

Lots 55, 100 to 104, 106 Shepherd Court and Lots to 112 and 124
Hatch Court, Harrisdale
Structure Plan Report

Prepared by Calibre Professional Services Pty Ltd For Panthera Holdings Pty Ltd

March 2019

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DOCUMENT CONTROL

Issue	Date	Issue Details	Author	Checked
1	Sept 2016	Revised document for Lodgement	AR	GB
2	July 2017	City of Armadale comments	AR	GB
3	Mar 2018	Response to submissions	AR	GB
4	10th Aug 2018	Final City of Armadale	AR	DT
5	7 th Mar 2019	Final for WAPC Approval	KS	SJ

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

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

Date	8 April 2019
	- Augali
ning Commission:	Signed for and on behalf of the Western Australian Plann
	officer of the Commission duly authorised by the Commission pursuant to section 16 of Development Act 2005 for that purpose, in
Witness	M. Wieclan
Date	8 April 2019
Date of Expiry	8 April 2029

Table of Amendments

[Each time a structure plan is amended, the amendment is to be recorded in the table of amendments at the front of the structure plan, including whether the amendment type (minor or major).]

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

Table of density plans

[Each time a density plan is approved; the plan is to be recorded in the table of density plans at the front of the structure plan.]

Density Plan No.	Area of density plan application	Date endorsed by the WAPC

EXECUTIVE SUMMARY

Calibre Professional Services (Calibre) has been engaged by Panthera Holdings Pty Ltd to prepare a Structure Plan as it relates to Lots 55, 100 to 104 and 106 Shepherd Court and Lots 112 & 124 Hatch Court, Harrisdale.

The structure plan seeks to create a mixed-use precinct, residential cells with densities between R30 and R40, local open space and a local road network.

The following table provides summary information relating to the structure plan area and intent.

Table One: Summary

Item	Data		
Total area covered by the structure plan	12.9963 hectares		
Deductions	1		
Ranford Road Widening Wright Road Widening Existing Shepherd Court road reserve to remain Local Centre	0.5521 0.0421 0.6889 2.5729		
Total	3.8560	3.8560	
Gross Subdivisible Area	Total	9.1403	
Area of each land use proposed: Residential Local Centre (Retail / Mixed Business)	Hectares 5.5226 2.5729	Lot yield 158 1	
Total estimated lot yield	159 Lots		
Estimated number of dwellings	183 dwellings		
Estimated residential site density	14 dwellings	per site/hectare	
Estimated population	402 People		
Number of high schools	0		
Number of primary schools	0		
Estimated commercial floor space	0.8506 net lettable area		
Public Open Space	d .		
Public Open Space @ 10% requirement	0.9140		
Unrestricted POS Sites	1		
Local Park L1 Local Park L2 Total Public Open Space Surplus	0.4719 0.7879 1.2598	0.7879 1.2598	
rubiic Open Space Surpius	0.3458		

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Copies of all technical appendices are provided on CD





PART	ONE:	IMPLEN	IENTAT I	ON



1.1 STRUCTURE PLAN AREA

The Structure Plan applies to the land known as Lots 55, 100 to 104 and 106 Shepherd Court and Lots 112 and 124 Hatch Court, Harrisdale. The Structure Plan area is included as *Figure One: Location and Lot Detail Plan*.

1.2 OPERATION

The Structure Plan comes into effect on the date it is approved by the Western Australian Planning Commission.

1.3 STAGING

Any staging of the structure plan will be determined by specific subdivision applications in response to market demand. The design of distinct cells lends itself to staged subdivision, if required.

1.4 SUBDIVISION AND DEVELOPMENT REQUIREMENTS

The subject land is zoned 'Urban Development' within the City of Armadale Town Planning Scheme No.4. The subject land abuts Development Contribution Area No.3 and falls within 'Special Control Area No.2 Groundwater Protection Areas'.

Part 6.2 of the Scheme includes special requirements for development in areas identified as Special Control Areas on the Scheme maps. Part 6A of the Scheme sets out the broader Structure Plan requirements.

The following subdivision and development requirements are to be implemented in conjunction with the Structure Plan map:

- 1. This Structure Plan applies to the area zoned 'Urban Development' pursuant to the City of Armadale Town Planning Scheme No.4.
- 2. This Structure Plan provides a framework for future subdivision and development of the subject land. Variations to the Structure Plan require prior approval from the Western Australian Planning Commission.
- This Structure Plan is to be read in conjunction with the Part 6A and 6.2 of the City of Armadale Town Planning Scheme No.4.
- 4. Subdivision, development and land use within the Structure Plan area is to be generally in accordance with the adopted Structure Plan.
- 5. As a condition of subdivision, the proponent is to prepare a Developer Contributions and Staging plan to the satisfaction of the City of Armadale in accordance with 13B DCP No.3 of the Scheme to ensure the proponent's appropriate and timely contribution to service infrastructure.
- 6. All development is to be connected to reticulated water and sewer networks.

1.5 OTHER REQUIREMENTS

1.5.1 Developer contribution scheme

The subject land is included within Development Contribution Area No.3 (DCA 3) of Schedule 13B of the City of Armadale Town Planning Scheme No.4. All owners within DCA 3 shall make a proportional Cost Contribution to the cost of the Common Infrastructure Works identified in Schedule 13B, DCA 3 and the Infrastructure Cost Schedule.

Where the provisions of Schedule 13B (Development Contribution Plans) are inconsistent with the provisions of Part 6B (Development Contribution Areas) of the Scheme, then the provisions of Schedule 13B prevail to the extent of any inconsistency.



1.5.2 Local Centre Plan Provisions

The following provisions are to be adhered to as part of the development of the Local Centre:

