

CITY OF SWAN

Planning Information

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Approval Date: 15/03/2018

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City of Swan

Park Street Local Structure Plan 3A Amendment No. 1

Date: February 2018 Rev 1.0

Veris Ref: 21004

DEVELOP
WITH _____
CONFIDENCE TM



TABLE OF AMENDMENTS TO STRUCTURE PLAN

Amendment Number	Description of Amendment	Amendment Type	Date Endorsed by Council	Date Endorsed by WAPC
1	Relocation of existing Activity Node and to provide for Medical Centre, 'Shop' (pharmacy) and convenience store/small supermarket land uses and to increase size of activity node (small local centre). Update Structure Plan consistent with the <i>Planning and Development (Local Planning Scheme) Regulations 2015</i> .	Standard		15 March 2018

ENDORSEMENT PAGE

This structure plan is prepared under the provisions of the City of Swan
Local Planning Scheme No.17

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

25 AUGUST 2014

In accordance with Schedule 2, Part 4, Clause 28 (2) and refer to Part 1, 2. (b) of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

Date of Expiry:

19 OCTOBER 2028



EXECUTIVE SUMMARY

This Structure Plan has been prepared to modify the Western Australian Planning Commission (WAPC) endorsed *Park Street Local Structure Plan 3A* approved 25 August 2014 ("the approved Structure Plan").

The approved Structure Plan was prepared prior to the gazettal of the *Planning and Development (Local Planning Schemes) Regulations 2015*. This Structure Plan provides for modifications and updates to bring the approved Structure Plan into conformity with Schedule 2 Part 4 'Structure Plans' of the *Planning and Development (Local Planning Schemes) Regulations 2015*, in addition to proposing an amendment to the approved Structure Plan.

Amendment No. 1 to the approved Structure Plan relocates the proposed 'Activity Node' from the northern portion of the Structure Plan, opposite a local park, to the southern area of the Structure Plan opposite two attractors, being a primary school and district open space. The report provides the rationale and planning framework to support the Structure Plan amendment.

The Amendment allows potentially for a medical centre, pharmacy and convenience store within the activity node. These uses will provide services for the local community, without significantly impacting the commercial viability and sustainability of the Albion District Commercial Centre and other existing and planned local centres in Brabham. The following table is a summary of the proposed Structure Plan.



STRUCTURE PLAN SUMMARY

Item	Data	Section number referenced within the Structure Plan Report
Total area covered by the Structure Plan	51.26 hectares	8.6 (Original approved Structure Plan refer to Appendix 1)
Area of each land use proposed <ul style="list-style-type: none"> - Residential - Public Open Space & Drainage - Commercial 	28.17 hectares 0.460 hectares 0.600 hectares (approx.)	8.3 & 8.6 (Original approved Structure Plan refer to Appendix 1) 2.2
Total estimated lot yield	754 green title & strata lots	8.3 (Original approved Structure Plan refer to Appendix 1)
Estimated number of dwellings	754 dwellings	8.3 (Original approved Structure Plan refer to Appendix 1)
Estimated residential site density	27 dwellings per site hectare	8.3 (Original approved Structure Plan refer to Appendix 1)
Estimated Population (average 2.8 people/household)	2,111 people	2.2
Estimated area and percentage of public open space given over to: <ul style="list-style-type: none"> - Local Parks - Communal Open Space (Parmelia Gas Pipeline Easement) - Resource Enhancement Wetland Buffer - Restricted Open Space - District Open Space contribution 	0.51 hectares 0.28 hectares 1.73 hectares 0.91 hectares 1.17 hectares	8.6 (Original approved Structure Plan refer to Appendix 1)

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Plans

Plan 1 – Structure Plan
Plan 2 – Staging Plan
Plan 3 – Activity Node Context Plan
Plan 4 – Albion District Structure Plan

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Appendix 2 – Commercial Sustainability Assessment
Appendix 3 – Pre-Lodgement Consultation



PART ONE – IMPLEMENTATION

1. Structure Plan Area

This Structure Plan shall apply to the land contained within the inner edge of the line denoting the Structure Plan boundary on Plan 1 – Structure Plan.

2. Operation

The date the Structure Plan comes into effect is the date the Structure Plan is approved by the Western Australian Planning Commission as set out in the Structure Plan - Certification Page.

3. Staging

Staging has already occurred within the Structure Plan boundary, with the development approximately 70% completed or under construction. The final stages of subdivision will occur in the western portion of the Structure Plan area.

4. Subdivision and Development Requirements

4.1 Land Use and Permissibility

The Structure Plan Map outlines the Zones and Reserves applicable within the Structure Plan Area and these will guide future subdivision and development of the land.

Land use permissibility within the Structure Plan Area shall generally be in accordance with the corresponding Zone under the City of Swan Local Planning Scheme No. 17 (LPS 17).

The zones in the Structure Plan will not have statutory effect as it is currently not included in LPS 17.

Pursuant to Clause 27 of Schedule 2 – Deemed Provisions for Local Planning Schemes under the *Planning and Development (Local Planning Schemes) Regulations 2015*:

- a) A decision-maker for an application for development approval or subdivision approval in an area that is covered by a structure plan that has been adopted by the Commission is to have **due regard** to, but is not bound by, the structure plan when deciding the application.



4.2 Residential Density

- i) The Structure Plan defines the split residential density codes that apply to specific areas within the Structure Plan. Lot specific residential densities, within the defined split coding, are to be subsequently assigned in accordance with a Residential Code Plan approved by the Western Australian Planning Commission.
- ii) A Residential Code Plan is to be submitted at the time of subdivision to the Western Australian Planning Commission and shall indicate the R-Code applicable to each lot within the subdivision and shall be consistent with the Structure Plan, and the split coding identified on Plan 1 and the locational criteria.
- iii) The Residential Code Plan is to include a summary of the proposed dwelling yield of the subdivision.
- iv) Approval of the Residential Code Plan shall be undertaken at the time of the determination of the subdivision application by the Western Australian Planning Commission. The approved Residential Code Plan shall then form part of the Structure Plan and shall be used for the determination of future development applications.
- v) Variations to the Residential Code Plan will require further approval of the Western Australian Planning Commission, with a revised Residential Code Plan submitted generally consistent with the approved plan of subdivision issued by the Western Australian Planning Commission. The revised Residential Code Plan shall be consistent with the split coding identified on Plan 1 and the locational criteria.
- vi) A revised Residential Code Plan, consistent with (v) above will replace, wholly or partially, the previously approved residential density code plan, and shall then form part of the Structure Plan as outlined in (iv) above.
- vii) Residential Code Plans are not required if the Western Australian Planning Commission considers that the subdivision is for one or more of the following:-
 - the amalgamation of lots;
 - consolidation of land for "superlot" purposes to facilitate land assembly for future development;
 - the purposes for facilitating the provision of access, services or infrastructure; or
 - land which by virtue of its zoning or reservation under the Structure Plan cannot be developed for residential purposes.

Locational Criteria

The allocation of residential densities on the Residential Code Plan shall be in accordance with the following criteria:-

- 1) The R30 code applies as the base code to all lots, with the exception of those lots coded R40 as set out in 2) below.
- 2) The R40 code applies to the following lots:
 - i) lots with a boundary directly abutting Public Open Space; or



- ii) lots comprising any land that is located within 100m of the Dampier to Bunbury Natural Gas Pipeline easement and/or the Parmelia Gas Pipeline easement when measured at a 90 degree angle from the pipeline easement boundary; or
- iii) lots identified on the Structure Plan map as having a Local Development Plan (LDP) requirement.

Subdivisions are to achieve a residential density target of 22 dwellings per site hectare in accordance with the Albion District Structure Plan. Unless specified in an LDP, all residential development is subject to the provisions of the Residential Design Codes.

4.3 Development Contribution Arrangements

The Structure Plan Area is within Development Contribution Area 1 (DCA1) as identified in Schedule 13 of the City of Swan Local Planning Scheme No. 17 (LPS17). Under LPS 17 a Development Contribution Plan applies to the Structure Plan Area and should be read in conjunction with this Structure Plan.

The owner is to contribute towards key service and community infrastructure within the latest Development Contribution Plan for DCA1.

Each landowner will be required to make a cost contribution payment based on the area that they develop in accordance with the contribution rate in the DCP in DCA1. When liable payment by a landowner (or otherwise) is made to the satisfaction of the local authority pursuant to LPS17 and the DCP, the local authority shall provide certification in writing to the landowner of such discharge, or partial discharge where applicable, as requested by the landowner.

The portion of Henley Brook Avenue included within Lot 9000 Park Street of the Structure Plan is to be delivered as an item of shared infrastructure pursuant to the approved DCP.

4.4 Limitations or restrictions affecting subdivision and/or development

Development adjacent to Henley Brook Avenue

To address the WAPC noise limits, proposed residential development adjacent to Henley Brook Avenue shall require a noise wall to a minimum height of 2.2 metres. The wall is to be constructed on the boundary (refer WAPC Ref: 138046 Condition 32).

Temporary Wastewater Pumping Station & Buffer

The pump station and associated 10.0m buffer shall be retained as a single lot, with no development within this lot occurring until the temporary pumping station is fully removed to the satisfaction of the local authority and Water Corporation. A notification under Section 70A of the Transfer of Land Act 1983 is to be placed on title advising to this effect.



Bushfire Management

A Bushfire Management Plan will be required to be prepared by the developer, and approved by the local authority and Department of Fire & Emergency Services (DFES) as a condition of subdivision approval as deemed necessary. This will include the responsibility of the developer to register any relevant notification on title under Section 70A of the Transfer of Land Act 1983.

Road Network and Access

In order to accommodate further residential development within the LSP3A area, the Western Australian Planning Commission (WAPC), on advice from the City of Swan, may require as a condition of subdivision approval for the creation of future lot/s within the Structure Plan area:

- (i) The construction of a dual-lane roundabout at the intersection of Park Street and Lord Street in the location shown on the Structure Plan map (Plan 1) by the landowner at the landowner's cost, to the satisfaction of the City of Swan and Main Roads WA. Otherwise, the landowner is to make satisfactory arrangements with the City of Swan for the full cost of construction of a dual-lane intersection at the intersection of Park Street and Lord Street in the location shown on the Structure Plan map (Plan 1), to the satisfaction of the City of Swan and Main Roads WA; and,
- (ii) The construction of a 'Temporary Secondary Access' to the Structure Plan area from Park Street via the Henley Brook Avenue road reserve as depicted on the Structure Plan map (Plan 1) by the landowner at the landowner's cost, to the satisfaction of the City of Swan. This access is intended to be temporary only and may be closed at the discretion of the City of Swan.

In order to accommodate full residential development of the LSP3A area, the Western Australian Planning Commission (WAPC), on advice from the City of Swan, may require as a condition of subdivision approval for the creation of any lot/s that will cause the total number of lots approved for subdivision within the Structure Plan area to exceed 300:

- (iii) The upgrade of that portion of Park Street adjacent to Lot 500 Park Street, Brabham to the satisfaction of the City of Swan.

Reports/Strategies Required Prior to Subdivision and Development

Prior to the lodgement of a development application or subdivision application to the WAPC, the following management plans are to be prepared, as applicable, and approved to the satisfaction of the relevant authority and provided with the application as necessary:

- (i) Wetland Management Plan (Department of Environment & Regulation / City of Swan)
- (ii) Acid Sulfate Soils Management Plan (Department of Environment & Regulation)
- (iii) Updated Transport Assessment Report (City of Swan)



4.5 Local Development Plans

Prior to any subdivision and/or development for all areas shown in the Structure Plan Area as 'LDP Requirement', a Local Development Plan is to be prepared in accordance with Clause 5A.1.15 of LPS17.

In addition, a Local Development Plan may be required by the Western Australian Planning Commission (WAPC) on advice from the City of Swan as a condition of subdivision approval for land within the Structure Plan area.

4.6 Public Open Space

The provision of a minimum of 10% public open space being provided in accordance with the Western Australian Planning Commission's Liveable Neighbourhoods. Public open space is to be provided generally in accordance with Plan 1 and Table 3, with an updated public open space schedule to be provided at the time of subdivision for determination by the Western Australian Planning Commission, upon the advice of the local government. The 10% public open space includes 1.1693ha of unrestricted public open space provided outside of LSP 3A, which is contributed via cash in lieu contributions, likely through the Development Contribution Plan.

4.7 Gas Pipeline Easements

The Dampier Bunbury Natural Gas Pipeline easement being ceded to the Crown and vested with the Department of Lands.

The land comprising the existing Parmelia Gas Pipeline easement shall be contained within private survey-strata developments and limited to use as 'private (communal) open space' as shown on the Structure Plan map (Plan 1).

4.8 Activity Node

The location for the Activity Node identified as 'General Commercial' (Local Centre) is shown on the Structure Plan map with the final land area to be determined at subdivision approval stage. The approximate gross land area of the 'General Commercial' (Local Centre) site is 6,000m². A combined total maximum of 1,900m² net lettable floor (nla) area is permitted for all uses within the Activity Node, with a maximum limit of 1,000m² nla Retail (PLUC 5) floor space permitted. Any Medical Centre use within the 'General Commercial' (Local Centre) is limited to a maximum 900m² nla.

LEGEND

METROPOLITAN REGION SCHEME RESERVE

Other Regional Roads

LOCAL SCHEME RESERVES

Public Utilities - Dampier Bunbury Natural Gas Pipeline Easement

Recreation

ZONES

General Commercial (Local Centre)
(Indicative area subject to subdivision)

Residential R30/40

The allocation of residential densities on the Residential Code Plan shall be in accordance with the following criteria:-

- 1) The R30 code applies as the base code to all lots, with the exception of those lots coded R40 as set out in 2) below.
- 2) The R40 code applies to the following lots:
 - i) lots with a boundary directly abutting Public Open Space; or
 - ii) lots comprising any land that is located within 100m of the Dampier to Bunbury Natural Gas Pipeline easement and/or the Parmelia Gas Pipeline easement when measured at a 90 degree angle from the pipeline easement boundary; or
 - iii) lots identified on the Local Structure Plan 3A map as having a DAP requirement.

OTHER

Temporary Secondary Access
(Indicative subject to detailed design)

Access Roads
(Indicative subject to detailed design)

Laneway
(Indicative subject to detailed design)

Neighbourhood connector

Private (Communal) Open Space
(Parmelia Gas Pipeline Easement)

Park Street Local Structure Plan 3A boundary

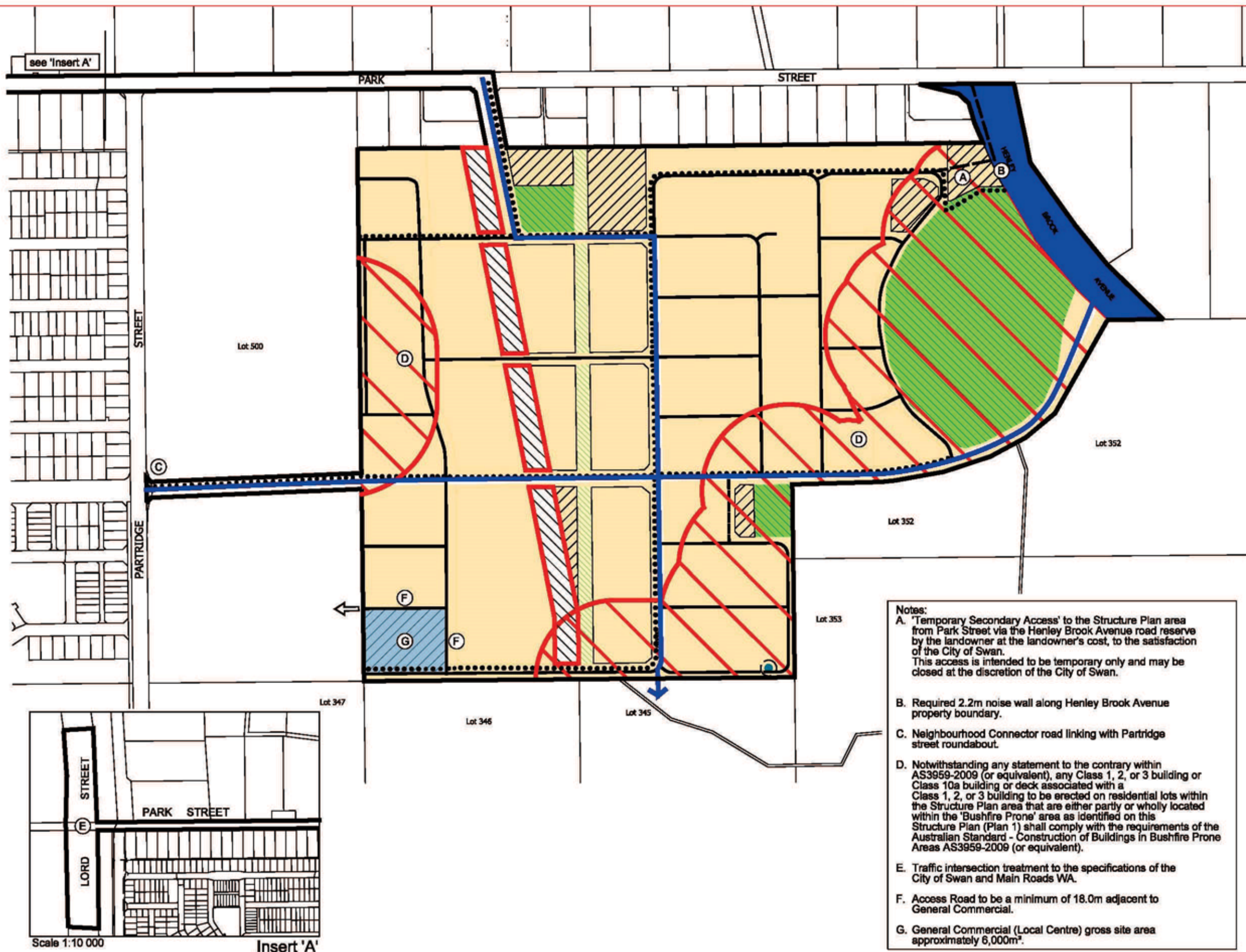
LDP Requirement

Pathway - Dual Use

Temporary Pump Station

10m Odour Buffer
to Pump Station

Bushfire Prone Area
(100m setback from bushfire hazard)



Notes:

- A. 'Temporary Secondary Access' to the Structure Plan area from Park Street via the Henley Brook Avenue road reserve by the landowner at the landowner's cost, to the satisfaction of the City of Swan. This access is intended to be temporary only and may be closed at the discretion of the City of Swan.
- B. Required 2.2m noise wall along Henley Brook Avenue property boundary.
- C. Neighbourhood Connector road linking with Partridge street roundabout.
- D. Notwithstanding any statement to the contrary within AS3959-2009 (or equivalent), any Class 1, 2, or 3 building or Class 10a building or deck associated with a Class 1, 2, or 3 building to be erected on residential lots within the Structure Plan area that are either partly or wholly located within the 'Bushfire Prone' area as identified on this Structure Plan (Plan 1) shall comply with the requirements of the Australian Standard - Construction of Buildings in Bushfire Prone Areas AS3959-2009 (or equivalent).
- E. Traffic intersection treatment to the specifications of the City of Swan and Main Roads WA.
- F. Access Road to be a minimum of 18.0m adjacent to General Commercial.
- G. General Commercial (Local Centre) gross site area approximately 6,000m².

Plan No.: 21004-2

Revision: REV.1.0

Scale: 1:5000@A3

0 50 100 150

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PARK STREET LOCAL STRUCTURE PLAN 3A

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DATE DRAWING: 21/02/2017
DRAWN BY: CML
CHECKED BY: JP

FILE: 121005 Structure Plan 6 348 21004-2.dgn
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PART TWO – EXPLANATORY SECTION

1. Introduction

This Structure Plan has been prepared as an amendment to the Western Australian Planning Commission (WAPC) endorsed *Park Street Local Structure Plan 3A* approved 25 August 2014 (“the approved Structure Plan”).

The approved Structure Plan was prepared prior to the gazettal of the *Planning and Development (Local Planning Schemes) Regulations 2015*. This Structure Plan provides for updates to bring the approved Structure Plan into conformity with Schedule 2 Part 4 ‘Structure Plans’ of the *Planning and Development (Local Planning Schemes) Regulations 2015*, in addition to proposing an amendment to the approved Structure Plan.

Amendment No. 1 to the approved Structure Plan relocates the proposed ‘Activity Node’ from the northern portion of the Structure Plan, opposite a local park, to the southern area of the Structure Plan opposite a primary school site and district open space, within approved *Albion Local Structure Plan 1B*.

As part of the approved Structure Plan, technical reports and planning rationale were provided with the approved Structure Plan documentation. Rather than duplicate this information, which remains relevant (notwithstanding the modifications and updates in this Structure Plan document), the approved Structure Plan should be read in conjunction with this updated Structure Plan report.

The original approved Structure Plan is contained in **Appendix 1**. The following sections provide supplementary updates, details and planning justification for the proposed modification to the approved Structure Plan. Where there is any inconsistency between the approved Structure Plan (2014) and this document, this document prevails.

Subdivision has already substantially commenced and an indicative Staging Plan is provided in **Plan 2** which shows future staging of subdivision. Western Australian Planning Commission conditional subdivision approval has been obtained for the respective future staging areas. The subdivision conditional approvals are generally consistent with this Structure Plan Amendment, except that a separate single lot will need to be created for the Activity Node site.



2. Structure Plan modification

2.1. Relocation of Activity Node

At Section 8.4 of the approved Structure Plan (2014), a potential future 'Activity Node' was identified in the northern portion of the Structure Plan as follows:

"An 'Activity Node' is proposed within LSP 3A as indicatively shown on the Structure Plan Map at the southern end of Arpent Link. It is envisaged that this community activity node would include land uses such as:

- *Private Recreation – Day Spa/Gym and possibly Tennis Court/s;*
- *Convenience Store – similar to a small deli providing daily needs; and*
- *Café – including small alfresco area as a meeting place.*

The above uses could be accommodated within a privately owned and operated community building with a floor area of up to 400m² on a lot of approximately 1,000m² - 1,250m². The final location for the activity node can be determined at the subdivision stage. It is likely that the activity node would be established in the final stages of the LSP 3A subdivision/development."

Given the relocation of the primary school and district open space as provided for in Albion Local Structure Plan 1B for the neighbouring land to the south, the Proponent considers that a better location for the 'Activity Node' would be in the southern portion as shown on the Structure Plan map. The Activity Node at this location would provide for a larger destination node, which would include the compatible land uses of the Activity Node, the primary school and district open space as shown in **Plan 3**.

2.2. Proposed Activity Node Land Uses

The Activity Node will be similar to a small scale local centre servicing the daily needs of the local community within the northern portion of the Albion District Structure Plan. The land uses envisaged include a medical centre, pharmacy (shop) and convenience store/small supermarket on a site approximately 6,000m². The total floor area of the Activity Node shall not exceed 1,900m² net lettable area, with a maximum 1,000m² nla Retail (PLUC 5).

A convenience store/small supermarket would provide for the retail sale of daily convenience goods commonly sold in supermarkets, delicatessens or newsagents and may operate during hours outside of normal trading hours. The convenience store/small supermarket would need to be of sufficient and appropriate size in order to be viable and provide an appropriate level of service for local residents. The convenience store/small supermarket would be strategically located alongside a medical centre and the destination node of the primary school and district open space.

A medical centre would add substantial benefit to the local neighbourhood and northern portion of the Albion District Structure Plan area, by providing an immediate medical and health service within walkable distance to many residents in northern portion of Albion District Structure Plan. These residents are not within a 400m – 800m walking distance to the future district centre proposed in Youle Dean Road.



The medical centre/pharmacy and convenience store/small supermarket will also be located adjoining a daily destination for many parents, those having children attending the local primary school. The uses within the Activity Node will provide an additional convenience both for users of the primary school, district open space and local residents.

It is envisaged that the Activity Node could comprise the following:

Table 1. Example of General Commercial (Local Centre) Development

Land Use	Total Centre Floor Area (nla)	Centre Proportion : Retail PLUC 5 (nla)
Medical Centre	900m ²	-
Shop (Pharmacy)	200m ²	200m ²
Restaurant (Café)	100 – 150m ²	100 – 150m ²
Convenience Store/Small Supermarket (Retailing daily convenience products)	600 - 650m ²	600 - 650m ²
Total Area	1,800 – 1,900m²	900 – 1,000m²
Total Maximum nla permitted	1,900m ²	1,000m ²

2.3. Commercial Sustainability Assessment

A Commercial Sustainability Assessment (**Appendix 2**) has been undertaken that provides support for the proposed location, land uses and size of the General Commercial (Local Centre) or 'Activity Node' shown on the Structure Plan. The Commercial Sustainability Assessment demonstrates that:

- The proposed 'Activity Node' will provide a similar function as a small Local Centre;
- There has been an unexpected increase in the forecast ultimate population for the Albion District Structure Plan. The proposed 'Activity Node' will provide additional commercial support for the population in the northern part of Albion DSP;
- The central location of the 'Activity Node' in the northern portion of the DSP provides for a higher percentage of households being able to access the proposed local centre on foot (i.e. 400m walkable catchment) see **Plan 4**;



- The primary school and district open space attractors will support the viability of the 'Activity Node';
- The provision of a convenience (small scale supermarket) store, pharmacy and medical centre in the central northern area of Albion DSP will facilitate a level of service and accessibility to goods and services to be reasonably expected by the local community;
- The proposed 'Activity Centre' services to be provided is typical and common in Perth Metropolitan Region. The nature of goods and services will fulfil daily sporadic household needs complementing the higher order Brabham District Activity Centre, which provides a much greater range of goods with its full-scale supermarkets;
- The demand assessment for medical services revealed that a medical centre in the northern portion of Albion DSP is warranted based on the present (and future) population growth;
- The demographic composition of households in Brabham is characterised by a large proportion of young families with children. Existing and future residents will benefit from the medical centre, pharmacy and convenience store; and
- The proposed 'Activity Node' can co-exist with the existing and planned Local Centres and District Centre provided for in the Albion District Structure Plan.

