V A S S E STRUCTURE PLAN

OCTOBER 2021





This structure plan is prepared under the provisions of the City of Busselton Local Planning Scheme No. 21.

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON: 18 NOVEMBER 2021

Signed for and on benall of the Western Australian Pla	anning Commission
an officer of the Commission July Juthorised by the Section 16 of the Planning and Development Act 200 presence of:	
O. 8	Witness
18 November 2021	Date
18 November 2031	Date of Expiry

TITLE: Vasse Structure Plan

PREPARED FOR: Perron Developments Pty Ltd & Stawell Pty Ltd

AUTHOR: D. Pearce

REFERENCE: PGP VAS (H-000161)

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DATE OF RELEASE: October 2021

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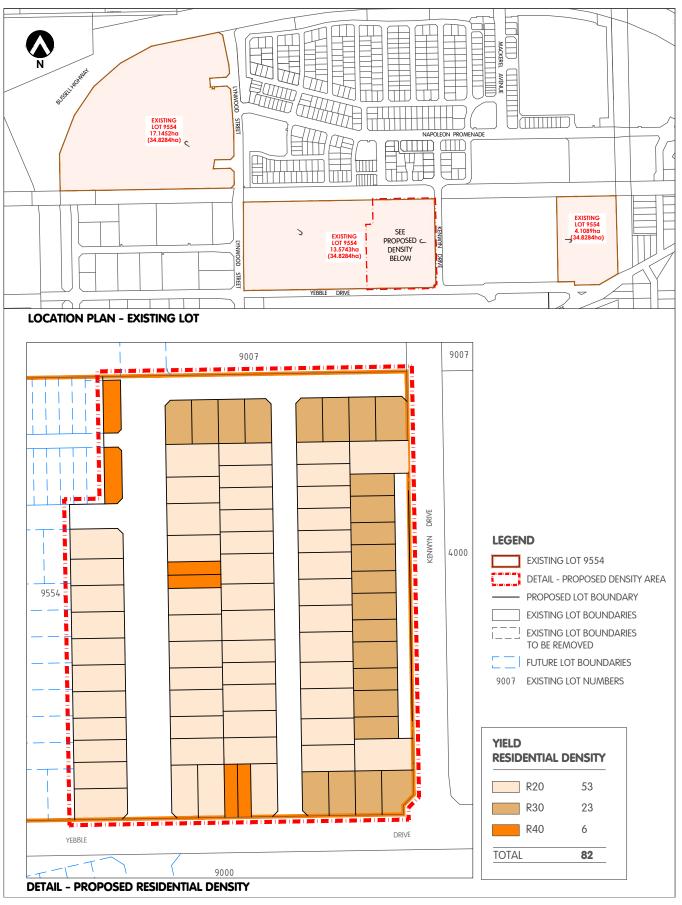
TABLE OF AMENDMENTS

AMENDMENT NO.	SUMMARY OF THE AMENDMENT	AMENDMENT TYPE	DATE APPROVED BY WAPC

TABLE OF DENSITY PLANS

DENSITY PLAN NO.	AREA OF DENSITY PLAN APPLICATION	DATE ENDORSED BY WAPC
WAPC Ref. No. 158 018 (RD1011C)	Dawson Stage 4A	2nd September 2019 (Subdivision)
		10th March 2020 (Revised Plan Approval)
WAPC Ref. No. 159 061 (RD1304B)	Dawson Stage 4B	5th June 2020
WAPC Ref. No. 160 204 (RD1308D)	Dawson Stage 5A	2nd March 2021

Residential Density Code Plan - WAPC Ref. No.158 018 (RD1011C)



Residential Density Code Plan - WAPC Ref. No. 159 061 (RD1304B)



Residential Density Code Plan - WAPC Ref. No. 160 204 (RD1308D)





SUMMARY

The Vasse Structure Plan (VSP) applies to the land previously included within the Vasse Development Area Development Guide Plan (DGP), approved by the WAPC on 16th April 2018.

Preparation of the VSP is in response to proposals contained within Amendment No. 28 (A28) to Local Planning Scheme No. 21 (LPS21) gazetted 16th February 2021.

A28, amongst other things, 'normalises' the developed portions of the current DGP area by zoning them under LPS21 and to rezone the undeveloped portions of the former DGP area to proposed 'Urban Development', 'Industrial Development' and 'Vasse Townsite' zones for which a Structure Plan is required to facilitate subdivision and development. Endorsement of the VSP satisfies this requirement for the 'Urban Development' and 'Industrial Development' zones within the Estate designated in A28 as 'Special Provision Area 68' (Vasse 'Urban Development' zone).

The VSP includes the following undeveloped areas included in the former DGP:

- The remaining portion of the Dawson residential village (comprising residential, educational uses and public open space), generally south of the Wadandi Track;
- The Vasse Light Industrial Estate (Stage Two) for which an approved Local Development Plan exists (currently portion of Lot 9554 Napoleon Promenade);
- The future Armstrong residential village (Lot 461 Florence Road and Lot 221 Northerly Street);
- Land reserved for 'Recreation' west of Lynwood Street (Lot 9052 Northerly Street); and
- Another private landholding east of the Buayanyup Drain, sometimes referred to as the 'Reading Land' (Lot 250 Kaloorup Road).

The VSP provides the overarching planning framework to ensure development of these areas is undertaken in a coordinated and systematic manner and has been prepared in accordance with the requirements of the Planning and Development (Local Planning Scheme) Regulations 2015 and the Structure Plan Framework (August 2015).

ITEM	DATA
Total area covered by the	138.22 hectares
structure plan	
Area of each land use	110.66 hectares
proposed: Residential	17.45 hectares / Lot yield = 79 lots
• Industrial	(approved)
Estimated number of dwellings	1,533 dwellings ¹
Estimated residential density	22.22 dwellings
	per site hectare
Estimated population	3,832 persons ²
Number of primary schools	1 (4.00 hectares)
Estimated area and percentage	9.12 hectares
of public open space	(10.45%) 3

¹ Presumes 450sqm average lot size

² Average 2.5 people per household (2016 Census)

³ Includes 6.35ha surplus from 'normalised' portion of Dawson Village

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PART 1: IMPLEMENTATION



1 STRUCTURE PLAN AREA

The Vasse Structure Plan (VSP) applies to the land contained within the inner edge of the line denoting the Structure Plan boundary shown on the Structure Plan Map (Plan No. 1).

