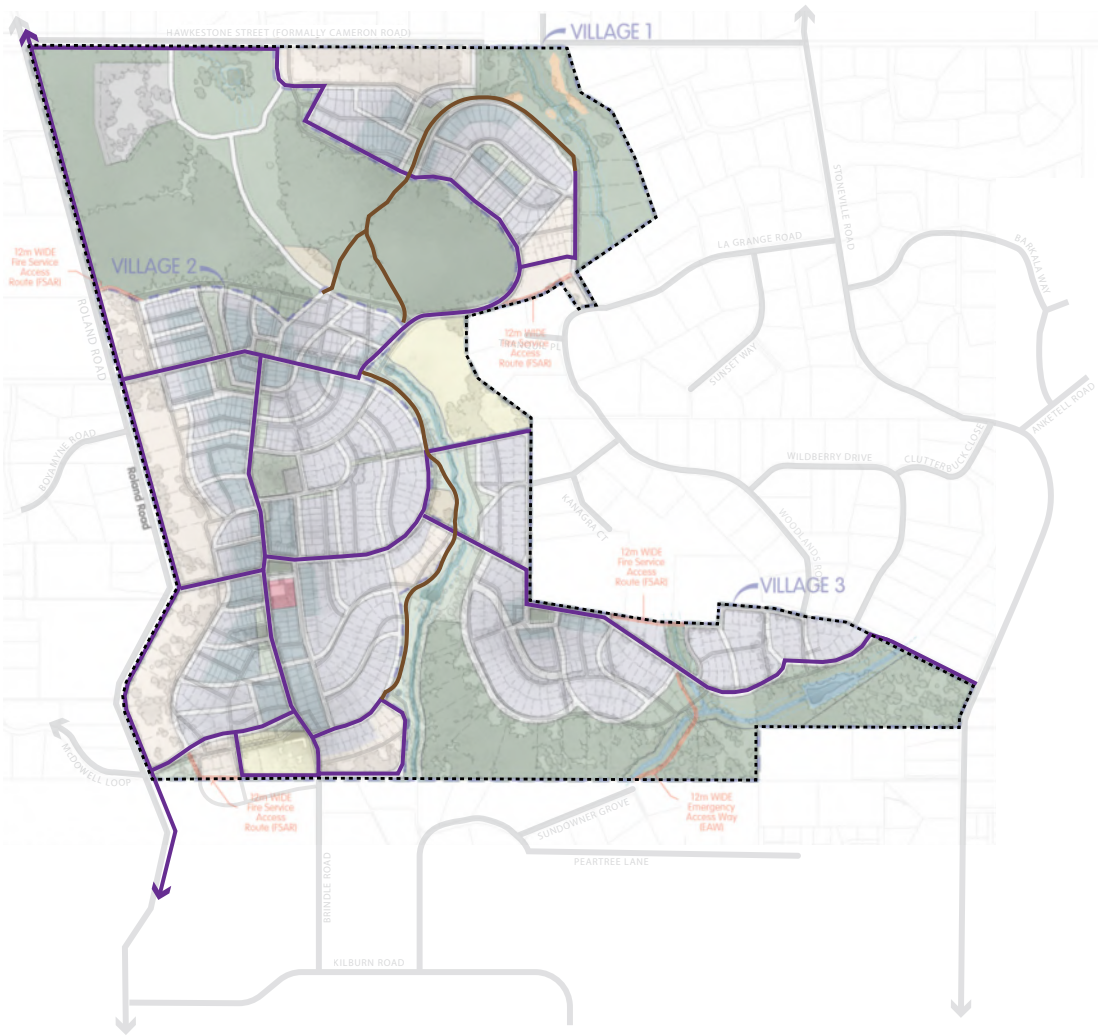

LEGEND **TYPE**

- Bike and Hike Trail
- Separated Bike Path / Shared Path

FIGURE 29: ACTIVE TRANSPORT NETWORK

Plan Produced by Hatch RobertsDay, 2022

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4.9.3 Regional and District Access

Future residents of the Structure Plan area can obtain access to significant regional centres that provide employment and important services by way of 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). This will divert freight traffic away from Great Eastern Highway. The Orange Route is not currently funded and would require Federal Funding (refer section 5.0 of Appendix 5 for details).

Both Toodyay Road/Roland Road and Toodyay Road/ Stoneville Road have recently been upgraded to improve existing operations and safety.

The existing road network surrounding the site is generally of good standard to support the anticipated increase in traffic activity as a result of the Stoneville Structure Plan.

No road upgrades for Great Eastern Highway are required as a result of additional traffic from the Structure Plan. However, the existing intersection of Great Eastern Highway/Seaborne Street and Great Eastern Highway/Brooking Road would both require upgrades by 2031. This is particularly the case with Great Eastern Highway/Seaborne Street intersection as it would start experiencing capacity issues before 2031 under current Great Eastern Highway traffic growth trend, regardless of the Stoneville.

The structure plan proposes connection of the current unmade section of Cameron (Hawkestone) Road.

The Shire has early stage concept plans for the Brooking Road/Beacon Road realignment which show modifications of existing Beacon Road and Roland Road alignment to form a new intersection immediately north of Parkerville town centre with northbound extension of existing Brooking Road. The intention of these road modifications is to provide a new direct link between the future North Parkerville Structure Plan and Great Eastern Highway (known as the Roland Road / Brooking Road diversion plans).

Upgrading of Toodyay Road intersections at Roland Road and Stoneville Road are proposed for the improved safety of existing and future communities to improve performance, particularly in relation to vehicle evacuation in the event of bushfire. The proponent has committed to undertaking these upgrades (refer Appendix 5B and Part 1, section 9.0)

4.9.4 Street Types

The Structure Plan is not required to accommodate any significant regional movement connections. The design intent for the Structure Plan is to disburse internal traffic movements and encourage walking and cycling through the use of a permeable grid network, that responds to topography, site features, and the key external access points.

No street type in the Structure Plan area deals with 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 direct the majority of traffic through the townsite and to areas of interest within the Structure Plan, and hold the highest level of movement functionality.

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

Access Street D streets are the most common street type in the Structure Plan, and shall support a relatively high level of activity, with low to moderate traffic volumes.

The Transport Impact Assessment suggests that further design details, such as intersections and street type cross sections, can be resolved at subdivision stage. The Transect Design Guide (Appendix 2) provides further detail and guidance for each street type and explains how their character changes from a rural to urban condition as the streets pass through the different transects.

Refer Figure 27, Street Types.

A slope analysis performed on the proposed Structure Plan design credits a sensitive response to existing land form 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

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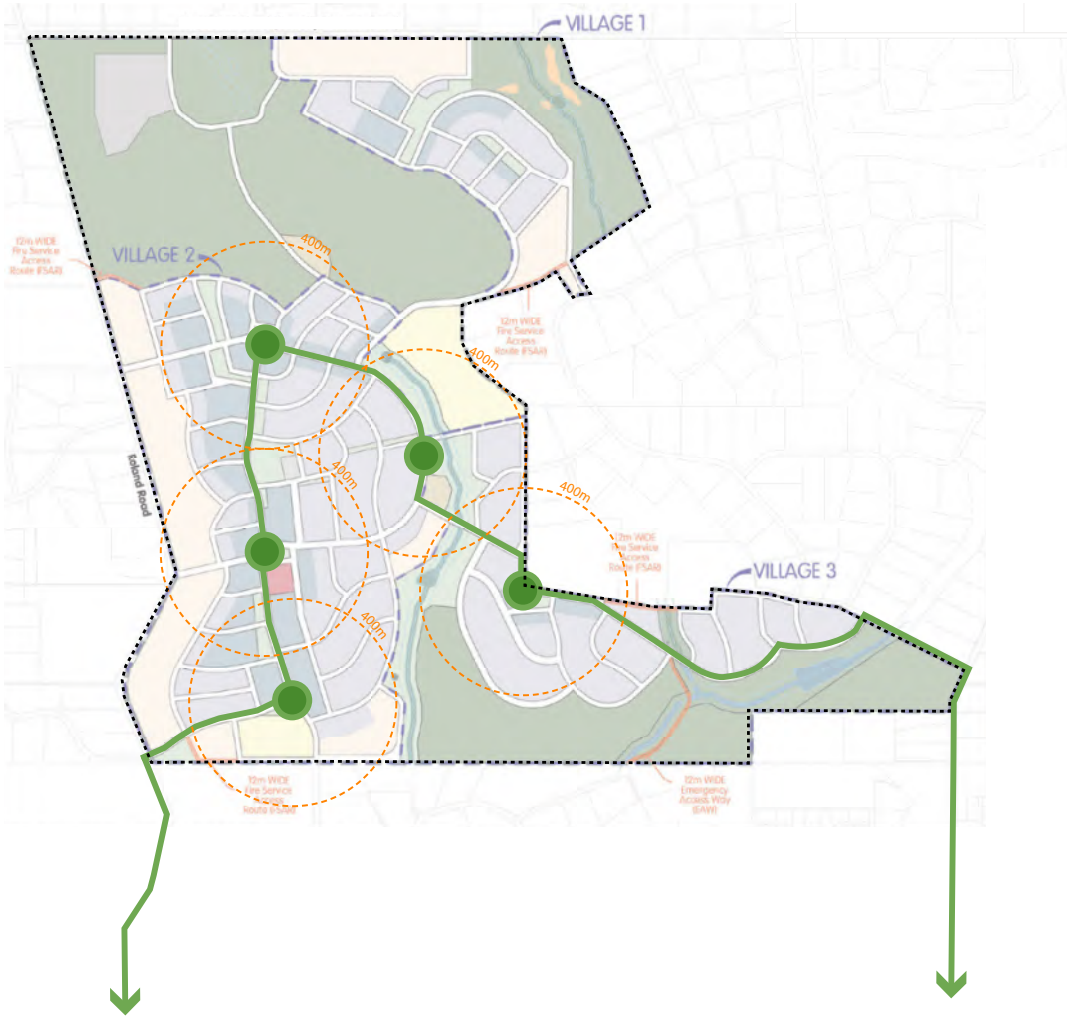