- a) Buildings are to abut and create an active street frontage along the arterial road between the residential zoned land and the Centre, with off street parking areas sleeved behind buildings, adjacent Ranford Road and Wright Road.
- b) Buildings are discouraged from having the ground floor levels higher than the street level.
- c) Centres should be detailed to create high quality street environment along the arterial road network between the Centre and residential zones, with shade structure (awnings, verandas etc.), trees, pavement treatment, street furniture and landscaping.
- d) Buildings should be designed to minimise blank walls facing the public domain. All developments are to be predominantly clear glazed on the ground floor with a mixture of openings, display windows and shopfronts that allows for passive surveillance of the adjoining southern public street, Shepherd Court Local Structure Plan residential area.
- e) Building heights should be relative to the width of the nearest adjoining road reserve.
- f) A key building within the centre is to be designed and orientated to address the Wright Road and Ranford Road intersection.
- g) Where a service station and related convenience store are to form part of the Centre, the layout of the development should create an urban street edge and frontage, with the petrol pumps located behind the convenience store or other retail components and the convenience store along the urban edge.
- h) The Centre is to be designed to facilitate and encourage walking, cycling and public transport access by providing suitable pedestrian infrastructure along the internal roads between the commercial and the Shepherd Court Local Structure Plan residential areas. The pedestrian infrastructure is to also provide connections between Ranford Road and Wright Road, and POS areas.
- Where suitable, on street car parking embayments are to be located along arterial roads between the Centre and residential areas.
- j) Suitable treatment between the boundary between the POS and Reserve 34077 and the Local Centre zone being provided to mitigate a poor visual interface outcome and possible noise mitigation measures that may arise from car service units and the Local Centre zone.
- k) Bin storage areas and servicing areas should not to back onto the Shepherd Court Local Structure Plan residential area. All bins should be located internally and/or effectively screened from view.
- No vehicle access/egress shall be permitted between the Shepherd Court Local Structure Plan residential area and Local Centre Zone.
- m) A Retail Sustainability assessment shall be provided if the retail/shop NLA for the Local Centre zone exceeds the 1100m² Southern River/Harrisdale Neighbourhood Activity Centre Retail Sustainability Assessment cap.
- n) Development Applications shall be accompanied by an Operational Management Plan, addressing matters such as litter, loading/servicing, truck deliveries, vehicle movement, odour and noise.



1.6 ADDITIONAL INFORMATION

Additional information	Approval stage	Consultation required
Developer Contribution and	Subdivision Approval	"
Staging Plan	***	
Environmental Report.	Prior to subdivision and development.	



PART TWO: EXPLANATORY REPORT



1 PLANNING BACKGROUND

1.1 INTRODUCTION AND PURPOSE

This Structure Plan has been prepared in accordance with the obligations set out in the City of Armadale Town Planning Scheme No.4.

1.2 LAND DESCRIPTION

1.2.1 Location

The land is located at Lots 55, 100 to 104, 106 Shepherd Court and Lots 112 and 124 Hatch Court, Harrisdale. A Location and Lot Detail Plan is included as Figure One: Location and Lot Detail Plan.

1.2.2 Area and land use

The subject land is presently used for low density residential. The land has a combined area of 12.82 hectares.

1.2.3 Legal description and ownership

The land is legally described as Lots 55, 100 to 104 and 106 Shepherd Court and Lots 112 and 124 Hatch Court, Harrisdale. Certificates of Title are included at *Appendix A*. Panthera Holdings Pty Ltd. primarily owns the land.

Table Two identifies the landownership with the structure plan area.

Table Two: Landownership and Area Schedule

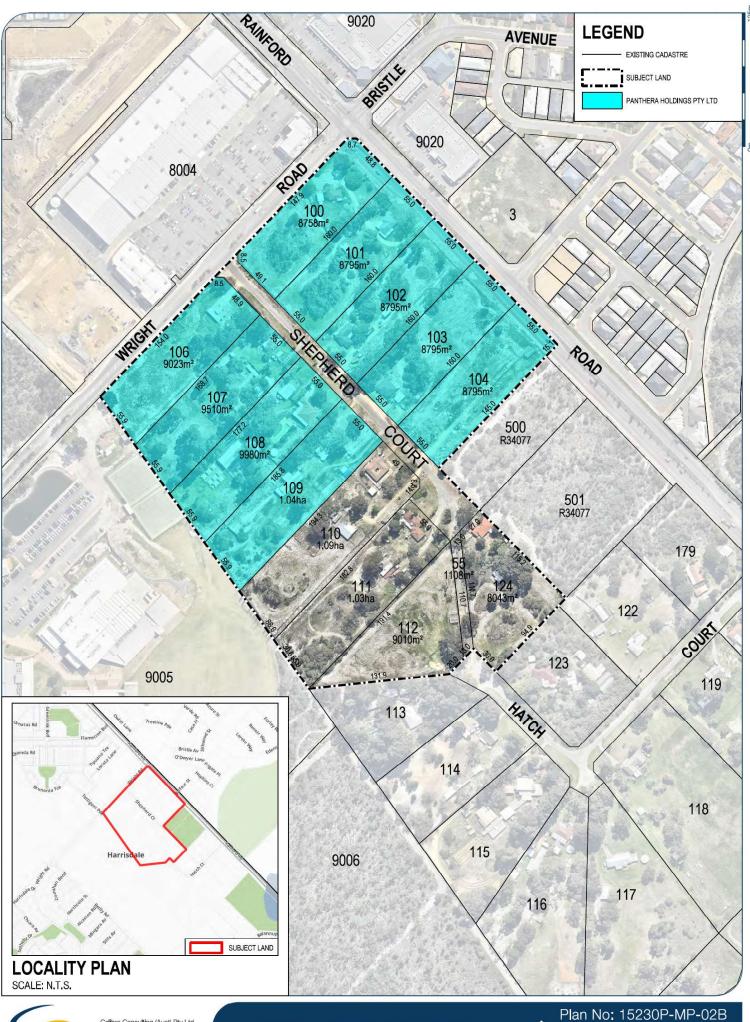
Lot	Owner	Area (ha)
100 Shepherd Court	Panthera Holdings Pty Ltd	0.8758
101 Shepherd Court	Panthera Holdings Pty Ltd	0.8795
102 Shepherd Court	Panthera Holdings Pty Ltd	0.8795
103 Shepherd Court	Panthera Holdings Pty Ltd	0.8795
104 Shepherd Court	Panthera Holdings Pty Ltd	0.8795
106 Shepherd Court	Panthera Holdings Pty Ltd	0.9023
107 Shepherd Court	Panthera Holdings Pty Ltd	0.9510
108 Shepherd Court	Panthera Holdings Pty Ltd	0.9980
109 Shepherd Court	Panthera Holdings Pty Ltd	1.0450
110 Shepherd Court	Ausli Pty Ltd	1.0913
111 Shepherd Court	R & R Norman	1.0289
112 Hatch Court	Hatch Court Pty Ltd	0.9010
124 Hatch Court	130 Fauntleroy Ave (WA) Pty Ltd	0.8043
Lot 55 (Public Access way)	State of WA	0.1108
	TOTAL:	12.2264

1.3 PLANNING FRAMEWORK

1.3.1 Zoning and reservations

The subject land is zoned 'Urban Development' within the City of Armadale Town Planning Scheme No.4. The subject land is within Development Contribution Area No.3 and falls within 'Special Control Area No.2 Groundwater Protection Areas'.

Clause 6.2 of the Scheme includes special requirements for development in areas identified as Special Control Areas on the Scheme maps. Clause 6A of the Scheme sets out the broader Structure Plan requirements.