2 **OPERATION**

The date the Structure Plan comes into effect is the date the Structure Plan is endorsed by the WAPC.

SUBDIVISION AND DEVELOPMENT 3 REQUIREMENTS

3.1 Land Use Zones and Reserves

Plan No. 1 outlines land use, zones and reserves applicable within the VSP area.

3.2 Staging

For lots adjacent to Rendezvous and Florence Roads for which further design is required (being within areas noted on Plan No. 1 as 'Indicative Design Only') larger lot sizes and / or a suitable landscape buffer are to be considered at the design stage.

3.3 **Notifications on Title**

In respect of applications for the subdivision of land the City of Busselton may recommend to the WAPC that conditions of subdivision approval be imposed requiring the following notifications on title pursuant to Section 165 of the Planning and Development Act 2005:

- For all lots within the VSP area, notification that a. the land is in close proximity to known mosquito breeding areas.
- b. For lots created within 500 metres of the southern boundary of the SP area (adjacent Florence Rd and Rendezvous Rd) notification of the potential for dust, spray, noise and other amenity impacts due to the adjoining, approved agricultural uses and practices.

3.4 **Public Open Space**

The provision of a minimum of 10% Public Open Space (POS) will be provided in accordance with the WAPC's Liveable Neighbourhoods. POS is to be provided generally in accordance with Plan No. 1 and the POS Schedule included at Appendix 1, with an updated POS Schedule to be provided at the time of subdivision for determination by the WAPC, upon the advice of the City of Busselton.

3.5 **Residential Density**

3.5.1 Density

- Plan No. 1 defines the residential density code, or residential density code range, that apply to specific areas within the VSP. Except where already specified on Plan No. 1, lot specific residential densities, within the defined residential density ranges, are to be assigned in accordance with a Residential Density Code Plan approved by the WAPC.
- A Residential Density Code Plan is to be b. submitted at the time of subdivision to the WAPC and shall be consistent with the SP. the Residential Density Ranges identified on Plan No. 1 and the locational criteria contained in Clause 3.5.2.
- The Residential Density Code Plan is to include С. a summary of the proposed dwelling yield of the subdivision.
- Approval of the Residential Density Code Plan d. shall be undertaken at the time of determination of the subdivision application by the WAPC. The approved Residential Density Code Plan shall form part of the SP and shall be used for the determination of future development applications.
- Variations to the Residential Density Code Plan will require further approval of the WAPC, with a revised Residential Density Code Plan submitted generally consistent with the approved plan of subdivision issued by the WAPC. The revised Residential Density Code Plan shall be consistent with Residential Density ranges identified on Plan 1 and the locational criteria contained in Clause 3.5.2.
- f. A revised Residential Density Code Plan, consistent with Clause 3.5.1(e) will replace, wholly or partially, the previously approved Residential Density Code Plan, and shall then form part of the SP as outlined in Clause 3.5.1(d).



- Residential Density Code Plans are not required g. if the WAPC considers that the subdivision is for one or more of the following:
 - i. The amalgamation of lots;
 - ii. Consolidation of land for "superlot" purposes to facilitate land assembly for future development:
 - iii. The purposes of facilitating the provision of access, service or infrastructure; or
 - Land which by virtue of its zoning or iv. reservation under the SP cannot be developed for residential purposes.

3.5.2 Locational Criteria

The allocation of residential densities shall be in accordance with the following criteria:

- R20 applies as the base code except where a. identified in clauses (b) and (c) below.
- b. Where depicted on Plan 1, a density range from R25 - R40 may be applied to lots that comply with the following criteria:
 - i. Lots adjacent to public open space;
 - ii. Lots fronting Neighbourhood Connector Roads:
 - iii. Lots abutting a laneway;
 - iv. Lots at end of street blocks; or
 - Within street blocks to accommodate a V. wider variety of lot sizes and resultant housing types to facilitate housing diversity.
- Where depicted on Plan 1, a residential density C., of R50 or R60 may be applied to lots adjacent to public open space (including open space associated with a school) where the lots are located within approximately 800 metres of the boundary of either Special Provision Area 64 or 65.

3.6 **Areas Subject to Future Structure Planning**

On land identified as 'Subject to future structure planning on the Structure Plan Map, consideration should be given to the following when preparing a Structure Plan:

- Preparation of a Traffic Impact Assessment Report to determine the function and hierarchy of the road network, including (as required):
 - Cross sectional diagrams of Northerly Street, Florence Road and Rendezvous Road depicting their future intended design, and intersection and access considerations onto those roads.
- Preparation of a Flora, Vegetation and Fauna b. Report to determine the potential environmental impacts and inform areas to be retained, protected, and managed. Areas identified as high value/suitability should be incorporated into areas of Public Open Space.