LEGEND **TYPE**

- Future Bus Route
- Potential Bus Stop

FIGURE 30: PUBLIC TRANSPORT NETWORK

Plan Produced by Hatch RobertsDay, 2022

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4.9.5 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.

4.9.6 Future Bus Route

At present, there are no plans to provide a public transport service for the proposed Structure Plan. Provision in the Plan has been made for a future bus route, should it become feasible in the future (figure 30).

Access Street A and Neighbourhood Connector B streets will be designed to accommodate future bus routes and generally connect village core areas. As the masterplan is designed with walkable catchments that focus on discrete urban villages, the intent is for bus stops to be located adjacent village greens.

The future bus route will connect residents with the Mundaring District Centre, in addition to services that connect to Midland along Great Eastern Highway.

The Shire of Mundaring Local Planning Strategy supports the provision of frequent services to North Stoneville to service residents.

Refer Figure 30, Public Transport Network.

PART TWO: EXPLANATORY

4.10 Servicing and Staging

For further details on servicing, refer to Appendix 4, Engineering Servicing Report.

4.10.1 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.

4.10.2 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.

4.10.3 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 6, Local Water Management Strategy.

4.10.4 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.

Planning considers that 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.

4.10.5 Telecommunications

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

4.10.6 Gas

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

4.10.7 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 9 shows how the sustainability measures proposed in the Structure Plan will be achieved through alignment with EnviroDevelopment™ criteria.

4.10.8 Staging

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

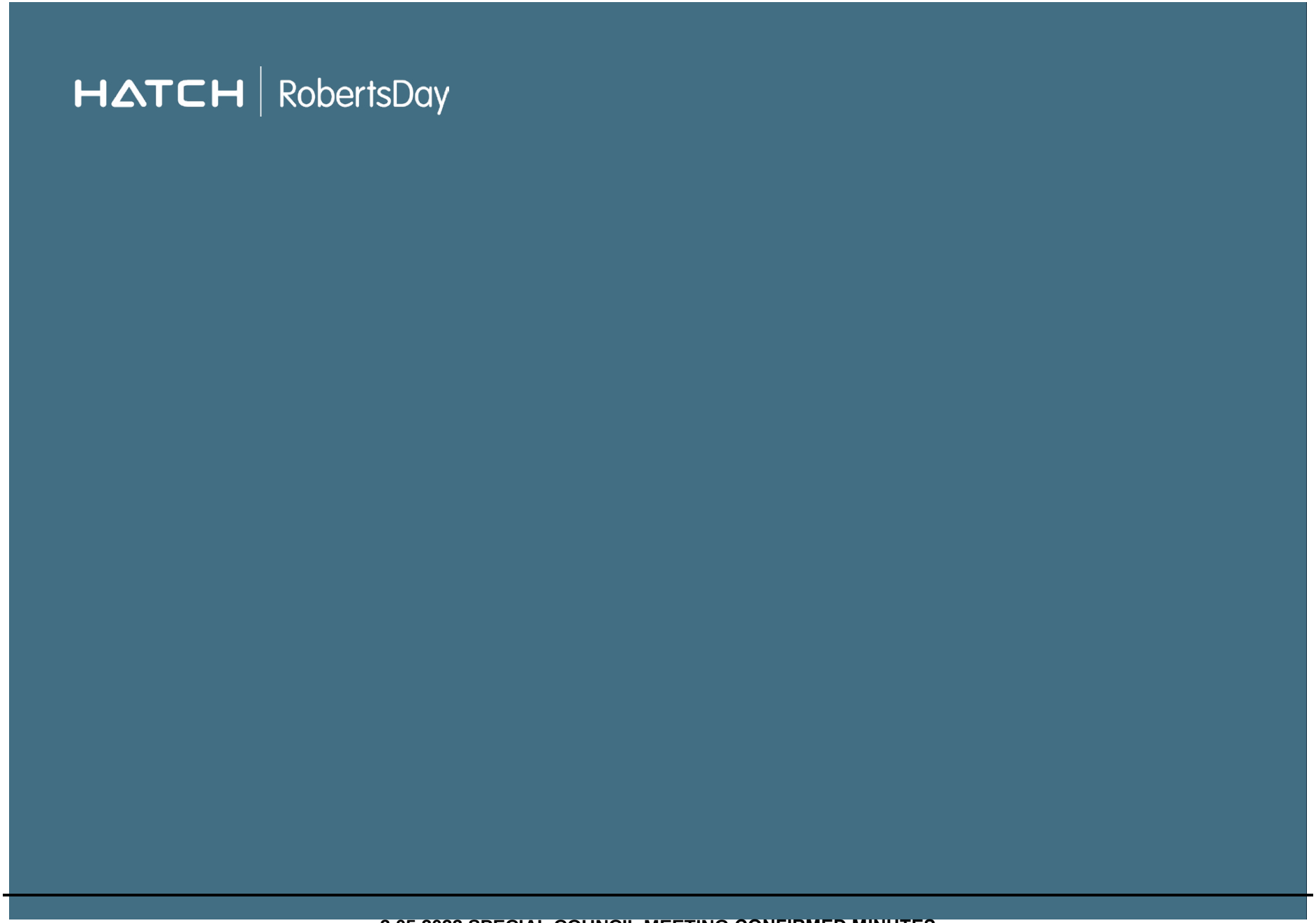
The design allows for a variety of different lot sizes to be presented for sale within each stage.

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

Refer Appendix 4, Engineering Servicing Report.

Table 9: EnviroDevelopment™ Category Residential Subdivision <1,500 lots

ENVIRODEVELOPMENT™ ELEMENT	ENVIRODEVELOPMENT™ ACTIONS (FOR SP34)
ECOSYSTEMS	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 100ha is proposed for Conservation Covenant /Recreation Reserve (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 190ha is proposed for Conservation Covenant /Recreation Reserve and approximately 31.48ha of public open space is proposed (about 13.43% of site area); areas include existing vegetation, creek lines and wildlife corridors (ED 1.3.21)
WATER	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)
COMMUNITY	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 website has been established to provide direct access to the Satterley Community Team for questions, updates and/or partnership opportunities (ED 6.3.1)
	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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PART ONE: IMPLEMENTATION