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LOCATION AND LAND OWNERSHIP PLAN Shepherd Court, Harrisdale Figure 1

Date: 18.05.2018
Rev: B

Scale: A1 @1:1250, A3 @ 1:250 -ords: MG Aerlal: Nearmap Sep 201



1.3.2 Regional and sub-regional structure plan

1.3.2.1 Southern River Forrestdale Brookdale Wungong District Structure Plan

The Southern River Forrestdale Brookdale Wungong District Structure Plan (SRFBWDSP) establishes a 25-year vision to guide land use and development of the locality.

The subject land falls within the SRFBWDSP. This plan identifies the subject land as 'Urban' with the northeastern corner (intersection of Wright and Ranford Roads) forming part of a 'Village Centre'.

The proposed structure plan is consistent with these designations.

1.3.2.2 Southern River Integrated Land and Water Management Plan

The Southern River Integrated Land and Water Management Plan (SRILWMP) was prepared based on the Memorandum of Understanding (MOU 2004) to facilitate the implementation of the Southern River/Forrestdale Brookdale/Wungong Urban Water Management Strategy (2002). The purpose of this plan is to recognise the importance of integrating the total water cycle management approach with the land development processes.

The SRILWMP sets out management requirements for water management at the regional, local and lot scale of development. This includes the setting of specific targets (design objectives) for the management of surface and groundwater quantity and quality and for potable water use. It also includes requirements for monitoring, auditing and reporting to support and adaptive management approach.

No site-specific implications are identified for the proposed structure plan area. All water management matters are addressed in the Local Water Management Strategy (*refer Appendix D*) and will ensure compliance with the regional and site specific requirements.

1.3.3 Planning strategies

1.3.3.1 City of Armadale Local Planning Strategy

The Western Australian Planning Commission endorsed the City of Armadale Local Planning Strategy (LPS) Version 5 in December 2016. The LPS reflects the planning intent of the City of Armadale for the next decade, being 2015-2025. It is intended that the LPS be read in conjunction with the City of Armadale Town Planning Scheme No.4.

Some of the aims and objectives of the LPS include:

- Promote and safeguard the public health, safety, livelihood and general welfare and convenience of the people of Armadale and more choices contributing to an improved quality of life;
- Provide for a variety of development to meet the needs of the community with regard to housing, employment and services, and to facilitate the provision of a wide range of social and cultural facilities and services; and
- Preserve and enhance the amenities of the district and promote its sense of identity and distinctive character;

The strategic plan identifies the land as an Urban Development area, located just south of Employment Area (Bunnings Centre). The strategy also identifies development of new urban areas in the district will require the preparation and implementation of a Structure Plan.

The Strategy also indicates that liaison with the adjoining City of Gosnells will be undertaken to accommodate any minor anomalies that may occur within each municipality to ensure the respective Town Planning Schemes are current. This may need to be considered at the time of development of the Local Centre to ensure the retail tenancy space is accurately represented.



The preparation of this Structure Plan and the identification of the land for urban expansion within the Local Planning Strategy provides justification for the subject area to be considered for urban development.

1.3.4 Planning policies and assessments

1.3.4.1 SPP 3.7 Planning in Bushfire Prone Areas

In December 2015, updated *Planning for Bushfire Risk Management Guidelines* were gazetted by the Western Australian Planning Commission to replace the former 2010 Interim Planning Guidelines for Bushfire Protection (Edition 2). The new guidelines set out a range of matters that need to be addressed at various stages of the planning process to establish an appropriate level of protection to life and property from bushfires and assist in avoiding inappropriately located subdivision and land developments.

State Planning Policy 3.7 Planning in Bushfire Prone Areas aims to implement effective, risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure.

Due to the current extent of on-site and adjacent vegetation, the project area is designated as bushfire prone, as outlined on the Western Australian *Map of Bush Fire Prone Areas* (DFES 2016) which triggers bushfire-planning requirements for the site.

Section 1.4.5 of this report details the management measures prepared for the proposed development of the subject site, provided as part of the Fire Management Plan prepared by RUIC (2015) and updated addendum prepared by Strategen (2016). A full copy of these reports is located as *Appendix E* of this Structure Plan report.

1.3.4.2 SPP 4.2 Activity Centres for Perth and Peel

State Planning Policy 4.2 Activity Centres for Perth and Peel aims to specify broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel. It is mainly concerned with the distribution, function, broad land use and urban design criteria of activity centres, and with coordinating their land use and infrastructure planning.

The 'mixed use' cell in the northeast corner of the structure plan area forms part of the 'village centre' and will provide an appropriate interface with the existing abutting commercial development.

A more detailed assessment of the retail requirements for this space has been undertaken as part of the Southern River/Harrisdale Neighbourhood Activity Centre Retail Sustainability Assessment.

1.3.4.3 Southern River/Harrisdale Neighbourhood Activity Centre Retail Sustainability Assessment

The Southern River/Harrisdale Neighbourhood Activity Centre Retail Sustainability Assessment (RSA) was completed for the Cities of Armadale and Gosnells in January 2014. The RSA was prepared to satisfy the WAPC's requirements concerning a holistic approach between the two Cities to help assess a proposal to expand the retail floor space potential of the Southern River/Harrisdale neighbourhood centre located at the intersection of Ranford Road and Bristle Avenue/Wright Road (the boundary between both Local Government areas being Ranford Road).

Key points of the indicative centre plan, specific to the subject site area:

- The identification of approximately 1500 1750 sqm of retail tenancies on the southern side of Ranford Road, with potential frontage to both Ranford and Wright Roads, complete a Shop/Retail oriented definition of the main intersection
- Potential for additional (non-retail) showrooms has been provided for on the southern side of Ranford Road



The report indicates that at the time of the RSA report, planning approval had been issued by the City of Armadale for a retail/showroom development on the vacant portions of the Bunnings site (just north of the subject site). Therefore potentially reducing the allocated retail tenancies limit to 1100sqm for land south of Ranford Road within the City of Armadale. The allocations included within the RSA are only provided as a guide to ensure the ultimate limit for retail tenancies within the greater Activity Centre area are not exceeded to the maximum of 11,000sqm. An application for additional retail space on the southern side of Ranford Road could be considered, if reasonable and capacity for retail/shop tenancy was still available.

As can be calculated on the concept plan prepared for the structure plan area, approximately 1000sqm has been proposed for retail/shop development for the site. This provision is consistent with what has been requested by the City of Armadale as part of the RSA, the location of the Local Centre is also consistent with the concept prepared as part of the RSA, which showed the local centre development adjacent to Wright and Ranford Roads. Contact with the City of Armadale will be made prior to any formal development and/or subdivision applications are made concerning the Local Centre to ensure the appropriate provision of retail/shop space and other uses are accommodated.

The proposed Local Structure Plan and local centre concept plan is consistent with the RSA with regards the recommended area of retail floor space and its disposition.