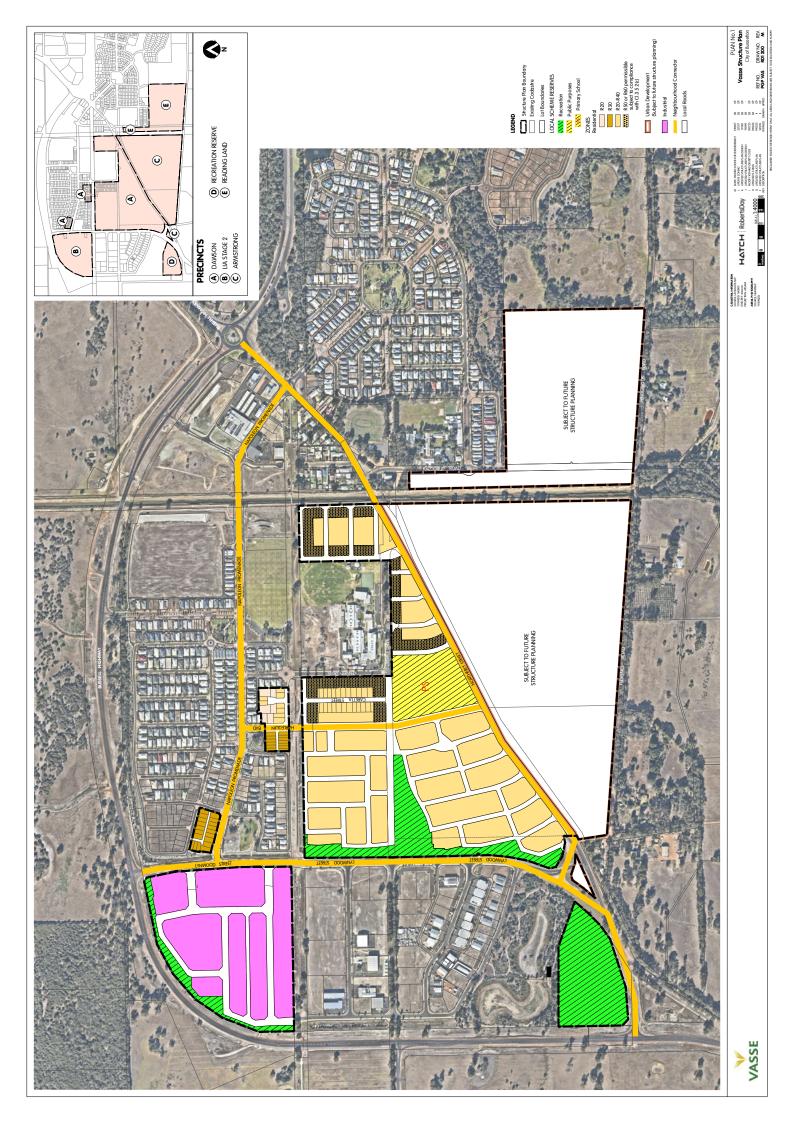
4 LOCAL DEVELOPMENT PLANS

- a. Local Development Plans (LDP's) are to be prepared in accordance with Part 6 of Schedule 2 Deemed Provisions for Local Planning Schemes, Planning and Development (Local Planning Schemes) Regulations 2015, prior to any subdivision and/or development that is affected by the following design considerations:
 - i. Lots with vehicle access from a laneway;
 - ii. Lots with direct interface to POS;
 - iii. Lots that propose grouped or multiple dwelling development;
 - iv. Lots affected by an Asset Protection Zone;
 - v. Lots zoned 'Industrial';
 - vi. Lots accommodating a drainage easement; and
 - vii. Lots coded R50 or R60.

- b. LDP's may address (but are not limited to) consideration of fencing abutting POS, street and lot boundary setbacks, boundary walls, building and wall height, setbacks of garages and carports, restrictions to vehicle access, parking standards, dwelling orientation, outdoor living area and open space, overshadowing and visual privacy.
- c. Where a residential coding of R50 or R60 applies, the following additional matters are to be considered in relation to delivering an aesthetic streetscape: rear-loading of lots, two storey house design, location and widths of garages, on-street parking and the provision of traffic impact assessment.

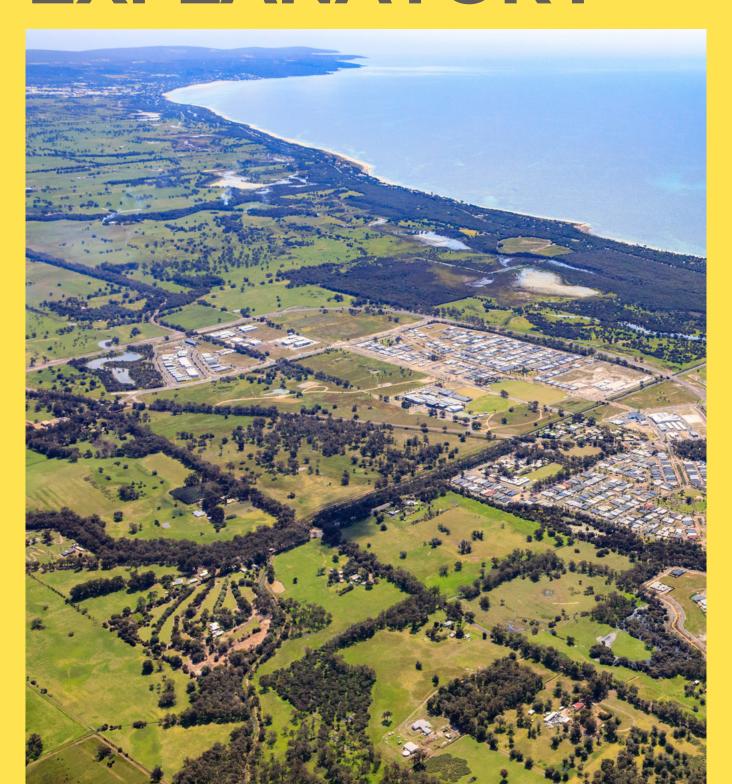
5 ADDITIONAL INFORMATION

ADDITIONAL INFORMATION	APPROVAL STAGE	CONSULTATION REQUIRED
Mosquito Management Strategy	Condition of subdivision approval	City of Busselton and Department of Health
A Local Water Management Strategy is required for each undeveloped area to support a Structure Plan where an overarching Urban Water Management Plan has not been developed and approved within SP68.	Structure Plan	DWER and City of Busselton
Urban Water Management Plan	Condition of subdivision approval	City of Busselton
The proponent shall prepare a Traffic Management and Implementation Plan addressing access and downgrading prior to any Structure Plan approval adjacent to Northerly Street	Structure Plan	City of Busselton





PART 2: EXPLANATORY



1 INTRODUCTION AND PURPOSE

The Vasse Structure Plan (VSP) applies to the land previously included within the Vasse Development Area Development Guide Plan (DGP) approved by the WAPC on 16th April 2018 and supersedes this planning instrument.