The maximum floor area for the 'Activity Node' would be 1,900m² nla. The size of the 'Activity Node' would be similar to a local centre, servicing mainly the local residents within a 400m – 800m walkable catchment. The primary land use within the centre would be 'Medical Centre', which is not considered Retail PLUC 5 floor space under WAPC State Planning Policy 4.2.

2.4. Proximity to Gas Pipelines

Preliminary investigations with the operators of the Dampier to Bunbury Natural Gas Pipeline and Parmelia Gas Pipeline indicate that a 'Medical Centre' and 'Shop' are (T1) classification land uses, which can be located within 200m of the gas pipeline corridor.

A Pipeline Risk Assessment (AS2885) would be required to support (T1) classification land uses. It is noted that a Pipeline Risk Assessment has already been undertaken for the approved Structure Plan, which provides for (T1) residential land use abutting both gas pipeline corridors. Accordingly proposed location of the proposed medical centre, convenience store and pharmacy (shop) uses as shown within the 'Activity Node' on the Structure Plan would be considered suitable.



2.5. Access & Traffic

As provided for in the Structure Plan, the proposed 'Activity Node' will ultimately front Palfrey Road, which connects to Partridge Street in the west. Palfrey Road is a local access street with an 18m width road reserve fronting the primary school then reduced to 15m width road reserve east of Parmelia Gas Pipeline. The Activity Node will front the 18m width road reserve section of Palfrey Street, being the northern road abutting the primary school site.

The full construction of Palfrey Street is likely to occur either prior to, or as part of the delivery of, the primary school site to Department of Education, however earlier delivery of the road could also occur.

Currently the unconstructed and undedicated portion of Palfrey Street is contained within the balance land of Ariela Estate and Avonlee Estate. Each Proponent (by mutual agreement) can potentially cede and provide for the construction of the relevant portions of Palfrey Street as part of subdivision, in accordance with respective approved Structure Plans, to necessitate the completion of Palfrey Street. Ultimately the planned completion of Palfrey Street will provide suitable access from Partridge Street to the Activity Node.

The Structure Plan road network is considered satisfactory to support the proposed 'Activity Node' and the anticipated volume of traffic and movement is not considered to pose any adverse or significant impacts on the local access streets.

At the Development Approval stage, when a specific development proposal would be put forward, a Traffic Study would be required to justify any development in terms of traffic safety, addressing location of access connections with existing roads, traffic sightlines, movement, parking management and pedestrian/cyclist movement.

2.6. Design and Siting

The planned future siting and design of the Medical Centre will ensure that residential amenity is not compromised. It is envisaged that the Activity Node primary orientation would be towards the primary school and district open space fronting Palfrey Street. However the final design will be determined at the Development Approval stage.

The preparation and approval of a Local Development Plan would be required to guide decision making at the development approval stage. The LDP could address matters relating to access, interface with adjoining neighbouring land uses and abutting streetscapes and orientation of development. The Activity Node as identified on the Structure Plan informs all key stakeholders and the community as to the potential planned future uses in this location.

2.7. Staging and Delivery

The Proponent considers that there is satisfactory demand from existing surrounding development for the establishment of a medical centre, convenience store and pharmacy as an initial stage of development. The proposed land uses within the Activity Node can potentially be delivered once the site has been subdivided and development approval has been issued. As stated above and referred to in Plan 2, the Activity Node site would be created in the later stages of subdivision and would also be subject to the construction and dedication of the balance of Palfrey Street connecting to Partridge Street. This would provide access to the Activity Node from the wider existing and planned street network.



3. Key Planning Framework

In addition to the Planning Framework outlined in the approved Structure Plan (refer to Appendix 1), the following additional planning framework is referred to for the proposed Structure Plan Amendment. It is considered that an amendment to the Albion District Structure Plan to provide for the Activity Node is not required, given that the proposed Activity Node is not a substantial material change and will not compromise the objectives of the District Structure Plan.

REGIONAL & SUB-REGIONAL PLANNING

3.1. State Planning Policy 4.2 'Activity Centres for Perth and Peel'

SPP 4.2 provides guidance in decision making in relation to location, siting and development of commercial centres within the overarching activity centre hierarchy of Directions 2031. The proposed Activity Node and its relocation within the Structure Plan will have no adverse impact on existing and planned activity centres.

The location and size of the Activity Node within the Structure Plan is considered appropriate and consistent with SPP 4.2, in that:

- Activity Node will form part of a destination node by co-locating with the primary school and district open space, thereby improving the potential interaction by users;
- The 400m catchment around the Activity Node contains a mix of R30 & R40 existing and planned development. This is consistent with SPP 4.2 which encourages higher density housing within 400m of activity centres;
- The Activity Node land uses will provide for diversity of land uses within the neighbourhood and create employment opportunities by improving access to jobs and encouraging employment self-sufficiency within the Albion District Structure Plan; and
- The size of the General Commercial (Local Centre) limited to a maximum of 1,000m² PLUC 5 (i.e. not exceeding 1,500m² PLUC 5) net lettable floor area, will not have a significant impact (or compromising) the viability of the planned future district centre at Youle Dean Road.

LOCAL PLANNING

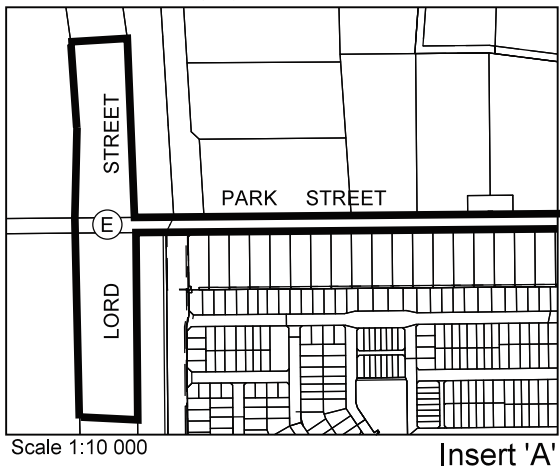
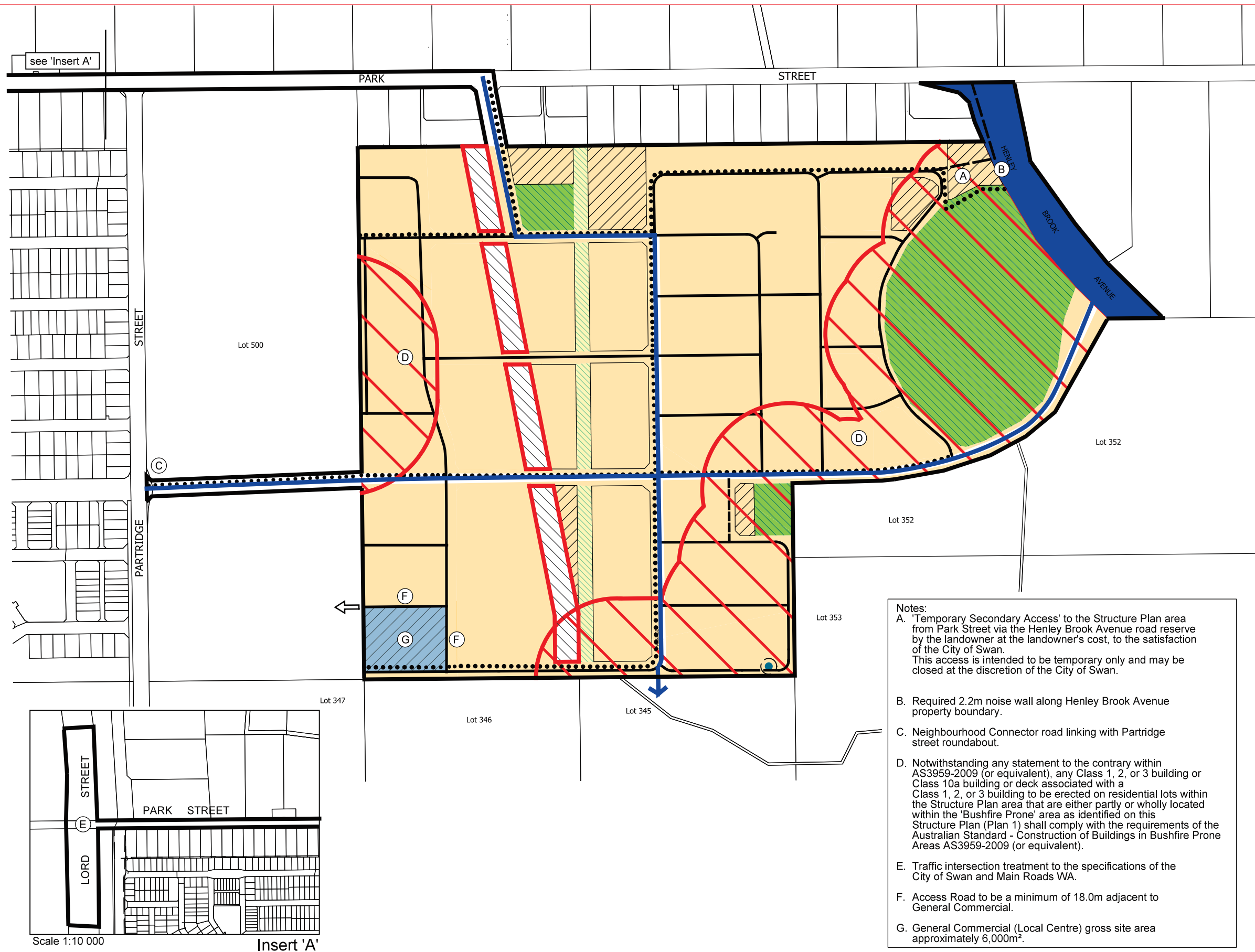
3.2. City of Swan Draft Local Commercial and Activity Centres Strategy 2016

The Draft Strategy identifies the future planned district centre in Albion at Youle Dean Road. As stated above, the size and location of the Activity Node in the Structure Plan will not impact the sustainability of the Albion district centre. It is noted that the planned local centre to the west in (Whiteman Edge Estate) Fairmount Boulevard has not amounted to establishment of a range of land uses that can provide for retail sale of daily commodities and/or other services, including health. The proposed Activity Node in the Structure Plan can provide for a more central local centre type of development that can provide for retail sale of daily commodities and/or other services, including medical and health services.



Plans

- LEGEND**
- METROPOLITAN REGION SCHEME RESERVE**
- Other Regional Roads
- LOCAL SCHEME RESERVES**
- Public Utilities - Dampier Bunbury Natural Gas Pipeline Easement
 - Recreation
- ZONES**
- General Commercial (Local Centre)
(Indicative area subject to subdivision)
 - Residential R30/40
The allocation of residential densities on the Residential Code Plan shall be in accordance with the following criteria:-
 - The R30 code applies as the base code to all lots, with the exception of those lots coded R40 as set out in 2) below.
 - The R40 code applies to the following lots:
 - lots with a boundary directly abutting Public Open Space; or
 - lots comprising any land that is located within 100m of the Dampier to Bunbury Natural Gas Pipeline easement and/or the Parmelia Gas Pipeline easement when measured at a 90 degree angle from the pipeline easement boundary; or
 - lots identified on the Local Structure Plan 3A map as having a DAP requirement.
- OTHER**
- Temporary Secondary Access
(Indicative subject to detailed design)
 - Access Roads
(Indicative subject to detailed design)
 - Laneway
(Indicative subject to detailed design)
 - Neighbourhood connector
 - Private (Communal) Open Space
(Parmelia Gas Pipeline Easement)
 - Park Street Local Structure Plan 3A boundary
 - LDP Requirement
 - Pathway - Dual Use
 - Temporary Pump Station
 - 10m Odour Buffer to Pump Station
 - Bushfire Prone Area
(100m setback from bushfire hazard)



- Notes:**
- A. 'Temporary Secondary Access' to the Structure Plan area from Park Street via the Henley Brook Avenue road reserve by the landowner at the landowner's cost, to the satisfaction of the City of Swan. This access is intended to be temporary only and may be closed at the discretion of the City of Swan.
 - B. Required 2.2m noise wall along Henley Brook Avenue property boundary.
 - C. Neighbourhood Connector road linking with Partridge street roundabout.
 - D. Notwithstanding any statement to the contrary within AS3959-2009 (or equivalent), any Class 1, 2, or 3 building or Class 10a building or deck associated with a Class 1, 2, or 3 building to be erected on residential lots within the Structure Plan area that are either partly or wholly located within the 'Bushfire Prone' area as identified on this Structure Plan (Plan 1) shall comply with the requirements of the Australian Standard - Construction of Buildings in Bushfire Prone Areas AS3959-2009 (or equivalent).
 - E. Traffic intersection treatment to the specifications of the City of Swan and Main Roads WA.
 - F. Access Road to be a minimum of 18.0m adjacent to General Commercial.
 - G. General Commercial (Local Centre) gross site area approximately 6,000m².





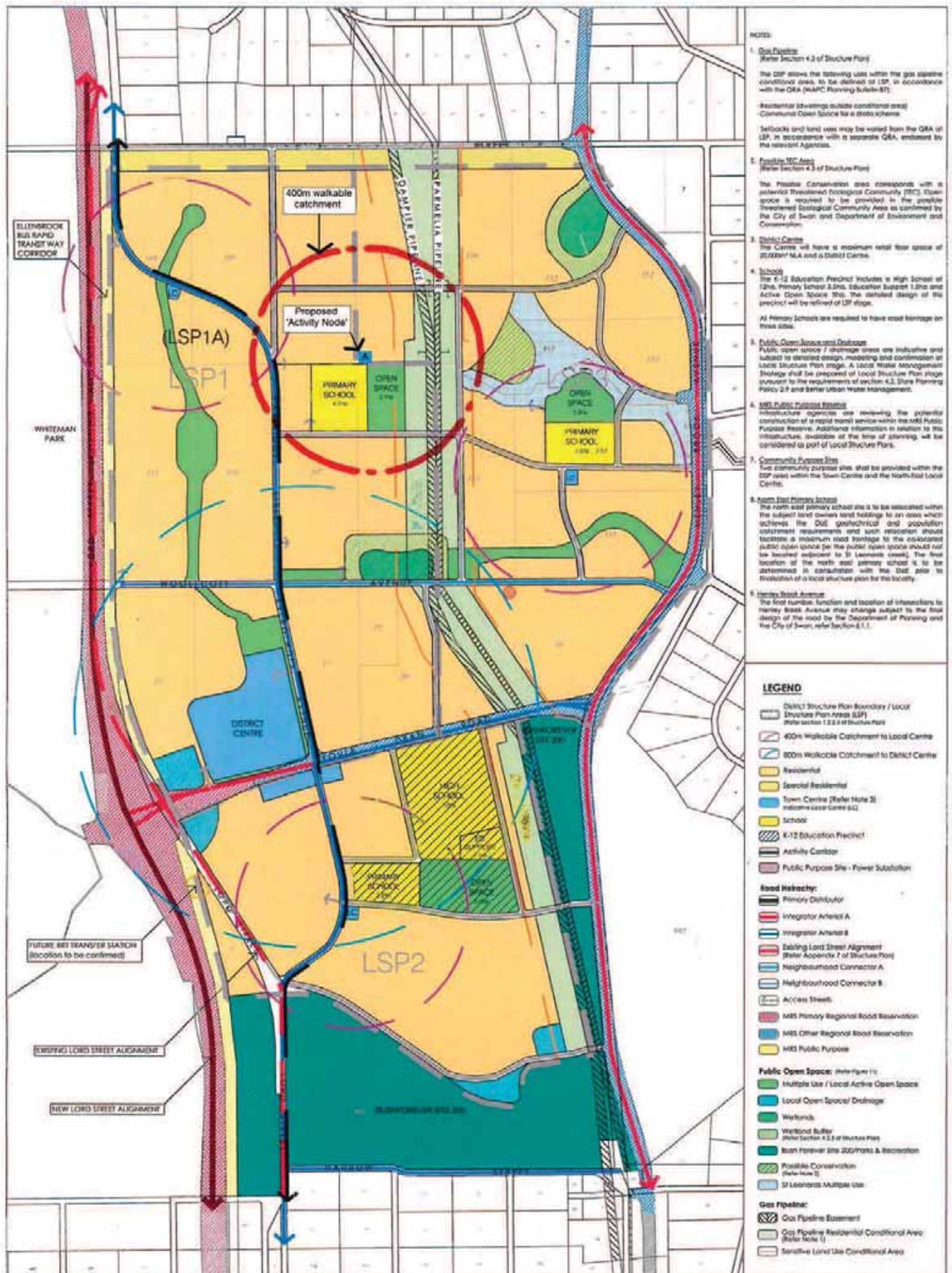
Plan No. : 21004-1
 Revision : REV.0
 Scale : 1:7500@A3
 Date : 1 March 2017



Activity Node Context Plan


veris

Plan 3





Appendices



Appendix 1

Original Approved 2014 Park Street LSP 3A

PARK STREET LOCAL STRUCTURE PLAN 3A

LOTS 9201, 9000 & PT LOT 350 PARK STREET AND PT LOT 352 MURRAY ROAD, BRABHAM

REVISION 4.0
MAY 2014



PARK STREET LOCAL STRUCTURE PLAN 3A

LOTS 9201, 9000 & PT LOT 350 PARK STREET AND
PT LOT 352 MURRAY ROAD, BRABHAM

PREPARED FOR
TERRANOVIS PTY LTD

BY



MAY 2014 (REV 4.0)

CERTIFICATION – LOCAL STRUCTURE PLAN 3A

This Local Structure Plan is prepared under the provisions of 'Special Use 10 – Albion' zone of the City of Swan Local Planning Scheme No. 17.

Approved by resolution of the Council of the City of Swan on 16 October 2013 and the seal of the City of Swan was pursuant to the Council's resolution hereto affixed in the presence of:



MAYOR



CHIEF EXECUTIVE OFFICER

Adopted by the Western Australian Planning Commission on 25 AUGUST 2014



being an officer of the Commission duly authorised by the Commission pursuant to section ²⁴~~57~~ of the Western Australian Planning Commission Act 1985.

Table of Modifications

Modification No.	Description of modification	Date endorsed by council	Date endorsed by WAPC
Modification 1	Modifications as per Council Recommendations		

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PLANS

Plan	Title
1	Park Street Local Structure Plan 3A
2	Location Plan
3	Cadastral Plan
4	Context Analysis (Existing)
5	Context Analysis (Future)
6	MRS Zoning
7	Swan Urban Growth Corridor Sub-Regional Structure Plan
8	Local Zoning
9	Albion District Structure Plan
10	Walkable Catchment Area
11	Existing Vegetation Assessment
12	Bushfire Hazard Assessment
13	Bushfire Management Plan
14	Integration with Adjoining Landowners
15	Public Open Space Plan
16	Staging Plan

TECHNICAL APPENDICES INDEX

Appendix No.	Document Title	Approval Required or Supporting Document only	Approval Status	Approval Agency
1	Approved Early Release Subdivision Plans	Supporting Document	N/A	N/A
2	Adjoining Landowner Consultation Letter	Supporting Document	N/A	N/A
3	Henley Brook Botanical Survey/Desktop Study (Lots 349 & 350)	Supporting Document	N/A	N/A
4	Flora & Vegetation Survey (Lot 9000)	Supporting Document	N/A	N/A
5	Flora & Vegetation Survey (Pt Lot 352)	Supporting Document	N/A	N/A
6	Local Water Management Strategy (Lots 349 & 350)	Approval Required	Approved	Department of Water
7	Local Water Management Strategy (Lot 9000 & Pt Lot 352)	Approval Required	Approved	Department of Water
8	Wetland Management Plan	Approval Required	Not yet approved	Department of Environment & Regulation (DER)
9	Acid Sulfate Soils Management Plan	Approval Required	Not yet approved	DER, City of Swan
10	Quantitative Risk Assessment of Gas Pipelines	Supporting Document	N/A	N/A
11	Aboriginal Heritage Studies	Supporting Document	N/A	N/A
12	Acoustic Assessment	Supporting Document	N/A	N/A
13	Reticulated Sewer and Water Plans	Supporting Document	N/A	N/A
14	Engineering Servicing Report	Supporting Document	N/A	N/A
15	Transport Assessment	Supporting Document	N/A	N/A
16	Addendum to Transport Assessment	Supporting Document	N/A	N/A

PART ONE (STATUTORY SECTION)

Element of Structure Plan	Statutory Provision to be Applied
1. Structure Plan Area	This Structure Plan shall apply to Park Street Local Structure Plan 3A (Plan 1) being the land contained within the Structure Plan boundary as shown on the Structure Plan Map (Plan 1).
2. Interpretation and Relationship with Scheme	<p>The Structure Plan Map (Plan 1) outlines zones and reserves applicable within the structure plan area. The zones and reserves designated under this structure plan apply to the land within it as if the zones and reserves were incorporated into the Scheme.</p> <p>Pursuant to clause 5A.1.12 of the Scheme:</p> <ul style="list-style-type: none"> i) Any provision, standard or requirement specified under Part One of this Structure Plan shall have the same force and affect as if it were a provision, standard or requirement of the Scheme. In the event of there being any variations or conflict between the provisions, standards or requirements of the Scheme and the provisions, standards or requirements of this structure plan, then the provisions, standards or requirements of the Scheme shall prevail; ii) Any other provision, standard or requirement of Part One of the Structure Plan that is not otherwise contained in the Scheme, shall apply to the structure plan area as though it is incorporated into the Scheme, and shall be binding and enforceable to the same extent as if part of the Scheme; and, <p>Part Two of this Structure Plan and all appendices are to be used as a reference only to clarify and guide interpretation and implementation of Part One.</p>
2. Operation	In accordance with clause 5A.1.12.1 of the Scheme, this structure plan shall come into operation when it is endorsed by the Western Australian Planning Commission (WAPC) pursuant to clause 5A.1.10.2 of the Scheme.
3. Use Class Permissibility	<p>Land use permissibility within the Structure Plan area shall be in accordance with the respective zone or reserve under the Scheme. Except for the following:</p> <ul style="list-style-type: none"> i) The following land uses are classified as 'D' uses in the 'Residential' zone: <ul style="list-style-type: none"> “Residential Sales Office”: A building of either temporary or permanent nature, and incidental car parking, used directly in relation to the sale of land and dwellings in new residential estates. “Recreation – Private” “Convenience Store”

<p>4. Residential</p>	<p><u>Residential Density</u></p> <ul style="list-style-type: none"> i) Plan 1 defines the split residential density codes that apply to specific areas within the Structure Plan. Lot specific residential densities, within the defined split coding, are to be subsequently assigned in accordance with a Residential Code Plan approved by the Western Australian Planning Commission. ii) A Residential Code Plan is to be submitted at the time of subdivision to the Western Australian Planning Commission and shall indicate the R-Code applicable to each lot within the subdivision and shall be consistent with the Structure Plan, and the split coding identified on Plan 1 and the locational criteria. iii) The Residential Code Plan is to include a summary of the proposed dwelling yield of the subdivision. iv) Approval of the Residential Code Plan shall be undertaken at the time of the determination of the subdivision application by the Western Australian Planning Commission. The approved Residential Code Plan shall then form part of the Structure Plan and shall be used for the determination of future development applications. v) Variations to the Residential Code Plan will require further approval of the Western Australian Planning Commission, with a revised Residential Code Plan submitted generally consistent with the approved plan of subdivision issued by the Western Australian Planning Commission. The revised Residential Code Plan shall be consistent with the split coding identified on Plan 1 and the locational criteria. vi) A revised Residential Code Plan, consistent with (v) above will replace, wholly or partially, the previously approved residential density code plan, and shall then form part of the Structure Plan as outlined in (iv) above. vii) Residential Code Plans are not required if the Western Australian Planning Commission considers that the subdivision is for one or more of the following:- <ul style="list-style-type: none"> • the amalgamation of lots; • consolidation of land for “superlot” purposes to facilitate land assembly for future development; • the purposes for facilitating the provision of access, services or infrastructure; or • land which by virtue of its zoning or reservation under the Structure Plan cannot be developed for residential purposes. <p><u>Locational Criteria</u></p> <p>The allocation of residential densities on the Residential Code Plan shall be in accordance with the following criteria:-</p> <ul style="list-style-type: none"> 1) The R30 code applies as the base code to all lots, with the exception of those lots coded R40 as set out in 2) below. 2) The R40 code applies to the following lots: <ul style="list-style-type: none"> i) lots with a boundary directly abutting Public Open Space; or
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	<p>ii) lots comprising any land that is located within 100m of the Dampier to Bunbury Natural Gas Pipeline easement and/or the Parmelia Gas Pipeline easement when measured at a 90 degree angle from the pipeline easement boundary; or</p> <p>iii) lots identified on the Local Structure Plan 3A map as having a DAP requirement.</p> <p>Subdivisions are to achieve a residential density target of 22 dwellings per site hectare in accordance with the Albion District Structure Plan. Unless specified in a Detailed Area Plan, all residential development is subject to the provisions of the Residential Design Codes.</p>
5. Development Contribution Arrangements	<p>The Structure Plan Area is within Development Contribution Area 1 (DCA1) as identified in Schedule 13 of the City of Swan Local Planning Scheme No. 17 (LPS17). Under LPS17 a Development Contribution Plan applies to the Structure Plan Area and should be read in conjunction with this Structure Plan.</p> <p>The owner is to contribute towards key service and community infrastructure within the latest Development Contribution Plan for DCA1.</p> <p>Each landowner will be required to make a cost contribution payment based on the area that they develop in accordance with the contribution rate in the DCP in DCA1. When liable payment by a landowner (or otherwise) is made to the satisfaction of the local authority pursuant to LPS17 and the DCP, the local authority shall provide certification in writing to the landowner of such discharge, or partial discharge where applicable, as requested by the landowner.</p> <p>The portion of Henley Brook Avenue included within Lot 9000 Park Street of the Structure Plan is to be delivered as an item of shared infrastructure pursuant to the approved DCP.</p>
6. Limitations or restrictions affecting subdivision and/or development	<p><u>Development adjacent to Henley Brook Avenue</u></p> <p>To address the WAPC noise limits, proposed residential development adjacent to Henley Brook Avenue shall require a noise wall to a minimum height of 2.2 metres. The wall is to be constructed on the boundary (refer WAPC Ref: 138046 Condition 32).</p> <p><u>Temporary Wastewater Pumping Station & Buffer</u></p> <p>The pump station and associated 10.0m buffer shall be retained as a single lot, with no development within this lot occurring until the temporary pumping station is fully removed to the satisfaction of the local authority and Water Corporation. A notification under Section 70A of the Transfer of Land Act 1983 is to be placed on title advising to this effect.</p> <p><u>Fire Management</u></p> <p>A Fire Management Plan will be required to be prepared by the developer, and approved by the local authority and Fire & Emergency Services (FESA) as a condition of subdivision approval as deemed necessary. This will include the responsibility of the developer to register any relevant notification on title under Section 70A of the Transfer of Land Act 1983.</p>