1.3.4.4 LPP 2.4 Tree Preservation (City of Armadale)

LPP 2.4 Tree Preservation includes a number of mechanisms that protect or that can be used to achieve preservation of trees or groups of trees. This policy focuses mainly on the administration of mechanism 'f', namely Clause 11.8 which reads as follows:

'The City may by notice served upon individual landholders or upon a subdivider of land require the preservation of a tree or group of trees. Thereafter no landholder shall cut, remove or otherwise destroy any tree unless the City grants approval or rescinds the notice or order'

The Policy indicates several criteria points that assist in their determination of a trees significance, these being:

- Heritage Significance
- Species Significance

- Location, Landscape and Landmark Significance
- Tree Condition and Impacts

After considering the criteria within the Policy with regard to determining the significance of a tree, and also the outcomes and recommendations of the Tree Survey and Flora Investigation reports prepared over for the subject site (Section 1.4 and Appendix B and C), it is believed that this Policy is not applicable to the subject site. The predominant reasons being:

- The site does not carry any heritage significance, nor does any of the vegetation present or past;
- There are no 'registered' trees within the subject area;
- The species identified on site are considered not naturally found within the soils of the area, and have likely been planted by current/previous owners;
- The vegetation condition is considered good-highly degraded, with no understorey present and little
 to no habitat value, especially when compared to the nearby pristine conservation areas of the
 Balannup Lake Nature Reserve and Harrisdale Swamp;
- The vegetation is not considered significant with regard to being of landmark value, as indicated trees
 will be preserved within Public Open Spaces and road reserves where practicable, additional
 landscaping will be provided for as part of the subdivisional works, which will add significantly more
 landmark value for the proposed development;
- Whilst some of the trees onsite are of a considerable size, the tree survey and flora and fauna
 assessment have indicated that they aren't heavily frequented (if at all) by local fauna; and



 The overall condition and location of the trees within an area identified for Urban development, indicates that they are not considered of a high significance or suitable to be retained unless within areas of public open space or road reserves.

As indicated the subject land is zoned for urban development and sparsely vegetated by predominately-introduced species. A tree survey conducted over the property has indicated that modification of the structure plan layout to preserve additional trees is not considered necessary.

A full copy of the Flora and Fauna Assessment and Tree Survey are located in Appendix B and C of this report.

1.3.4.5 LPP 2.6 Water Sensitive Design (City of Armadale)

Preparation of the Local Water Management Strategy for the Structure Plan area has incorporated the necessary requirements and aspects of Water Sensitive Design into the planning for the proposed development to assist in the protection of the Canning River and watercourses.

A full copy of the Local Water Management Strategy is located as Appendix D of this Structure Plan report.

1.3.4.6 LPP 2.9 Landscaping (City of Armadale)

LPP 2.9 Landscaping will be further referred to and incorporated as part of the detailed design stage of the development process. The landscaping features proposed for the structure plan area will be designed in accordance with the City of Armadale's vision to utilise landscaping to enhance environmental amenity.

1.3.5 Other approvals and decisions

There are no other known approvals and decisions applying to the subject land.

1.3.6 Pre lodgement consultation

The proposed Local Structure Plan has been discussed and undergone a detailed review with representatives at the City of Armadale.

Recommendations and comments received by the City of Armadale have been considered and the Local Structure Plan has been modified where appropriate to incorporate these changes.

1.4 SITE CONDITIONS AND CONSTRAINTS

1.4.1 Biodiversity and natural area assets

The subject land is primarily used for low-density residential development. There are small isolated pockets of vegetation surrounding the existing dwellings. These pockets are isolated and are not considered suitable for sustainable management and retention.

The southern boundary abuts a reserve (R34077) which contains remnant vegetation.

1.4.1.1 Flora and Fauna

A spring flora survey was conducted by Arthur Weston in 2009, and revised in February 2015 (Complete report can be found as *Appendix B*). The majority of the sites vegetation is either completely degraded or cleared. No declared rare or priority flora species were found on the site, although the Priority One low shrub *Eremaea* asterocarpa subsp. *Brachyclada* was found in Shepherd Court Reserve to the adjacent east.

The only significant vegetation found on the site was on Lots 100 and 101 in the north, being low woodland dominated by Sheoak (*Allocasuarina fraseriana*) and Candle Banksia (*Banksia attenuata*) over Spearwood (*Kunzea glabrescens*). A clumping herb *Blancoa canescens* was found in Lots 100 and 101, which may be locally, or regional significant, but is not listed as priority flora. *Blancoa canescens* grows in sandy soils that are sometimes seasonally wet, but does not rely on wetland habitat for survival.



The City of Armadale has requested the opportunity to salvage flora species *Blancoa canescens* and *Xanthorrhoea preissi* located within Lots 100 and 101 of the structure plan area. Prior to any clearing occurring within these lots, the developer is to contact the City of Armadale to arrange for this extraction to occur.

No detailed fauna assessments were undertaken for the site. Due to the degraded nature of the vegetation and the presence of dog kennels on the site, the likely fauna habitat and population is predicted to be low. Prior to clearing of Lots 100 and 101 engagement of a qualified consultant is to be considered in conjunction with the City of Armadale to remove and relocate any fauna (specifically reptiles) within these properties.

1.4.1.2 Tree Survey

A Tree Survey of the subject site was undertaken during the months of July and August 2016 by Umwelt (Australia) Pty Ltd to identify the trees within the structure plan area and assess their significance. The survey considered species, size, rarity and habitat values for native fauna. A full copy of this assessment is contained in *Appendix C*.

The survey indicated that the majority of trees recorded within the subject site were planted trees of eucalypt species or related genera that were not considered to occur naturally within the project area.

Given the fragmented and degraded nature of the vegetation within the project area and the sites close proximity to higher quality vegetated areas (Balannup Lake Nature Reserve and Harrisdale Swamp), the remnant trees are unlikely to contribute to the local fauna habitat.

The report concluded that given the lack of significant trees located within the Structure Plan area, the City of Armadale's LPP 2.4 was not applicable to the subject site and further modification to the Structure Plan is not considered necessary.

1.4.1.3 Wetlands

According to the Geomorphic Wetland Mapping, there are no wetland areas on the site. The spring flora survey found no indications of wetland species or groundwater dependent ecosystems on the site.

The Balannup Lake, located approximately 500m to the east of the site, is an *Environmental Protection Policy* (Swan Coastal Plain) 1992 Lake. The lake and surrounding bushland are mapped as Conservation Category Wetland.

Harrisdale Swamp is a large wetland area approximately 700m to the west of the site, across Wright Road. It is also classified as a conservation category wetland, within Bush Forever, Site 253.

Locations of nearby conservation category wetlands and associated Bush Forever sites as shown in Figure 5 of the Local Water Management Strategy (*Appendix D*).