LEGEND

Structure Plan Boundary

Reserves

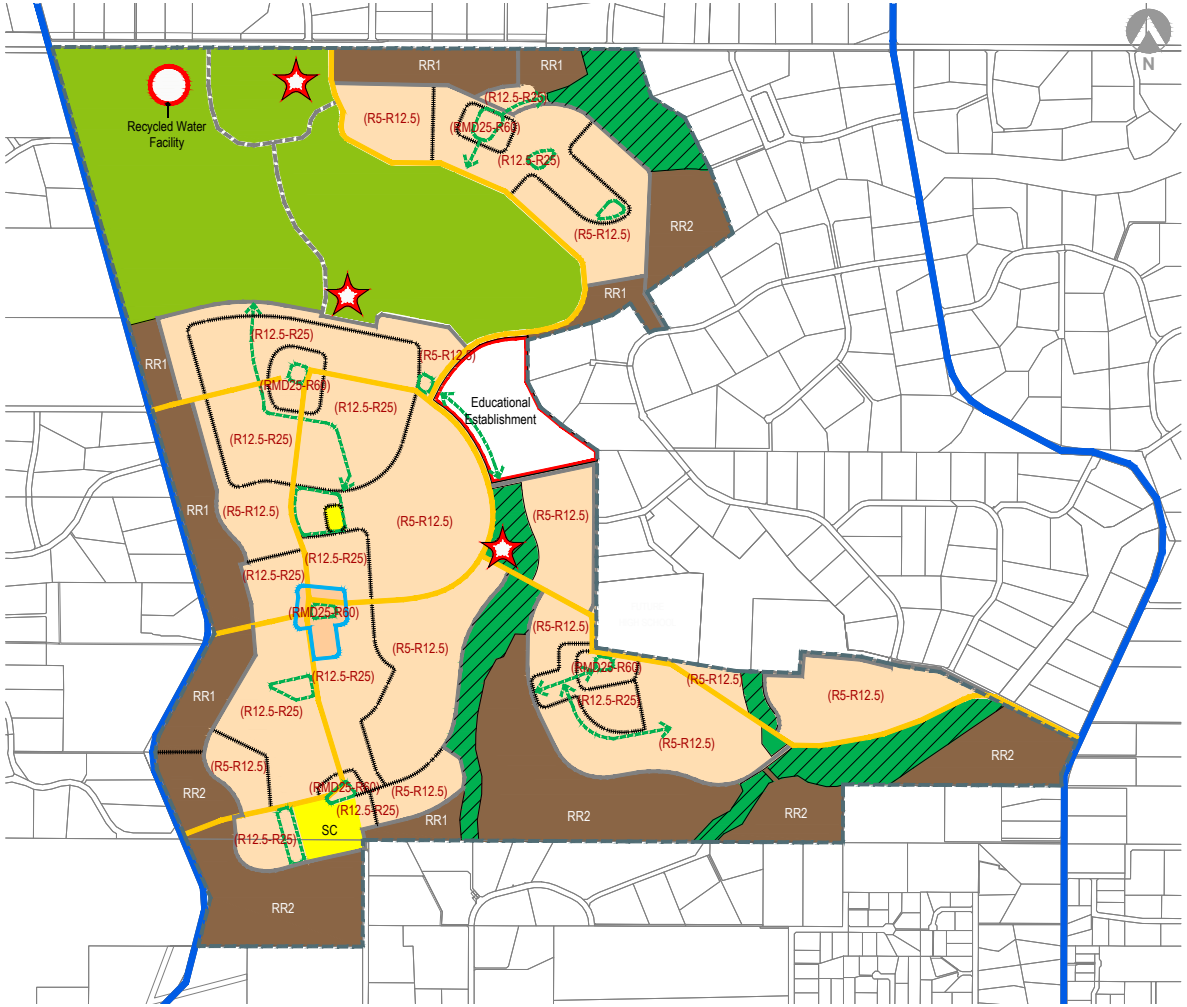
- Conservation / Recreation
- Important Local Roads
- Public Purposes
- SC — Public Purposes: School
- Recreation

Zones

- Residential
- Rural Residential
- Special Use
- Local Centre

Other

- Connector Road
- Perimeter Road (Bushfire)
- Fire Service Access Route
- (R5-R12.5) R Codes
- Suggested Recreation Reserve Location
- Green Link
- Potential Special Use Location
- Recycled Water Facility



PLAN 1: STRUCTURE PLAN MAP

Plan Produced by: RobertsDay, 2018

PART TWO: EXPLANATORY

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

Stantec

Memo

To:	Shire of Mundaring Andrew Bratley	From:	Andreas Wang Stantec, Perth
Project/File:	CW1200718 – Peer Review of TIA for North Stoneville Structure Plan	Date:	5 April 2023

1 Introduction

Stantec have been engaged by the Shire of Mundaring to undertake a peer review assessment of a revised Traffic Impact Assessment (TIA) prepared by Transcore (Revision 04a dated 23 January 2023) against the Western Australian Planning Commission (WAPC) Guidelines Volume 2 for Structure Plans. The TIA was prepared for the North Stoneville Local Structure Plan (LSP).

The LSP captures Lot 48 Stoneville Road, Stoneville, WA 6081 with an approximate area of 533ha and a breakdown of the following proposed land-uses:

- Low-Density Residential Dwellings (1,001 dwellings)
- Private Secondary School (~500 students)
- Public Primary School (~300 students)
- Retail/Commercial (~1,500m^2 GFA)

2 Peer-Review Findings

Table 2-1 summarises the key review findings identified as part of the review undertaken against the WAPC Guidelines. Where the review has found that the relevant sections have been sufficiently addressed or no issues have been identified, the text has been coloured in **green**, while **orange** text has been used for sections where non-critical improvements can be made to the report, and **red** text has been used for sections that have been omitted or insufficiently addressed in the report. Non-coloured text refers to requirements that need to be adhered to but cannot be verified as either correct or incorrect in the details provided.

Stantec

Memo

Table 2-1: Peer-Review Findings: reviewed against WAPC Guidelines

Item	Provided	Peer Review Comments
Summary	☐	Not provided
Introduction/Background	☑ 1	Provided
Structure Plan proposal	☑ 2	Provided
Regional context	☑ 3	Provided
Proposed land uses	☑ 2	Provided
Table of land uses and quantities	☑ 2	Provided in text format
Major attractors/generators	☑ 2	Provided
Any specific issues	☑ 3.4/3.5	Crash history and RAV routes provided
Existing situation	☑ 3	
Existing land uses within structure plan	☑ 3.1	Provided
Existing land uses within 800m of Structure Plan area	☑ 3.1	Provided
Existing road network within Structure Plan area	☑ 3.2	Not applicable
Existing pedestrian/cycle networks within Structure Plan area	☑ 3.7	Not applicable
Existing public transport services within Structure Plan area	☑ 3.6	Not applicable
Existing road network within 2 (or 5) km of Structure Plan area	☑ 3.1-3.2	Provided
Traffic flows on roads within Structure Plan area (AM and PM Peak Hours)	☑ 3.3	Not applicable

Reference: Traffic Impact Assessment Peer Review

Traffic flows on roads within 2 (or 5) km of Structure Plan area (AM and PM Peak Hours)	☑ 3.3	Provided
Existing pedestrian/cycle networks within 800m of the Structure Plan area	☑ 3.7	Provided
Existing public transport services within 800m of the Structure Plan area	☑ 3.6	Provided
Proposed internal transport networks	☑ 7	
Changes/additions to existing road network or proposed new road network	☑ 7.5.1	Provided
Road reservation widths	☑ 4.1/7.5.1	Provided
Road cross-sections & speed limits	☑ 4.1/7.5.1	Provided
Intersection controls	☑ 7.5.2	Provided
Pedestrian/cycle networks and crossing facilities	☑ 4.3/7.8	Proposed crossing facilities not provided. The proposed locations and spacing of the crossing facilities should be provided in accordance with Table 2 and 3 of WAPC Guidelines – Volume 2.
Public transport routes	☑ 4.2/8	Provided
Changes to external transport networks	☑ 5	
Road network	☑ 5.1	Provided
Intersection controls	☑ 5.2-5.5 / 7.5.3	Provided, although the analysis in the TIA relies on a number of assumed intersection upgrades and modifications that will require further study to confirm the feasibility of (for example, u-turn facility on Great Eastern Highway). Further details regarding this issue are provided in Section 3 of this technical memorandum.
Pedestrian/cycle networks and crossing facilities	☐	Not provided
Public transport services	☑ 7.9	Provided

Reference: Traffic Impact Assessment Peer Review

Integration with surrounding area	☑ 6	
Trip attractors/generators within 800m	☐	Not provided
Proposed changes to land uses within 800m	☑ 2	Provided
Travel desire lines from Structure Plan to these attractors/generators	☐	Not provided
Adequacy of existing transport networks	☑ 6	Not provided. While the crash history is provided in Section 3.4 for key intersections, no commentary is provided around the 9 serious right-angle crashes recorded at the intersection of Great Eastern Highway / Seaborne Street. As the proposed Structure Plan will substantially intensify the demand for this movement, assessment of the safety and adequacy of this intersection is required to identify if remedial measures are required.
Deficiencies in existing transport networks	☐	
Remedial measures to address deficiencies	☐	
Analysis of internal transport	☑ 7	
Assessment years and time periods	☑ 7.1	Time periods not provided, recommended to include *MRWA Traffic Map* (or *Table 1*) peaks from Great Eastern Highway and Toodyay Road. Great Eastern Highway (site 51858) indicates 8am and 4pm whereas Toodyay Road (site 4442) indicates 7am and 4pm. Recommended to adopt 8am and 4pm as Great Eastern Highway carries higher traffic volumes.
Structure Plan generated traffic	☑ 7.2-7.3	• Retail/commercial trip generation rate sourced but not provided. The TIA specifies a 50/50 split between retail and commercial. It is recommended that the TIA confirm the trip generation rate for each of the land uses, as well as the resulting external trips per day. • Clarification is required to confirm the proportion of external traffic that was adopted for the 1,600vpd school trips.
Extraneous (through) traffic	☑ 7.1	Provided in Table 4. It is to use percentage split per peak hour as indicated from existing *MRWA Traffic Map* (or *Table 1*) data. Great Eastern Highway indicates 7% and 8% in the AM and PM peak, respectively. Toodyay Road indicates 7% in the AM peak and 9% in the PM peak.
Design traffic flows	☑ 7.4	Provided
Road cross-sections	☑ 7.5.1	Provided
Intersection controls	☑ 7.5.2	Provided