	<p><u>Road Network and Access</u></p> <p>In order to accommodate further residential development within the LSP3A area, the Western Australian Planning Commission (WAPC), on advice from the City of Swan, may require as a condition of subdivision approval for the creation of future lot/s within the Structure Plan area:</p> <ul style="list-style-type: none"> (i) The construction of a dual-lane roundabout at the intersection of Park Street and Lord Street in the location shown on the Structure Plan map (Plan 1) by the landowner at the landowner's cost, to the satisfaction of the City of Swan and Main Roads WA. Otherwise, the landowner is to make satisfactory arrangements with the City of Swan for the full cost of construction of a dual-lane intersection at the intersection of Park Street and Lord Street in the location shown on the Structure Plan map (Plan 1), to the satisfaction of the City of Swan and Main Roads WA; and, (ii) The construction of a 'Temporary Secondary Access' to the Structure Plan area from Park Street via the Henley Brook Avenue road reserve as depicted on the Structure Plan map (Plan 1) by the landowner at the landowner's cost, to the satisfaction of the City of Swan. This access is intended to be temporary only and may be closed at the discretion of the City of Swan. <p>In order to accommodate full residential development of the LSP3A area, the Western Australian Planning Commission (WAPC), on advice from the City of Swan, may require as a condition of subdivision approval for the creation of any lot/s that will cause the total number of lots approved for subdivision within the Structure Plan area to exceed 300:</p> <ul style="list-style-type: none"> (iii) The upgrade of that portion of Park Street adjacent to Lot 500 Park Street, Brabham to the satisfaction of the City of Swan. <p><u>Reports/Strategies Required Prior to Subdivision</u></p> <p>Prior to the lodgement of a subdivision application to the WAPC, the following management plans are to be prepared, as applicable, and approved to the satisfaction of the relevant authority and provided with the application for subdivision:</p> <ul style="list-style-type: none"> (i) Wetland Management Plan (Department of Environment & Regulation / City of Swan) (ii) Acid Sulfate Soils Management Plan (Department of Environment & Regulation) (iii) Updated Transport Assessment Report (City of Swan)
7. Detailed Area Plan/s Requirements	<p>Prior to any subdivision and/or development for all areas shown in the Structure Plan Area as 'DAP Requirement', a Detailed Area Plan is to be prepared in accordance with Clause 5A.1.15 of LPS17.</p> <p>In addition, a Detailed Area Plan may be required by the Western Australian Planning Commission (WAPC) on advice from the City of Swan as a condition of subdivision approval for land within the Structure Plan area.</p>

8. Public Open Space Provision	The provision of a minimum of 10% public open space being provided in accordance with the Western Australian Planning Commission's Liveable Neighbourhoods. Public open space is to be provided generally in accordance with Plan 1 and Table 3, with an updated public open space schedule to be provided at the time of subdivision for determination by the Western Australian Planning Commission, upon the advice of the local government. The 10% public open space includes 1.1693ha of unrestricted public open space provided outside of LSP 3A, which is contributed via cash in lieu contributions, likely through the Development Contribution Plan.
9. Gas Pipeline Easements	<p>The Dampier Bunbury Natural Gas Pipeline easement being ceded to the Crown and vested with the Department of Lands.</p> <p>The land comprising the existing Parmelia Gas Pipeline easement shall be contained within private survey-strata developments and limited to use as 'private (communal) open space' as shown on the Structure Plan map (Plan 1).</p>

LEGEND

METROPOLITAN REGION SCHEME RESERVE

Other Regional Roads

LOCAL SCHEME RESERVES

Public Utilities - Dampier Bunbury Natural Gas Pipeline Easement

Recreation

ZONES

Residential R30/40

The allocation of residential densities on the Residential Code Plan shall be in accordance with the following criteria:-

- 1) The R30 code applies as the base code to all lots, with the exception of those lots coded R40 as set out in 2) below.
- 2) The R40 code applies to the following lots:
 - i) lots with a boundary directly abutting Public Open Space; or
 - ii) lots comprising any land that is located within 100m of the Dampier to Bunbury Natural Gas Pipeline easement and/or the Parmelia Gas Pipeline easement when measured at a 90 degree angle from the pipeline easement boundary; or
 - iii) lots identified on the Local Structure Plan 3A map as having a DAP requirement.

OTHER

Temporary Secondary Access (Indicative subject to detailed design)

Access Roads (Indicative subject to detailed design)

Laneway (Indicative subject to detailed design)

Neighbourhood connector

Private (Communal) Open Space (Parmelia Gas Pipeline Easement)

Park Street Local Structure Plan 3A boundary

DAP Requirement

Pathway - Dual Use

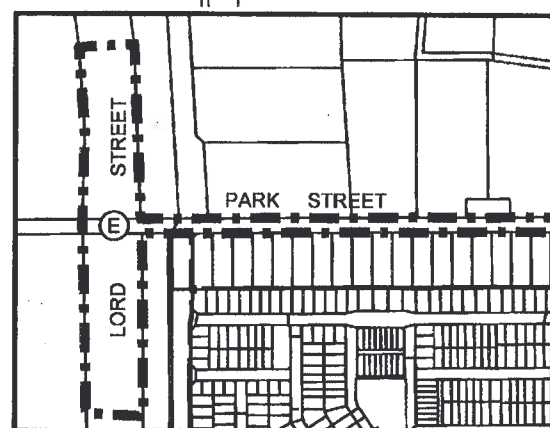
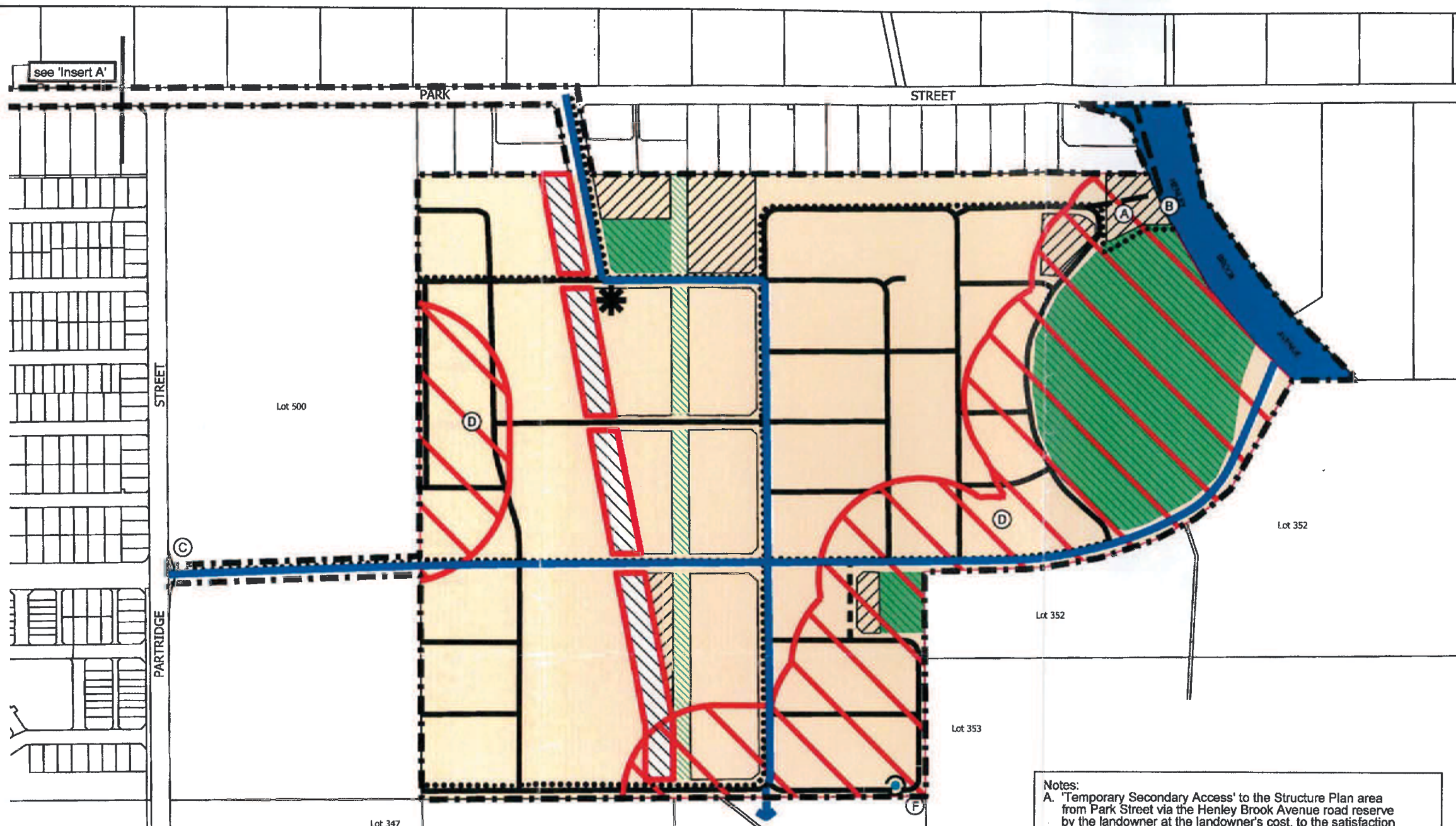
Temporary Pump Station

10m Odour Buffer to Pump Station

Activity Node

Bushfire Prone Area (100m setback from bushfire hazard)

see 'Insert A'



Scale 1:10 000

Insert 'A'

CITY of SWAN
APPROVED STRUCTURE PLAN

No: SP17-023

Date: 16/10/13

Manager Statutory Planning

Notes:

A. 'Temporary Secondary Access' to the Structure Plan area from Park Street via the Henley Brook Avenue road reserve by the landowner at the landowner's cost, to the satisfaction of the City of Swan. This access is intended to be temporary only and may be closed at the discretion of the City of Swan.

B. Required 2.2m noise wall along Henley Brook Avenue property boundary.

C. Neighbourhood Connector road linking with Partridge street roundabout.

D. Notwithstanding any statement to the contrary within AS3959-2009 (or equivalent), any Class 1, 2, or 3 building or Class 10a building or deck associated with a Class 1, 2, or 3 building to be erected on residential lots within the Structure Plan area that are either partly or wholly located within the 'Bushfire Prone' area as identified on this Structure Plan (Plan 1) shall comply with the requirements of the Australian Standard - Construction of Buildings in Bushfire Prone Areas AS3959-2009 (or equivalent).

E. Traffic intersection treatment to the specifications of the City of Swan and Main Roads WA.



Plan No. : 15753-11

Revision : REV.8

Scale : 1:5000@A3

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This plan must not be reproduced without the permission of the City of Swan. All dimensions and areas are subject to survey.

133 Scarborough Beach Road Mount Hawthorn WA 6010 www.whe.ans.com.au

CITY of SWAN
8 JUN 2015
RECEIVED

DEPARTMENT OF PLANNING

- 4 SEP 2014

FILE SPN/0409

PARK STREET LOCAL STRUCTURE PLAN 3A
BRABHAM
Plan 1

DATE DRAWN: 27/05/2014
DRAWN BY: Cdel
CHECKED BY: JP
FILE: 121005 Structure Plan & 348.dgn
V DATUM: AHD
H DATUM: MGA94 (50)

TOWN PLANNING
whelans

PART TWO (EXPLANATORY SECTION)

1.0 INTRODUCTION

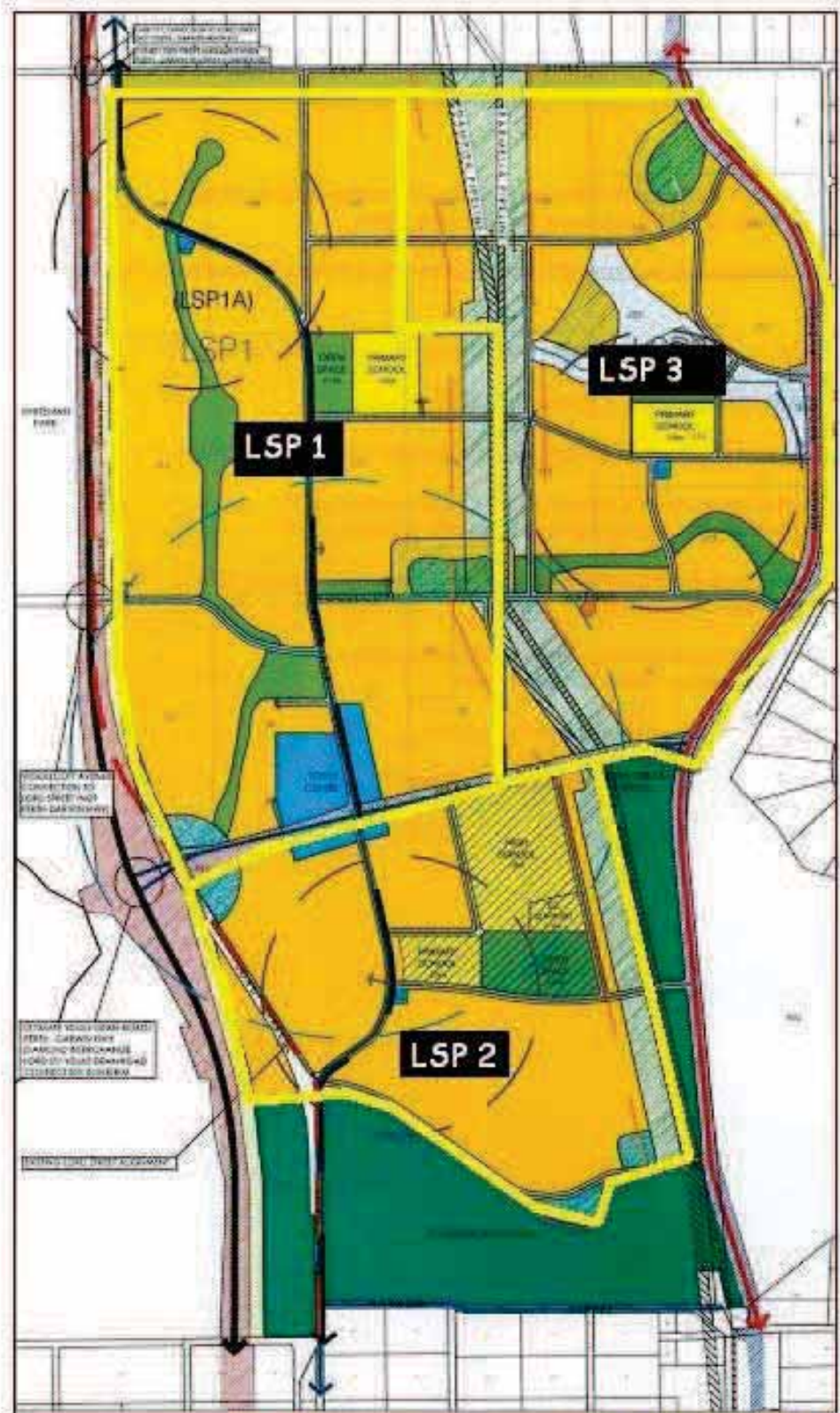
The Park Street Local Structure Plan 3A (**Plan 1 – Park Street Local Structure Plan 3A**) has been prepared by Whelans Town Planning (based on previous structure planning information provided by Cardno) for Terranovis Pty Ltd on behalf of the landowners:

- Sandhurst Trustees Ltd, the proprietors of Lot 9201 (formerly Lots 349 & 350) Park Street, Brabham; and
- Batson & Hoar Pty Ltd, the proprietors of Lot 9000 (formerly Lot 351) Park Street, Brabham

The Park Street Local Structure Plan 3A (LSP 3A) also includes a portion of Lot 352 Murray Road, Brabham, which is in ownership of the Department of Housing. These landholdings comprise the [“subject site”] and is located immediately south of Park Street and to the west of the proposed Henley Brook Avenue. **Plan 2 – Location Plan** provides an indication of the location of the subject site relative to the Perth Metropolitan area. **Plan 3 – Cadastral Plan** shows the lot boundaries of the subject site.

The subject site forms part of the Albion District Structure Plan (ADSP) which was endorsed by the Western Australian Planning Commission on 15 December 2010. The ADSP has been divided into three Local Structure Plan areas, being LSP 1, LSP 2 and LSP 3. The subject site is located within the LSP 3 area as shown in **Figure 1A – Albion District Structure Plan LSP Areas**. The ADSP provides a land use and reporting framework for future local structure planning and subdivision approvals. The proposed Park Street Local Structure Plan 3A comprises of a portion of the LSP 3 area. The design of LSP 3A, including provision of facilities and infrastructure, is consistent with LSP 3 area outlined in the ADSP. As identified in **Figure 1B - Sub-Regional Structure Plan for the Swan Urban Growth Corridor**, LSP 3A is the first stage of development of the LSP 3 area.

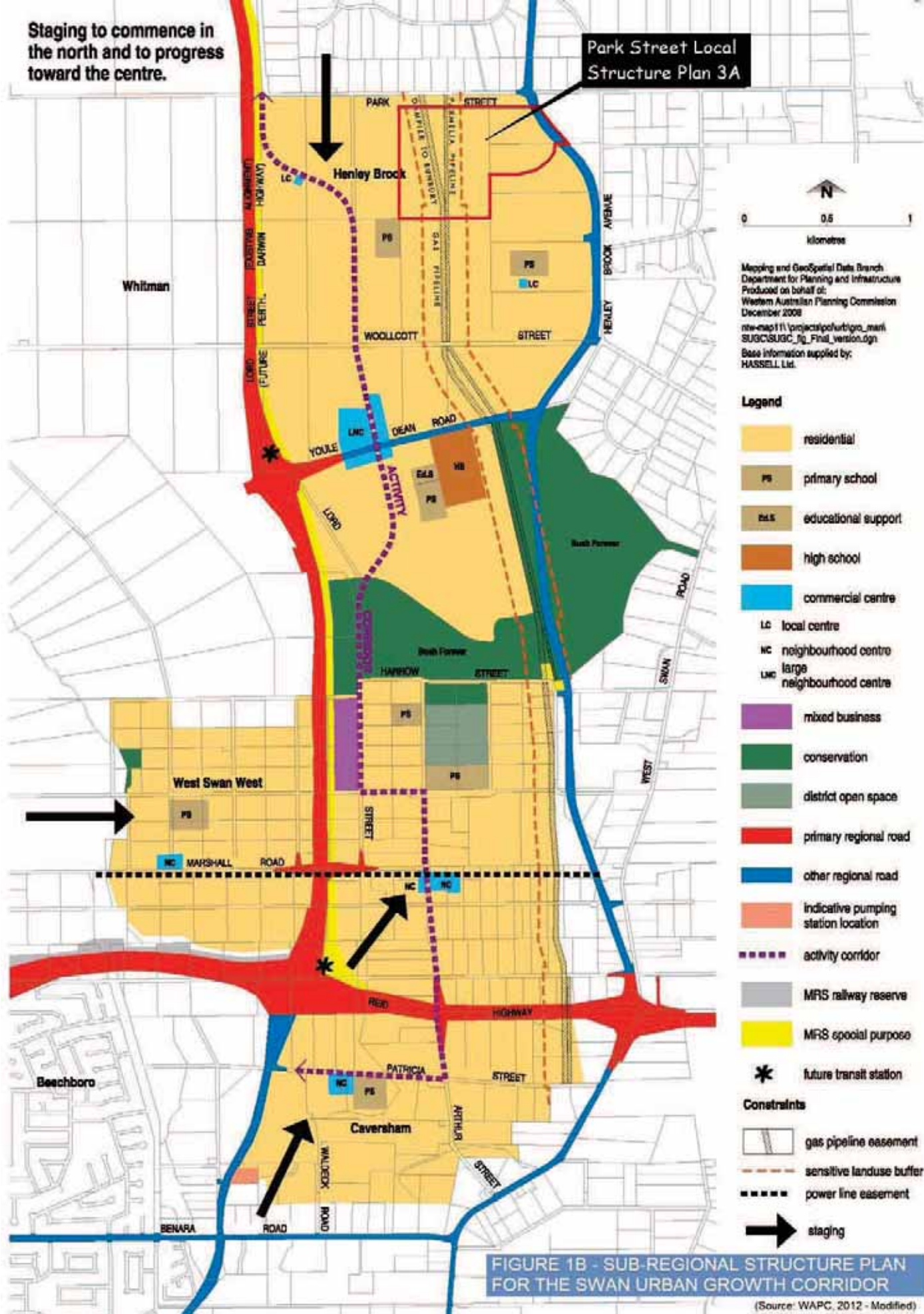
The proposed Park Street Local Structure Plan 3A provides a framework for the future development of the subject site and provides a context for future subdivision applications. This report demonstrates that the proposed LSP 3A will not compromise the proper and orderly planning for the balance of the LSP 3 area. LSP 3A has been prepared in consultation with the Department of Housing, who represents the predominant landowner in the balance LSP 3 area. This report provides details of the subject site, including its location, physical characteristics and context with adjacent and surrounding landholdings. Key areas within the LSP 3A are also addressed, including the Resource Enhancement Wetland in the eastern portion of the subject site. A Wetland Management Plan has been prepared for the whole of the wetland area and buffer to ensure that development will not have a detrimental impact on the environmental integrity of the wetland. LSP 3A also provides a guide as to the staged timing of development within the broader ADSP area and the WAPC’s Sub-Regional Structure Plan for the Swan Urban Growth Corridor.



(Source: CLE, 2010 - Modified)

Staging to commence in the north and to progress toward the centre.

Park Street Local Structure Plan 3A



2.0 BACKGROUND

2.1 *Park Street Local Structure Plan (2007)*

A Local Structure Plan for the urban zoned portions of Lots 9000 & 9201 (formerly Lots 349 & 350) Park Street was prepared by Cardno and submitted with the City of Swan in December 2007. The LSP was never considered by officers at the City and subsequent Officer level advice was provided indicating that assessment of the LSP would be deferred. Assessment of the LSP was pending the substantial completion of the Sub-Regional Structure Plan for the Swan Urban Growth Corridor. At the time when the Sub-Regional Structure Plan was substantially completed, Cardno lodged a revised LSP with the City of Swan.

2.2 *Park Street Local Structure Plan (2008)*

A State Administrative Tribunal review was lodged by Lavan Legal in December 2008 on behalf of Terranovis. The review with SAT was lodged on the grounds of non-determination of the Park Street LSP.

The review with SAT was resolved through mediation and it was agreed by all parties that the Park Street LSP should be modified to include the whole of the Resource Enhancement Wetland situated over Lots 9000 and 352. In addition, it was agreed that all relevant technical reports accompanying the Park Street LSP be updated, where required, to reflect the inclusion of the whole of the Resource Enhancement Wetland in the Park Street LSP.

2.3 *Early Release Subdivision*

Recognising the significance of the Swan Urban Growth Corridor, in December 2007 the WAPC established criteria for consideration of 'Early Release' subdivision applications. The early land release criteria provided for first stage subdivision approval within the localities of Albion, West Swan East and Caversham. The intention of the criteria was to provide for limited (up to 10%) subdivision within each individual structure plan area.

Through applications with SAT for review in December 2008 and August 2009, a mediated outcome was agreed whereby the WAPC granted two subdivision approvals in 2010 under the early release framework, being WAPC 136113 and WAPC 136114 (**refer to Appendix 1 – Early Release Subdivision Plans**). Given the advances in structure planning for these areas, the early release framework has now been rescinded by the WAPC and is no longer applicable. Future subdivision applications will be considered by the City of Swan and WAPC within the context of the City of Swan local planning requirements.

3.0 LAND DESCRIPTION

3.1 Location

The subject site is located within the Swan Urban Growth Corridor approximately 19.3kms north-east of Perth Central Business District and approximately 4.4kms north-west of the Midland Regional Centre. The combined area of the lots forming the subject site is approximately 51.26 hectares.

The subject site is bound to the north by Park Street, the future Henley Brook Avenue road alignment to the east and privately owned englobo land to the south and west. **Plan 2 – Location Plan** shows the location of the subject site within the City of Swan and North East Corridor of the Perth Metropolitan Region.