1.4.2 Landform and soils

The site is generally flat with a central high point of 28m AHD that falls gently in all directions with the lowest points being in the north eastern corner (25.5m AHD) and along Ranford Road (25m AHD).

The soils throughout the site consist mostly of Bassendean Sands.

A Geotechnical survey has been completed and is included in the Local Water Management Strategy attached as *Appendix D*.

1.4.3 Groundwater and surface water

JDA Consultant Hydrologists between May 2008 and October 2009 conducted groundwater monitoring of the superficial aquifer over the site. A copy of the JDA monitoring report can be found as part of the attachments of the LWMS (*Appendix D*).



Predevelopment conditions indicate ground water depths ranging from 1.69m to 2.59m below natural surface levels.

There are no obvious drainage lines, waterways or wetland areas on the subject land. Surface water monitoring has not been conducted, as there are no significant surface water features on the site. Further assessment of the ground and surface water situation is included in the Local Water Management Strategy (Appendix D).

1.4.4 Local Water Management Strategy

A Local Water Management Strategy (LWMS) has been prepared for Shepherd Court, Harrisdale to support the Structure Plan and is located in *Appendix D*.

The objective of this LWMS is to detail the best management practices approach to water management that will be undertaken for this development. This will include managing, protecting and conserving the total water cycle of the local environment and the greater catchment. The practices utilised are described in more detail in the Key Elements section of the LWMS.

The Southern River Integrated Land and Water Management Plan (DoW, 2009) was developed to facilitate the implementation of the Southern River/Forrestdale/Brookdale/Wungong Urban Water Management Strategy (2002). The SRILWMP sets out key design objectives for surface and groundwater quantity and quality in new developments. The LWMS for the subject site has considered these aspects in setting appropriate management objectives for the subject land.

Figure Two: Key Elements Plan (Figure 3B of the LWMS) provides a visually presented summary of the Water Sensitive Urban Design elements that will be implemented within the development. These are further detailed in the LWMS report (Appendix D).

1.4.5 Bushfire hazard

A Bushfire Management Plan (BMP) was prepared in 2015 by RUIC Fire to support the Local Structure Plan. Strategic assessment of the site and surrounding area was completed in accordance with Planning for Bushfire Protection Guidelines 2nd Edition (FESA, 2010).

This work was undertaken prior to the release of WAPC State Planning Policy 3.7 *Planning in Bushfire Prone Areas (SPP 3.7, 2015a)* and therefore does not address all the current requirements for land identified as a Bushfire Prone Area.

An addendum was prepared in November 2016 by Strategen to update and address any additional requirements in accordance with *Guidelines for Planning in Bushfire Prone Areas* (the Guidelines; WAPC 2015b). The addendum aims to provide guidance on managing bushfire risk to future assets within the project area through implementation of bushfire management measures, including appropriate and compliant bushfire constructions requirements for proposed development in accordance with requirements under Australian Standard AS 3959-2009 Construction of Buildings *in Bushfire Prone Areas* (AS 3959-2009: SA2009).

The majority of the project area and adjacent land has been cleared of native vegetation due to past disturbances for development. The overall site and surrounding 100m of land is considered flat to gently undulating, with effective slope under vegetation being assessed as flat or upslope.

The subject site is included within a Groundwater Environmental Management Area in TPS 4, however is not identified as a Green Link or a Bush forever Site.

The project areas consist mainly of Class B woodland, with no mid-story and grassy understorey and Class G grassland identified across unmanaged cleared areas. The vegetation adjacent to the site consists of Class B woodland to the East and south, Class D scrub to the northwest and Class G grassland to the northwest.

Figure 2 of the Strategen addendum indicates the project area is considered to have a 'Moderate' bushfire hazard level, reflecting that the majority of native vegetation has been cleared from the site and confirming that no development will be located within areas of 'Extreme' bushfire hazard level.

KEY ELEMENTS PLAN

Lot 100 Shephard Court, Harrisdale

Figure 2

Plan No: 15230P-FI-02

Date: 03.082018

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Given that proposed development will result in clearing and/or management of vegetation within the project area, the post development vegetation extent will result in lower hazard levels than those currently depicted.

The assessment concludes there will be no bushfire risk or fire run within the project area post development. The assessments consider the bushfire hazards within and adjacent to the project area and the associated bushfire risk to be readily manageable through standard management responses outlined in the Guidelines and AS 3959.

Figure Three: Bushfire Management Plan identifies the bushfire management measures and BAL contour rating for the site. The BMP in conjunction with the management measures identified within the BMP report indicates that the structure plan area is able to be developed with a manageable level of bushfire risk, whilst maintaining full compliance with the Guidelines and AS 3959.

If required the existing Public Access Way (P.A.W.) between Shepherd Court and Hatch Court is to be converted to a Right of Way (R.O.W.) to permit it to be used for emergency access, until the final linkage of the road system is complete, if required by DFES.

A full copy of the Strategen Bushfire Management Plan Addendum and RUIC Bushfire Management Plan is attached at *Appendix E*.

1.4.6 Noise Management (Dog Kennels)

A revised Noise Management Assessment has been prepared by Lloyd George Acoustics in April 2016 (original report dated November 2010) over the structure plan area and its immediate surroundings, namely the active dog kennels located on the adjoining Hatch Court, proximity to Ranford Road and the nearby development. Outcomes following advertising of the Structure Plan, led to modifications to the Structure Plan layout and further investigations were undertaken to address these design changes and to provide general updates to the report.

Further modifications were made during February 2018, following changes to the Structure Plan because of the advertising of the Structure Plan. A full copy of this report is located as *Appendix F* of the Local Structure Plan.

The Noise Management Plan takes into account the location of the proposed dwellings with relation to their distance from Ranford Road and places them into two zones; within 100m or greater than 100m (note: all dwellings are within 450m of Ranford Road) as per the Environmental Protection (Noise) Regulations (1997). These zones then provide the assigned noise levels (refer *Tables 2-3 & 2-4* of *Appendix F*).

The assessment undertaken has indicated that there are some slight discrepancies between the allowable noise level and what has been measured on site, particularly with regards to night-time noise, most prominently the dwellings proposed in the south-eastern corner of the structure plan area.

Due to the variance of exceedances over the entire development, six packages have been developed for the purpose of noise management within the Structure Plan area, which are discussed in more detail at Section 5 of the Noise Management Plan (*Appendix F*).

The local structure plan contains provisions requiring that future subdivision, staging thereof and development is compliant with the noise assessment and management plans attached at *Appendix F*.

1.4.7 Traffic Impact Assessment

A Transport Impact Assessment has been prepared by Shawmac to support the proposed Local Structure Plan; a full copy of this report is located in *Appendix G*.