The VSP provides the overarching planning framework for the land to ensure future development of these areas is undertaken in a coordinated and systematic manner. The SP has been prepared in accordance with the requirements of the Planning and Development (Local Planning Scheme) Regulations 2015 and the Structure Plan Framework (August 2015), ensuring that the applicable planning controls are consistent with the requirements of the current State and local planning framework.

The VSP also responds to modifications to the planning framework contained within Amendment No. 28 (A28) to Local Planning Scheme No. 21 (LPS21) gazetted 16th February 2021. A28, amongst other things, 'normalises' the developed portions of the current DGP area by zoning them under LPS21 and to rezone the undeveloped portions of the former DGP area to proposed 'Urban Development', 'Industrial Development' and 'Vasse Townsite' zones for which a Structure Plan is required to facilitate subdivision and development. Endorsement of the VSP satisfies this requirement for the 'Urban Development' and 'Industrial Development' zones within the Estate designated in A28 as 'Special Provision Area 68' (Vasse 'Urban Development' zone).

The VSP includes the following undeveloped areas included in the former DGP:

- The remaining portion of the Dawson residential village (comprising residential, educational uses and public open space), generally south of the Wadandi Track;
- The Vasse Light Industrial Estate (Stage Two) for which an approved Local Development Plan exists (currently portion of Lot 9554 Napoleon Promenade);
- The future Armstrong residential village (Lot 461 Florence Road and Lot 221 Northerly Street);
- Land reserved for 'Recreation' west of Lynwood Street (Lot 9052 Northerly Street); and
- Another private landholding east of the Buayanyup Drain, sometimes referred to as the 'Reading Land' (Lot 250 Kaloorup Road).

The Vasse Village Centre, formerly included in the DGP, is now included in 'Special Provision Area 65' of the Scheme and subject to a separate Precinct Structure Plan.



CONTEXT AND LAND DESCRIPTION

2.1 **Local and Regional Context**

The Vasse Estate is situated approximately 60km south west of Bunbury and 250km south of Perth. Within the local context, Vasse is situated 10km west of the Busselton Town Centre, 14km east of Dunsborough and 40km north of Margaret River.

The Estate takes primary access from Bussell Highway and the Busselton Bypass, which provide convenient access to the townsite from all regional destinations including Busselton, Margaret River, Augusta, Dunsborough and Yallingup.

Significant development has already occurred within the Estate, with the developed areas now 'normalised' under the Scheme. These areas comprise:

- Birchfields Village, comprising approximately 600 lots, developed between 2003 and 2007;
- 2. Stage One of the Vasse Light Industrial Area, west of Lynwood Street, containing approximately 130 industrial lots:
- 3. The regionally significant Wadandi Track (formerly known as the Rails to Trails corridor) which bisects Vasse from east to west; and
- 4. Several hundred lots north of the Wadandi Track, forming the northern portion of Dawson Village, and to the south the Cape Naturalise Secondary College.

The balance of land remaining within the Estate to be developed is included in the VSP, with areas such as the future Armstrong Village and the Reading Land subject to detailed design as part of future structure planning.

Figure 1 Regional Context

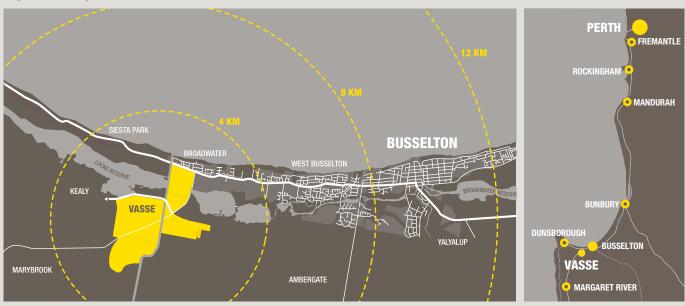


Figure 2 Local Context





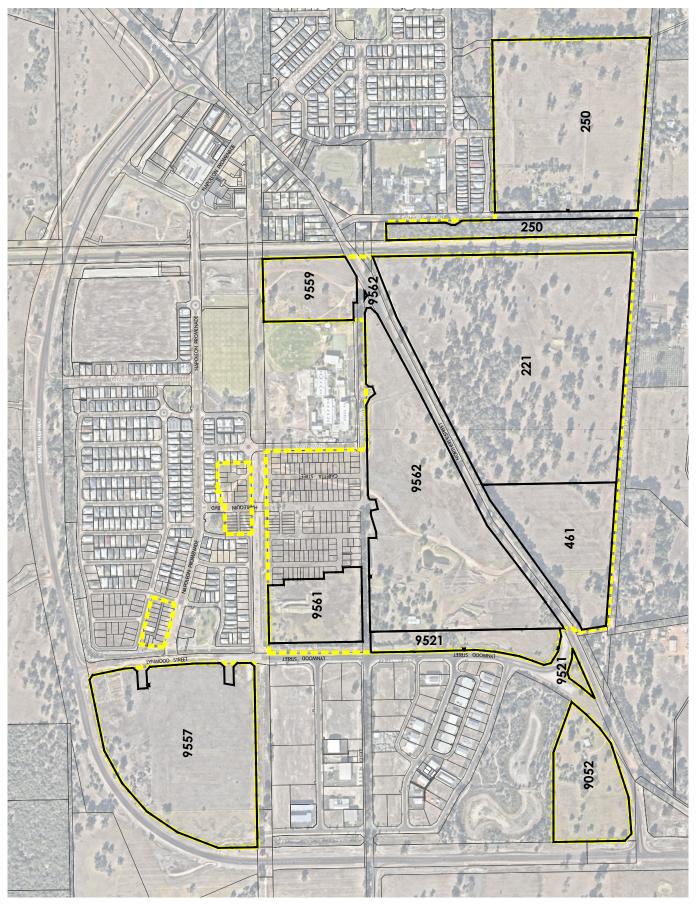
2.2 **Legal Description and Ownership**

The VSP area comprises predominantly private land, held by the various legal entities controlled by the Vasse joint venture partners, Perron Developments Pty Ltd and Stawell Pty Ltd, with two other sites separately held in private ownership.

Land and Title details for the major landholdings are summarised in the table below.