3.2 Land Description & Ownership

The Park Street Local Structure Plan 3A (LSP 3A) comprises of three major landholdings in ownership as follows:

Lot Number	Registered Proprietor	Land Area
9201	Sandhurst Trustees Ltd	36.3833 ha
9000	Batson & Hoar Pty Ltd	8.3770 ha
352 (portion only)	Department of Housing	6.4998 ha
Total		51.2601 ha

A portion of Lot 350 Park Street has been included in the Local Structure Plan 3A to provide planning for future transport network as identified in the Albion District Structure Plan as follows:

Lot Number	Registered Proprietor	Land Area
350	Emgekay Investments Pty Ltd & Minx Pty Ltd	0.5430 ha

LSP 3A has been prepared for Terranovis, who is acting on behalf of Sandhurst Trustees Ltd and Batson & Hoar Pty Ltd, with consultation being undertaken with Department of Housing. **Plan 3 – Cadastral Plan** shows the lot boundaries of the subject site and areas that have already been subdivided under the early release framework as previously mentioned.

Context analysis plans for both existing and future development are provided in **Plan 4 – Context Analysis (Existing)** and **Plan 5 – Context Analysis (Future)**.



Plan 2 – Location Plan of Subject Site (Source : Google Maps, 2012)

4.0 SITE ANALYSIS

4.1 *Existing Land Use*

The subject site is predominantly 'parkland cleared' and has previously been used for rural land use. A small scale poultry farm did operate from Lot 9201 (formerly Lot 350), however, this use has now ceased. Both Lots 9000 and 352 comprise of englobo (undeveloped) land.

Site investigations indicate no evidence of intensive horticulture or viticulture of a scale/size that would warrant significant remediation. The Environmental Protection Authority (EPA) has not raised any concerns with this use in its assessment of the MRS zoning. Essentially the site is a 'greenfield' site suitable for urban development.

The neighbouring land is presently rural in character, however, this is anticipated to change over time as the area is earmarked for urban development. 'Whiteman Edge' estate to the west is currently under construction, which falls within the Albion Local Structure Plan 1 area. Plan 3 shows the rural character of the surrounding area and rural residential lots to the north.

4.2 *Topography*

In general the subject site and surroundings is only mildly undulating. There is a slight grade from west to east with a maximum height of 33.1m AHD around the western portion of Lot 9201 and a minimum height of 30.0m AHD in the north-eastern corner of Lot 9201. The subject site landforms generally consist of sand dunes on elongated east west alignments up to 500m wide. With the exception of the Resource Enhancement Wetland in the eastern portion of the subject site, there are no substantial topographical features that would present significant constraints to urban development of the land.

4.3 *Geology & Soil Types*

The predominant soil type found within the subject site is Bassendean Sand, which mainly consists of pale grey quartz sand from the surface to a depth ranging 0.8m – 7.5m. Guildford Clay formation is found within and to the east of the LSP 3A area, mainly comprising sandy clay. Friable, iron-oxide cemented silty sand (also known as 'coffee rock') is found within the LSP 3A area at depths ranging 0.8m to 4.8m. In the Resource Enhancement Wetland area of Lot 9000 and Lot 352, there are deposits of white peaty sands.

4.4 Wetlands

Apart from a Department of Environment & Regulation (DER) Resource Enhancement Dampland (Wetland ID 104) located within Lot 9000 and Lot 352, there are no other wetlands or surface water features within the subject site that require protection. There are significantly degraded areas within the mapped Resource Enhancement Wetland, this as a result from past agricultural activities, such as grazing.

As mentioned previously, it was a requirement of the SAT review in relation to the previously prepared Park Street LSP that the plan be modified to include an assessment of the wetland area in its entirety. Subsequently, a Wetland Management Plan has been prepared for the entire wetland, which will be further discussed in this report.

4.5 Vegetation & Flora

The Albion District Structure Plan (ADSP) identifies a portion of the south-east corner of Lot 9201 as being within a 'Possible Conservation Area'. As part of the open space strategy adjoining the St Leonard Multiple Use area to the east, the ADSP identified the 'Possible Conservation Area'. A Bushland Management Plan was included in the ADSP, which identifies (based on a vegetation survey completed by Ecologia in 1999) that bushland in the south-east corner of Lot 9201 is similar to Floristic Community Type 20a, which is a potential Threatened Ecological Community (TEC). Notwithstanding, the Bushland Management Plan stated that, due to the condition of the bushland, the results of the survey were inconclusive. The potential TEC status is therefore debatable.

The Bushland Management Plan concluded that, if found not to be a potential TEC, then the Bushland Management Plan would not apply, unless the area were to be retained as POS. The Bushland Management Plan also acknowledges that the owner of Lot 352 intends to develop the area for residential purposes if the area were not a TEC.

Flora and Vegetation Surveys undertaken for the Park Street LSP identify a number of flora and vegetation species, with the vegetation condition ranging from 'Completely Degraded' to 'Good'. Following extensive investigations and consultation, it was found that there were no TECs within the subject site. The studies conducted to verify this included:

- Cardno Botanical Survey (2005) which identified no potential TECs during the time of the survey;
- Cardno Desktop Assessment (2010) to validate the 2005 survey, which confirmed the results of the 2005 survey in relation to TECs;
- Additional 'ground truthing' (field investigations) and consultation with officers of CALM confirmed that the area previously identified as a potential TEC now no longer consistent with a TEC; and

- During the 'early release' State Administrative Tribunal review (2008/2009) it was accepted by relevant parties that no potential TEC existed and that residential development could be considered for the south-east corner of Lot 9201.

4.6 Fauna

As a result of past clearing, grazing and there being limited remnant vegetation remaining on the subject site, the habitat potential for native fauna species is low. A search of DER's Threatened Fauna database indicated the possibility for a number of threatened fauna to occur in the area. The fauna found on the database include:

Baudin's Cockatoo (*Calyptorhynchus baudinii*)

Found under DER's Schedule 1 (Fauna which is 'Rare' or likely to become extinct). The Baudin's Cockatoo is predominantly restricted to forested areas of the southwest. Due to the lack of Marri and Wandoo species on the subject site, of which the Baudin's Cockatoo is dependent on for nesting, and lack of eucalyptus and proteaceous species on which it feeds, the subject site is unlikely to be significant for the species.

Carnaby's Cockatoo (*Calyptorhynchus latirostris*)

Found under DER's Schedule 1 (Fauna which is 'Rare' or likely to become extinct). The Carnaby's Cockatoo is expected to be a seasonal visitor to the subject site, given its seasonal appearances to the Swan Coastal Plain and Perth Metropolitan Area. Whiteman Park and the Gnangara Pine Plantation are areas which frequently attract visits by Carnaby's Cockatoo. The Carnaby's Cockatoo relies heavily upon Proteaceous shrubland on which it feeds and large eucalypts in which it generally nests. The scarcity of Proteaceous shrubland and large eucalypts within the subject site lead to it not being a significantly important site for the species.

Peregrine Falcon (*Falco peregrinus*)

Found under DER's Schedule 4 (Fauna which is Otherwise Specially Protected). This species is widely distributed throughout Australia though is found to be uncommon. Worldwide populations of the Peregrine Falcon have declined, however, in Australia the species has a stronghold. In the LSP 3A area and surrounding locality, the Peregrine Falcon may occur sporadically, but it is highly unlikely that the species would heavily depend on the subject site as prime habitat.

4.7 Gas Pipeline Easements

Both the Dampier to Bunbury Natural Gas Pipeline (DBNGP) and Parmelia Gas Pipeline traverse the LSP area generally in a north-south alignment. The gas pipeline infrastructure is contained within registered easements on the property title and is appropriately sign posted. Worley Parsons were appointed in February 2006 to prepare an AS2885 pipeline risk assessment for the proposed LSP area. The gas pipeline risk assessment was undertaken in accordance with Schedule 4 'Special Use – Albion' of LSP 17 and the WAPC Planning Bulletin No. 87 'High Pressure Gas Transmission Pipelines in the Perth Metropolitan Region'. The outcomes of the risk assessment will be further discussed in this report.

The DBNGP and Parmelia gas pipeline easements are a major development constraint within the Park Street LSP 3A. Subsequently, the gas pipeline easements and interface with adjoining residential areas of the LSP were a major consideration in the design of the LSP. As part of the preparation of the LSP, extensive consultation occurred between the developer, City of Swan, the pipeline operators and the Department of Regional Development and Lands (RDL). The focus of the consultation was to agree on an approach for the treatment of each pipeline easement that retains the interest of affected parties, whilst ensuring integration with LSP land uses and identifying future on-going management responsibilities. Because there is differing legislation for each gas pipeline, one approach has been adapted for the DBNGP and another for the Parmelia Gas Pipeline, which will be further discussed.

The City's consultation with the two pipeline operators (APA Group and West Net Energy) indicates that the pipeline easement custodians will not permit development within the easements. Excerpts from written communication states:

"APA will not agree to dual use paths or paths of any description running parallel on the easement or on the same alignment of the Parmelia Pipeline". (APA Group)

"No water reticulation, park equipment, trees, shrubs, cycle network or footpaths to be installed over the [DBNGP] corridor". (West Net Energy)

4.8 Parmelia Gas Pipeline

The issue relating to the future intended use of the Parmelia Gas Pipeline Easement was considered during the State Administrative Tribunal review for the 'Early Release Subdivision' of former Lot 350. The City of Swan objected to the proposed use of the pipeline easement area as public open space. This was on the basis of issues in relation to public liability and future management/maintenance of the easement area. Subsequently, to address the concerns of the City of Swan, the parties agreed that the gas pipeline easement area would be contained within private strata development as 'private communal open space'.

The land use permissibility within the Parmelia Gas Pipeline Easement would be 'Private (Communal) Open Space' as defined in Part One (Statutory Section) of this report.

Two grouped housing sites were approved under a survey-strata application (WAPC 96-11) under the early release subdivision approval (WAPC 137969), which allows for private communal open space within the Parmelia Gas Pipeline Easement. As a condition of subdivision approval, the WAPC required that a Management Statement be prepared, which needed to provide and specify a detailed plan and management arrangements for the maintenance of the private communal open space.

The Management Statement would need to be endorsed by the pipeline operator. This is the approach model that has been agreed for the Parmelia Gas Pipeline Easement within the Park Street LSP 3A.



View of Parmelia Gas Pipeline Easement Corridor from Park Street

4.9 *Dampier to Bunbury Natural Gas Pipeline*

Early consultation with the City of Swan and Department of Regional Development and Lands (RDL) indicated that the land management model for the DBNGP should be to create a Crown Reserve for the purpose of 'Public Utility', which RDL could then issue a management order for the pipeline operator.

The City of Swan confirms that it is not interested in accepting a management order for the DBNGP easement area as a reserve for public open space.

The land comprising the existing Dampier to Bunbury Natural Gas Pipeline (DBNGP) easement as shown on the Structure Plan map (Plan 1) shall be created as a reserve and meet all necessary statutory requirements. The reserve should be ceded free of cost to the Crown and vested in the Department of Lands, who will have the option to manage this reserve or consider issuing a Management Order to the Pipeline Operator.

The DBNGP lot would likely be fenced to restrict public access. The type of fencing and landscape screening along public roads can be negotiated with the local authority at the detailed subdivision design stage. Open style fencing (whether along the side, front or rear of lots, is a consideration in similar manner to that proposed for the Parmelia Gas Pipeline Easement interface to promote surveillance and visual amenity. This will be further considered at subdivision stage.

5.0 PLANNING FRAMEWORK

STATE & REGIONAL PLANNING

5.1 *Metropolitan Region Scheme*

The subject site is zoned 'Urban' under the Metropolitan Region Scheme (MRS) to facilitate urban development subject to structure planning and subdivision design.

Plan 6 – MRS Zoning illustrates the zoning of the subject site and surrounds. The land to the north of the subject site is currently zoned 'Rural' under the MRS. Development within this 'Rural' zoned land is subject to the provisions of the *Swan Valley Planning Act 1995*.

5.2 *Directions 2031*

Directions 2031 establishes the vision for the future growth of Perth and Peel regions. It provides a framework in which population growth is to be accommodated. The Directions 2031 population growth forecast for the north-east metropolitan sub-region is estimated to be 37% by 2031. In accordance with the Albion District Structure Plan, the Park Street LSP 3A will facilitate a portion of this expected urban growth within the north-east metropolitan sub-region.

Directions 2031 seeks a 50% increase in the current average residential density 10 dwellings per gross urban zoned hectare; and has set a target of 15 dwellings per gross urban zoned hectare of land in new development areas. The Park Street LSP 3A provides for a target density of 27 dwellings per hectare.

5.3 *Liveable Neighbourhoods*

Liveable Neighbourhoods has been prepared to guide the sustainable development of communities. It addresses both strategic and operational aspects of structure planning and subdivision for both 'greenfield' and urban infill sites. The LSP has been prepared taking into consideration the planning principles and policies of Liveable Neighbourhoods. This will be further discussed in the report.

5.4 Swan Urban Growth Corridor Sub-Regional Structure Plan

In accommodating the expected population growth of the Perth Metropolitan Region, the Swan Urban Growth Corridor is considered to be a major urban development area to cater for this future growth. Within the Corridor, including the areas of Caversham, West Swan and Henley Brook (Albion), some 12,500 dwellings are ultimately planned for to accommodate approximately 33, 000 residents.

The Department of Planning, City of Swan, landowners and relevant government agencies have jointly prepared the Sub-Regional Structure Plan, which was adopted in February 2009. The sub-regional structure plan is a strategic level document that aims to achieve proper and orderly planning and development of land and infrastructure within the Corridor. **Plan 7 – Swan Urban Growth Corridor Sub-Regional Structure Plan** shows the proposed planning for the Corridor.

LOCAL PLANNING

5.5 City of Swan Local Planning Scheme No. 17

The subject site is zoned 'Special Use - Albion' under the City of Swan Local Planning Scheme No. 17 (LPS 17). **Plan 8 – Local Zoning** shows the zoning of the subject site and surrounds under LPS 17. The Schedule 4 provisions of the 'Special Use – Albion' zone require preparation and approval of a District Structure Plan and Local Structure Plan prior to any subdivision and development. The requirement for a DSP has been satisfied through the preparation and approval of the Albion District Structure Plan.

Schedule 4 of LPS 17 also requires certain environmental reporting to be satisfied. These have been addressed through the various technical reports that have been prepared for the Albion District Structure Plan and the proposed Park Street LSP 3A.

5.6 Albion District Structure Plan

In accordance with Schedule 4 'Special Use – Albion' zone of LPS 17, the Albion District Structure Plan (ADSP) was prepared to guide future land use and development within Henley Brook (Albion). The ADSP was endorsed by the WAPC in December 2010 and provides a land use and reporting framework for future local structure planning and subdivision applications within the ADSP area. **Plan 9 – Albion District Structure Plan** shows the approved ADSP and its three Local Structure Plan precincts.

The primary development principles of the ADSP are to:

- Create a framework for future urban development within the ADSP area that coordinates and integrates with other district structure planning under the Swan Urban Growth Corridor Sub-Regional Structure Plan;

- Provide a framework to deliver in a timely manner the social and economic needs of the community;
- Create a broad strategic planning level framework to guide future local structure planning;
- Provide for housing diversity and choice through provision of a range of residential densities, predominantly at an R30 density with higher codings (up to R60) within areas around commercial and activity nodes;
- Identify a road network (district and neighbourhood level) which provides opportunities for efficient public and private transport movement in the context of the Swan Urban Growth Corridor Sub-Regional Structure Plan;
- Encourage main street development within neighbourhood centres and provision of supporting local centres;
- Identify and provide for adequate primary and high school educational facilities to meet the future demands of the community;
- Integrated public open space, conservation and drainage networks to achieve a balanced outcome incorporating environmental conservation, biodiversity, recreational and drainage uses;
- Encourage efficient and sustainable land use practice and lot design to create opportunities for sustainable housing design to reduce energy demand; and
- Encourage local employment within commercial centres and home based businesses.

The ADSP comprises of three Local Structure Plan precincts being LSP 1, LSP 2 and LSP 3 (as shown in Figure 1A). The Park Street LSP 3A is contained entirely within the LSP 3 area. However, it does not cover all of the LSP 3 area and only forms a portion of it. Accordingly, this local structure plan is referred to as LSP 3A. The design of LSP 3A allows for the proper and orderly planning of the LSP 3 area and essentially is the first stage of development within the LSP 3 area. This is consistent with the Sub-Regional Structure Plan for the Swan Urban Growth Corridor (refer to Figure 1B), which anticipates urban development proceeding in a southerly direction from Park Street for the Albion DSP. The following elements of the Park Street LSP 3A are discussed in the context of the approved Albion District Structure Plan.

5.6.1 *Park Street LSP 3A Boundary*

The LSP 3A boundary has largely been determined by landownership, the Resource Enhancement Wetland, developer intentions and staging. The LSP 3A Local Water Management Strategy (Appendix 6 & 7) demonstrates that drainage can be managed in accordance with the Albion District Structure Plan and State Planning Policy 2.9. The LWMS has been approved by the City of Swan and Department of Water as part of the early release subdivision approval. The proposed LSP 3A boundary allows for integrated and staged development with surrounding landowners. The LSP 3A design allows for future road connections and intersections (i.e. link through Lot 350 and future intersection with Henley Brook Avenue) and coordinated provision of essential services and drainage. Park Street LSP 3A is considered to be the first stage of development within the Albion DSP – Local Structure Plan 3 area.

5.6.2 *Road Network*

The Park Street LSP 3A has been designed to integrate and be consistent with the planned road network as identified in the approved Albion District Structure Plan. The section of the key east-west neighbourhood connector road linking Henley Brook Avenue with Lord Street has been incorporated into the design. A future north-south neighbourhood connector road from the adjoining land to the south is also planned consistent with the ADSP.

5.6.3 *Integration with Adjoining Development*

Future integration with adjoining development has been provided for in the LSP 3A design through the provision of road connections and orientation of street blocks. It is considered that the LSP 3A design does not adversely impact on the proper and orderly planning of adjacent landholdings within LSP 1 or LSP 3.

5.6.4 *Residential Densities and Lot Yield*

Consistent with the Swan Urban Growth Sub-Regional Structure Plan, the Albion District Structure Plan provides for a minimum net residential density of 22 dwellings per hectare within the ADSP area, compared with the Directions 2031 target density of 15 dwellings per hectare. The Park Street LSP 3A provides for an overall net residential density of 27 dwellings per hectare. This density target is achieved through the provision of a range of housing typologies (within both proposed freehold and strata development sites).

Based on 'An Assessment of Housing, Socio-economic and Sustainable Demands with reference to the future settlement of Albion' (WA Housing & Urban Research Institute, 2006), the ADSP [Section 5.0 of ADSP] encourages a diversity in housing choice, lots sizes and tenure. The ADSP identifies indicative residential density codings for the ADSP area. In particular, [Note 1 on Figure 9 of the ADSP report] states:

"Residential Density Code boundaries shown on this plan are indicative only for lot yield calculation purposes and this plan does not preclude other density outcomes. Codings will be confirmed at Local Structure Plan stage in accordance with the District Structure Plan."

It is the intention of the ADSP to provide for flexible design outcomes for residential densities in local structure planning. This is highlighted at [Clause 5.4.2] of the ADSP where it provides for a blanket R30 medium density where developers can, at their discretion, design suitable lot sizes to achieve specific outcomes. The ADSP states:

"Residential R30 will be the base coding over the Structure Plan area allowing for the provision of traditional lots (ranging from 450m² to 600m²) and cottage lots (ranging from 280m² to 360m²)." [p.30 of ADSP report]

The range in lot sizes envisaged under the ADSP in practice reflects an R20 – R30 density, for instance, 280m² – 600m² lot sizes. The R30/R40 blanket dual coding in LSP 3A provides for diversity of housing typologies on lot sizes ranging 200m² – 600m², which is consistent with the objectives of the ADSP and creates opportunity for housing diversity and market choice.

5.6.5 Public Open Space

The public open space (POS) provision within the Park Street LSP 3A has been generally designed consistent with the Albion District Structure Plan. The following principles for the provision of POS have been followed as set out in the ADSP:

- Wherever possible, all lots within 400m of POS, as shown on **Plan 10 - Walkable Catchment Area;**
- The 50m buffer around the Resource Enhancement Wetland and the wetland itself to be rehabilitated and used for passive recreation;
- Park Street LSP 3A to provide for a mix of active and passive POS networks; and
- Urban stormwater and drainage areas being fully integrated into the POS network to promote best practice water sensitive urban design.

Public passive and active recreation is not being proposed within the Dampier to Bunbury Natural Gas Pipeline as this area will be transferred to the Crown and vested in the Department of Lands (DoL). DoL will then have the option to manage this lot as an unmanaged reserve or consider issuing a Management Order to the Pipeline Operator.

The ADSP states that the location for provision of POS and identification of landowners providing under or above the 10% POS requirement will be determined at local structure planning stage. Consultation with City of Swan indicates that each local structure plan should achieve as close to the required 10% POS provision as possible. This ensures that the local authority does not take on the management and maintenance of excessive POS.

Due to the inclusion of the Resource Enhancement Wetland (and 50m buffer) within LSP 3A and the provision of land for the Parmelia Gas Pipeline within private communal open space, there is a surplus of POS provided for within the LSP 3A. Since the wetland/buffer and pipeline cannot be modified in order to balance the provision of POS, the LSP 3A proposes the following design solutions to other areas of parkland POS.

Parkland (North)

The proposed POS park in the northern portion of LSP 3A is between the two gas pipeline easements and was required to be provided as part of the 'early release subdivision' approval for former Lot 350. This POS park provides a dual use for recreation/drainage. Once developed, this park will serve the residents in the first stages of development.

Parkland (South)

This POS park in the south-east portion of LSP 3A also serves a multiple function of recreation, drainage and buffer area. The lower lying area of the POS park enables this park to provide a drainage function, which is planned to incorporate a drainage swale basin. This will allow for the discharge of water into the St Leonards Creek enhancing environmental flows. The POS will also act as a buffer between the St Leonards Multiple Use wetland area to the east and proposed residential use to the west. Similarly with the northern POS park, this POS was required as part of the early release subdivision approval and will provide POS to residents in the southern portion of LSP 3A.

Rationalisation of POS identified within Albion District Structure Plan

The ADSP had identified a portion of land within the south-eastern portion of Lot 9201 as being 'Possible Conservation Area'. This was based on the bushland being similar to Floristic Community Type 20a (a potential TEC) as previously discussed under section 4.5. It will be discussed further in this report that additional field and desktop studies conclude that there is no TEC in the 'Possible Conservation Area' identified in the ADSP within Lot 9201. Further, the studies indicate that the area is of limited environmental value. Subsequently, in consolidating the provision of POS in the context of the Albion Local Structure Plan 3 area, this particular area has not been included as POS.

5.7 *City of Swan Community & Economic Policy*

This local authority Policy identifies the purposes and requirements for community and economic development planning, which are to be undertaken simultaneous with the preparation of structure plans, development plans and/or major development proposals.

Key community facilities include educational establishments (including primary and high schools), whilst key economic facilities include commercial centres (both local and neighbourhood centres) and mixed business precincts.

The Park Street LSP 3A does not provide for any community or economic facilities as the Swan Urban Growth Corridor Sub-Regional Structure Plan and Albion District Structure Plan does not identify any land requirement for these within the subject site.

However, the endorsed Albion District Structure Plan Development Contribution Plan sets out the district and sub-regional facilities that will be required at the broader level and a contribution will be required at subdivision stage by the developer. In addition, a pro-rata contribution will be required by the Department of Education for future educational sites within the ADSP.

5.8 *City of Swan Urban Growth Policies*

The City of Swan Urban Growth Policy No. Pol-C-102 outlines the urban growth objectives and priorities that are to be achieved through structure planning, statutory planning, management plans and other planning processes. The key objectives for urban growth as set out by the Policies are generally to:

- encourage best practices in urban design and environmental management;
- respond to the social and economic needs of the community,
- partnership with government, non-government and other landowners in the Urban Growth Corridor in respect to development of land;

- provide housing choice and housing affordability;
- create efficient, safe and convenient access;
- Promote sense of place and minimise impact on the environment; and
- Promoting sustainable liveable neighbourhoods that reduce energy and water demands.

5.7.1 *Multiple Landowners Consultation*

It is a requirement of the City of Swan Urban Growth Policy for developers to demonstrate an acceptable level of consultation with surrounding landowners to ensure that the relevant landowners impacted by a structure plan proposal have been informed of the Plan components, implementation, staging and subsequent financial contributions. As part of the preparation of the LSP 3A, the proponent corresponded with landowners adjoining the LSP 3A area in August 2010. The developer provided neighbouring landowners with a formal 'window of opportunity' to comment on the proposed LSP 3A. A copy of the developer's correspondence is attached as **Appendix 2 – Adjoining Landowner Consultation Letter**.

In addition, discussions were held with local horse riders who use Park Street to access Whiteman Park and other areas to the south of Park Street for horse riding. The discussions mainly related to use of Park Street by horse riders and the safety aspects where horse and other modes of transport share the road reserve.

From discussion with local residents, it is apparent that with urban development now under construction on the south side of Park Street, local horse riders are adapting with urban development and increasing traffic along Park Street. However, in discussions, it is clear that horse riding recreation within the Albion area has and is declining.

Some of the comments raised during discussion include:

- Years ago when urban development wasn't present horse riders could ride within the [much wider] southern [rural] verge of Park Street. With the development of residential lots and a pathway on the southern side of Park Street, riders tend to dismount their horses when using certain sections of Park Street.
- Riding areas south of Park Street disappearing and/are no longer compatible with horse riding due to urban construction.
- Local horse riders now tend to dismount and walk their horses on the newly constructed pathway (southern side Park Street) for following reasons:
 - Dogs in new houses/yards on southern side can set off horses (i.e. barking or running up to horses), creating potential traffic and safety issues;

- Piled debris and rubbish in front yards from house construction can be blown by the wind causing horses to be [spooked] and unpredictable, therefore safer to dismount than to ride.
- Alternative to walking horse along Park Street and across Lord Street is to use a horse float, although this is inconvenient, but is considered a safer option than to ride along Park Street.
- Northern verge of Park Street not used for walking/riding as verge is narrower and there are obstacles including street trees, loose material on slopes and power poles, making it less desirable for walking horses.
- No point creating a bridal path along Park Street as most local residents in the 'Brookland Property Owners Group' consider Park Street unsafe for their children to ride their horses on due to increased traffic operating at speeds of 70kph. This includes increase in trucking movements associated with urban development.