Reference: Traffic Impact Assessment Peer Review

Access strategy	☑ 7.6	While this is provided, sufficient assessment has not been undertaken to support the appropriateness of the proposed access strategy from Great Eastern Highway. Further details regarding this issue are provided in Section 3 of this technical memorandum.
Pedestrian/cycle networks	☑ 4.3/7.7	Provided
Safe routes to schools	☑ 7.8	Indicative pedestrian volumes provided – it is recommended that the TIA include a walkable catchment and route assessment to confirm if indicative path widths are suitable.
Pedestrian permeability & efficiency	☐	Not provided – recommended to include walkable/rideable catchments as per *Liveable Neighbourhoods Appendix 2*.
Access to public transport	☑ 7.9	Provided
Analysis of external transport networks	☑ 7	
Extent of analysis	☑ 7.1	Provided
Base flows for assessment years	☑ 7.1	Not provided. While the development-generated traffic on the external road network is shown on Figure 20, the figure appears to show 700vpd on Seaborne Street and 2,000vpd on Brooking Road, which is contrary to other statements in the report. Further clarification is also required to confirm how the forecast daily volumes were used to generate the intersection turn volumes, particularly for the intersection of Great Eastern Highway / Seaborne Street.
Total traffic flows	☑ 7.3/7.5	Provided in terms of commentary in Section 7.5
Road cross-sections	☑ 7.5	Provided, although it is noted that the proposed DCP is not considered an appropriate mechanism to fund the proposed road cross-section changes to Roland Road and Stoneville Road.
Intersection layouts & controls	☑ 7.5.3	While this is provided, sufficient assessment has not been undertaken to support the appropriateness of the proposed access strategy from Great Eastern Highway. Further details regarding this issue are provided in Sections 3 and 4 of this technical memorandum.
Pedestrian/cycle networks	☐	Not applicable
Conclusions	☑ 8	Provided

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3 Great Eastern Highway Assessment and Access Strategy

The proposed access strategy in the TIA relies on the intersection of Great Eastern Highway / Seaborne Street as one of the main intersections for development traffic to access the strategic road network. However, there are a number of major issues for the proposed access strategy needs that have not been considered or sufficient assessed. These include:

- The crash data in Section 3.4 shows that 9 serious right-angle crashes have been recorded at the intersection of Great Eastern Highway / Seaborne Street over the past 5 years. The proposed Structure Plan will substantially intensify the demand for this movement and while the TIA includes a proposed upgrade to this intersection, the proposed upgrade does not address the high number of serious crashes recorded for this intersection.
- Notwithstanding the above, the SIDRA analysis of the intersection of Great Eastern Highway / Seaborne Street relies on vehicles not turning right directly from Seaborne Street to Great Eastern Highway but instead turning left out of Seaborne Street, undertaking a u-turn, and then continuing westbound along Great Eastern Highway. While the report doesn't detail how the volumes for the future year scenarios were calculated, it appears that the additional westbound volumes as a result of the u-turn haven't been included as westbound through-movements at the intersection of Great Eastern Highway / Seaborne Street. As the documented model results for the intersection Great Eastern Highway / Seaborne Street show relatively high DOS for the future year scenarios, the additional westbound through movements could have a relatively high impact on the intersection performance.
- Notwithstanding the above, SIDRA analysis would be required under the WAPC Transport Assessment Guidelines for the proposed u-turn facility along Great Eastern Highway to confirm if this facility would operate satisfactorily.
- Notwithstanding the above, a concept design for the proposed u-turn facility is required to confirm the feasibility of the facility, in line with the relevant Austroads and Main Roads WA standards and guidelines.
- For the SIDRA analysis of the intersection of Great Eastern Highway / Seaborne Street, the gap acceptance values have been reduced for the right-out movements. While this may have been undertaken as part of the model calibration, evidence is required to justify this reduction.
- The proposed right-turn short-lane on Seaborne Street has been modelled with a storage length of 50m but based on estimates from aerial images, the storage length is estimated to be 40m.

While not critical to the overall access strategy, it was noted that the layout for the Great Eastern Highway / Stoneville Road / Mundaring Weir Road intersection was modelled with correct lane storage lengths in the Existing SIDRA scenarios but the lane lengths have been increased by 5-10m in the Stage 1 + 2 scenarios. The intersection was also not set up to account for delays due to pedestrian crossings.

Stantec

Memo

To:	Shire of Mundaring Andrew Bratley	From:	Andreas Wang Stantec, Perth
Project/File:	CW1200718 – Peer Review of North Stoneville Microsimulation Evacuation Modelling Report	Date:	6 April 2023

1 Introduction

Stantec have been engaged by the Shire of Mundaring to undertake a peer review of a Microsimulation Evacuation Modelling (MEM) report prepared by Transcore (Revision 01f, dated 9 February 2023). As Stantec has not received a copy of the Aimsun model files, this review has focused on the contents documented in the MEM report.

It is also noted that as Stantec is not aware of any published guidelines for related to traffic modelling of bushfire or emergency evacuation situations, this review is limited to commentary on the documented assumptions, model inputs and results.

2 Peer Review Findings

The findings of the peer review undertaken are summarised in **Table 2-1**.

Table 2-1 Peer-Review Findings

Section of MEM Report	Peer Review Comments
2.8 – Day and Time of Modelling	Data from the Main Roads WA TrafficMap suggests slightly higher peak hour volumes for Saturday peak hour compared to the adopted Sunday peak hour.
2.12 – Traffic Management in Aimsun	Additional information is requested relating to how the documented traffic management strategies were set up in Aimsun.
2.13 – Assignment	Acknowledging that there is limited route choice in the model, it is questioned whether the DUE and SRC assignment is appropriate as vehicles would want to leave the area in the quickest and most direct manner while avoiding the bushfire areas. As Stantec does not have access to the model files, a review of the routes has not been undertaken.
2.14 – Vehicle Types	The report states that it has been assumed that all residents would evacuate by cars. Given they are evacuating a bushfire area, it is queried whether car towing either a caravan or trailer (i.e. Austroads class 2 vehicles) would be more appropriate.
Appendix A – Roland Road & Toodyay Road	The proposed design, shown in Figure 1 on the following page for reference, does not account for the existing driveway on Toodyay Road. In accordance with the section 2.4.7 of the Main Roads WA Driveway policy, driveways within acceleration lanes are only desirable if the relevant SSD can be achieved.
Appendix B – Roland Road & Fingerleaf Road	The proposed design, shown in Figure 2 on the following page for reference, may work in a traffic simulation model, it is a confusing layout and not likely to operate as efficiently as it does in the model. Widening of the southern and eastern approach to include 2 approach lanes may resolve this issue but would be subject to further engineering design.

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Memo

Figure 1 *Existing Driveway on Toodyay Road*

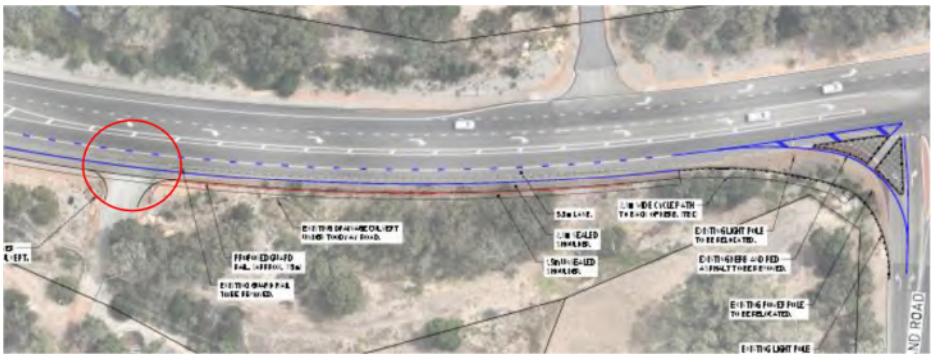
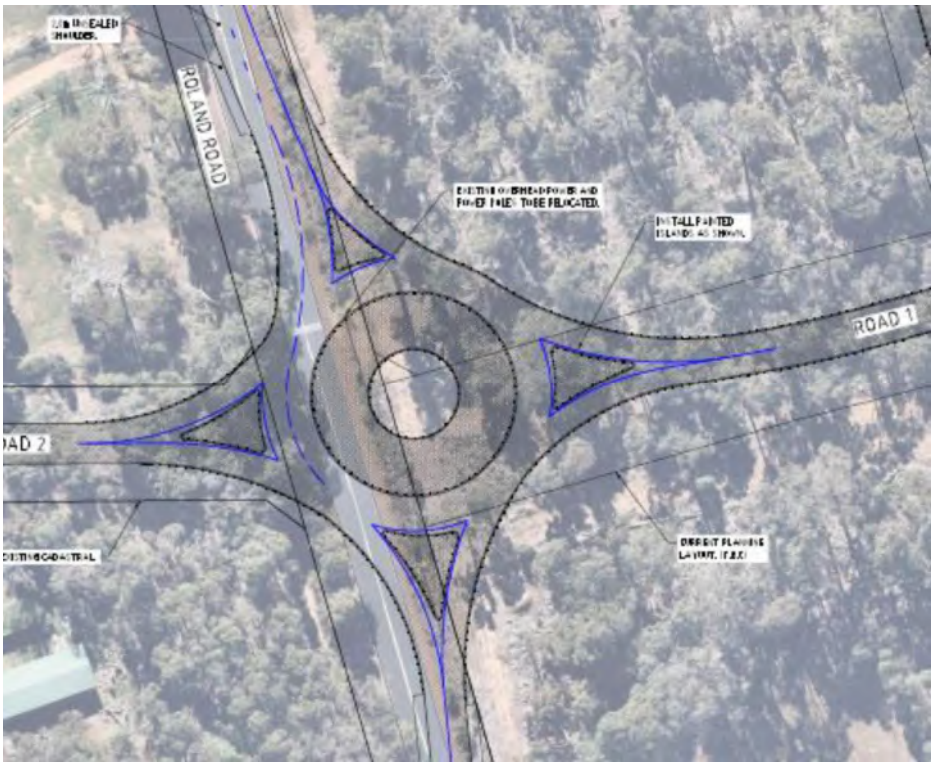