DESCRIPTION	LEGAL AREA	REGISTERED PROPRIETOR	
Lot 9559 Yebble Drive on Plan 418745	4.1089ha		
Lot 9561 Yebble Drive on Plan 420395	5.1345ha		
Lot 9562 Yebble Drive on Plan 420395	21.6023ha		
Lot 9557 Napoleon Promenade on Plan 418745 (Vasse Light Industrial Estate Stage Two)	17.1452ha	Perron Developments Pty Ltd	
Lot 461 Florence Road on Plan 301732 (Armstrong Village)	8.5468ha	Stawell Pty Ltd	
Lot 221 Northerly Street on Plan 250842 (Armstrong Village)	33.1025ha		
Lot 9521 Napoleon Promenade on Plan 52479	3.4685ha		
Lot 250 Kaloorup Road on Plan 58596 (Reading Land)	21.5696ha	Reading, Fredrick Ross	
Lot 9052 Northerly Street on Plan 404728	5.813ha	Vasse Commercial Pty Ltd	

Figure 3 Aerial Location Map with Lot Details





PLANNING FRAMEWORK

3.1 City of Busselton Local Planning Scheme No. 21

The VSP area is zoned 'Urban Development", comprising the whole of the area subject to 'Special Provision Area 68' (SPA68) in the Scheme. SPA68 sets out the following special provisions applicable to the land in the table below.

Portions of the SP Area are also subject to 'Special Control Area - Environmental Conditions Area 1' (EC1) set out at Schedule 7 of the Scheme. Relevant requirements relating to the preparation of a Drainage and Nutrient Management Plan, and the assessment of impacts of former agricultural practices have been satisfied by the adoption of the Vasse Drainage, Nutrient and Pollution Management Plan 2006 (as amended).

The SP Area forms part of 'Special Control Area -Development Contributions Area 4 - Vasse' (DC4) set out at Schedule 10 of the Scheme, which applies to Vasse Estate, the endorsed Vasse Townsite Structure Plan, the endorsed Heron Lake Structure Plan and the Vasse Village Centre Structure Plan. Contributions are levied as conditions of subdivision and fund the following infrastructure items:

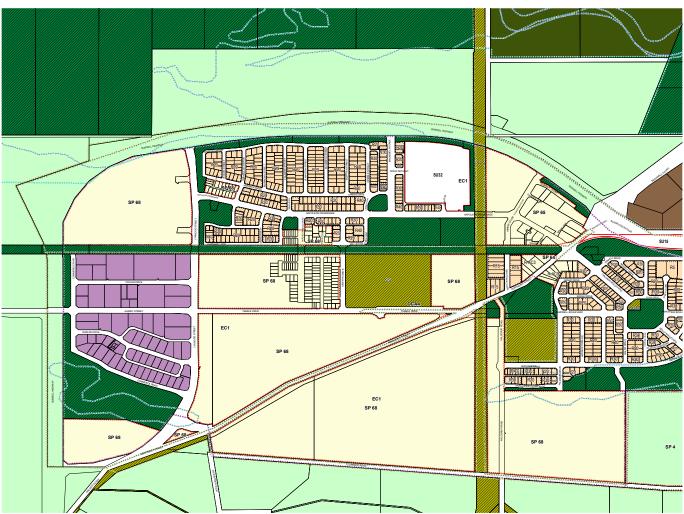
- 1. Upgrading of Newtown Oval
- 2. Development of a consolidated and integrated active open space facility adjacent to the Cape Naturaliste College to be known as the 'Vasse Sporting Complex'
- 3. Community purposes site adjacent to the Village Centre

For context, land adjacent the SP Area is zoned / reserved as follows:

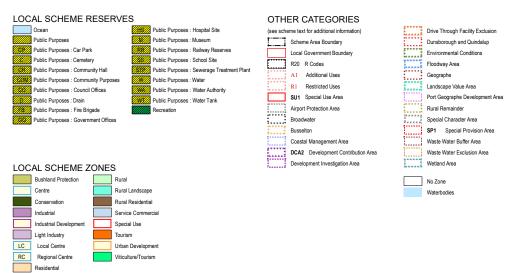
- The Wadandi Track which bisects the VSP is reserved for 'Recreation'.
- The Buayanyup Drain passing through the SP area is reserved for 'Public - Purposes Drain'.
- The adjacent portion of the Busselton Bypass and Lynwood Street are zoned 'Rural' and no zone respectively.

SP	PECIAL PROVISION	SATISFACTION
1.	Notwithstanding the requirement for a structure plan for land in a Development Zone a single integrated Structure Plan shall be required for the whole of Special Provision Area 68.	Endorsement of the VSP will satisfy this requirement.
2.	Lot 221 Northerly Street, Vasse contains important environmental values including, but not limited to, poorly represented vegetation and habitat for Western Ringtail Possum (Pseudocheirus occidentalis) and Black Cockatoo species (Calyptohynchus latirostis, Calyptohynchus baudinii and Calyptohynchus bandsi naso). Future structure planning should require these environmental values to be retained, managed and protected for conservation purposes.	To be addressed as part of detailed future structure planning for Lot 221 (Armstrong Village).
3.	For residential areas of SP68 a minimum front setback of 4 metres applies to dwellings and structures (excluding driveways) to facilitate provision of drainage.	Applicable to development and may be addressed via Local Development Plans as a condition of subdivision approval (if required).

Figure 4 LPS No.21 Zoning



LEGEND





Planning Strategies

State Planning Strategies

3.2.1 State Planning Strategy 2050

The State Planning Strategy (2014) was prepared by the WAPC as a whole of Government approach to guide sustainable land use planning throughout the State up until 2050. The Strategy is aimed at developing a land use planning system to help the State achieve a number of key goals.

The VSP accords with the State Planning Strategy by supporting regional growth in line with a forecast doubling of the State's population, accommodated by a diverse range of well-connected and vibrant communities and regional centres that are resilient, active and respectful of cultural difference.

3.2.2 Leeuwin Naturaliste Sub-regional Planning Strategy (2019)

The Leeuwin Naturaliste Sub-regional Planning Strategy (LNSPS) is an overarching strategic plan to guide the future planning and development of all the land within the Shire of Augusta-Margaret River and the City of Busselton subject to State Planning Policy 6.1 Leeuwin-Naturaliste Ridge.