5.7.2 Financial Assessment Report

It is a requirement of the City of Swan Urban Growth Policy for developers to prepare a Financial Assessment Report that needs to address:

- Levels of infrastructure provision and estimated timeframes for delivery;
- Asset management programs; and
- Staging priorities for all urban development.

In particular, the Policy sets out as a requirement the following items that need to be accounted for:

- Public and civic open space networks;
- Environmental and urban water management systems;
- Transport/movement networks and pathways;
- Community/educational facilities and services;
- Public utilities; and
- Monitoring and evaluation studies.

Section 9.0 'Financial Assessment' of this report details the requirements of the City's Urban Growth Policy for the preparation of a Financial Assessment Report for LSP 3A.

6.0 SITE CONDITIONS & ENVIRONMENT

The LPS 17 Schedule 4 'Special Use – Albion' comprehensive environmental reporting framework for the Albion District Structure Plan area, relevant to the LSP 3A area, has been followed in the preparation of LSP 3A. In accordance with the provision of Schedule 4, the following technical reports have been lodged accompanying the LSP 3A proposal, which should be read in conjunction with this report:

Appendix No.	Document Title
3	Henley Brook Botanical Survey/Desktop Study (Lots 349 & 350)
4	Flora & Vegetation Survey (Lot 9000)
5	Flora & Vegetation Survey (Pt Lot 352)
6	Local Water Management Strategy (Lots 349 & 350)
7	Local Water Management Strategy (Lot 9000 & Pt Lot 352)
8	Wetland Management Plan
9	Acid Sulfate Soils Management Plan
10	Quantitative Risk Assessment of Gas Pipelines
11	Aboriginal Heritage Studies
12	Acoustic Assessment

6.1 Vegetation & Flora

6.1.1 Botanical Survey – Lot 9200

In January 2006, Cardno conducted a botanical survey for Lot 9200 (now Lot 9201) Park Street (**Appendix 3 - Henley Brook Botanical Survey**). The survey found a number of flora species within the study area and identified the vegetation condition as ranging from 'Completely Degraded' to 'Good'.

During the survey, two Floristic Community Types were recorded, with a conservation status rating of "Low Risk", with there being no Threatened Ecological Communities (TECs) identified. Subsequent field investigation and consultation with CALM indicated that an area, which was previously considered as a potential TEC, no longer represented a TEC. No Declared Rare Flora (DRF) or Priority Flora (PF) species were found during the survey.

The Resource Enhancement Wetland, located within a portion of Lot 9000 and Lot 352, was assessed as being degraded with a relatively undefined wetland boundary. The wetland has few wetland dependant species and the current management category is considered consistent with the current condition, values and attributes of the wetland.

A further update of the 2006 botanical survey was carried out at desktop level by Cardno in December 2010. The assessment used updated aerial imagery to identify changes in the extent of remnant vegetation and regeneration and the species listed in the survey were cross checked with more up-to-date database searches for DRF, PF, TECs etc.

As an overview, the 2010 desktop assessment was added to the Henley Brook Botanical Survey 2005 as an Addendum, of which it confirmed that:

- The vegetation within the study area of Lot 9200 remained constant, with no substantial changes;
- *Cyathochaeta teratifolia* is unlikely to inhabit the subject site;
- There were no DRF, PF, TECs or PECs recorded within the subject site.

6.1.2 Public Conservation Area – Lot 9201

The Henley Brook Botanical Survey (2005) and subsequent desktop Addendum Assessment Report (2010) identifies the portion of the 'Possible Conservation Area' in the south east corner of Lot 9201 as 'Local Vegetation Community 2'. This vegetation community consists of open Banksia woodland within the slightly elevated areas. The SE corner of Lot 9201 also includes an isolated stand of Banksia trees rated with a vegetation condition scale of 4, which is defined as:

"Basic vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing." (WAPC Bush Forever, 2000)

It will be further discussed in Section 8.6 of this report that the following investigations and consultations support the conclusion that there are no TECs within LSP 3A:

- Cardno Botanical Survey (2005) which identified no potential TECs during the time of the survey;
- Cardno Desktop Assessment (2010) to validate the 2005 survey, which confirmed the results of the 2005 survey in relation to TECs;
- Additional 'ground truthing' (field investigations) and consultation with officers of CALM confirmed that the area previously identified as a potential TEC now no longer consistent with a TEC; and
- During the 'early release' State Administrative Tribunal review (2008/2009) it was accepted that no potential TEC existed and that residential development could be considered for the south-east corner of Lot 9201.

The Bushland Management Plan of the Albion District Structure Plan sets out that if no TEC is found, then the Bushland Management Plan would not apply, unless the area were to be retained as POS. The Bushland Management Plan also recognises that the landowner of Lot 353 intends to develop the area for residential purposes if the area were not found to be a TEC.

6.1.3 Botanical Survey – Lot 9000 (formerly Lot 351)

A botanical and flora survey was undertaken in January 2007 for Lot 9000 Park Street (**Appendix 4 - Flora & Vegetation Survey - Lot 9000**). A further update to this survey was provided in November 2009 to include the portion of Lot 352 within LSP 3A. The focus of the survey was to identify any vegetation communities present, ascertain the condition of the vegetation and locate any Declared Rare Flora (DRF), Priority Flora (PF) and TECs.

During the survey a total of 31 families, 63 genera and 76 taxa were recorded, of which 26 were introduced species. No DRF, PF or Endangered or Vulnerable species pursuant to s178 of the *Environmental Protection and Biodiversity Conservation Act* (1999) were identified during the survey. Three Floristic Communities were recorded within the study area, including a cleared area containing some regeneration. The Floristic Communities identified were: *Juncus pallidus* and *Xanthorrhoea preissii* damplands; *Melaleuca preissiana* swmap; and open woodland of *Corymbia calophylla*. Neither of these is listed as TECs and the condition of the vegetation ranged from 'Excellent' to 'Completely Degraded'. The majority of the site was assessed as being degraded, caused by past clearing, grazing and the presence of Declared weeds. The survey concluded that there were no significant flora and vegetation impediments which would preclude development.

6.1.4 Botanical Survey – Portion of Lot 352

A botanical and flora survey was undertaken in September 2010 for a portion of Lot 352 within the LSP 3A area (**Appendix 5 - Flora & Vegetation Survey - Lot 352**). The focus of the survey was to identify any vegetation communities present, ascertain the condition of the vegetation and locate any Declared Rare Flora (DRF), Priority Flora (PF) and TECs. During the survey a total of 25 families, 44 genera and 50 taxa were recorded, of which 15 were introduced species. No DRF, PF or Endangered or Vulnerable species pursuant to s178 of the *Environmental Protection and Biodiversity Conservation Act* (1999) were identified during the survey. Five vegetation communities were recorded within the study area, however, only one of these was inferred to represent a Floristic Community Type. The Floristic Community SCP 14 'SCP14 Deeper wetlands on sandy soils' is considered to be represented by the wetland vegetation community *Melaleuca preissiana* over *Taxandria linerifolia* and *Baumea preissi*. Neither of these is listed as TECs and the condition of the vegetation was assessed as being 'Good'.

The remaining four vegetation communities mapped within portion of Lot 352 were not inferred to represent Floristic Community types. The vegetation structure of these communities has been significantly altered due to past agricultural activities and individual species were found to be sparsely located.

The degraded condition of these vegetation communities means that they are not considered to be representative of Floristic Community Types. The survey concluded that there were no significant flora and vegetation impediments which would preclude development. The survey recommended that weed management be incorporated as part of development to control the movement of two declared plants found within the study area, being One Leaf Cape Tulip and lantana.

6.2 *Local Water Management Strategies*

Local Water Management Strategies have been prepared for the LSP 3A area and are contained in **Appendix 6 - Local Water Management Strategy (Lots 349 & 350)** and **Appendix 7 - Local Water Management Strategy (Lot 9000 & Pt Lot 352)**. The LWMS were prepared to satisfy the requirements of the Department of Water's Better Urban Water Management' document and the City of Swan's urban stormwater management policies and guidelines. The supporting LWMS documents form part of the overall urban water management in the context of the Albion District Structure Plan and Swan Urban Growth Corridor Sub-Regional Structure Plan.

As a result of the LWMS, the following integrated management strategies are proposed for the Park Street LSP 3A:

- Urban stormwater design to incorporate vegetation drainage swales with check dams and infiltration detention basins to assist in detention and treatment of stormwater prior to flowing into the environment;
- Incorporation of (6) bio retention pockets provided within the 50m wetland buffer to assist in detention and drainage and ensure the early release subdivision is self-contained with respect to urban stormwater management;
- For both stormwater harvesting and domestic water supply, rainwater tanks and/or soakwells to be utilised for each lot with LSP 3A;
- Setting aside areas within public open space to accommodate extreme storm events (i.e. 1:100yr ARI) and preserve existing vegetation.

The LWMS proposes that urban stormwater generated on-site will be conveyed through Stormwater Quality Improvement Devices (SQIDs) with the intent that stormwater would ultimately be discharged into the proposed POS areas, existing creek and wetland area.

To ensure that the SQIDs were sized to cater for 1:1yr, 1:10yr and 1:100yr ARI storm events, appropriate modeling was undertaken to inform design requirements. The LWMS proposes that the detained stormwater will reduce risk of flooding and ensure that post-development urban stormwater runoff does not exceed pre-development runoff.

The following table outlines the specific principles for the 1 year, 5 year and 100 year Average Recurrence Interval (ARI) events.

ARI Event	LWMS Principles
1 Year	<p>Retention and treatment onsite of 1 hour duration 1 year ARI event with grooves connected to soak wells and where appropriate, rainwater tanks;</p> <p>Stormwater contained within each lot prior to discharge/infiltration to groundwater;</p> <p>Road runoff infiltration as close to source as possible using water sensitive urban design measures (i.e. roadside swales)</p>
5 Year	<p>Road runoff infiltration as close to source as possible using water sensitive urban design measures (i.e. roadside swales, bioretention structures draining into flood storage areas adjacent to public open space;</p> <p>Bioretention structures treat and infiltrate stormwater using vegetation and biofiltration media to improve water quality prior to discharge to the environment;</p> <p>Flood storage within unfenced, landscaped, shallow-sided detention basins with sand filters</p>
100 Year	<p>Accommodated via overland flow paths to enable conveyance of runoff to infiltration basins;</p> <p>Flood storage areas unfenced, landscaped, shallow-sided basins with sand filters</p>

The LWMS has been prepared to ensure that there will be limited impact on local and downstream environments. The LWMS hydraulic modeling confirms that the potential impacts to the local environment is minimal.

6.3 Wetland Management Plan

A Wetland Management Plan has been prepared for the Resource Enhancement Wetland (RE104) within Lots 9000 and 352. A copy of the wetland management plan is contained in **Appendix 8 – Wetland Management Plan**. The wetland has been divided into two areas:

Area 1	Vegetated area in 'Excellent' condition containing <i>Malaleuca preiaaina</i> swamp.
Area 2	The balance area which is considered can be downgraded to 'Multiple Use' wetland represented by <i>Juncus pallidus</i> and <i>Xanthorrhoea preissii</i> . The vegetation condition in this area is more degraded, with lower species diversity as a result of clearing, grazing, sand mining and weeds.

The core area [Area 1] of the Resource Enhancement Wetland is in 'Excellent' condition, however, the condition of vegetation within the 50m buffer around the wetland is significantly degraded. Management of the wetland includes addressing introduced and pest flora and fauna species and treatment of urban stormwater entering the wetland system. The Wetland Management Plan recommends:

- The maintenance of the riparian zone to ensure that post-development water quality/quantity levels being introduced into the wetland does not exceed pre-development levels;
- Monitoring of water quality to ensure that changes to wetland water quality since development are adequately managed;
- A pre-development inspection to target removal of any weed species and monitoring every 12 months thereafter to ensure weed regeneration does not become established; and
- Land remediation to provide more natural surface levels and rehabilitation/re-vegetation of the wetland 50m buffer area.

6.4 Acid Sulfate Soils Management

An Acid Sulfate Soils Management Plan (**Appendix 9 - Acid Sulfate Soils Management Plan**) has been prepared for the Park Street LSP 3A, which documents the findings of desktop assessment, site investigations including soil/water bore drilling and laboratory testing of samples obtained in the field. The presence of ASS is limited due to the predominance of sand dunes within the LSP 3A area. As such, ASS is unlikely to impose a significant environmental constraint to the urban development of the subject site. Where ASS are located as part of development, it is possible to manage and treat soil acidity and ground water flux through appropriate site and ASS management plans.

6.5 Gas Pipeline Risk Assessment

Gas Pipeline Risk Assessments (**Appendix 10 - Quantitative Risk Assessment of Gas Pipelines**) were prepared for the proposed LSP 3A area in accordance with Schedule 4 'Special Use – Albion' of LSP 17 and the WAPC Planning Bulletin No. 87 'High Pressure Gas Transmission Pipelines in the Perth Metropolitan Region'. The pipeline risk assessments focuses on quantitative risk assessment which estimates the individual risk for pipeline failure, in the context of protective measures provided to the pipeline.

The pipeline risk assessment scope of work included:

- Assessment of the two gas pipelines (DBNGP & Parmelia pipelines);
- Pipeline crossings (i.e. roads, pathways);
- Demolition;
- Civil construction works;
- Future maintenance; and
- Other aspects of the proposed LSP 3A development.

The Gas Pipeline Risk Assessments identified the mitigation measures and actions to be undertaken by the developer to ensure the results and conclusions of the Assessment remain valid. With the proposed mitigation measures in place, it is deemed that the risk levels posed by proximity to the gas pipelines for residents are within EPA guidelines. This will enable residential development to occur adjacent to the pipeline easement.

In consultation between the developer and the two gas pipeline operators, both operators have accepted the recommendations of the Gas Pipeline Risk Assessment with respect to the proposed risk mitigation measures to be adopted. This will enable residential subdivision within the setback distance. Copies of the letters provided by both gas pipeline operators are provided in the summary of the Gas Pipeline Risk Assessment Report (Appendix 10).

6.6 *Fire Management Plan*

6.6.1 *Bushfire Assessment*

A bushfire assessment has been undertaken over vegetation proposed to be retained within the LSP 3A and surrounding land, which may present as bushfire hazard to proposed development within LSP 3A. The bushfire assessment has been undertaken in accordance with WAPC/FESA 'Planning for Bush Fire Protection Guidelines'.

Plan 11 – Existing Vegetation Assessment shows the location and classification of the vegetation types within the LSP 3A area and adjacent landholdings. The predominant classification is 'woodland' to 'open woodland', with some areas containing 'open heath' and 'scattered trees'. Based on the vegetation types as shown in Plan 11, the bush fire hazard assessment has been identified in **Plan 12 – Bushfire Hazard Assessment**.

6.6.2 *Bushfire Management*

As identified in Plan 11, there is a 'Low' hazard rating to the west and east of the LSP 3A area, with a 'Moderate' to 'Extreme' risk within a small area to the south. To determine the Bush Fire Attack Level (BAL) as per the FESA Guidelines, the slopes and distances of the surrounding and retained vegetation from proposed residential lots were assessed. **Plan 13 – Bushfire Management Plan** identifies the proposed residential lots that are at risk to bush fire attacks and classifies the BAL for residential areas. For some residential lots, as shown in the Fire Management Plan (Plan 12), construction standards for future housing will be required in accordance with Australian Standard – Construction of Buildings in Bushfire Prone Areas (AS 3959-2009) for BAL of 12.5 and greater.

The portions of the subject site and surrounds identified in Plan 12 are those areas rated at an 'Extreme' or 'Moderate' bushfire hazard rating, in addition to a 100m buffer distance from these hazard areas. These areas are declared as 'Bushfire Prone Areas' for the purpose of LPS 17 and the Building Codes of Australia, and development within these areas may be subject to additional planning and built form controls. This may include a requirement for Detailed Area Plans as a condition of subdivision and/or the imposition of AS 3959-2009 as a component of any Building Licence issued for a dwelling.

There is also a requirement under the FESA Guidelines and City of Swan Environmental Planning Policy (POL-C-104) for two emergency access points in and out of the development. An access point is provided from Park Street in the north and a secondary alternative emergency access is provided via Henley Brook Avenue to the east.

Secondary Emergency Access

It is proposed that the second emergency access be provided by an extension of the bicycle pathway adjacent to the wetland area (within the 50m buffer), connecting through to the proposed Principal Shared Path (PSP) within Henley Brook Avenue road reserve.

The design of the secondary emergency access would be in accordance with the FESA Guidelines and may constitute a trafficable 2.5m wide red asphalt shared path with 1.5m compacted limestone shoulders on both sides, which can be used by pedestrians, cyclists and emergency vehicles.

Public access using vehicles would be restricted within the secondary emergency access by the placement of removable bollards and/or lockable gates. This secondary emergency access would be of less importance once the ultimate east-west LSP 3A road connections and Henley Brook Avenue are constructed.

A secondary temporary formal access is proposed as discussed in Section 8.7.2 of this report and is shown on the LSP 3A map. The need for the secondary emergency access within the 50m buffer may not be required depending on the provision of the secondary temporary formal access, which itself will be subject to whether other external linkages are provided in the interim.

6.6.3 *Dwelling Construction*

Bushfire Attack Level (BAL) is the determination of the construction requirements for a building site, with the threat or risk of bushfire attack assessed by a qualified Fire Management Consultant. BAL rating determinations are of 6 levels BAL LOW, BAL 12.5, BAL 19, BAL 29, BAL 40 and BAL FZ. Building is generally not recommended in BAL 40 or BAL FZ areas. The BAL rating is determined by the distance of the building to vegetation, slope and vegetation type in proximity to the dwelling.

Subdivision of lots within the proposed LSP 3A will require some houses to be built to BAL 12.5, 19 and 29 and AS 3959-2009 will apply. The standards outlined in AS 3959-2009 provide reference to specific items of building and it is recommended that individual prospective home owners discuss these in detail with their builder. Some of the construction considerations under AS 3959-2009 to consider when building in bushfire prone areas include treatments to windows, doors, vents, roof, eaves, gutters and facias and construction of external walls and structural supports. Construction standards are to be approved by the local authority prior to issuing of a Building Licence and commencement of building works.

Detailed assessment for changes to the BAL Assessment as identified in the Bushfire Management Plan can be undertaken at the individual building (home) construction stage by an accredited Fire Management Consultant with approval from the local authority. The developer will be responsible for the implementation of a notification on the title under Section 70A of the Transfer of Land Act 1983 to reflect this requirement. This is generally a standard condition of subdivision approval as is the preparation and approval of a detailed Fire Management Plan. This will be undertaken by the developer at the subdivision stage for the relevant areas of the LSP 3A as set out in Part One (Statutory Section).

6.7 *European Heritage Sites*

Following consultations with Heritage Council of WA, City of Swan, National Trust of Australia and Australian Heritage Commission, it is deemed that there are no significant sites (either recorded or existing) of European heritage within the LSP 3A area.

6.8 *Indigenous Heritage Sites*

An Aboriginal Heritage Study (**Appendix 11 – Aboriginal Heritage Study**) was undertaken in accordance with LPS 17 Schedule 4 'Special Use – Albion' to ascertain if there were any significant indigenous heritage issues affecting the subject site.

Various studies were conducted which indicated that one recorded site exists within the LSP 3A area. The indigenous site, consisting of four *artefacts scatters* on a sand dune within Lot 9000, is registered as Department of Indigenous Affairs Site 25822 Park Street #1).

This site has been registered under permanent status but has not yet been assessed by the ACMC. The location of the site near the edge of both sides of the quarry face and crest suggest that the past sand mining operations have significantly disturbed the site.

The DIA considers the site as substantially disturbed, of low archaeological significance with limited research. A Cultural Management Plan (September 2010) has been prepared by the developer in accordance with the requirements of the local authority for structure planning.

The requirements set out by the City of Swan are provided in Table 1 on the following page.

Table 1. Indigenous Heritage – Park Street LSP 3A

Item	Requirement	Response
a)	Requirements of the Aboriginal Heritage Act 1972 are met so that the development of each area does not affect cultural heritage and indigenous associations with the area.	The Ethnographic and Archaeological Site Identification Survey (September, 2008) determined that there are no significant cultural heritage constraints affecting the proposed urban development within the LSP 3A
b)	Application under the Aboriginal Heritage Act 1972 is to be made if disturbance to the archaeological site located at Lot 9000 is to occur as part of urban development.	The Ethnographic and Archaeological Site Identification Survey (September, 2008) identified that the DIA Site 25822 does not meet the criteria of a site under Section 5 of the Aboriginal Heritage Act 1972 and thus a Section application to disturb this site is not required.
c)	Any commitments made during consultation with Aboriginal groups are maintained during all stages of Planning.	Refer to the Ethnographic and Archaeological Site Identification Survey (September, 2008)
d)	Appropriate recommendations are incorporated into development and subdivision plans which seek to maintain the cultural values of wetlands and creeks.	It was requested by the Aboriginal people that all the wetlands and creeks within the Park Street LSP 3A area be kept as close as possible to their natural state. They also requested interpretation signage be located to reference the Aboriginal heritage of the area.
e)	Prior to the commencement of site works, contractors shall undergo a briefing on Aboriginal Heritage issues to enable them to recognize materials that may constitute an Aboriginal site. During earthworks, all contractors shall be supervised by a Site Manager who shall seek advice from the DIA to confirm the identification of any suspected site.	The Cultural Heritage Management Plan and Cultural Material Contingency Plan provided within the Ethnographic and Archaeological Site Identification Survey (September, 2008) provides an outline of the necessary steps that need to be taken if cultural material is excavated during site works and the relevant compliance and monitoring required. Figure 2 – Cultural Material Contingency Plan identifies the process of letting contractors know about the process of identifying Aboriginal Cultural Material.

6.9 Acoustic Assessment

An Acoustic Assessment was carried out to ascertain the level of noise and mitigation measures for future residential development adjacent to the Henley Brook Avenue alignment. The scope of works for the Acoustic Assessment (**Appendix 12 – Acoustic Assessment**) included:

- Noise modeling to ascertain the forecast noise that would be received by future proposed residential lots from vehicles travelling on the future Henley Brook Avenue;
- Assess the forecast noise levels against the relevant criteria for compliance; and
- Recommend mitigation measures that can be implemented if excess noise levels are forecast to make compliant.

The Acoustic Assessment found that forecast noise levels generated from vehicles using Henley Brook Avenue could exceed the WAPC State Planning Policy 5.4 *'Road and Rail Transport Noise and Freight considerations in Land Use Planning'* by up to 4dB(A) for proposed adjacent residential lots. In order to achieve compliance with acceptable noise limits, a noise wall of minimum height of 2.2 metres is required to be constructed on the boundary of proposed Residential R30 lots with Henley Brook Avenue road reserve. This was included as a condition of subdivision approval of the 'Early Release Subdivision' lots for Lot 9000.

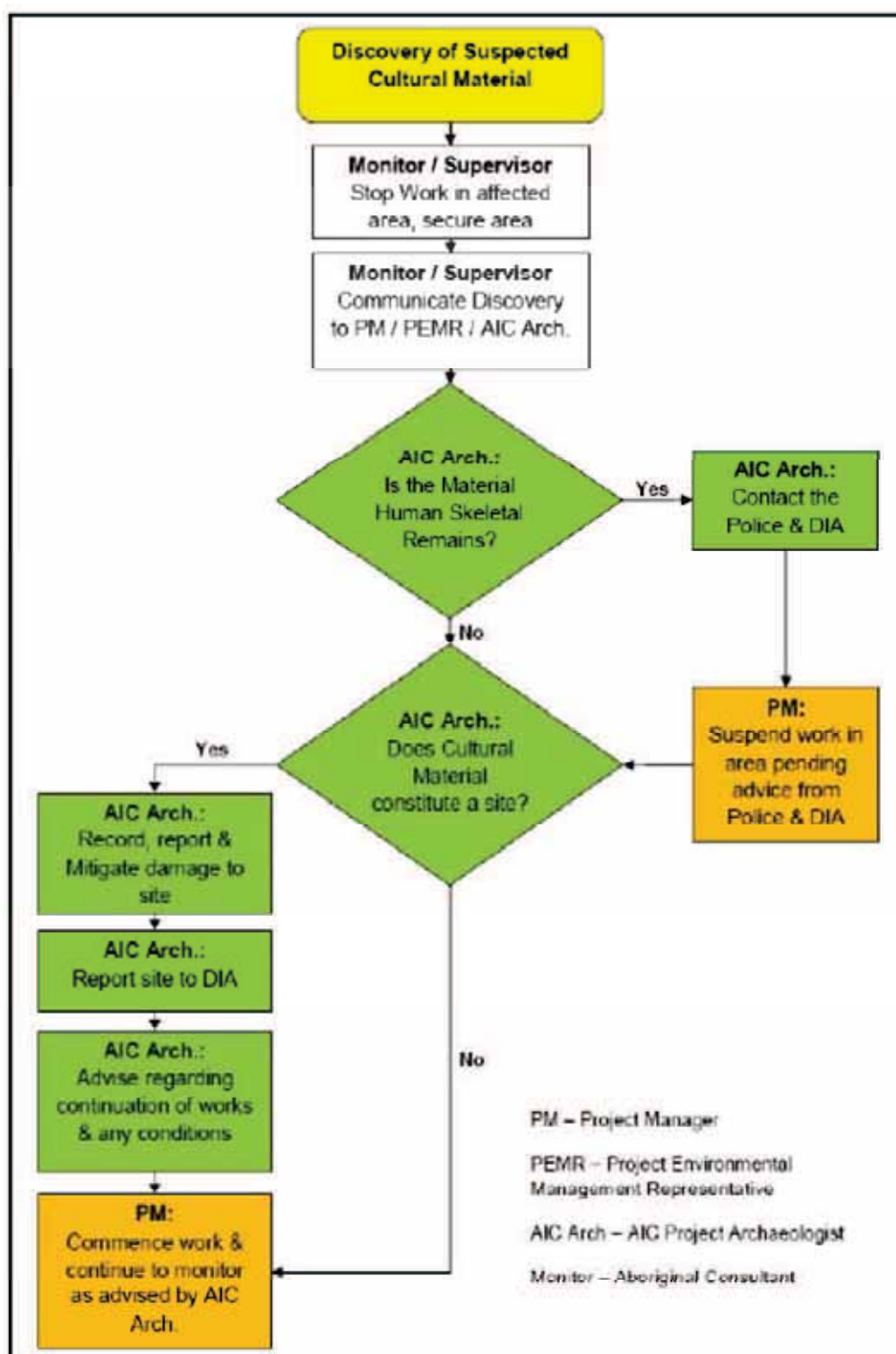


Figure 2 – Cultural Material Contingency Plan (Source: AIC, 2010)

7.0 INFRASTRUCTURE & SERVICING

7.1 *Earthworks*

The topography of the subject site is such that significant earthworks and re-contouring of the development site will not be required. The only major earthworks that will be necessary is for the construction of major neighbourhood connector roads and servicing of lots. Wherever possible the natural topography will be retained in order to minimise earthworks.