Figure 2 *Proposed Design for Roland Road / Fingerleaf Road intersection*



Design with community in mind

BUSHFIRE PRONE PLANNING

Level 1 159-161 James Street Guildford WA 6055
PO Box 388 Guildford WA 6935
T: 08 6477 1144 | E: admin@bushfireprone.com.au

Our Ref: 230113
Your Ref:

13 April 2023

Andrew Bratley
Co-Ordinator Strategic Planning
Shire of Mundaring

Dear Andrew

Re: Requested peer review of the Bushfire Management Plan (BMP) submitted as part of the Structure Plan application for residential development within Lot 48 Stoneville Road, Stoneville (North Stoneville Structure Plan 34 Amendment 1).

The approach I have adopted for presenting this review is to provide the details of my opinions and associated comments using the same arrangement of topics as the major sections within the BMP.

I have only provided comments where I have identified errors, or I have a different opinion to the BMP's author, or I have the view that it presents information that is important to be considered within the context of appropriately managing bushfire risk.

If I believe any assessment methodology has been applied incorrectly, I will not provide the correct methodology. I will identify the issue as requiring justification or correction if necessary.

Otherwise, no comment is to infer that I agree with the content and outcomes presented by the author or at least concur sufficiently to not warrant making comment.

If you wish to discuss this review further, please do not hesitate to contact me.

Yours sincerely

Mike Scott

Director Bushfire Prone Planning

REVIEW OF BUSHFIRE PLANNING APPLICATION DOCUMENTATION	
Requesting Authority / Person:	Shire of Mundaring / Andrew Bratley (Co-Ordinator Strategic Planning)
Planning Stage:	Structure Plan Application
Proposed Development:	North Stoneville Structure Plan 34 Amendment 1 Lot 48 Stoneville Road, Stoneville WA
Relevant Document(s):	Bushfire Management Plan Revision No. 6. Dated 16 February 2023 Reference No. 56850/123,646
Document Author:	Louisa Robertson / JBS&G Australia Pty Ltd t/a JBS&G
Reviewing Bushfire Consultant:	Mike Scott / Bushfire Prone Planning
Consultant Accreditation:	Bushfire Planning and Design (BPAD) Level 3 / No. 27795

BMP SECTION 1 – PROPOSAL DETAILS

SECTION 1.5.2 LAND USE PLANNING, BUSHFIRE RISK AND TRAFFIC AND EVACUATION ANALYSIS

Bushfire Simulation Modelling Report (JBS&G 2023)

The rationale for the fire run directions and ignition point locations applied to create each bushfire scenario are based on factors that include the following two points copied from the report:

- Transcore (2023) have produced the *Microsimulation Evacuation Modelling Report* for the project, which identified four (4) bushfire scenarios that could result in closure of one of the major evacuation corridors, namely Great Eastern Highway or Toodyay Road:
- It is noted that there is potential for significant bushfire behaviour from the east and west of the site, however as fires from these directions would not directly impact the major evacuation roads, these have not been assessed as part of this evacuation analysis.

In my opinion Roland Road should be considered a 'major evacuation corridor/road' for the proposed development. There are four access/egress intersections with Roland Road from the illustrated internal road network of the proposed development and Hawkstone Street. All other routes to the surrounding external road network, except the two onto Hawkstone Street, are likely less in number and would be considered as more minor access/egress routes.

For the proposed development, Roland Road is the primary connecting road to the identified 'major evacuation corridors/roads' of Toodyay Road and Great Eastern Highway. Stoneville Road perform the same function but will not be as directly accessed from the proposed development site as Roland Road.

Consequently, I question why the noted "potential for significant bushfire behaviour from the east and west of the site", has "not been assessed as part of this evacuation analysis."

A simulated easterly fire run (ignition to the west of the site in John Forest National Park), that will quickly and directly impact Roland Road, in my opinion, should be developed and applied to the traffic study. Less important but still relevant, is a simulated fire run that will quickly and directly impact Stoneville Road.

The Parkerville Fire (2014) used as a reference fire for the simulation, had a significant component of easterly fire run, as did the 2008 Parkerville fire. Both of these fires originated immediately south and close to the proposed development site.

Microsimulation Evacuation Modelling Report (Transcore 2023)

It is my view that there may be more appropriate (or additional) tools for simulating bushfire emergency evacuations given the stated limitations of the Aimsun platform model applied in the Transcore Evacuation Modelling Report.

Section 3 of the Report identifies limitations of the applied microsimulation model when applied to evacuation during a bushfire event. In summary these were identified as:

- Limited ability to model all bushfire scenarios with different conditions and factors associated with bushfire progression;
- Driver behaviour and people reactions to bushfire are not predictable;
- Does not account for the non-typical conditions caused by bushfire including fallen trees / power lines, vehicle accidents or multiple fire fronts from different direction;
- Impacts of road network and intersections outside of modelled area; and
- Bushfire progression is assumed to be linear and is assumed to not change direction during the modelling period.

I am aware of the CSIRO SEEKER (Simulations of Emergency Evacuations for Knowledge, Education and Response) Tool as a modelling platform to use as a decision support tool. Using this tool may better address the limitations of the Aimsun model noted above. The SEEKER modelling approach considers adequate representations of human behaviour is an important aspect in developing more realistic evacuation simulations.

The SEEKER Tool provides information (taken from CSIRO website) that includes:

- The extent and severity of disaster (e.g., wildfire) impact on the community;
- Complications associated with large numbers of tourists, major events, and transient populations in the region;
- Expected response of community members to the fire situation and official warnings;
- Impact of activating traffic management plans given available resources;
- Trigger points for decision-making;
- Road speed and capacity constraints with respect to evacuating and background traffic;
- Unplanned consequences of traffic accidents or blockages as a result of trees over roads; and
- Evacuation outcomes against a base case of no evacuation.

It is my opinion there would be considerable merit in assessing the potential application of the SEEKER Tool given the bushfire specific nature of its inputs and outputs.

As noted in my comments regarding the bushfire simulation modelling - due consideration of a bushfire directly impacting Roland Road and the resulting unplanned consequences that might lead to it not being fully available for access/egress north and/or south, should be a scenario that is addressed by the evacuation modelling.

Consideration should also be given to the knock on implications (if Roland Road is unavailable) involving Stoneville Road as the only other north/south connector between Toodyay Road and Great Eastern Highway in proximity to the proposed development site.

Closure of Roland Road due to bushfire has been necessary in the past with the most recent being during the 2008 Parkerville bushfire event.

BMP SECTION 2 - ENVIRONMENTAL CONSIDERATIONS

SECTION 2.2 NATIVE VEGETATION – MODIFICATION AND CLEARING

POS, Special Sites and Road Verges:

Approximately 34 ha of the development site is planned to be Active POS or Special Sites. Much of this land currently supports native vegetation (with pastures on the balance). It is proposed that this land will be managed (in perpetuity) so the remaining vegetation can be regarded as low threat in accordance with AS 3959:2018 vegetation classification exclusions.

This is a significant management requirement, and it should be identified who will have the responsibility for managing the vegetation on this land and identify the mechanism of enforcement. Otherwise, these areas of vegetation will potentially present bushfire threat levels that are not being accounted for in the design of the proposed development.

The same comments will apply to the proposed management of road verges that are planned to be part of APZ's existing outside future lots and adjacent to conservation covenant vegetation.

BMP SECTION 3 - POTENTIAL BUSHFIRE IMPACT

CLASSIFICATION OF VEGETATION

Pre-development: Applying a desktop assessment, I concur with the pre-development classifications presented in Table 2 and Figure 3.