The Strategy confirms Vasse as the fourth largest town in the Region, and when developed to capacity based on current zoning, will be equivalent in population to Dunsborough's current population, which is currently classified as a 'Major Town'.

The VSP supports the objectives of the Sub-regional Strategy by facilitating growth and development consistent with the regional settlement hierarchy, is well planned and reflects the current government positions, state planning policies and best planning practices with regard to the environment, landscape, urban design and economic development.

3.2.3 South West Regional Blueprint (2014)

The South West Regional Blueprint is a regional strategy produced by the South West Development Commission which identifies the strategic imperatives of the region. It analyses the factors contributing to the development of the South West and presents an agenda for both the social and economic development of the region, setting out key principles to guide future growth.

The Vasse Village PSP supports the principles and objectives of the Regional Blueprint by contributing to the provision of new housing, employment, infrastructure and businesses that will be required to accommodate a future population of 500,000 people in the South West by the year 2050.

3.2.4 South West Regional Planning and Infrastructure Framework (WAPC, 2015)

The South West Framework is a broad planning blueprint which seeks to guide the future development of the South West region over the the next 20 years. The Framework provides the position of both the State Government and the WAPC in relation to the future planning of the south west, to serve as a broad guide for investment decisions.

The Framework emphasizes the growth potential of the City of Busselton, with the continued development of the Vasse Estate supporting the realization of the Framework's vision for greater Busselton as a hub of diversified industrial and commercial sectors, via development of the Light Industrial Area and educational opportunity associated with the future primary school.

Local Planning Strategies

3.2.5 City of Busselton Local Planning Strategy (2019)

The Busselton Local Planning Strategy is intended to guide the long term strategic planning of the Busselton region. It sets out a Settlement Framework that is consistent with State Planning Policy 6.1 Leeuwin-Naturaliste Ridge and the South West Planning and Infrastructure Framework. The Strategy identifies Vasse together with Busselton as part of the Busselton-Vasse Urban Area. This region is identified as accommodating most of the anticipated population growth within the district, through the development of existing zoned areas and infill development in strategic locations.

The Strategy identifies Vasse as a current growth area that is 'already zoned and structure plans approved', with an approximate potential population of 5,000 people. The VSP accords with the Local Planning Strategy by supporting and pro-actively planning for the urban expansion of the Busselton-Vasse Urban Area within the established urban growth framework.

3.3 State Planning Policies

3.3.1 State Planning Policy 6.1 Leeuwin-Naturaliste Ridge

SPP 6.1 provides the strategic planning framework for the Leeuwin-Naturalise region establishing the greater vision, guidance and land use distribution. The Policy promotes sustainable development, conservation, and land and resource management. It seeks to provide assistance to those managing land use change, enable greater consistency between the two local governments, give clear regional-level advice to proponents of development, and provide a reference to guide development and conservation.

SPP 6.1 encourages Vasse to be developed as an independent and clearly defined settlement designed to be responsive to the local characteristics of the existing settlement, recommending the application of innovative building styles, landscape elements and other townscape principles to create a distinctive sense of place that is characteristic of the locality and integrated with the local environment.

The VSP accords with the Policy by catering for population growth consistent with the objectives of the Policy as part of a new urban settlement located to enhance the region's economic, social and environmental functions, while promoting quality and innovation in urban design and built form.

3.3.2 State Planning Policy 3.0: Urban Growth and Settlement

This Policy sets out the principles and considerations to apply to planning for urban growth settlement in Western Australia. The Policy aims to facilitate sustainable patterns of urban growth and settlement.

The VSP accords with the objectives of the Policy by supporting a sustainable and well-planned pattern of settlement consistent with SPP 6.1 which includes a wide variety of housing, commercial, employment, recreation facilities and open space.



SITE CONDITIONS

The VSP has regard for key site conditions and constraints and does not modify the approach to site conditions which has supported development of the area to date, including the previously approved DGP and OSP. The response to site conditions outlined below reflects the existing approach in accordance with previous approvals for the area.

4.1 **Environmental Considerations**

A vegetation and flora survey was undertaken over the entire Vasse Estate (RPS, 2006) to determine the presence or otherwise of significant vegetation or flora. The survey results indicate that the vegetation and flora has been severely impacted by the site's historical agricultural use, notably the grazing of livestock. The majority of the SP area is largely cleared of native vegetation, with no native flora species remaining except for scattered trees.

A Level 2 Flora and Vegetation Survey of the future Armstrong Village area was conducted in November 2014. The surveyed area is predominantly parkland cleared and contains isolated individuals and clusters of mature trees with little or no associated understorey. No Threatened Species listed under the EPBC Act or gazetted as Declared Rare Flora (Threatened) pursuant to the [then] WA Wildlife Conservation Act 1950 (now Biodiversity Conservation Act 2016) were recorded during the survey. No State Priority flora species were recorded.

A Black Cockatoo and Western Ringtailed Possum (WRP) Habitat Assessment of the future Armstrong Village area was also conducted in November 2014. The mature trees identified in the Flora and Vegetation Survey were found to have the potential to be habitat for Black Cockatoo and WRP. Mature Eucalypts that were of sufficient size to be defined as potential breeding trees for Black Cockatoo were identified. A relatively small number of WRP were observed.

The presence of the Black Cockatoo and WRP habitat has influenced the ongoing urban design process. Habitat is being considered for incorporation into future public open space so that the trees can be retained. Nevertheless, it is impractical to retain all habitat and achieve a good urban design outcome and thus some will need to be cleared. The Environmental Protection Authority considered that the impacts posed by the development did not warrant formal assessment under the Environmental Protection Act (1986).

The proposed clearing of the habitat is currently being assessed under the Federal Environment Protection and Biodiversity Conservation Act (1999). Relevant outcomes of the environmental assessment processes will be incorporated into the final design as part of future structure planning for the Armstrong Village area.