7.2 *Road Hierarchy & Design*

The primary formal access point to the LSP 3A development will be provided from Park Street to the north. The “T” intersection for the main entry into the development from Park Street is situated at a safe location with there being good visibility at the crest of a gradual rise. This entry point into the LSP 3A development site has been identified in the traffic assessments undertaken for the preparation of the Albion District Structure Plan and Swan Urban Growth Corridor Sub-Regional Structure Plan.

As per the Traffic Assessment and Addendum Report prepared for LSP 3A (refer to **Appendix 15 – Transport Assessment** and **Appendix 16 – Addendum to Transport Assessment**) Park Street will function as the primary neighbourhood connector road, providing a linkage between the LSP 3A development and the district and regional road network. The LSP 3A also provides for future neighbourhood connector road connections to adjacent landholdings to the west and south and east intersection with the future Henley Brook Avenue. This is consistent with the Albion District Structure Plan.

Local access roads have been designed in response to topography and the need to provide legibility, permeability and walkability as per the requirements of *Liveable Neighbourhoods*. Access to Lots 9000 and Lot 352 is proposed via the early release subdivision approval and future staging. The orientation of roads and street blocks provides opportunity to design residential lots with north-south and east-west orientation to encourage passive solar housing design. The outcomes of the Transport Assessment are further discussed in Section 8.8 of this report.

7.3 *Reticulated Sewer/Pumping Station*

The Engineering Servicing Report 2007 (refer to **Appendix 14 – Engineering Servicing Report**) demonstrates that the Park Street LSP 3A development can be adequately serviced with reticulated wastewater infrastructure consistent with the Albion District Structure Plan servicing assessment.

Consistent with the Water Corporation's strategy for provision of reticulated wastewater infrastructure in Albion, a temporary Type 40 wastewater pumping station is proposed to be constructed in the south-east corner of Lot 9201 to accommodate wastewater disposal for initial stages of development. The Water Corporation approved pumping station (refer to **Appendix 13 – Reticulated Sewer, Water and Power Plans**) will have an ultimate flow rate of approximately 14 litres per second. Under the EPA Policy No. 3 '*Separation Distances between Industrial and Sensitive Land Uses*' (2005) the required buffer distance for a Type 40 wastewater pumping station with flow rates less than 40L/s is 10.0 metres. Accordingly, a 10.0 metre buffer has been provided around the proposed pumping station.

It is considered that the pump station and associated buffer should be held as a single [balance] land parcel until the temporary wastewater pumping station is removed. This will prevent subdivision and development from occurring within the buffer until the pump station is removed. Accordingly, this requirement is included in Part One (Statutory Section) of the Park Street LSP 3A.

The timing for the phasing out of the temporary pumping station will be determined by the Water Corporation as part of its assessment of subdivision applications in the Albion District Structure Plan area. To comply with the Water Corporation's requirements, the developers will fund all temporary reticulated wastewater infrastructure (i.e. pump station) in order to provide wastewater services.

7.4 *Reticulated Water*

In accordance with the Water Corporation's strategy for the provision of reticulated water to the Albion District Structure Plan area, reticulated water supply will be made available to the development site by the extension of the 400mm or 500mm distribution mains from San Lorenzo Boulevard, Ellenbrook. The developers may be required to pre-fund these mains at the time of subdivision. However, initial stages of subdivision could be serviced via extension of a 250mm reticulation main from the existing water mains in Gnangara Road east of Lord Street then along Park Street to LSP 3A (refer to Appendix 13).

7.5 *Power*

Power has been made available to the LSP 3A area via the extension of existing services in Partridge Street along Park Street. Appendix 13 shows the Western Power underground power design for early release subdivision approval within LSP 3A. Future stages of development within LSP 3A will be serviced by extensions of the underground power in the early release subdivision areas.

7.6 *Telecommunications*

Telstra have indicated that there are sufficient telecommunication service connections for the LSP 3A development. Telecommunication infrastructure will be provided by the National Broadband Network Company (NBN Co). Created in 2009, NBN Co is a wholly owned Commonwealth company whose goal is to deliver Australia's first national wholesale-only open access fibre optic broadband network to urban and regional areas. Under an NBN Co Developer Agreement, NBN Co will cover the cost of fibre infrastructure installation in new developments and developers will have the responsibility for commissioning the design phase and installation of the pit and pipe infrastructure to NBN Co's specifications. Pit and pipe infrastructure has been installed within early release subdivision approval Stages 1 and 2 as per the approved design plans contained in Appendix 13.

7.7 *Reticulated Gas*

Reticulated gas will be provided to the Park Street LSP 3A area via the construction of gas mains from Gnangara Road along Lord Street and then along Park Street. A contribution has already been made by the developer for the completion of these works. Appendix 13 shows the approved gas design plans for the early release subdivision Stages 1 and 2. Gas services will be provided to the balance areas of LSP 3A through extensions to the infrastructure provided in Stages 1 and 2.

8.0 THE LOCAL STRUCTURE PLAN

8.1 *Design Rationale*

Based on the planning principles of *Liveable Neighbourhoods*, the Park Street LSP 3A has been designed to create a vibrant and sustainable community. The LSP 3A design has been logically planned to integrate with adjoining landholdings within the context of the Albion District Structure Plan. Environmentally sensitive areas, including the Resource Enhancement Wetland, have been preserved with opportunity for rehabilitation of the environment.

8.2 *Integration with Surrounding Development*

The key areas for integration with adjoining landowners are future road connections, alignment of street blocks and areas set aside for public 'Recreation'. The LSP 3A design provides opportunity to ultimately connect with future urban development of neighbouring lots consistent with the Albion District Structure Plan (ADSP). The road layout as contained in the ADSP is reflected in the design of the LSP 3A road network. The major east-west and north-south neighbourhood connector roads provide linkages as per the ADSP. **Plan 14 – Integration with Adjoining Landholdings** demonstrates that the Park Street LSP 3A is consistent with proper and orderly planning for the area as envisaged in the ADSP.

8.3 *Residential Density*

Under the Swan Urban Growth Corridor Sub-Regional Structure Plan and Albion District Structure Plan, an average net density of 22 dwelling units per hectare should be provided for over the entire urban growth corridor. The Park Street LSP 3A has provided for approximately 27 dwellings per hectare as shown in Table 2 – Housing Typologies.

The Park Street LSP 3A density of 27 dwellings per hectare satisfies the target density dwellings per hectare of 22 dwellings/ha under the ADSP and Swan Urban Growth Sub-Regional Structure Plan. It is also above the expectation of Directions 2031 which sets a target of 15 dwellings/ha.

Under the ADSP [Table 7, p.33], an estimated total of 387 dwellings are anticipated from the LSP 3A area. The Park Street LSP 3A proposes 754 dwellings, which significantly exceeds the expectations under the ADSP.

The Park Street LSP 3A proposes a range of housing typologies (freehold and strata) that will provide opportunity for diverse range of housing stock and accommodation to cater for future population growth. It is proposed that small lots (cottage and grouped housing) will be located around areas of both public and private open space, which is consistent with the principles of Liveable Neighbourhoods.

Table 2. Housing Typologies for Park Street LSP 3A

Housing Typology	Net Residential Area ¹ (ha)	Estimated Dwelling Yield
Traditional front loaded lots (15m/18m/20m x 30m)	13.1378	263
Narrow front loaded lots (10m/12.5m x 30m)	2.2072	63
Cottage lots (R30/R40)	8.0487	269
Grouped Housing lots (R40)	4.7834	159
Total	28.1771	754
LSP 3A density dwellings per hectare	28,1771m ² divided by 754 = 373.7 average lot area = 27 dwellings per ha	

¹ Area set aside solely for residential use and excludes roads, reserves, easements etc.

8.4 Non-Residential Land Uses

An 'Activity Node' is proposed within LSP 3A as indicatively shown on the Structure Plan Map at the southern end of Arpent Link. It is envisaged that this community activity node would include land uses such as:

- Private Recreation – Day Spa/Gym and possibly Tennis Court/s;
- Convenience Store – similar to a small deli providing daily needs; and
- Café – including small alfresco area as a meeting place.

The above uses could be accommodated within a privately owned and operated community building with a floor area of up to 400m² on a lot of approximately 1,000m² - 1,250m². The final location for the activity node can be determined at the subdivision stage. It is likely that the activity node would be established in the final stages of the LSP 3A subdivision/development.

8.5 Detailed Area Plans

Detailed Area Plans (DAPs) are proposed in accordance with Clause 5A.1.15 of LPS 17 to control future built form within certain areas of LSP 3A. In general DAPs will be required for any rear loaded laneway lots, lots abutting POS and gas pipelines, grouped dwelling sites and lots adjacent to Henley Brook Avenue requiring a noise wall. The indicative location of the areas that will require DAPs is shown on the Park Street Local Structure Plan 3A map.

Built Form to encourage Surveillance

The DAPs will provide guidance as to desired built form outcomes including building setbacks, uniform fencing, vehicular access, location of garages, building orientation and passive surveillance. For instance, POS or private communal open space should be overlooked by development backing or siding onto the open space. This highlights the need for appropriate edge treatments through provision of visually permeable fencing, lighting, surveillance from major openings (second storey windows and/or balconies), common property driveway and dwelling orientation etc.

R40 Strata Development

DAPs can be used to coordinate future strata development over the larger grouped housing sites in order to achieve positive built form outcomes in terms of the streetscape, surveillance of gas pipeline easement areas and planning of irregular shaped lots. The DAPs will predominantly focus on the edge treatments with POS and proposed 'Private Communal Open Space' areas, as well as interface with local access and neighbourhood connector roads. The requirement for a DAP can be determined at subdivision stage.

8.6 Public Open Space

8.6.1 Public Open Space Rationale

Local neighbourhood parks can contribute towards legibility, identity and sense of place that helps build community. Within the LSP 3A, public open space areas have been located spatially to provide residents with local parkland within a 400m walking distance.

The natural features, such as the lower lying areas of the LSP 3A provide opportunity to create multiple use drainage and public open space areas for both passive and active recreation.

The northern and southern local parks will incorporate grassed and/or landscaped drainage detention swale areas for drainage function.

The Albion District Structure Plan does not identify any requirement for regional or district open space within LSP 3A area. However, the Resource Enhancement Wetland area in the eastern portion of Lot 9000 and over a portion of Lot 352 has been provided for consistent with the ADSP. The POS provision in the Park Street LSP 3A does not adversely impact on the ability of the balance area within ADSP - Local Structure Plan 3 to meet its POS requirements.

Plan 15 – Public Open Space Plan shows the location of public open space within LSP 3A. Analysis has been undertaken to ascertain the accessibility of the proposed POS areas within LSP 3A and ultimate POS provisions in the context of the ADSP.

Plan 10 – Walkable Catchment Area identifies the 400m walkable catchment areas from all the POS areas within LSP 3A plus those identified in the ADSP adjacent to the LSP 3A area. Table 3 comprises the POS Schedule for the LSP 3A area.

Within the Albion DSP some landowners have limited allocation of POS within their landholdings and others have in excess of the 10% POS requirement. The Development Contribution Plan is the mechanism for cost sharing and reimbursement, which is administered by the City of Swan.

Whilst the credit percentage of POS in the Park Street LSP 3A is less than the 10% requirement, this is acceptable on the basis that:

- (i) The extent of POS within the LSP 3A (including Resource Wetland POS) is generally consistent with the endorsed Albion District Structure Plan; and
- (ii) Additional POS is proposed in other Local Structure Plan areas of the Albion DSP, which compensate for the shortfall in the LSP 3A POS credit percentage. The subsequent accreditation of POS in LSP 3A is subject to detailed design and landscape concept plans, demonstrating its usability and function as recreational use to the satisfaction of the local authority.

Table 3. Public Open Space Schedule for Park Street LSP 3A

Park Street LSP 3A Site Area			51.2601 ha
Less			
Foreshore Reserve	Nil		
Environmental protection policy areas Wetlands to be ceded	Nil		
Protected bushland site	Nil		
Unrestricted POS sites not included in POS contribution	Nil		
Total Net site area			51.2601 ha
Deductions (LN Element 4 – R43)			
Primary School	Nil		
Town centres and commercial	Nil		
Dedicated drainage reserve	Nil		
Transmission corridors	Nil		
Other approved contingencies:			
- Henley Brook Avenue	1.3809		
- Dampier to Bunbury Natural Gas Pipeline	1.8227		
- Drainage (More frequent than 1 in 1 yr ARI - Bio-retention wetland buffer 'fingers')	0.2049		
- Wetland Core (Lot 9000 only)	0.6914		
- Drainage Basins	0.2924		
- Parmelia Pipeline	0.8474		
			5.2397 ha
Gross Subdivisible area (GSA)			46.0204 ha
Public open space @ 10 per cent required			4.6020 ha
Public open space contribution			
May comprise:			
- minimum 80 per cent unrestricted POS	3.6816 ha		
- Maximum 20 per cent restricted use POS	0.9204 ha		
			4.6020 ha
Unrestricted POS area (Non-Drainage Areas > 5yr ARI)			
Local Parks			
North (LP1) excluding 1:5 drainage swales	0.3485 ha		
South (LP2) excluding 1:5 drainage swales	0.1635 ha	0.5120 ha	
Parmelia Pipeline Easement – Private Communal Open Space (WAPC DC Policy 1.3 states a max. of 50% of the 10% POS requirement for strata lot development may comprise of private communal open space)		0.2762 ha	
Resource Enhancement Wetland (50m Buffer) excluding 1:1 bio-retention drainage swale 'fingers'			
Lot 9000	1.3617 ha		
Lot 352	0.3636 ha	1.7253 ha	
			2.5135 ha

<i>Restricted use POS area (1:5 yr ARI)</i>			
Local Parks			
North (LP1) 1:5 drainage swale North (LP2) 1:5 drainage swale	0.0531 ha 0.1638 ha	0.2169 ha	
Resource Enhancement Wetland (Core)¹		0.7035 ha	0.9204 ha
Public open space provision provided in LSP 3A			3.4339 ² ha (7.46%) ³
Public open space provision provided in LSP 3A including DCP contribution area			4.6032 ha (10.00%) ⁴

Notes

- (1) Of the total wetland core area of 1.4088 hectares being used within the LSP 3A, only 0.7035 hectares is being credited as usable POS. This equates to 50% of the wetland core area being credited as usable POS. The balance area of the wetland core is a deduction from the GSA.
- (2) There is a shortfall of Unrestricted POS approximately 1.227 hectares, which is to be provided by other Local Structure Plans in Albion DSP in accordance with the Development Contribution Plan.
- (3) The POS provision of 7.33% in LSP 3A, which is less than the required 10%, is provided on the basis of the provision of 11.5 hectares of active POS in the Albion District Structure Plan that is subject to acquisition under the Development Contribution Plan.
- (4) Adding the DCP proportion of Unrestricted POS outside of the LSP 3A area (which equates to 1.1693 hectares), the aggregate total POS contribution provided by the LSP 3A landholdings is 4.5443 hectares (9.87%), whereby Park Street LSP 3A landholdings (51.2601 hectares) comprises 10.2% of Albion DSP area (504.1368 hectares). Final POS accreditation is subject to detailed subdivision design and approval of LWMS and UWMS.

8.6.2 Landscaping

The underlining concepts guiding the landscape design within the public open space areas of LSP 3A are:

- Provision of public facilities which cater primarily for recreational activities to suit the predicted demographic for the locality, including but not limited to active uses and passive uses such as picnics, nature observation, passive contemplation, walking exercise etc;
- Stormwater detention in POS areas to minimise downstream overflows following major storm events catering for 1:1yr, 1:5yr and 1:100yr events;
- Bio retention swales to collect stormwater runoff, planted with reed and fringing vegetation to provide a nutrient stripping function. The use of bio retention basins will enable larger areas of open space to remain dry during the winter months;
- The variability of the topography and the requirement for the POS to cater for stormwater retention will create multiple tiered public open spaces;
- Integrated path systems and boardwalks to link and create areas suitable for walking, dog walking, cycling, skating and similar;
- Planting in POS will consist of a mixture of turf, native and exotic species, with an emphasis wherever possible on using indigenous plantings;

All POS within the Park Street LSP 3A area will be appropriately landscaped in consultation with the local authority to determine appropriate landscaping species and levels of parkland infrastructure. Further details of the type of landscaping and estimated costs are provided in Section 9 'Financial Assessment' of this report.

8.6.3 Unrestricted POS Credit

A total of 2.6 hectares (5.5% of gross subdivisible area) has been provided as unrestricted public open space within the local parks, Parmelia gas pipeline easement and wetland buffer. Under the Albion District Structure Plan, the Resource Enhancement Wetland 50m buffer area is considered to be suitable for recreation and drainage function.

Parmelia Gas Pipeline Easement

The Parmelia Gas Pipeline Easement area is approximately 1.1236 hectares in area. The Park Street LSP 3A proposes 0.2762 hectares of private communal open space to be incorporated into the LSP 3A 10% POS requirement. This is consistent with WAPC's Policy DC 1.3 Clause 3.3.3 which states that the WAPC may allow a maximum of 50% of the total 10% POS requirement to be provided as communal open space within the strata development.

This is subject to the POS being usable and developed for general recreational function. This leaves the balance Parmelia pipeline area of 0.8474 hectares as a POS deduction.

LSP 3A proposes that the Parmelia Gas Pipeline Easement be included within strata development as 'Private Communal Open Space'. The land use permissibility within the Parmelia Gas Pipeline Easement would be 'Private (Communal) Open Space' as defined in Part One (Statutory Section) of this report.

Two grouped housing sites were approved under a survey-strata application (WAPC 96-11) under the early release subdivision approval (WAPC 137969), which allows for private communal open space within the Parmelia Gas Pipeline Easement.

As a condition of subdivision approval, the WAPC required that a Management Statement be prepared, which needs to provide and specify a detailed plan and management arrangements for the maintenance of the private communal open space. A Management Statement would need to be endorsed by the pipeline operator.

8.6.4 *Restricted POS Credit*

A total of 0.9202 hectares (2% of gross subdivisible area) has been provided as restricted public open space within the Resource Enhancement Wetland core and dry basins (1:5yr ARI drainage swales) with the local parks LP1 & LP2. The dry basins would be grassed to allow opportunity for both active and passive recreation.

The Albion District Structure Plan envisages that the Resource Enhancement Wetland (core and buffer) can be used for passive recreational pursuits, such as walking, bird watching, picnicking and nature studies. This would be subject to controlled public access to prevent degradation of conservation values and to assist in regenerative processes.

Liveable Neighbourhoods allows a Resource Enhancement Wetland to be included as creditable 'Restricted Use' POS where:

- (i) area is usable for recreation; and
- (ii) an agreed Wetland Management Plan is in place which enhances the wetland.

Both of the above are satisfied. A Wetland Management Plan is proposed for approval which enhances and rehabilitates the wetland. Notwithstanding that there are no recreational infrastructure and paths proposed within the wetland core itself, the wetland core can be used for recreational pursuits, such as bird watching, walking and visual amenity.

The wetland core will not be restricted by fencing for public access as fencing could also have a negative impact on fauna. It is noted that the WAPC allows for artificial water bodies to be included in the 2% Restricted Use POS where it contributes to park amenity. Similarly the wetland core will contribute to the 'parkland amenity'.

8.6.5 *POS provision by landholdings*

There are three landowners within the Park Street LSP 3A area, of which each landowner is providing either a surplus or shortfall of POS.

Given that Lot 9201 and Lot 9000 are wholly within Park Street LSP 3A, to ensure the equitable provision of POS, a legal agreement between the two landowners has been executed which compensates the landowner of Lot 9000 for the surplus POS being provided.

The surplus POS being provided by the Department of Housing for the portion of Lot 352 within LSP 3A is proposed to be accredited towards the future POS contributions for the DoH's landholdings within the balance LSP 3 precinct under the Albion District Structure Plan.

8.7 *Environmental Considerations*

The subject site has been extensively cleared in the past for agricultural use and sand mining. The environmental investigations and analysis as discussed in Section 6.0 of this report indicate that, subject to the relevant management plans being prepared to address environmental aspects, there are no significant environmental constraints that would preclude the subject site from being developed for urban use.

8.8 Movement Network

A Transport Assessment for the Park Street LSP 3A was undertaken in September 2010 (refer to **Appendix 15 – Transport Assessment**) which analyses the operational traffic considerations of the road and pathway network. Subsequent to this an Addendum to the Transport Assessment has been prepared, which addresses the preliminary comments raised by City of Swan and Department of Planning. The Addendum Report is contained in **Appendix 16 – Addendum to Transport Assessment**.

8.8.1 Existing Movement Network

Regional Road Network

Lord Street is proposed to be upgraded in lieu of the proposed Perth to Darwin Highway. Access to Lord Street from the Albion District Structure Plan area will be provided at various locations to be determined.

Henley Brook Avenue is proposed to be constructed in the future immediately to the east of LSP 3A within the MRS 'Other Regional Road' reservation. It is proposed to be a four lane dual carriageway with an operating speed of 60kph. This, together with the upgrades to Lord Street, will form an important district north – south connection through to Gnangara Road to the north and Reid Highway to the south.

District Road Network

At present, Lord Street serves as a principal north-south distributor road. Access to Lord Street from LSP 3A is via Park Street.

Park Street is proposed to be upgraded (most of this has now occurred as part of the early release subdivision approvals) with an operating speed of 50kph. Park Street will form an important east-west connection, particularly for the initial stages of development as per the Sub-Regional Structure Plan for the Swan Urban Growth Corridor (Figure 1B).

Youle-Dean Road to the south of LSP 3A is proposed, under the ADSP, to be constructed as a future Integrator Arterial B.

Local Road Network & Pathways

Local roads and pathways have been constructed as part of the 'Early Release Subdivision' approvals as stated in 2.3 of this report. The Park Street LSP 3A has been designed to include these existing roads and pathways. Arpent Link forms the main entry into the development site.

8.8.2 Proposed Movement Network

Park Street

Park Street has been upgraded to the satisfaction of the local authority as part of the early release subdivision approvals. Park Street will provide the major road connection to the LSP 3A area until other external linkages can be constructed as envisaged under the Albion District Structure Plan. The Transport Assessment and Addendum Report demonstrate that Park Street is capable of accommodating the additional traffic generated by the LSP 3A development in the interim. It is recommended that the section of Park Street between LSP 3A and LSP 1A also be widened from the existing 6m seal width to 7.4m with 1.2m shoulders to match the traffic lane widths that have been constructed on the upgraded sections. This will provide a uniform width suitable for the forecast traffic flows until Henley Brook Avenue is constructed.

On the northern side of Park Street are 'Rural' zoned properties predominantly 2.0 hectares in area. On the southern side of Park Street are 'Special Residential' transition lots ranging in size from 2,000m² – 2,500m², reflecting an R5 residential density code. These lots form the transition to higher residential densities, but are themselves considered to form part of the overall urban development under the Albion District Structure Plan.

Accordingly, Park Street is no longer considered a *rural road*, given that the ADSP proposes Park Street to be upgraded with an operating speed of 50kph. Typical operating speeds along rural roads are generally 70kph – 90kph, which is not being considered for Park Street under the ADSP. The operating speed of 50kph, as proposed under the ADSP, is typical of most urban roads.

In order to accommodate full residential development of the LSP3A area, the Western Australian Planning Commission (WAPC), on advice from the City of Swan, may require as a condition of subdivision approval for the creation of any lot/s that will cause the total number of lots approved for subdivision within the Structure Plan area to exceed 300 the upgrade of that portion of Park Street adjacent to Lot 500, Park Street to the satisfaction of the City of Swan.

Neighbourhood Connectors

The primary Neighbourhood Connector roads are shown in the Park Street LSP 3A map. These consist of a north-south connection between Park Street (via Arpent Link, Cobb Road & Pannage Way) and the southern boundary of the LSP 3A area. This neighbourhood connector road is proposed to be extended south beyond the LSP 3A area as identified in the Albion District Structure Plan.