Post-development: The post development reduction in areas of pre-development classified vegetation is the result of two proposed actions:

1. Removal – by actions associated with the construction of infrastructure such as roads, EAW, FSAR, service corridors, the local centre and, to the extent necessary, the establishment of lots; and
2. Modified and managed in perpetuity – for the purpose of being able to be regarded as low threat vegetation and therefore excluded from classification in accordance with AS 3959:2018 methodology.

   The relevant areas are identified in Figures 4 and 7 and include:

   - All proposed active POS being landscaped POS areas of native vegetation (predominantly forest) and rehabilitated drainage lines;
   - The central grassed vegetation fuel break;
   - The 37m and 46m wide APZ's to be created adjoining conservation POS. The BMP states that the design of these APZ's and therefore what portion will be comprised of the vegetation of the conservation POS, or the perimeter road and its verges or land within the lots, will be determined at subdivision stage;
   - Certain road verges;
   - The entirety of the special sites;
   - The entirety of the school sites;
   - The entirety of the recycled water infrastructure site;
   - The entirety of the Natural Living Lots (and with lesser potential implications, the entirety of all other lots).

I concur with the representation of vegetation that is to be removed (cleared) during development. However, the proposed modified and subsequently continually managed areas of vegetation raise the following issues that in my opinion present potential impacts that should be investigated further to better justify what has been presented.

Issue 1: POS and adjoining APZ's

Approximately 34 ha of the development site is planned to be POS or special sites. Much of this land, and the relevant road verges, currently support native vegetation (with pastures on the balance).

The combined area of the proposed 37m and 46m APZ's adjoining the conservation POS, that will require ongoing management by entities other than the owner of a lot, is not known, but it appears it could be

significant. This could be better identified at this planning stage given the location and dimensions of the road reserves are known.

The combined area of proposed POS and APZ's on government land potentially represents a significant management requirement. It should be identified who will have the responsibility for managing the vegetation on this land, so that the vegetation can be justifiably excluded from classification.

Otherwise, these areas of vegetation, if not continually and perpetually maintained as low threat vegetation, will potentially present bushfire threats that are not being accounted for either in the bushfire hazard level map or in the design of the proposed development.

Where native forest is proposed to be maintained in a low threat state it needs to be appreciated that during summer Mundaring usually has 2 to 6 significant leaf drops on very hot days when trees are stressed, in the order of greater than 2t/ha. Jarrah exhibits a strong correlation between rainfall deficit and leaf drop.

The implication of this statement, along with other issues managing forest vegetation, is that it is a significant undertaking (cost and labour) to limit fuel loads to low threat levels through every summer consistently for large areas of Jarrah/Marri forest.

Issue 2: Natural Living Lots

The BMP in Section 1.1 makes the statement *"Natural Living Lots" will be managed entirely to low/APZ standards, as opposed to unmanaged vegetation being retained within the lots, which reduces bushfire risk to the lots and project are as a whole"*.

In my opinion there are significant limitations to achieving what is being proposed for these lots. These include:

- The lots are planned to average one hectare in area. There are practical management constraints to being able to modify and manage the entirety of such lots (outside the building footprint), while retaining the amount of native vegetation that asset protection zone (APZ) Standards will allow, and the BMP suggests. This is particularly the case for forest vegetation complexes that present significant quantities of surface, near surface, elevated, bark and canopy fuels that can accumulate quickly.

  Consequently, it is not pragmatic to expect that the entirety of these lots will be consistently maintained in a low threat state in perpetuity, as is required to vegetation to be excluded from classification as bushfire prone vegetation;

- APZ dimensions that can be considered as enforceable will usually be limited to those dimensions that correspond to a dwellings BAL rating. This will not be the entirety of a one hectare lot. Any other dimension will present compliance challenges for responsible authorities as they are not supported by any statutory requirements; and

- The removal of native vegetation to create APZ's with dimensions greater than those required to result in dwellings being subject to BAL-29, will require appropriate consideration of SPP 3.7 Policy objective 5.4 and Guidelines Section 2.3, that balances bushfire risk management measures against environmental, biodiversity and conservation values.

The outcome of these limitations is areas of extreme bushfire hazard level vegetation are likely to remain within residential areas of the development site and there will not be any justifiable means to exclude them from classification. The resultant threats that this will present need to be considered.

To reduce bushfire risk there are protection measures available other than just decreasing the exposure of dwellings to bushfire hazard threats by increasing the separation distance. It is important to consider all available risk reduction mechanisms.

Measures to reduce the vulnerability of dwellings to bushfire hazard threats is another pathway to reduce risk. Examples include enforced management of the location of consequential fire fuels and the design and construction measures applied to the dwellings. Refer to my comments regarding the proposed BAL-19 APZ's that I have made in reviewing the bushfire protection criteria assessment under Element 2 (page 9) as an example.

Also, while retention of forest vegetation on these lots may not prevent BAL-29 or less being achieved by future dwellings within each lot at completion of development (i.e. dwellings and APZ's installed on every lot), there may be constraints before every lot is developed. How this is to be managed without large scale removal of vegetation needs to be detailed.

As a side comment, smaller lots, with a greater percentage of each lot incorporated into a required and acceptable sized APZ, would present a better risk reduction outcome by reducing the extents of available unmanaged bushfire fuels within village boundaries. However, it is acknowledged this may not align with other objectives. This becomes a balancing act between environmental and/or lifestyle values versus acceptable levels of bushfire risk for decision makers.

Issue 3: School Sites

It should be identified how the school sites will have the management of the vegetation conducted and enforced before and after development occurs on the site. This applies in the context of the potential impact on neighbouring lots of unmanaged vegetation on school sites.

Issue 4: Vegetation within Conservation POS

All proposed Conservation POS that currently have a pasture (Grassland) or tall heath (Scrub) component (predominantly the eastern edge of Village 1), should be considered for reclassification as Forest.

This would be done in expectation of long term rejuvenation of these areas once stock is removed, either naturally or through planned replanting. It has future implications for the BAL exposure for buildings on adjacent lots.

BMP SECTION 4 - IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

Table 6 of the subject BMP identifies issues to be considered at future planning stages and proposes mitigation measures. I will make comments against the relevant issue only as necessary.

Issue 1:

The BMP recognises that the proposed development site is exposed and vulnerable to landscape scale bushfire risk.

However, the BMP has not comprehensively addressed the potential threats (i.e., all likely bushfire attack mechanisms) and the relative levels of each of those threats, that will potentially impact the proposed development site.

At this strategic planning stage it is important that this is dealt with. This would inform the necessity for incorporation of bushfire protection measures into the project design, construction and operation. These will very likely need to be additional to those limited measures established by the planning Guidelines if residual risk levels are to be assessed as tolerable or acceptable. This is a consequence of the high inherent risk levels that exist at the proposed development site.

Being able to incorporate an understanding of bushfire behaviour at the broader scale and the likely attack mechanisms that will manifest themselves at the individual lot scale, should be part of the information presented at these strategic planning stages, to better inform decision makers. Note that the bushfire simulation modelling developed for the traffic study, does not address these specific issues, as 'time to impact' was the primary required outcome of the study.

The corresponding information that can then be incorporated into the proposed development's BMP is to present an outline and supporting case for how a comprehensive package of bushfire protection measures might then be able to be applied to the design, construction and operation of the development – to better respond to the identified threat levels. These protection measures, as necessary and possible, can be applied to reduce threat levels and to reduce the exposure and vulnerability of elements at risk (persons and property) to these threats. Model examples of bushfire resilient development for high inherent risk scenarios could be an outcome of this approach.

The presentation of this level of information to inform decision makers and community is not currently a part of the planning Guidelines requirements. However, in my opinion this is a serious omission and state this for the record.

For a development of this scale complexity and location within the broader environment, I would suggest that some attempt should be made, regardless of the Guideline's current requirements, to identify how tolerable or acceptable levels of risk might be achieved. This can't be done with only a portion of bushfire risk issues and a limited set of responses being addressed at this important decision making stage for planning.

I will make one example statement that highlights this fact.

Scientific research indicates that at least 80% of building losses from past Australian bushfires can be attributed to ember/firebrand attack (mostly in isolation but also in combination with radiant heat), and the resultant consequential fires.

The importance of establishing protection measures to mitigate the potential impact of consequential fire cannot be overstated. Consequential fire Is the burning of vulnerable (combustible/flammable) materials, items and structures that exist within the area surrounding the subject building or structure – the surrounding vulnerable elements. These vulnerable surrounding elements can also include other buildings in proximity.

The burning of these consequential fire fuels can result in the subject building/ structure being exposed to the direct fire attack mechanisms (threats) of flame, radiant heat, embers and surface fire from a close distance. These consequential fire threats are separate from and additional to the threats generated by the bushfire front itself - which can be and often is, a considerable distance away.