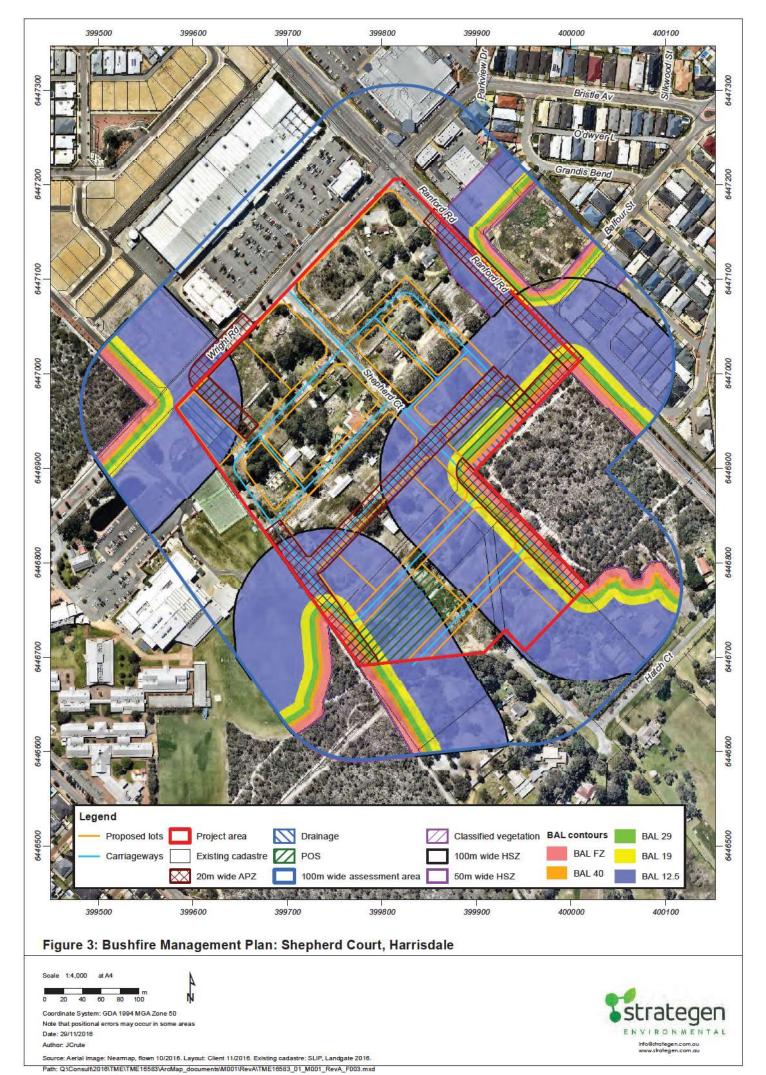
Based on the proposed land uses, it has been estimated that the Local Structure Plan area would generate 364 (157 in, 207 out) trips during the PM weekday peak hour.



A detailed SIDRA assessment of the Ranford Road/Wright Road/Bristle Avenue signalised intersection indicates that the intersection will perform with satisfactory level of service with projected 2021 volumes plus development traffic.

A SIDRA assessment of the Wright Road/Shepherd Court intersection and the three left-in/left-out crossovers indicate that the proposed access arrangement to the site is adequate and all accesses are predicted to operate satisfactorily with an average LOS A at all accesses.

The proposed internal transport network concerning road types, intersection control and pedestrian/cyclist facilities are considered adequate. Details relating to line marking, intersection control and local area traffic management measures will be addressed during the detailed subdivision design process.





In addition, the report indicates that by the time development within the LSP area commences, upgrades (already) proposed to the surrounding road network infrastructure will also result in the redistribution of traffic away from this intersection which will increase the capacity of the intersection to accommodate the LSP generated traffic.

A SIDRA assessment of the Wright Road/Shepherd Court intersection and the three proposed left in/left out only crossovers indicated that the proposed access arrangement to the site is adequate and all accesses are predicted to operate very well with an average LOS A at all accesses.

The proposed internal transport network concerning road types, intersection control and pedestrian/cycle facilities are considered adequate. It is also noted that the existing public transport services will be able to accommodate the public transport demand associated with the proposed development within the LSP area.

1.4.8 Odour Assessment

An Odour Assessment was prepared over the structure plan area to identify presence and extent (if any) of odours from the nearby kennels.

EPA Guidance Statement 3 recommends a 1000m buffer for dog kennels in urban areas unless site specific studies have been conducted that demonstrate a reduced distance is acceptable. The OEPA recommended that odour site-specific studies, or at least predictions be undertaken prior to subdivision to determine odour levels on the subject site, the extent of the odour affected area and management measures that can be implemented through development of the subject site.

At present there are four dog kennel facilities within and adjacent to the Harrisdale Structure Plan area. The two kennels located within the Structure Plan area will be removed as part of the proposed development.

The assessment, carried out in January 2018, found that the existing kennels do not emit odours to an extent that impacts can be identified at the within the proposed development. As such, a low risk is predicted for future odour impacts if current operating practices are maintained at the kennels.

The complete Odour Assessment Report is included as Appendix H.

1.4.9 Context and other land use constraints and opportunities

An opportunities and constraints plan and subsequent review has been undertaken over the structure plan area (refer Figure Four: Opportunities and Constraints).

The assessment of the site assisted with the formulation of the local structure plan design by:

- Identifying the high and low points of the site, which guided drainage and road formation
- Vegetation interface
- Existing dog kennels within the subject site and within close proximity
- Commercial/retail interface and development opportunities
- Interface and treatment with adjoining Carey Baptist College
- Interface and treatment with major exterior roads

There are currently a number of operational dog kennels located to the south of the structure plan area on Hatch Court (refer *Figure Three*) as well as two kennels located within the subject area. It is likely that these kennels will transition over time as development in the area progresses.

The properties within Hatch Court are identified as Urban Deferred, but currently zoned General Rural under TPS 4. The expectation is that over time, the properties within Hatch Court will be sold and when this occurs, any current kennel license on that property will be cancelled. However, with no defined timeline on when this will occur, some form of noise management is required to the proposed residential dwellings within the Structure Plan area.



Completion of this structure plan will provide some certainty around future development scenarios and will assist with landowner negotiations. Conclusion of landowner negotiations will enable transition of the area to residential land use consistent with the existing planning strategies and policy.

1.5 LAND USE AND SUBDIVISION REQUIREMENTS

The structure plan is sought to be adopted pursuant to Part 6A of the City of Armadale Town Planning Scheme No.4.

The breakdown of land use areas is detailed in the Structure Plan Table (*Table One*) and identified on the Structure Plan (*Figure Five: Local Structure Plan*).