4.2 Landform

The VSP area is generally flat and low lying. The site consists of pale and olive-yellow sands derived from Tamala Limestone. The soils of the site comprise sands of varying depths to a maximum of 1.80 metres below the natural surface.

Testing of soils for acid sulphate was carried out to DBCA specifications as part of the development of the Birchfields residential village. This involved limited sampling of the remainder of the Vasse project area. On the basis of these sampling results the DBCA agreed that future development within the Vasse project area will be self-regulated.

Whilst the VSP area is predominantly a low-risk area for Acid Sulphate Soils (ASS), there is the potential for ASS in clays deeper than 2m below ground surface. It is expected that development excavation will aim to avoid depths greater than 2 metres, as well as clay soil areas. Should excavation exceed 2 metres or affect clay soils, the onus is on the developer to manage the issue through appropriate ASS testing and management (if required).

4.3 Hydrology

The VSP is subject to the Vasse Newtown Western Catchment Drainage Nutrient and Pollutant Management Plan (DNPMP) originally approved by the Department of Water on the 30th October 2006, in conformance with the principles of Water Sensitive Urban Design (Whelans et al 1993).

Per the DNPMP, the 1 year 1 hour (15.4mm) rainfall (based on ARR 1987) or first 15mm of rainfall (based on ARR 2019) within the SP area will be managed by retention and treatment at source, with water quality treatment provided by soakwells on lots and vegetated swales.

The minor drainage system is defined as the series of pipes, kerbs and gutters etc. designed to carry runoff generated by frequent rainfall events up to 20% Annual Exceedance Probability (AEP) or 5 year Average Recurrence Interval (ARI). The minor drainage incorporates a treatment train of best management practice water quality structural controls such as vegetated swale and storage systems that provide water quality treatment from the proposed development.

The major drainage system is defined as the arrangement of roads, drainage reserves, detention basins, vegetated swales and open space planned to provide safe passage of stormwater runoff from major events which exceed the capacity of the minor system. This is typically greater than 20% AEP and up to 1% AEP (5 year ARI to 100 year ARI).

For consistency with the Better Urban Water Management Framework (WAPC, 2008), several documents have since been issued for development within the current VSP area as detailed planning has progressed, including:

- Precinct A DAWSON North of Rails for Trails Reserve within Stage 3: Vasse Newtown, Dawson Village Stages 3+ UWMP (JDA, 2015);
- Precinct B LIA Stage 2: Vasse Newtown Catchment A Surface Water Review (JDA, 2015);
- Precinct A DAWSON Stages 4A, 4B1 and 4B2:
 Vasse Newtown, Dawson Village Stages 3+ UWMP (JDA, 2015) and Vasse Newtown, Dawson Village Stages 3+ UWMP Addendum 1 (JDA, 2020); and
- Precinct A DAWSON Stages 5 and 6: Vasse Estate, Dawson Village Stages 5 & 6 UWMP (JDA, 2020).

For stormwater drainage design, Precinct A Dawson North of Rails for Trails Reserve, Stages 4A, 4B1 and 4B2 are designed to be consistent with Australian Rainfall and Runoff (ARR) (Inst. Engrs Aust., 1987). Precinct A Stages 5 and 6, Precincts C, D and E are designed to be consistent with ARR 2019 (Ball et al, 2019)."

4.4 Bushfire Hazard

The VSP is accompanied by a Bushfire Management Plan (BMP) (Strategen JBS&G, June 2020) prepared as a strategic guide to demonstrate how development compliance will be delivered at future planning stages in accordance with Schedule 2 Part 10A of the Regulations, Policy Measures 6.2 and 6.3 of State Planning Policy 3.7 Planning in Bushfire Prone Areas, as well as the supporting Guidelines for Planning in Bushfire Prone Areas.

The BMP concludes that the bushfire hazards within and adjacent to the project area and the associated bushfire risks are readily manageable through standard management responses outlined in the Guidelines and AS 3959. Implementation of the proposed management measures will enable the project area to be developed with a manageable level of bushfire risk whilst maintaining full compliance with the Guidelines and AS 3959.

Aside from the preparation of future BMPs to accompany future subdivisions and DA's where applicable, there are no further items to implement, enforce or review at this strategic stage of the planning process.

4.5 Heritage

The Aboriginal Sites Register was searched in February 2005 and confirmed that there are no Registered Aboriginal Heritage Sites within the Estate. With respect to European heritage, a search of the Heritage Council of Western Australia's heritage database confirms that there are no listed heritage sites within the VSP area.



Contamination

An assessment of the potential for contamination arising from past land use within the VSP area was conducted as part of a wider investigation at Vasse. No Organochlorine pesticides, dieldrin and DDT or its derivatives were detected that approached the Department of Water and Environmental Regulation (DWER) Health Investigation Levels for residential land use. Furthermore, the investigations did not identify groundwater contamination relating to the contaminants of concern but identified nutrient concentrations consistent with the general catchment.

Redevelopment of the land as detailed in the VSP is therefore acceptable and chemical residues in the soil are extremely unlikely to result in adverse health effects for future land users or receptors. On this basis, there is requirement for further investigation or remediation work, or restrictions to be applied in relation to redevelopment of the land for urban purposes.

4.7 Services

The servicing strategy for land within the SP area controlled by the Vasse Joint Venture Partners, west of the Buayanyup Drain is as follows:

- Mains sewer can be extended from adjacent landholdings and conveyed to existing pump stations within each catchment area. No additional pump stations or significant infrastructure is required to service these landholdings.
- Infrastructure such as water, power, gas and communications will all be made available to these areas and serviced via mains extensions from adjoining development areas.

The 'Reading Land' east of the Buayanyup Drain has been identified on Water Corporation scheme planning as being serviced in the future with sewer reticulation from the adjoining development in the north, which feeds into the existing pump station. No additional pump stations or significant infrastructure is anticipated to be required to service this landholding. It is also expected that infrastructure such as water, power, gas and communications will be supplied via an extension of existing mains located in the adjoining subdivision north of this site. These assumptions will require confirmation via an engineering servicing report to accompany future structure planning for the land.