The primary protection measures established by the Guidelines (the bushfire protection criteria) will ensure that buildings are not exposed to direct flame contact or unacceptable levels of radiant heat from the bushfire itself. However, they do not address high load ember attacks into the site and the potential impacts of consequential fires. Yet for the proposed development this will potentially be the greatest threat once the bushfire itself is kept at the required distances away from relevant buildings and structures.

The Guidelines do not require any assessments for the proposed large development, surrounded by extreme bushfire hazard vegetation, that differ significantly from those required for a one to two lot subdivision. Decision makers will receive essentially the same information to inform their decision making.

Issue 2:

Refer to my previous comments under post-development classification of vegetation, 'Issue 1' (page 4) and my comments associated with the acceptable solution for Element 2 of the bushfire protection criteria (page 9).

Issue 6:

The proposed central fuel break is not a "passive break". It will not stop the passage of a forest fire. As stated in the Bushfire Simulation Report, spotting can occur from distances greater than 500m. Preheating and multiple ignition points will occur within the break and the "managed fuels" (e.g., grassland <100mm in height), will carry a fast moving fire, and therefore the actual rate of spread of the Forest fire will be increased.

Firefighters may be able to hold a developing low intensity fire at the break, nothing else. It will not provide a defence line during a fully developed bushfire event.

Vehicles should not be encouraged to traverse the central break during a bushfire in adjacent forest vegetation. The radiant heat threat is potentially too great.

While the creek lines and Active POS may qualify for classifying as a low bushfire hazard level, this will not necessarily prevent fire moving quickly through these areas as the result of spot fires and intense junction zones. It will depend on how the low threat state has been achieved. If its slashed low height vegetation, this will still support surface fire moving quickly through these areas to other vegetated areas when present. These managed areas may reduce the intensity of fire on these lands for a period but will not necessarily prevent their movement.

Refer to my previous comments under post-development classification of vegetation, 'Issue 1' (page 4). The nature of proposed revegetated areas such as creek lines should be addressed at this strategic planning stage as it could result in extreme bushfire hazard level vegetation being created within the development that is not being accounted for and may adversely affect adjacent residential lots. Otherwise, evidence should be provided how this will not be allowed to occur.

Issue 7: Existing vegetation on Natural Living lots

The modification of vegetation within lots to create low threat areas does not "reduce bushfire threat". Rather, the threats from the offsite forest vegetation will remain unchanged as nothing has been done to that vegetation. It is the exposure of the elements at risk within these lots that are being reduced to varying extents by providing separation from the hazard using an APZ.

Unless the entire large areas of the Natural Living lots are very well and continually maintained in a low threat state, the potential will still exist for surface fire to penetrate further into development site through these lots. These will be ignited by the adjoining bushfire or embers from greater distances and consequential fires.

Refer to my previous comments under post-development classification of vegetation, 'Issue 2' (page 5) that indicates the likely constraints to achieving what is being stated by the BMP.

The large sized Natural Living lots will not necessarily provide the separation from bushfire threats external to the proposed development site that is implied in the BMP comments. To state they will "prevent bushfire penetration" is not correct. This must be taken into consideration.

Issues 8 and 10: School recycled water sites

Refer to my comments associated with the acceptable solution for Element 2 of the bushfire protection criteria (page 9).

Issue 14: Water

Note that water in dams cannot be guaranteed to exist when required during summer. To be considered a viable source of firefighting water for emergency services, they must be approved by DFES. Consequently, the existence of dams should not be factored into considerations. This should be made clear in the BMP.

In my opinion the future water supply must be reticulated. Given the extreme bushfire hazard level of the surrounding and broader landscape and the likely firefighting operational requirements for water in this type of development, strategic water supply tanks should not be an option provided in the BMP.

BMP SECTION 5 - ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA

ELEMENT 1: LOCATION

In my opinion the current construction of this element in version 1.4 of the Guidelines (i.e. the intent, performance principle and acceptable solution), does not assess what needs to be assessed.

There is no proper consideration of any potential that may exist for the broader physical and human landscape to influence (negatively or positively) bushfire hazard threat levels and the exposure and vulnerability of elements exposed to those threats (i.e. persons and property).

In particular, but not limited to, there is no consideration of:

- Bushfire threats (attack mechanisms) that might originate at distances greater than 150m from the proposed development;
- The surrounding landscape and the potential, or not, for the propagation of dynamic fire behaviours that result in an intensification of fire behaviour and development of extreme bushfire events – both at distance from and adjacent to the proposed development; and
- The positioning of the development site within the landscape in relation to those physical factors that drive dynamic fire behaviour.

The importance of having this knowledge is to determine the necessity to apply bushfire protection measures to development on this site that are additional to the limited set required by the planning Guidelines for bushfire prone areas (i.e. the bushfire protection criteria).

This may be necessary to better mitigate risk to tolerable or acceptable levels and which could potentially be achieved by addressing relevant threats, exposure and vulnerabilities and available protection measures more comprehensively.

The current application of the broad brush bushfire hazard level assessment of local vegetation only (i.e., onsite and within 150 metres of site), is greatly limited in its capacity to determine risk levels.

This also is evidenced in the bushfire hazard level assessments for this element being able to be overridden by the determination of whether future structures can achieve a BAL rating of BAL-29 or less (just by applying the single protection measure of establishing the required separation distance from an area of classified vegetation). This is essentially the same acceptable solution as that provided for Element 2.

Given the above is only a statement of opinion, the following comments will be limited to the proposed developments compliance with the stated requirements of Element 1.

Vegetation Classed as BHL Extreme

The BMP assessment states, 'all developable land within the structure plan area will comprise either a low or moderate BHL".

It is my opinion that applying the concept of a 'strategic planning proposal area', as identified in the acceptable solution of Element 1, could result in an assessment that considers Extreme BHL vegetation will be retained within the 'area'.

This vegetation would be the proposed conservation POS and potentially may also include vegetation associated with the relevant issues I have raised under 'BMP Section 3 - Potential Bushfire Impact, Classification of Vegetation'.

The problem with conducting a BHL assessment, as directed by the Guidelines, is that the Intent, Performance Principle and Acceptable Solution of Element 1 are ambiguous regarding what must be achieved (and do not address the more important issue I have presented as an opinion at the start of this section).

Consequently, most assessments for Element 1 currently conducted in WA will simply revert to assessing the ability for relevant future structures to achieve a BAL-29 rating or less.

BAL-29 or Below

The subject BMP presents an Element 1 assessment that is constructed around a general discussion of the creation of adequate separation distances between future dwellings and the bushfire hazard through the application of various design features.

However, this creates a problem for the existing assessment as no evidence is being presented in the BMP that clearly establishes the areas of land within the development that would result in BAL-29 or lower ratings being applied to future structures on those areas of land.

In my opinion, the scale of the proposed development and its location within the broader landscape of the forested Darling Scarp, requires a more detailed analysis of the proposals ability to satisfy even the limited requirements of the acceptable solution of Element 1.

In my judgement, there is sufficient planned detail in the road layout and planned retention/management of existing vegetation to justify the development of a BAL Contour Map to better present the assessment case and provide a better level of information to decision makers.

I would also suggest that the small scale of the provided maps is not conducive to supporting argument for what is a large sized development. They currently cannot provide clear justification for statements made. Multiple larger scale maps and relevant measurements would better establish the required information for decision makers.

In summary, I am not saying that the BAL-29 requirement of Element 1 cannot be met. Rather, in my opinion, the basis for the positive assessment is not being adequately explained, illustrated and justified. There are certain issues I have identified that would need to be addressed and justified in more detail.

ELEMENT 2: SITING AND DESIGN

The issues I have raised, and opinions stated regarding classification of vegetation and the BMP's assessment against Element 1, are also relevant to my views regarding the BMP's assessment against Element 2. Consequently I will not repeat them here.

I will repeat my previously stated view that a BAL contour map could justifiably be developed. This would clarify and support or otherwise, the statements made in the Element 2 assessment - regarding the separation distances able to be achieved between offsite vegetation / retained native vegetation and future exposed vulnerable elements of the development.

BAL-19 APZ's

I question if the proposed implementation of larger APZ dimensions to achieve BAL-19 ratings for buildings (instead of BAL-29) has been properly justified. This includes an assessment of all available options to mitigate bushfire risk at the relevant higher risk interface lots.

Creating larger APZ's requires appropriate consideration of SPP 3.7 Policy objective 5.4 and Guidelines Section 2.3 that considers bushfire risk management measures alongside environmental, biodiversity and conservation values.

As an example alternative protection measure approach, bushfire risk could be lowered by reducing building vulnerability (using a construction design approach that is different from that established by AS 3959), instead of by just reducing building exposure by increasing the size of the APZ.

A good example would be the requirement to apply the deemed to satisfy (NCC) NASH Standard for Class 1 building construction in bushfire areas – for which one set of reliable, robust and resilient provisions satisfies requirements for BAL12.5 to BAL-40.