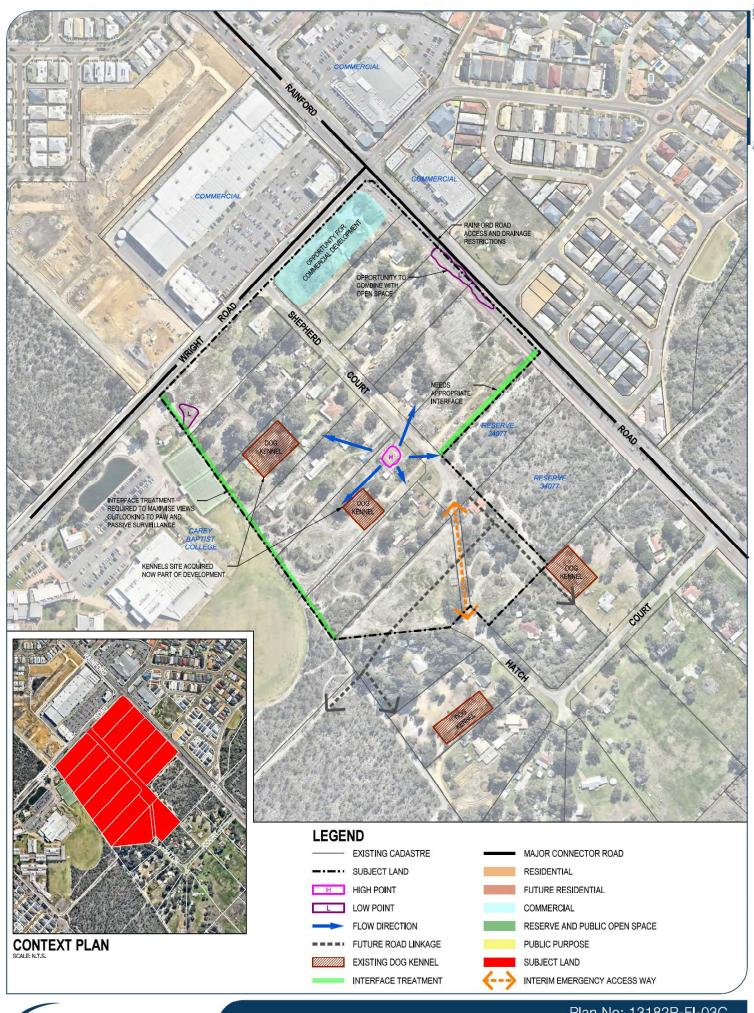
The land uses proposed as part of the development include, Residential R30, R40 and R60, Local Centre, Public Open Space, and Drainage.

At the time of subdivision, extraction of the eastern portion of the structure plan area will be required due to the location of the existing Ranford Road reserve. This land will be ceded free of cost to the Crown as road reserve.

1.5.1 Design Elements

The structure plan design includes the following design elements; a 'mixed use' cell in the northern corner to complete the 'Village Centre' and provide an appropriate interface with the existing abutting commercial development.

The establishment of two Public Open Space cells that are located to serve community needs provide a buffer to adjoining and surrounding land uses, integration and protection to existing vegetated areas and enhance sensitive water cycle management.





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03.08.2016 C



Rev: L Scale: A1 @1:1250, A3 @ 1:2500 Co-ords: MGA Aerlal: Nearmap

Shepherd Court, Harrisdale Figure 5



A landscaped drainage swale provides sensitive urban design outcomes and provides an attractive landscape and interface feature for the site abutting the school site and the existing Reserve 34077.

The residential development component will incorporate a mixture of Residential Density Code R30 and R40 as per the Local Structure Plan (*Figure Five*) and one R60 site located along Wright Road.

As identified in *Table One: Summary* the site includes approximately 5.52 hectares of residential development that equates to approximately 159 lots.

The road network has been designed to use the existing Shepherd Court alignment that provides a central spine providing scope for future linkages to the South and West. The local road network has been orientated to provide direct access and vistas to local open space and the abutting school ovals and reserves.

Proposed footpaths and share paths have been identified on the Structure Plan, and where appropriate connect to the existing path networks. Detailed design of the path network will form part of the subdivision approval process.

As requested by the City the development has accommodated the future need for the widening of Wright Road, by identifying a nominal 1.5m widening along the edge of the development adjoining Wright Road. Road widening requirements are to be fully assessed and detailed as part of the subdivision approval stage.

1.5.2 Public Open space

Public Open Space is provided in two separate cells, one lineal to the western boundary of the structure plan area, providing a buffer to the adjoining school site and the second to the eastern side of the development adjoining the Local Centre. The open space is orientated and positioned to facilitate overlooking from future and existing development. This initiative will also be fundamental in the promotion of passive surveillance.

The Public Open Space areas have been located as such to reflect the lower points on site to assist with drainage of the development as well as to provide a soft interface with adjoining vegetated land parcels. Cross sections of public open space are detailed in the appendix and compliment the sketches incorporated in the local water management strategy. Where possible existing vegetation will be kept within the public open space and road reserves as part of the subdivisional works.

The following table summarises the provision of public open space consistent with the requirements of *Liveable Neighbourhoods*.

Table Three: Public Open Space Calculations

Public Open Space Schedule		
Calculation of Required POS Provision		
Total Site Area		12.9963
Deductions		
Regional Road Reservations widening	0.5942	
Existing Shepherd Court road reserve	0.6889	
Activity centres, commercial, retail	2.5729	
Total Deductions		3.8560
Gross Subdivisible area		9.1403
Required Public Open Space (10%)		0.9140
Breakdown of POS Provided		
Unrestricted POS		
Recreation	1.2598	
Total Unrestricted POS		1.2598
POS Provision as Percentage of Gross Subdivisible Area		13.78%



1.5.3 Local Centre (Retail/Mixed Business)

An indicative plan has been prepared over the land identified as 'Local Centre' on the structure plan (see *Figure Six: Indicative Mixed Commercial Development*) to indicate the possible uses and layout configuration for the site. The concept plan incorporates the suggested retail/shop floor space allocation identified within the Southern River/Harrisdale Neighbourhood Activity Centre and identifies other uses and associated car parking requirements permitted within the 'Local Centre' zone.

Development of the 'Local Centre' will be undertaken by way of the Development Approval process in accordance with the relevant planning framework for the site. Further discussions with the City of Armadale will be undertaken as part of the preparation of the Local Centre application to ensure the allocation of retail/shop floor space and other details (including appropriate interface between retail and residential areas) are appropriately incorporated into the final design and comply with the provisions under part 1 section 1.5.2 of the structure plan report.