An east-west neighbourhood connector road is proposed connecting Henley Brook Avenue through to the western boundary of the LSP 3A area and beyond. This neighbourhood connector road will eventually link with the roundabout [Fairmount Boulevard] constructed on the eastern edge of 'Whiteman Edge' estate to the west.

Liveable Neighbourhoods and WAPC DC Policy 2.6 'Residential Road Planning' require a highly connected and permeable street network, including a high level of internal connectivity and good external linkages. It should be noted that those policy requirements relate to structure planning, rather than to staged development within a local structure plan area. The planning for LSP 3A makes provision for future connections on all four sides, consistent with Liveable Neighbourhoods and DC Policy 2.6.

Local Access Roads

LSP 3A proposes a site responsive street network that provides a high level of internal connectivity with good external linkages for local vehicle, pedestrian and bicycle modes of transport. The proposed system of roads provides a hierarchy to reinforce legibility and provide for traffic management aimed at restricting vehicle speed, limit the negative impact of through traffic and create safe conditions for all street users.

It is intended that proposed roads will provide multi-purpose public spaces, designed to accommodate and balance traffic management with other functions such as community spaces, pedestrian environments and vehicle parking. In accordance with Liveable Neighbourhoods, the majority of streets have been designed to enable development to front all streets, public open spaces and natural areas. This will promote surveillance, activity and visual interest which contribute towards making streets and public spaces a safe place for social interaction. Where lots are proposed to side or back onto spaces (i.e. Parmelia Gas Pipeline), a Detailed Area Plan can be prepared so as to guide development in achieving good design and built form outcomes.

Neighbourhood permeability is provided through the design of street blocks with all street blocks being no greater than 240 metres and predominantly averaging around 180 metres in length, with the exception of the central blocks adjacent the gas pipelines. In this location, street blocks ranging 240m – 280m are unavoidable due to the constraints of the two gas pipeline easements, the irregular shape of the DBNGP easement and the location of the drainage basins.

As the DBNGP will be a fenced as a Crown Reserve with restricted public access, a road hardedge interface with the DBNGP is undesirable and not necessary. Similarly, a road hardedge with the Parmelia pipeline private communal open space would not be desirable as it would segregate the private open space from the strata development.

There are strong north-south road connections on either side of the 240m – 280m neighbourhood blocks, which provide for adequate permeability and accessibility by modes of transport including walking, cycling and vehicular movement. The street block lengths are substantially shorter closer to the Resource Enhancement Wetland, which increases choice of movement direction focused towards the wetland recreation/conservation area.

Temporary Secondary Formal Access

In the interim, pending the development of external linkages through adjoining landholdings to the west and south, to improve permeability in the road network and provide a formal secondary access point, a temporary road will be constructed in the north-east corner of the LSP 3A area.

A sealed formal secondary access road will be constructed by the developer which will connect the LSP 3A road system with Park Street via Henley Brook Avenue road reserve. This secondary access road may not be required if other appropriate external transport linkages are constructed. A Detailed Area Plan would be prepared in this area to guide appropriate built form and road access. Consideration may be given in future to the closure of this secondary formal access once other appropriate external linkages are provided.

Road Reserve Widths

LSP 3A provides for more land efficient street reserves, including narrower pavement widths that concurrently promote reduced vehicle speeds, reduced kerb radii and increased requirements for pathways, landscaping, verge treatments, street parking and street trees. Wherever possible, common trenching of services will be provided for, subject to approval by the utility service providers. This can enable the width of road verges to be narrowed by reducing the width of the utilities corridor. The final width of road reserves will be determined at the subdivision stage subject to detailed engineering design. As a general guide, it is envisaged that typical local access streets will be accommodated within 13m – 15.4m road reserve widths, depending on street parking requirements, carriageway widths and where roads adjoin public open space. For neighbourhood connector roads, a 20.0 metre road reserve width is deemed sufficient.

Intersection Treatments

Road intersections will be designed in consultation with the local authority. Depending on forecast traffic volumes, intersection treatments can include use of roundabouts, appropriate signage (i.e. 'give way' or 'stop' signs), raised platforms, splitter islands or other approved methods.

The intersection of Arpent Link and Park Street has been designed as a priority controlled T-intersection with a short turning pocket to reflect side-by-side left/right turning queues.

The Transport Assessment Addendum Report (Appendix 16) specifically addresses the required intersection treatments to cater for ultimate development, including the key intersections at Park Street/Lord Street and the roundabout intersection 500m to the south at the entry to LSP 1A development ('Whiteman Edge').

In order to accommodate further residential development within the LSP3A area, the Western Australian Planning Commission (WAPC), on advice from the City of Swan, may require as a condition of subdivision approval for the creation of future lot/s within the Structure Plan area the construction of a dual-lane roundabout at the intersection of Park Street and Lord Street in the location shown on the Structure Plan map (Plan 1) by the landowner at the landowner's cost, to the satisfaction of the City of Swan and Main Roads WA. Otherwise, the landowner is to make satisfactory arrangements with the City of Swan for the full cost of construction of a dual-lane intersection at the intersection of Park Street and Lord Street in the location shown on the Structure Plan map (Plan 1), to the satisfaction of the City of Swan and Main Roads WA.

8.8.3 *Proposed Movement Network – Pedestrian/Cyclists*

Vehicle speeds on local access streets will be limited through detailed road design measures including reduced pavement width appropriate to traffic volume, meandering of the pavement, on-street parking and use of different colouring of parking/cycle lanes to visually narrow the road. Dual use pathways are proposed along Neighbourhood Connector roads and other major local access roads connecting to destinations or providing external linkages. The exact location of pathways will be determined in liaison with the local authority at the subdivision stage.

8.8.4 *Proposed Movement Network – Public Transport*

A bus service provided by Transperth currently operates along Lord Street [Route 336 & 337]. The nearest bus stop is 100m south of Lord Street/Park Street intersection, being Stop No. 15531 & 15524. Ultimately it is envisaged under the Albion District Structure Plan that public transport Corridor will include a bus transit system to serve Albion along the proposed Activity.

The LSP 3A street network and hierarchy provides opportunity for an efficient and legible public bus transit route to directly service the development site at some point in the future. This would typically be along the neighbourhood connector roads, in particular, the east-west neighbourhood connector road linking Henley Brook Avenue and the proposed Activity Corridor under the ADSP. New bus stops, with embayments, can be constructed as development occurs and Transperth creates more route options for bus services.

8.8.5 *Traffic Forecasts*

The Transport Assessment Addendum Report estimates the LSP 3A ultimate development (754 dwellings) to generate approximately 6,000 vehicles per day. The peak trips and distribution of forecast traffic is provided in Appendix 16

8.8.6 *Future External Linkages*

In the interim, the primary formal access to the LSP 3A development will be via Park Street from Arpent Link. Ultimately, another secondary formal access point is proposed connecting the LSP 3A area with Lord Street via the neighbourhood connector road link through adjoining Lot 500 to the west as per the Albion District Structure Plan. Additional external linkages will also be created to the east and south in accordance with the ADSP once other landholdings are developed and/or the construction of Henley Brook Avenue.

It is problematic to create an effective secondary formal access point to the LSP 3A area without the cooperation of the adjoining landowners, both from a financial view and to set aside the land requirements to provide for road access. Privately owned land outside of the LSP 3A area is beyond the control of the developer.

The Transport Assessment/Addendum Report demonstrates that the LSP 3A development can be sustained on a single formal access point at the intersection of Arpent Link and Park Street, although in the longer term, other external linkages to the west, east and south will become available.

As with other urban development areas in the Perth and Peel Regions, a single access point is often only a temporary situation and is common in structure plan areas with fragmented landownership. The LSP 3A development, along with the Albion LSP 1A development to the west, represents the initial [pioneer] stages of development within the ADSP area. It can therefore be expected that there will be 'missing pieces' until other landowners develop in accordance with the ADSP.

8.8.7 *Fire & Emergency Access*

In accordance with the provisions of the WAPC/FESA 'Planning for Bushfire Protection Guidelines', a secondary access for emergency and fire service vehicles is proposed connecting to Park Street via the Henley Brook Avenue road reserve. The emergency access is shown on the Park Street LSP 3A map.

It is proposed that the second emergency access be provided by an extension of the bicycle pathway adjacent to the wetland area (within the 50m buffer), connecting through to the proposed Principal Shared Path (PSP) within Henley Brook Avenue road reserve.

The design of the secondary emergency access would be in accordance with the FESA Guidelines and may constitute a trafficable 2.5m wide red asphalt shared path with 1.5m compacted limestone shoulders on both sides, which can be used by pedestrians, cyclists and emergency vehicles.

Public access using vehicles would be restricted within the secondary emergency access by the placement of removable bollards and/or lockable gates. This emergency access route would be of less importance once the ultimate east-west LSP 3A road connections and Henley Brook Avenue are constructed. However, the access track would also function as a firebreak between vegetation and proposed residential land use.

8.8.8 *Local Area Traffic Management*

The Transport Assessment recommends the following infrastructure measures to better manage local traffic and to improve safety at key intersections within the development:

- Widening of the Park Street carriageway in the vicinity of the entry point to the LSP 3A development (i.e. Arpent Link entry) to enable eastbound traffic to overtake right-turning [queued] vehicles (which has now occurred);
- Along the main east-west neighbourhood connector road constructing blister islands and slow points as traffic calming; and
- At key intersections providing intersection treatment measures such as raised platforms and/or coloured flush brick paving, appropriate signage etc to identify and assist in traffic calming.

9.0 FINANCIAL ASSESSMENT

A Financial Assessment Report is required to be prepared as part of local structure planning under the City of Swan's Urban Growth Policy. The Financial Assessment Report is to address levels of infrastructure provision and timeframes for delivery, management programs for assets and staging of urban development.

In addition and more specifically, the Policy outlines the need to address infrastructure and components related to public open space, community facilities and services, environment and water management, movement networks, public utilities and recommended further studies and investigations. To address the Policy, in lieu of preparation of a stand alone Financial Assessment Report, the requirements of the Policy are addressed within the following sections.

9.1 DCA 1- Developer Contributions

Scheme Amendment No. 57 (DCA 1 – Brabham), which sets out the Developer Contribution Plan DCA 1 – Brabham (Albion), was endorsed by the City and has been applied as of 17 August 2011. The DCP for DCA 1 – Brabham (Albion), herein referred to as "Albion DCP", has been prepared pursuant to Clause 5A.2.5.1 of LPS 17.

The purpose of the Albion DCP is to provide a mechanism to ensure the timely provision of key ADSP infrastructure in an equitable manner, within the area zoned 'Special Use 10 - DCA 1' under LPS 17.

Of particular relevance to the Park Street LSP 3A development, the Albion DCP identifies the following key infrastructure items that are covered as DCP infrastructure:

- Construction of Henley Brook Avenue between Park Street and Harrow Road;
- Acquisition of land for Henley Brook Avenue; and
- Intersection of Park Street/Henley Brook Avenue and intersection of Henley Brook Avenue/east-west neighbourhood connector road in LSP 3A.

It is noted that the upgrading of Park Street and the land acquisition/construction of the east-west neighbourhood connector road linking Henley Brook Avenue and Fairmount Boulevard (in 'Whiteman Edge'), and the required intersection treatment at Park Street/Lord Street are not included as DCP infrastructure. It is also noted that the Resource Enhancement Wetland within LSP 3A is not included as a DCP item.

9.2 Infrastructure Provision and Cost

Under the Albion DCP, in most cases, the majority of necessary infrastructure that is to be provided to accommodate urban development will be directly funded by subdividers. Where infrastructure is included as a Albion DCP item, contributions shall be raised through the DCP. The following provides an indicative summary of the infrastructure contributions that will be made by the developer of Park Street LSP 3A.

9.2.1 Public Open Space Infrastructure

The Park Street LSP 3A proposes public open space as identified in Plan 15. Table 2 below provides an indicative estimate of the cost for proposed infrastructure within the areas identified.

Table 2. Estimated cost for public open space works

Park Street LSP 3A Public Open Space	Area (ha)	Indicative Infrastructure Development	Estimated Cost of Treatments
Parmelia Pipeline 'Private Communal Open Space'	1.1236	Grassed, pathways and play spaces (without equipment)	\$561,900
Local Parkland (North)	0.4016	Play areas, seating, paths and shade	\$200,800
Local Parkland (South)	0.2684	Play areas, seating, paths and shade	\$134,200
Resource Enhancement Wetland (50m Buffer)	3.0271	Landscaping and paths	\$1,718,450
Resource Enhancement Wetland (Core)	2.1085	Nil	Nil
Estimated Total Expenditure			\$2,615,350

As an estimate, the cost of landscaping and park development is at a rate of \$50/m², which for the LSP 3A public open space development, equates to approximately \$3,091,100. This is inclusive of all necessary re-contouring and earthworks, establishing grassed areas, provision of shade facilities, bollards, minor pathways and kerbing.

All public open space with the Park Street LSP 3A will be developed to the satisfaction of the local authority. A contribution will be made by the developer towards DCP public open space items, such as district open space outside of the LSP 3A area, through the Albion DCP.

The developer will be responsible for the establishment and maintenance of the public open space for the first (3) years, following that, responsibility for maintenance will pass to the local authority. The area of 'private communal open space' within the Parmelia Gas Pipeline easement, that will be incorporated within private strata development will, however, be indefinitely managed by those individual strata bodies and not the local authority.

9.2.2 Local Water Management Infrastructure

The Park Street LSP 3A Local Water Management Strategies (Appendix 6 & 7) provide for an urban stormwater management design that utilises, in general, the following infrastructure:

- Vegetated/landscaped swales within the road reserves;
- (5) infiltration basins (whereby one is located outside of the LSP 3A area being UCL Lot 208 Park Street – 3,600m²), with two being within public open space local parks; and
- (6) bio retention drainage 'fingers' within the Resource Enhancement Wetland buffer.

The above infrastructure will be provided by the developer at the developer's cost. Table 3 provides a summary of the estimated infrastructure cost to provide the urban water management infrastructure. The estimates provided are based on preliminary design and will be further reviewed upon endorsement of the LWMS by the Department of Water.

Table 3. Estimated cost for urban water management infrastructure

Urban Water Management Infrastructure	Cost Rate per Unit	Quantity	Total Estimated Cost (includes contingency)
Drainage infiltration basins	\$25,000	5	\$125,000
Local Parkland (North)	\$10,000	6	\$60,000
Local Parkland (South)	\$10/m	1,560m	\$15,600
Estimated Total Expenditure			\$200,600

9.2.3 Movement Network Infrastructure

The Park Street LSP 3A proposes a comprehensive transport network that will integrate with the local and district existing and future movement network. All roads and pathways within the LSP 3A design will be constructed to the satisfaction of the local authority.

Table 4 provides an estimate of the cost to provide road and pathway infrastructure in accordance with the LSP 3A design. The figures provided in Table 4 are estimated only based on preliminary design and is subject to detailed design and contractor tender, which will provide more accurate estimates. The road and pathway infrastructure identified will be provided by the developer at the developer's cost. It is noted however that there are certain Albion DCP infrastructure items that will be funded through the DCP, which includes the construction of Henley Brook Avenue and associated intersections.

Table 4. Estimated cost for urban roads and pathway infrastructure

Transport Infrastructure	Estimated Cost per Linear Metre	Approximate Length (m)	Total Estimated Cost
Park Street upgrade - Integrator A	\$2,229.25	717	\$1,598,372
Neighbourhood Connector A	\$2,745.67	199	\$546,388
Neighbourhood Connector B	\$2,591.28	1,587	\$4,112,361
Local Access Street	\$1,483	5,081	\$7,535,123
Laneway	\$940	250	\$235,000
Pathway – Dual Use	\$94.39	3,495	\$329,926
Estimated Total Expenditure			\$14,357,170

9.2.4 *Community Facilities & Services Infrastructure*

There are no Albion DCP items for community infrastructure within the Park Street LSP 3A. Notwithstanding, under the Albion DCP, the developer is required to provide a contribution towards community shared infrastructure as identified in the DCP. This includes local and district sporting facilities and community centre. Specific shared community infrastructure for the Albion DCP includes:

- Establishment of district playing fields and incidental facilities including land acquisitions, pavilions, car parking and amenities; and
- Construction of a district community centre and local community centre to the south of LSP 3A.

9.2.5 *Public Utilities Infrastructure*

There are no Albion DCP items for public utility infrastructure within the Park Street LSP 3A. However, the Water Corporation has approved plans for a temporary pumping station to be located within the south-east corner of the LSP 3A area. This temporary pumping station is estimated to cost \$1,600,000 and will be funded by the developer. The pump station will be constructed to the satisfaction of the Water Corporation and subsequently managed by the Water Corporation.

9.3 *Funding and Maintenance Costs*

Where provided for in the Albion DCP, infrastructure items relevant to Park Street LSP 3A will be provided through the DCP mechanism via contributions raised from landowners within the DCA 1 – Brabham (Albion) area. The majority of the necessary infrastructure required to support urban development as identified in the Park Street LSP 3A will be funded directly by the developer.

9.4 *Staging of Development*

Plan 16 – Staging Plan provides an indication as to likely future staging of development given the subdivision and development that has already occurred from the early release subdivision approvals. Staging of development will require careful consideration in order to achieve a sustainable and cost effective development.

Within each numbered stage provided in Plan 16 there may be further sub-stages, so that the number of lots is manageable in terms of construction management, dust mitigation and market take-up of lots. The timing, location and future composition of future stages will ultimately depend on market demand and to an extent, the timing of development of neighbouring landholdings.

PLANS

APPENDIX 1 - APPROVED EARLY RELEASE SUBDIVISION PLANS

APPENDIX 2 – ADJOINING LANDOWNER CONSULTATION LETTERS

APPENDIX 3 – HENLEY BROOK BOTANICAL SURVEY

APPENDIX 4 – FLORA & VEGETATION SURVEY (LOT 9000)

APPENDIX 5 – FLORA & VEGETATION SURVEY (PORTION LOT 352)

APPENDIX 6 – LWMS (LOTS 349 & 350)

APPENDIX 7 – LWMS (LOTS 9000 & PORTION LOT 352)

APPENDIX 8 – WETLAND MANAGEMENT PLAN

APPENDIX 9 – ACID SULFATE SOILS MANAGEMENT PLAN

APPENDIX 10 – QUANTITATIVE RISK ASSESSMENT GAS PIPELINES

APPENDIX 11 – ABORIGINAL HERITAGE STUDY

APPENDIX 12 – ACOUSTIC ASSESSMENT

APPENDIX 13 – RETICULATED SEWER AND WATER PLANS

APPENDIX 14 – ENGINEERING SERVICING REPORT

APPENDIX 15 – TRANSPORT ASSESSMENT (CARDNO)

APPENDIX 16 –TRANSPORT ASSESSMENT ADDENDUM (TRANSCORE)



Appendix 2

Commercial Sustainability Assessment



Avonlee Park Street Local Structure Plan Activity Node Commercial Sustainability Assessment

Appian Properties
May 2017

Version Control

Document History and Status

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Executive Summary

This retail sustainability assessment (RSA) has been prepared by Syme Marmion & Co and MGA Town Planners to investigate the potential for a small expansion to the indicative level of floorspace allocated to the Activity Node in the endorsed *Park Street Local Structure Plan 3A* (LSP3A) (Avonlee Activity Node) in the Albion District Structure Plan (DSP) area. In addition, the Avonlee Activity Node is proposed to be re-located from its current position within the approved Park Street Local Structure Plan area to a more central location to improve the level of access for a greater number of residents. The proposed re-location of the centre also responds to the recent re-location of the primary school within the *Albion Local Structure Plan 1B*.

Currently, LSP3A identifies a nominal size of 420m² for the Avonlee Activity Node. This RSA investigates the viability of additional shop/retail floor space at this centre. The proposed activity centre will be limited to a total of 1,000m² net lettable area (nla) of PLUC 5 shop/retail floor space, along with a medical centre (900 – 1,000m²) to give a total floorspace area of 2,000m² nla. It is intended that the PLUC 5 shop/retail floor space at the relocated Avonlee Activity Node would accommodate a small convenience supermarket, being up to 600m² nla, a pharmacy (200m²) and café (100m²).

The RSA tests viability of this proposal relative to the planned network of competing activity centres offering PLUC 5 shop/retail goods and services, as identified in the City of Swan *Local Commercial Activity Centres Strategy* 2016. The investigation reveals there is sufficient capacity for the 1,000m² nla based on the limited impact on the trading levels of competing centres, the forecast level of population growth within the City of Swan and more specifically the Swan Urban Growth Corridor.

A medical centre is proposed to be established, which will house up to 8 doctor equivalents. At any one time, there would be 5 doctors in attendance. Pathology would employ 2 people, Physio 1, Scans Ultrasound 2, Chiro 1, Podiatry 1, Dentist 2, Optical 2, giving a total employment provision of 19 FTE. The medical centre will provide an important set of services to the local community and also local employment.

It is considered that without the expanded and relocated Avonlee Activity Node, residents will in future have a lack of local convenience retailing of the type proposed based on the current allocation of floorspace among local activity centres in the Albion DSP area. The original Albion DSP identified potential for two local activity centres being 800m² each, which was revised to three local centres in the Albion DSP (2008), being 300m², 420m² and 520m² nla.

The provision of a convenience supermarket, medical centre, and other shops will provide a level of service consistent with that established in other areas of the Swan LGA and Perth Metropolitan Region, which is to be reasonably expected by the local community.

In summary:

- Population growth estimates for the Albion DSP area and surrounds are shown to have increased and recent Forecast ID projections indicate growth of up to 31,250 persons in the Swan Urban Growth Corridor by 2031. A new analysis of lot yield revealed a slightly higher than anticipated yield for the Albion DSP area than previously estimated.
- It is only when local structure plans are being implemented that the setting of a local centre may be understood, including those features and benefits that can affect retail floorspace potential and viability. The Avonlee Activity Node is proposed to be positioned in a more central location in the northern part of the Albion DSP area, opposite a school, open space areas and co – located with a medical centre. The new location will improve accessibility for a larger number of residents to goods and services to be reasonably expected in a local activity centre. The range of attractions to this location will also ensure that commercial operations in the activity centre are viable. In suburban environments, very small local centres relying solely on trade from a walkable catchment are likely to be only marginally feasible and might either not be built or fail unless a combination of features and attractions allows some trade to be drawn from a wider catchment. The Avonlee centre provides that mix.
- The regional and local modelling exercises incorporated growth assumptions from the City's new Local Commercial Activity Centres Strategy (2016) for all competing activity centres influencing the travel patterns of residents in the Albion DSP area. The assessment identifies that the proposed Avonlee Activity Node, with a total of 1,000m² nla, is unlikely to impact the activity centres hierarchy or the role and function of future planned centres in the Albion DSP area.
- The demand assessment for medical services undertaken revealed that the population in the Albion Structure Plan area would ultimately support approximately 21 GP's by headcount and 13 by FSE. It is intended that the proposed Avonlee Activity Node will house 8 GPs by headcount and 5 GPs by FSE, supported by specialist and ancillary services. This leaves potential for one or more additional medical centres in the Albion DSP area, accommodating at least 13 GPs by headcount and 8 GPs by FSE. This may or may not be accommodated within the district activity centre at some point in the future.



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1. Introduction

Appian Properties is seeking a variation to the City of Swan Park Street Local Structure Plan 3A to:

- Relocate the currently approved Activity Node to a location on Palfrey Street;
- Incorporate a medical centre of approximately 900 – 1,000 m² in area.
- Increase the size of allowable shop/retail uses to accommodate 900 – 1,000 m². This would allow the incorporation of a 150 – 200m² pharmacy, a convenience store of 600m² and café between 100 – 150m² in area.

Given the relocation of the primary school and district open space as provided for in Albion Local Structure Plan 1B for the neighbouring land to the south, it is considered that a better location for the Avonlee Activity Node would be in the south-western edge of the LSP3A area. Placing the Activity Node in this location will enable a larger destination node to be established, which would include the compatible land uses of the Activity Node, the primary school and district open space.

This Commercial Sustainability Assessment is prepared to analyse the effect of this variation. It primarily addresses two issues:

- a. the role of the medical centre in its proposed location and the effect on any future provision of medical services in the Youle Dean Road District Centre; and
- b. the capacity for an increase to the amount of shop/retail floor space permitted to be established.

It illustrates that these uses will provide a desirable level of access, retail amenity and services for the local community, without compromising the commercial viability and sustainability of the Brabham District Activity Centre and other local centres in Brabham.



2. Background

Modifications are proposed to the Western Australian Planning Commission (WAPC) endorsed *Park Street Local Structure Plan 3A* approved 25 August 2014 (LSP3A). Under the proposed amendment to LSP3A the existing 'Activity Node' is relocated from the northern portion of the Local Structure Plan area, opposite a local park, to the south-western edge of the structure plan, opposite a future primary school and open space area within the approved *Albion Local Structure Plan 1B*. This amendment proposes a level of floorspace sufficient to accommodate a medical centre, pharmacy, cafe and convenience supermarket within the activity node.