Also, where BAL-19 APZ's are to be established on landowners lots containing forest vegetation, consideration should be given to the likelihood of owners continuing to be able to effectively maintain these larger APZ's in a low threat condition.

For an effective slope of 10 degrees, the area of APZ to manage can double (approx. 3000m^2 to 6000m^2) when reducing radiant heat rating from BAL-29 to BAL-19 when the APZ is able to be established entirely within the lot.

The Proposed Recycled Water Site and School Sites

There are two remaining issues that, in my opinion, need further explanation and/or justification and may have significant implications for the proposed development design.

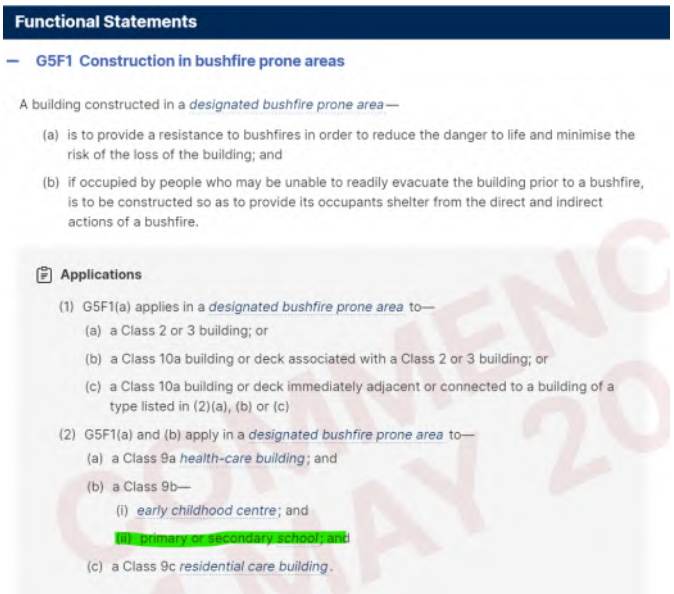
1. It is stated in the assessment that critical infrastructure to be installed on the recycled water site is recommended to be subject to a maximum BAL rating of BAL-12.5, through the establishment of the required dimensioned APZ.

   In my opinion, given the location of the classified vegetation is known, the location of the BAL-12.5 APZ should be identified on the appropriate maps. It is necessary to indicate the size of the area within which relevant parts of the infrastructure will be required to be located and provides evidence of the site's viability for its stated purpose – or otherwise.

2. The school sites will contain Class 9 Buildings. Vol 1 of the NCC 2022 establishes that radiant heat flux on such exposed building elements is not to exceed 10kW/m^2 (using FDI 100) and for relevant exposed external areas, people are not exposed to levels above 1kW/m^2 greater than background solar radiant heat flux.

   In my opinion, it is necessary at this strategic stage of planning, to identify on the applicable maps, the area of land on school sites that can satisfy the radiant heat transfer limitations. This assists with confirming the viability of the planned sites for initial and future school infrastructure construction – or otherwise.

   For easy reference, the relevant parts of the NCC 2022 are reproduced below.



Functional Statements

G5F1 Construction in bushfire prone areas

A building constructed in a *designated bushfire prone area*—

(a) is to provide a resistance to bushfires in order to reduce the danger to life and minimise the risk of the loss of the building; and

(b) if occupied by people who may be unable to readily evacuate the building prior to a bushfire, is to be constructed so as to provide its occupants shelter from the direct and indirect actions of a bushfire.

Applications

(1) G5F1(a) applies in a *designated bushfire prone area* to—

(a) a Class 2 or 3 building; or

(b) a Class 10a building or deck associated with a Class 2 or 3 building; or

(c) a Class 10a building or deck immediately adjacent or connected to a building of a type listed in (2)(a), (b) or (c)

(2) G5F1(a) and (b) apply in a *designated bushfire prone area* to—

(a) a Class 9a *health-care building*; and

(b) a Class 9b—

(i) *early childhood centre*; and

(ii) primary or secondary *school*; and

(c) a Class 9c *residential care building*.

Deemed-to-Satisfy Provisions

— G5D1 Deemed-to-Satisfy Provisions

(1) Where a *Deemed-to-Satisfy Solution* is proposed, *Performance Requirements* G5P1 and subject to G5D2, G5P2, are satisfied by complying with G5D3 and G5D4.

(2) Where a *Performance Solution* is proposed, the relevant *Performance Requirements* must be determined in accordance with A2G2(3) and A2G4(3) as applicable.

— G5D2 Application of Part

The *Deemed-to-Satisfy Provisions* of this Part apply in a *designated bushfire prone area* to—

(a) a Class 2 or 3 building; or

(b) a building located in an area subject to a Bushfire Attack Level (BAL) not exceeding BAL—12.5, determined in accordance with AS 3959 that is—

(i) a Class 9a *health-care building*; or

(ii) a Class 9b—

(A) *early childhood centre*; or

(B) primary or secondary *school*; or

(iii) a Class 9c *residential care building*; or

(c) a Class 10a building or deck immediately adjacent or connected to a—

(i) Class 2 or 3 building; or

(ii) a building of a type listed in (b).

Notes

(1) If a building of a type listed in (b) or (c)(ii) is subject to a BAL exceeding BAL—12.5, the building would need to comply with *Performance Requirement* G5P2 by means of a *Performance Solution*. There are no *Deemed-to-Satisfy Provisions* for these buildings.

— G5D4 Protection — certain Class 9 buildings

(1) In a *designated bushfire prone area* the following must comply with Specification 43:

(a) A Class 9a *health-care building*.

(b) A Class 9b—

(i) *early childhood centre*; or

(ii) primary or secondary *school*.

(c) A Class 9c *residential care building*.

(2) In a *designated bushfire prone area*, a Class 10a building or deck immediately adjacent or connected to a building of a type listed in (1) must comply with S43C2 and S43C13.

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Specification 43 Bushfire protection for certain Class 9 buildings

— S43C2 Separation from classified vegetation

(1) The building must be separated from classified vegetation—

(a) by not less than the minimum distances specified in Table S43C2; or

(b) such that radiant heat flux on exposed building elements will not exceed 10kW/m^2.

(2) For the purposes of (1), the term 'classified vegetation' has the meaning that it has in AS 3959.

— S43C8 Exposed external areas

An external area designed to hold people unable to be safely accommodated within the building, that may be exposed to radiant heat flux from a fire front during a bushfire event, must not be exposed to an incident radiant heat flux from the fire front exceeding 1 kW/m^2 above background solar radiant heat flux.

Table S43C2 Minimum distance of building to classified vegetation

Vegetation classification	Slope	Minimum distance (m) of the building to classified vegetation
High risk	Upslope and flat land	60
High risk	Downslope max 20 degrees	110
Medium risk	Upslope and flat land	40
Medium risk	Downslope max 20 degrees	80
Low risk	Upslope and flat land	30
Low risk	Downslope max 20 degrees	50

▼ Table Notes

(1) Table values are based on a Fire Danger Index of 100 in accordance with AS 3959.
(2) High risk equates to vegetation classification of forest and woodland in accordance with AS 3959.
(3) Medium risk equates to vegetation classification of scrub and rainforest in accordance with AS 3959.
(4) Low risk equates to vegetation classification of shrubland, mallee/mulga and grassland in accordance with AS 3959.

ELEMENT 3: VEHICULAR ACCESS

A3.1 Public Roads: In my opinion, the following statement taken from the assessment will not be correct for a bushfire burning at any intensity above moderate.

"substantial road reserve widths (20-30m) will provide for a direct firefighting response with simultaneous evacuation of residents. Enhanced defendable space and reduced bushfire impacts at the critical interfaces "

I have no comments to make regarding the compliance statements made against all other relevant acceptable solutions for vehicular access.

ELEMENT 4: WATER

A4.1 Identification of future water supply: In my opinion the future water supply must be reticulated. Given the extreme bushfire hazard level of the surrounding and broader landscape and the likely firefighting operational requirements for water in this type of development, strategic water supply tanks should not be an option that is established by the BMP.

BMP SECTION 6 – RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES

The BMP states it "has been prepared as a strategic guide to demonstrate how development compliance will be delivered at future planning stages in accordance with the Guidelines."

The BMP then proceeds to detail the information that will be required to be developed for inclusion with BMP's that will accompany future planning application stages.

However, it is my opinion that, given the scale, complexity and location of the proposed development, greater detail could easily have been incorporated into the subject BMP to better inform decision makers and the community at this critical structure planning stage.

6.1 DATE, TIME AND PLACE OF THE NEXT MEETING

THE NEXT ORDINARY COUNCIL MEETING WILL BE HELD ON TUESDAY, 9 MAY 2023 AT 6.30PM IN THE COUNCIL CHAMBER.

7.0 CLOSING PROCEDURES

7.2 Closure of the Meeting

Meeting closed at 9.06pm.

Note: At 9.06 pm, Cr McNeil returned to the Chambers.