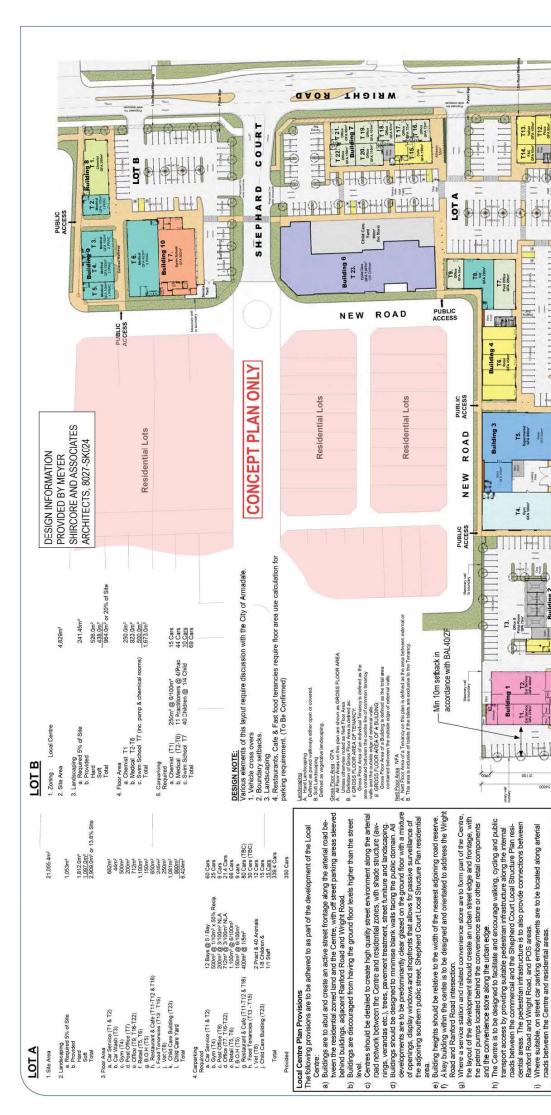
1.5.4 Road Network

As part of the Local Structure Plan, it is proposed that Shepherd Court will be upgraded to form the primary route through the LSP area. The existing 20-metre-wide road reserve of Shepherd Court is to be retained. A series of new access roads will feed off from Shepherd Court to form a network of access roads. The width of the access streets will be in accordance with WAPC Liveable Neighbourhoods (2011).

Additional Information regarding the road networks can be found in the Transport Impact Assessment attached at *Appendix G*.

1.5.5 Water management

A Local Water Management Strategy has been completed for the site and is attached at Appendix D.



Local Centre Plan

Lot 100 Shephard Court, Harrisdale

Figure 6

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Calibre Professional Services Pty Ltd

callbre

Plan No: 15230P-CO-03C

RANFORD ROAD

- Principal Control Co

Where suitable, on street car parking embayments are to be located along arterial rads between the Centre and residential areas. Suitable treatment between the boundary between the POS and Reserve 34077 and Suitable treatment between the boundary between the POS and Reserve 34077 and

and possible noise mitigation measures that may arise from car service units and the

Local Centre zone.

the Local Centre zone being provided to mitigate a poor visual interface outcome

Bin storage areas and servicing areas should not to back onto the Shepherd Court Local Structure Plan residential area. All bins should be located internally and/or

m) A Retail Sustainability assessment shall be provided if the retail/shop NLA for the Local Centre zone exceeds the 1100m² Southem River/Harrisdale Neighbourhood

No vehicle access/egress shall be permitted between the Shepherd Court Local

Structure Plan residential area and Local Centre Zone

effectively screened from view

Activity Centre Retail Sustainability Assessment cap.
Development Applications shall be accompanied by an Operational Management Planelopment Applications shall be accompanied by an Operational Management and addressing matters such as Ittler, loadingserviong, tuck deliveries, vehicle

movement, odour and noise.

No.



1.5.6 Activity centres and employment

A 'Local Centre' cell is identified to complete the SRFBWDSP vision of creating a 'Village Centre' in this location. The cell will function to bookend the existing commercial development that fronts Ranford and Wright Roads. The design enables a change of use along the rear boundary ensuring unified streetscape presentations.

1.5.7 Infrastructure coordination, servicing and staging

The structure plan design hinges off the use of Shepherd Court that ensures the ability of individual owners (if necessary) can develop. Infrastructure provision and coordination can be linked to overall engineering designs, local water management strategy requirements and the requirements of Development Contribution Area No.3.

A servicing assessment has been completed which demonstrates the land is capable of being supplied with water, reticulated sewer, power and telecommunications. This assessment is attached at *Appendix I*.

1.5.8 Developer contribution arrangements

Development contributions will be provided in accordance with Development Contribution Area No.3 controls, detailed in Schedule 13B and, or, Part 6B of TPS No.4.

Clause 3.6 of Schedule 13B lists the Common Infrastructure Works. All owners within the Development Contribution Area No.3 shall make a proportional cost contribution to the cost of the Common Infrastructure Works. The Common Infrastructure Works are presented in the form of General Works and Specified Works within the table.

Development contributions will be required either as a condition of Subdivision approval, Development approval, or, as required under Part 6B of the City of Armadale Town Planning Scheme No.4

Of particular reference to the subject site concerning the Specified Works table are the following detail:

- (1) Wright Road between Ranford Road and the northern boundary of Lot 50 Wright Road:
 - a) 100% of the total cost to acquire any road widening for the ultimate road reserve, minus contributions from Lots 82, 106 and 107 Wright Road.
 - b) 100% of the total cost of all road works and structures between the northern boundary of Lot 50 and Ranford Road, minus contributions or land ceded free of cost from adjoining lots and/or from any other developments or subdivisions with a nexus to the road works.
- (5) Intersections with Ranford and Armadale Roads.
 - a) 100% of the total cost to acquire any road widening located within the City of Armadale for the ultimate traffic signalised intersection at Ranford Road and Wright Road, except those areas ceded free of cost from adjacent lots.
 - b) A contribution to the cost of upgrading the intersection at Ranford Road and Wright Road and installing traffic signals.

(15) Shepherd Court Reserve

a) 100% of the cost of fencing/bollards, gates and signage, dieback management/mapping, revegetation/ landscaping and initial weed management of Shepherd Court Reserve.

It is noted that some of the works associated with the above-mentioned items have been completed and any additional works or ceding of the land may be at the owners' costs.



TECHNICAL APPENDICES

APPENDIX A CERTIFICATES OF TITLE

APPENDIX B SPRING FLORA REPORT

APPENDIX C TREE SURVEY

APPENDIX D LOCAL WATER MANAGEMENT STRATEGY

APPENDIX E BUSHFIRE MANAGEMENT PLAN

APPENDIX F NOISE MANAGEMENT PLAN

APPENDIX G TRAFFIC ASSESSMENT

APPENDIX H ODOUR ASSESSMENT REPORT

APPENDIX I SERVICING REPORT

APPENDIX J PROPOSED P.O.S. CROSS SECTIONS

Note: Cross sections are in addition to the public open space sketches incorporated in the LWMS.

Copies of all technical appendices are provided on CD