APPENDIX A PUBLIC OPEN SPACE SCHEDULE

APPENDIX 1: VASSE STRUCTURE PLAN_PUBLIC OPEN SPACE SCHEDULE (AUGUST 2021)

PUBLIC OPEN SPACE SCHEDULE 1_VASSE ESTATE				
Site Area			116.45 ha	
Less Deductions				
Primary School	4.00 ha			
POS 1 (Dedicated Drainage)	0.08 ha			
POS 2a (Drainage)	1.53 ha			
Light Industrial Area Stage 2 (inclusive of POS 3)	17.45 ha			
POS 5 (Recreation Reserve, Lot 9052 Northerly Street) ¹	5.81 ha			
Northerly + Lynwood St Intersection (future road reserve)	0.30 ha	29.17 ha		
Nett subdivisible area			87.28 ha	
POS Required @ 10%			8.73 ha	
May Comprise:				
Min. 80% unrestricted POS	6.98 ha			
Max. 20% restricted POS3	1.75 ha			

PUBLIC OPEN SPACE CONTRIBUTION					
POS Area	Nett Area (ha)	Unrestricted (ha)	Restricted (ha)	Dedicated Drainage (ha) ²	Delivered (Y/N)
POS 1	1.90	1.73	0.09	0.08	N
POS 2b	0.95	0.95			N
POS Surplus (Dawson – Normalised) ³	6.35	6.35			Υ
Sub-Total	9.20	9.03	0.09	0.08	
Total Public Open Space Pro (Planned and Provided)	vision	9.12 ha			9.12 ha
POS Surplus ⁴					0.39 ha

¹ Area has been deducted as surplus to requirements for POS and may be suitable for other uses subject to future structure planning

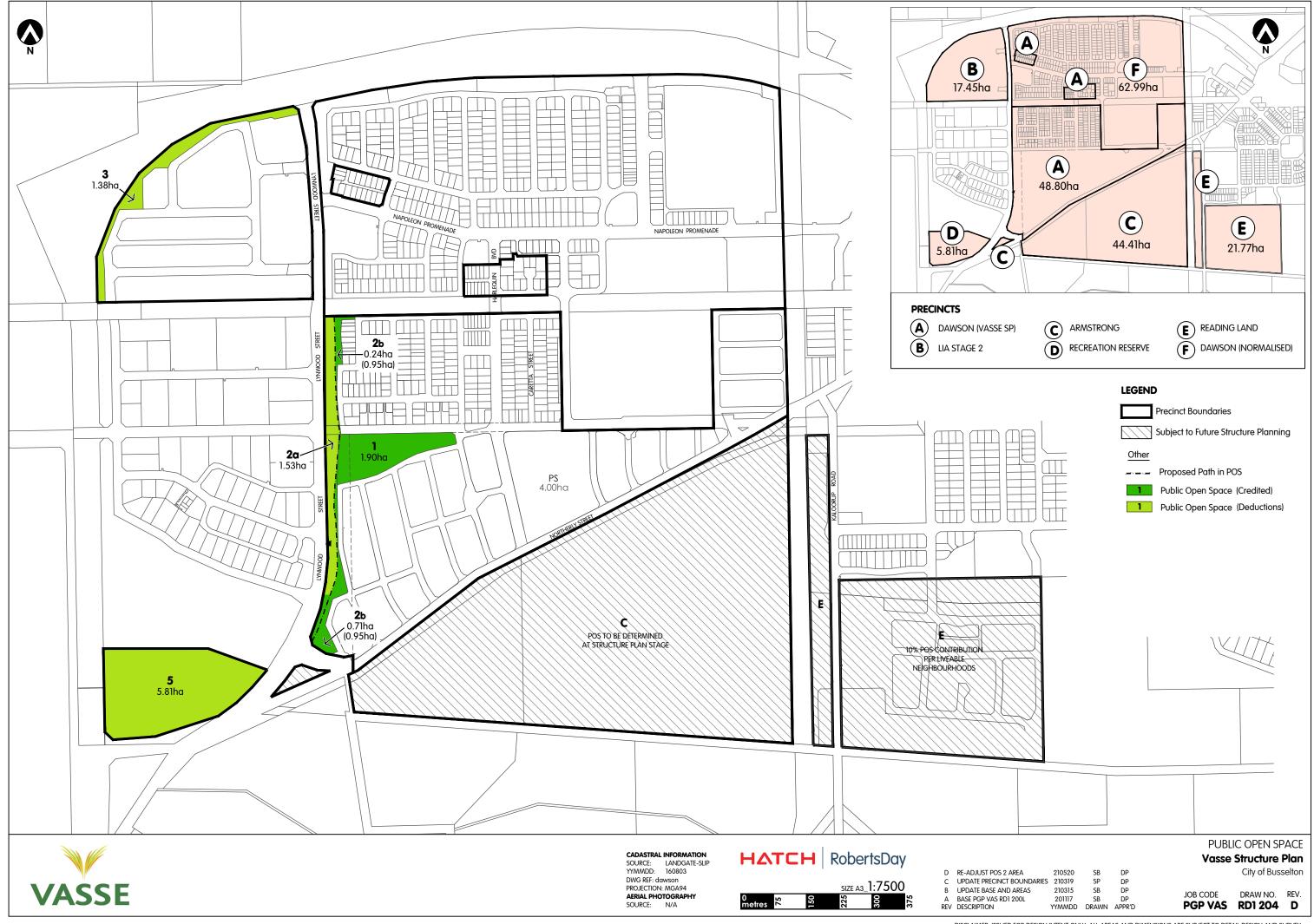
PUBLIC OPEN SPACE SCHEDULE 2_READING LAND

PUBLIC OPEN SPACE SCHEDULE 2_READING LAND		
Site Area	21.77 ha	
POS Contribution		
10% POS required per Liveable Neighbourhoods (to be determined as part of future structure planning)		

² Dedicated Drainage, deduction not included in POS

³ Surplus of 6.35 ha from "Public Open Space Schedule_Dawson (Normalised) (April 2021)"

⁴Based on the surplus, POS provided within the balance of Dawson Village and the future Armstrong Village is at the discretion of the landowner.



BUSHFIRE MANAGEMENT PLAN