2.1 Current Approved Structure Plan

At Section 8.4 of LSP3A (2014), a potential future 'Activity Node' is identified in the northern portion of the Structure Plan and described as follows:

"An 'Activity Node' is proposed within LSP3A as indicatively shown on the Structure Plan Map at the southern end of Arpent Link. It is envisaged that this community activity node would include land uses such as:

- *Private Recreation – Day Spa/Gym and possibly Tennis Court/s;*
- *Convenience Store – similar to a small deli providing daily needs; and*
- *Café – including small alfresco area as a meeting place.*

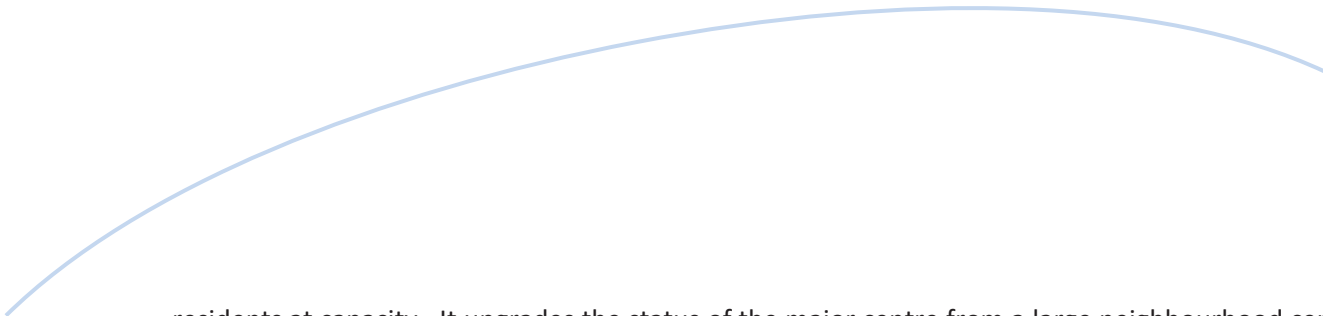
The above uses could be accommodated within a privately owned and operated community building with a floor area of up to 400m² on a lot of approximately 1,000m² - 1,250m². The final location for the activity node can be determined at the subdivision stage. It is likely that the activity node would be established in the final stages of the LSP3A subdivision/development."

It is not clear in the approved Local Structure Plan, but it might be assumed that the floor area of 400m² refers to the net lettable area of retail (PLUC 5) uses. It would encompass the envisaged convenience store and café.

This would be somewhat consistent with the terminology and scale used in the Albion District Structure Plan. This relies on a Centres Strategy for the Albion District Structure Plan prepared by Shrapnel Urban Planning. That Strategy bases its analysis on an estimated single lot yield of approximately 5,500 lots with an expected population of approximately 15,000 people within the District Structure Plan area, and concludes there is demonstrated demand and sufficient catchment for one Large Neighbourhood Centre of 10,000m² Net Lettable Area (NLA) of retail floorspace and indicatively three Local Centres with a retail floor space of between 300m² - 520m² NLA each.

The draft City of Swan Local Commercial and Activity Centres Strategy (2016)¹ (LCACS) notes that residential densities above that envisaged in the Albion Structure Plan are currently being established and consequently, the Brabham area has the potential to accommodate between 15,000 and 20,000

¹ Essential Economics, *Local Commercial and Activity Centres Strategy*, City of Swan, August 2016



residents at capacity. It upgrades the status of the major centre from a large neighbourhood centre to a district centre and expects that the Brabham District Activity Centre will provide weekly and higher order shopping and services to these residents, with a network of local centres also being encouraged in the area. A recently prepared Retail Need and Sustainability Assessment² report for the Brabham District Centre foresees the centre growing to 29,106 m² of total floorspace, including 19,846 m² of retail floorspace.

The location of the Avonlee Activity Node and its proposed new location is shown on **Plan 1**. These centres, and the nominal location of the Local Centres on the Albion District Structure Plan, is shown on **Plan 2**. The Albion District Structure Plan allows for two local centres to the north of the district centre (shown as local centre 1 and local centre 2 on **Plan 2** below), serving the local amenity needs of the north eastern and north western areas of the Structure Plan area. Indicative 400m walkable catchment circles are provided to indicate this intent. It should be noted that the currently approved Avonlee Activity Node has no real relationship with the location of either of those indicative local centres and seems to imply either a revised location for local centre 2 or that a third local centre can be contemplated in the north of the Albion Structure Plan area.

2.2 The Role of Local Centres

Local centres are not described separately from neighbourhood centres in *State Planning Policy 4.2: Activity Centres for Perth and Peel*³. Their function is described as:

(1) Neighbourhood centres are important local community focal points that help to provide for the main daily to weekly household shopping and community needs. They are also a focus for medium density housing. There are also many smaller local centres such as delicatessens and convenience stores that provide for the day-to-day needs of local communities.

(2) Neighbourhood and local centres play an important role in providing walkable access to services and facilities for communities. These centres should be recognised in local planning strategies, and also in structure plans for new urban areas.

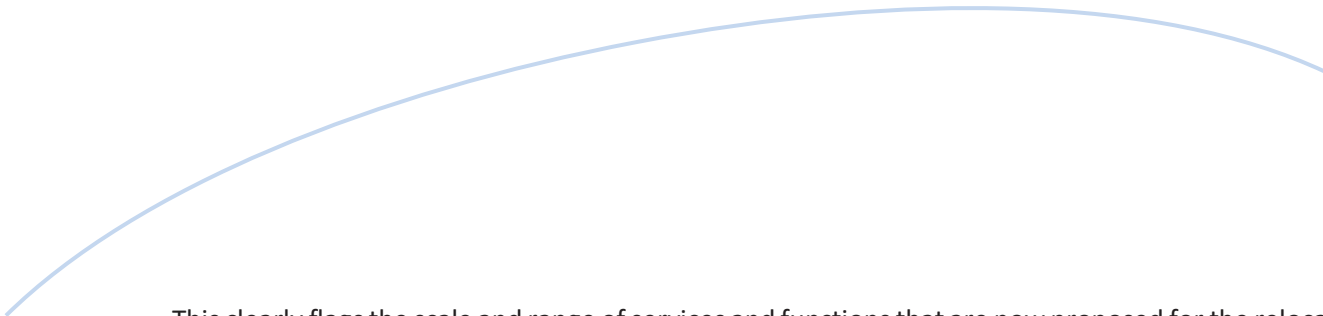
The draft City of Swan Local Commercial and Activity Centres Strategy regards Local Centres as “a small group of shops that typically serve a local, walkable catchment, and provide for the daily convenience and ‘top-up’ needs of local residents and passing motorists. Some of these small centres contain a limited number of community facilities and other uses.”

It provides examples of services and facilities that might be provided in Local Centres as including:

- *Retail: Limited range of convenience based retailing, may include general store, takeaway food, café, bakery, hairdresser, etc.*
- *Health: May include local doctors and/or allied health services (i.e. dental, physiotherapy, podiatry, etc.).*
- *Education: May include pre-school, primary and secondary schools.*

²Location IQ, *Whiteman Edge District Centre, Perth Retail Need and Sustainability Assessment*, Stockland Feb 2017

³ WAPC 2010



This clearly flags the scale and range of services and functions that are now proposed for the relocated Avonlee Activity Node.

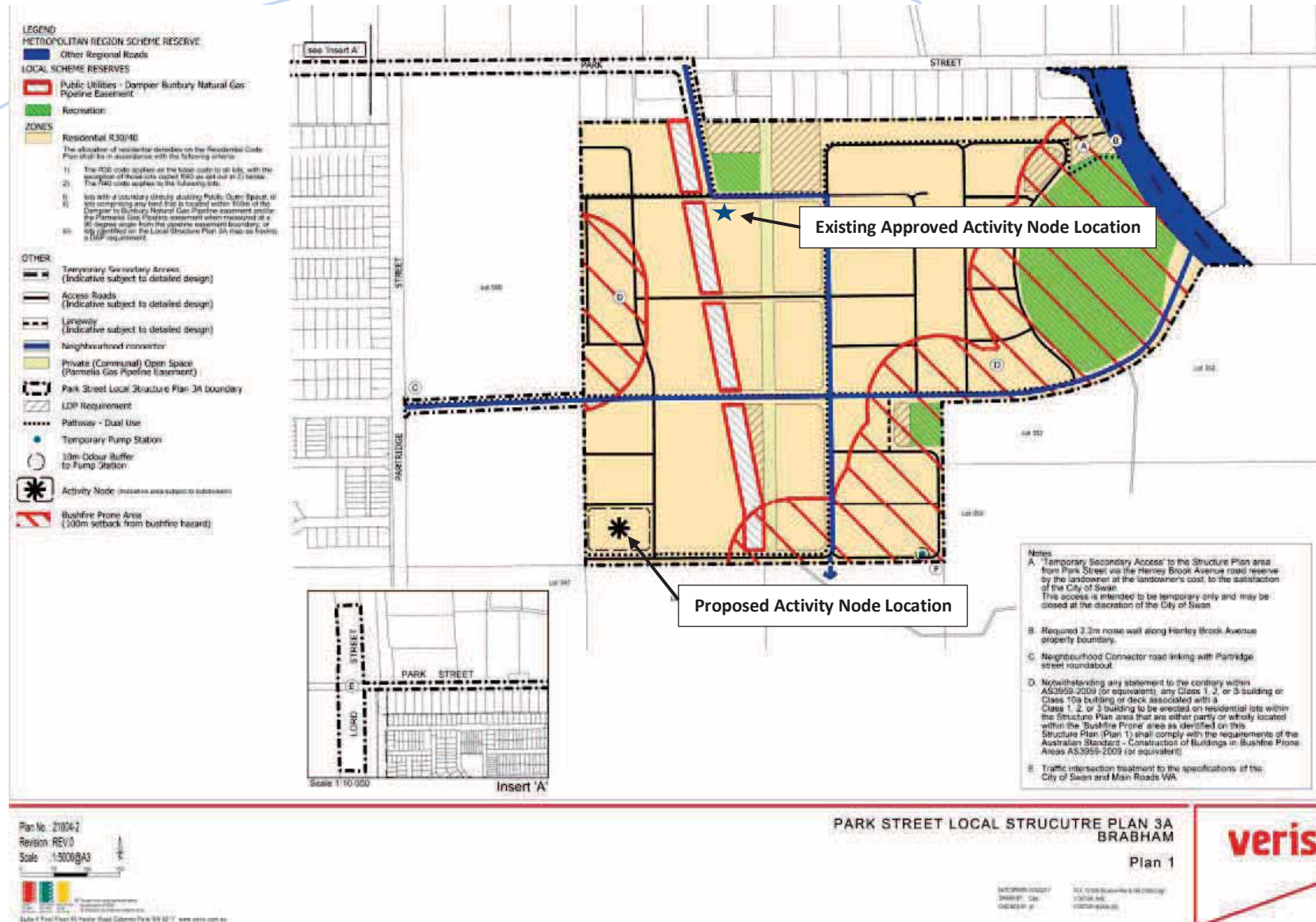
The extent to which local centres can provide for the daily convenience and ‘top-up’ needs of local residents depends on their scale. The Brabham District Centre will provide not only weekly household shopping and community needs but also higher order shopping and services to the Albion Structure Plan Area. Local centres supplement this role.

The viability of small local convenience stores and cafes in suburban environments are very much a ‘hit and miss’ affair. While their planned primary role is to provide an element of local amenity and convenience, in low density suburban environments, as in Brabham, there is insufficient demand and accumulated discretionary expenditure in the local (400m) catchment alone to make any sort of retail offering viable. They must therefore have particular characteristics that allows them to draw from a wider catchment for some of their trade. This will enable the ‘convenience and top-up’ items to be made available to the local community.

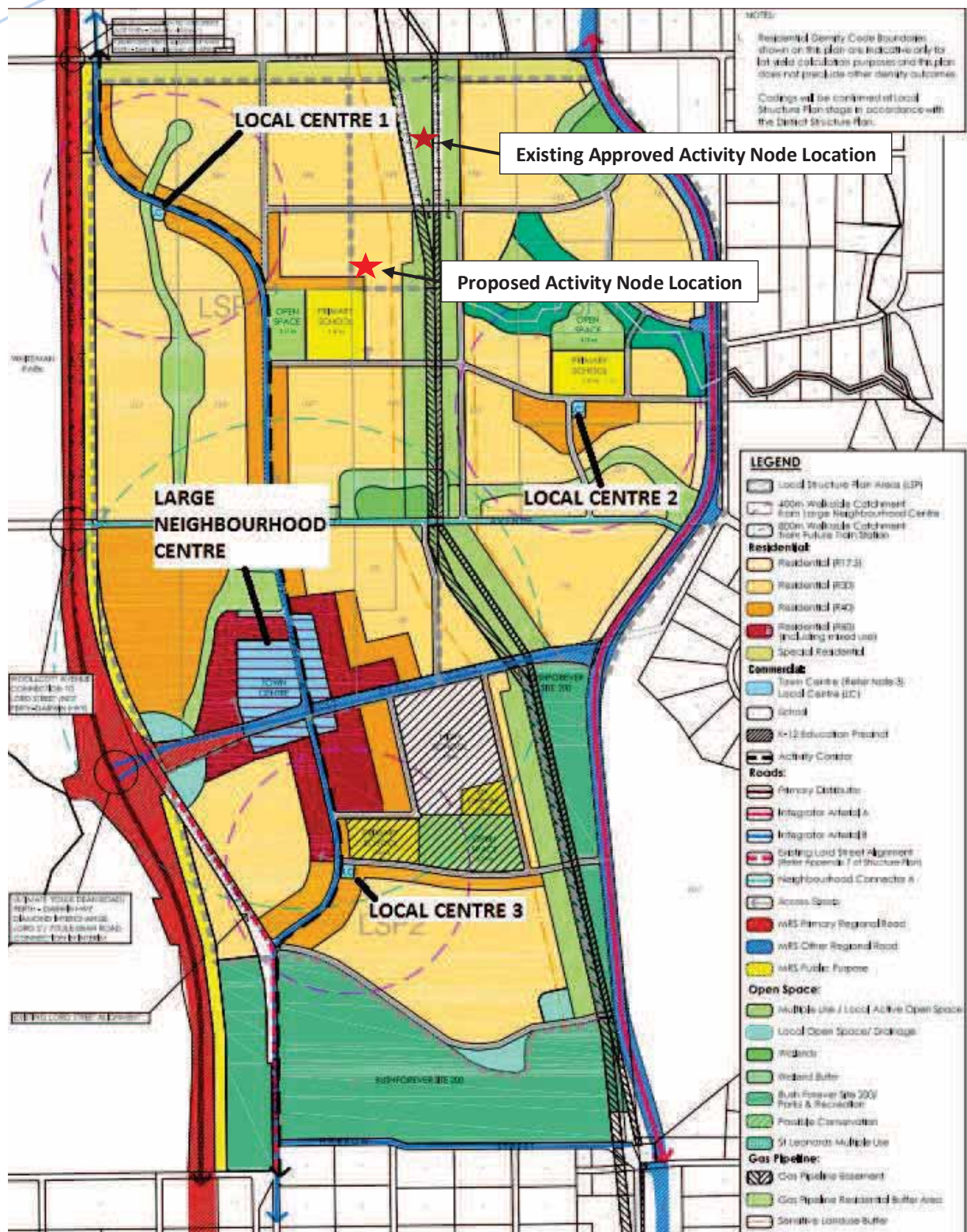
A model utilising expenditure estimates and population projections will identify whether there is sufficient capacity in the local expenditure pool for the centre to operate viably, in light of its location relative to the scale and proximity of competing activity centres. However, whether the centre performs at viable levels is dependent on the type of retail tenants, local accessibility and the presence of other attractors. Such attractors might include a park with more than very local attractions, a beachfront, a school or other non – retail attractor in the centre, such as substantial medical facilities. The location and combination of attractors are key.

Development in Brabham to date has generally been in the north-west sector and a local centre serving this area has not been built. A small café was associated with the sales centre for a time but this did not operate on a commercial basis and is now closed. It is unknown if, or when, local centre 1 will be built.

If it were to be built in this position its viability would depend on its location on Mayfield Drive as a main through road to the district centre and its location adjacent to a substantial recreation park. It would not compete with the Avonlee Activity Node, and nor would it be located or positioned to provide the daily convenience and ‘top-up’ needs of local residents in the Avonlee and surrounding catchment.



Plan 1: PARK STREET LOCAL STRUCTURE PLAN



Plan 2: ALBION DISTRICT STRUCTURE PLAN

3. The Avonlee Local Centre

The Avonlee local centre is proposed to be located adjacent to two attractors – a school and a neighbourhood park - including a scale and mix of uses lending to the viability of the local centre, providing an important local supplement to the functions and services to be provided in the Brabham district centre. It has two main elements: a retail centre and a medical centre.

3.1 Medical

It is intended that the medical centre will house up to 8 doctor equivalents working 10 hour days and through the weekend. At any one time, there would be 5 doctors in attendance. Pathology would employ 2 people, Physio 1, Scans Ultrasound 2, Chiro 1, Podiatry 1, Dentist 2, Optical 2, giving a total employment provision of 19 FTE. The medical centre thus provides an important set of services to the local community and also local employment.

The space breakdown would be approximately:

Doctors	400 m2
Dentist	100 m2
Pathology	50 m2
Physio	50 m2
Chiro/Podiatry	100 m2
Scans	100 m2
Optical.	100 m2
Total	900 m2

It is apparent that the ultimate population in the Albion District Structure Plan (DSP) will be more than originally estimated in the District Structure Plan. The Albion DSP estimates the population of Albion (Brabham) at 14,960 based on a household occupancy of 2.72 persons per household as at 2031 (Forecast ID) and an expected yield of approximately 5,500 lots. Approved Local Structure Plans show a higher lot yield. Based on an analysis of approved Structure Plans, our estimate is that the lot yield will be around 6,180 lots. This is shown in detail in Appendix 1. It implies an ultimate population of approximately 16,800.

Western Australia overall has (based on 2011 Census data) a general practitioner (GP) to population ratio of 183.5 GPs per 100,000 persons, compared with an Australian average of 201.9 GPs per 100,000 persons. Western Australia had the lowest per capita rate of GPs in Australia.⁴ Across Australia the ratio in capital cities is higher than in regional and remote areas.

More detail on how this data translates to on the ground provision of services can be gained by reference to Department of Health GP Workforce Statistics⁵ – 2001-02 to 2015-16. This provides data related to service delivery. It indicates that in 2015/16 Western Australia had a GP to population ratio of 128.23 per 100,000 persons by GP head count and a ratio of 77.00 per 100,000 persons by FSE (Full-Time Service Equivalent)⁶.

⁴ ABS 4102.0 - Australian Social Trends, April 2013

⁵ Australian Government Department of Health, GP Workforce Statistics – 2001-02 to 2015-16

⁶ FSE is an estimated measure of medical workforce based on Medicare claims information. Although Medicare claims data does not include information on hours worked it does have sufficient time-based items to estimate a proxy for hours worked. The FSE methodology models total hours worked for each practitioner based on the

On this basis, the Albion DSP population would support around 21 GPs by headcount and 13 by FSE. Specialist, support and ancillary services will be provided proportionately.

Clearly, the best planning outcome is that all of these are located in the Albion Structure Plan area so that residents do not need to travel outside of the area to access GP services.

The proposed Avonlee Activity Node will house 8 GPs by headcount and 5 GPs by FSE. They will be supported by a range of specialist and ancillary services, as outlined above.

There would thus be support for one or more additional medical centres in the Albion Structure Plan area, housing at least 13 GPs by headcount and 8 GPs by FSE. This might be located in the Brabham District Centre. At this stage, this is not specifically anticipated in planning for that centre, although it could be accommodated in the current concept plans.

The medical centre proposed for the Avonlee Activity Node is thus well located and sized to provide valuable and needed community services to the northern sector of the Albion DSP area.

3.2 Retail

The retail component will be up to 1,000 m2 of retail (PLUC 5) floorspace. Its components will be approximately as follows:

Convenience Store	600 – 650 m2
Pharmacy	200 m2
Café:	100 - 150m2
Total Retail (PLUC 5) nla:	900 – 1,000 m2

This mix of uses is important: the pharmacy supplements the medical centre. The convenience store will be a small IGA /general store or similar premises, and is required to be at that scale to be viable. It will also be a local attractor to the centre which will support and make viable the café. Without this mix it is much less likely that the café would be viable.

number of days worked, volume of services, and schedule fees. One FSE is approximately equivalent to a workload of 7.5 hours per day, five days per week. The FSE for each practitioner is capped at 2.5.

4. Retail Sustainability Assessment

4.1 Preamble

The extent of additional PLUC 5 shop/retail floorspace proposed for the Avonlee Activity Node in the LSP3A area has been tested through the use of a retail gravity model.

The original Albion Town (Henley Brook) Draft Structure Plan was prepared by MGA Town Planners in 2004/05. The structure plan envisaged:

- A population of between 11,000 and 12,000 persons by 2025.
- A large neighbourhood or small district (town) centre with Shop/ Retail floorspace of 9,000m².
- Two small local centres of 800m² each within the structure plan area.

The Albion DSP (2008) envisaged 3,000 to 4,000 more people, and therefore the size of the large neighbourhood centre (Brabham District Activity Centre) was revised to 10,000m². In addition, the two 800m² local centres were altered to become three local centres, including local centre #1 (520m²), local centre #2 (420m²) and local centre #3 (300m²), which are depicted in **Plan 2** above.

The City of Swan draft Local Commercial Activity Centres Strategy (2016) (LCACS) was prepared to update the 2011 LCACS. The new version is based on more recent population projections prepared by Forecast ID in 2015, and sets out revised indicative growth levels for existing and future activity centres in the Swan LGA area.

As identified previously, the new LCACS reveals that the Brabham District Activity Centre (DAC) may grow to accommodate 15,000m² of shopping floorspace, but that current proposals may revise this to approximately 20,000m² nla.

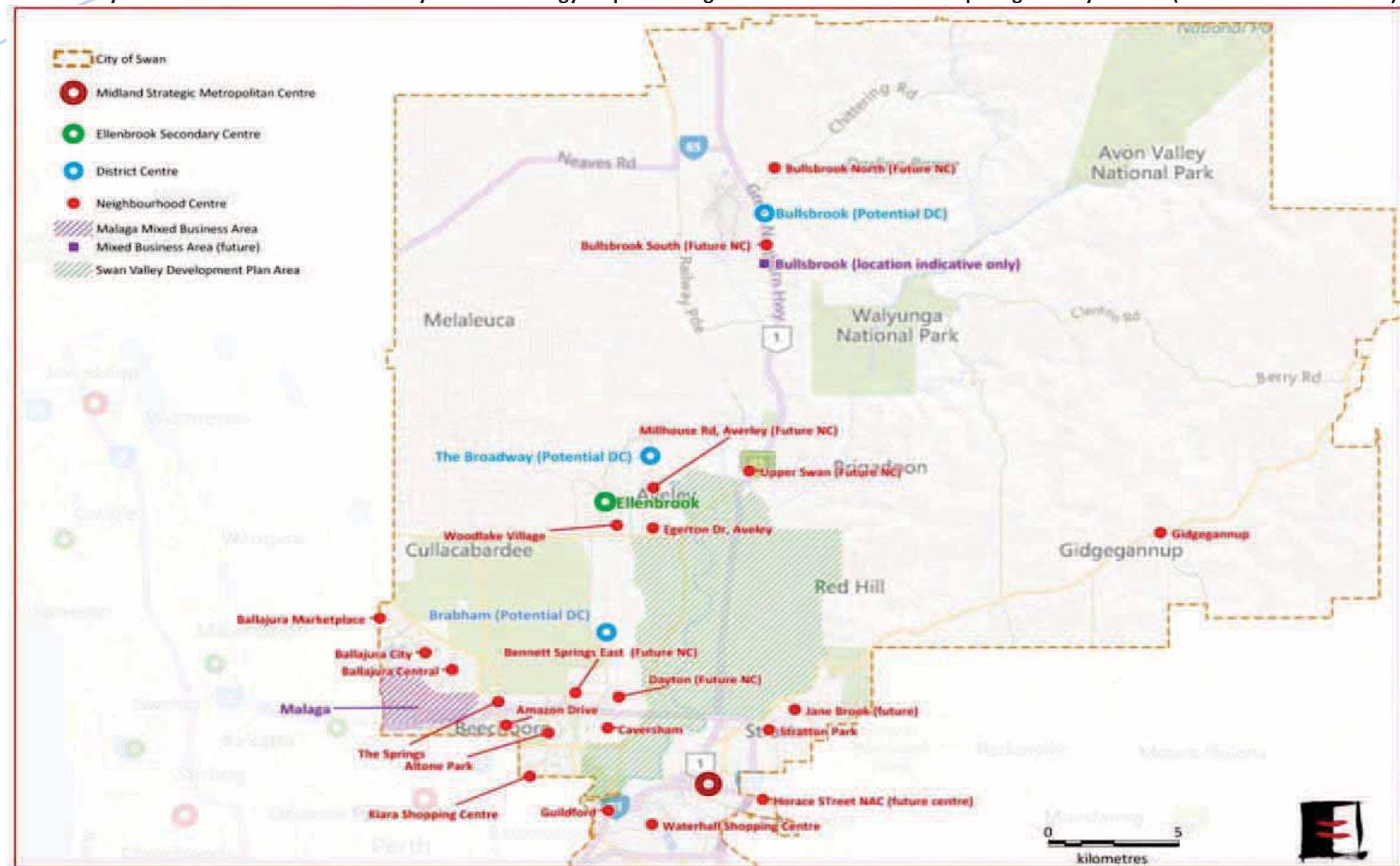
However, for the purpose of the modelling undertaken, the LCACS recommendation for the Brabham DAC (15,000m²) has been applied, given this represents the existing planning framework. **Plan 3** below is taken from the City's LCACS (2016) and depicts the range of existing and future competing activity centres in proximity to the Albion DSP area.

The modelling undertaken in this RSA investigates the viability of 1,000m² nla of PLUC 5 shop/retail floorspace at the Avonlee Activity Node in the LSP3A area, assuming full build out of the Albion DSP by 2031 and the development of other centres in the DSP area. The investigations reveal there is sufficient capacity for the additional 580m² nla proposed at the Avonlee Activity Node, based on the expected trading levels of competing centres and forecast population.

It was mentioned previously that the nature of retailing proposed for the Avonlee Activity Node, including a small convenience general store / supermarket, pharmacy and café, will not satisfy the range of household goods and services sought on a weekly basis by local residents. The full-scale supermarket(s) and shops within the larger Brabham DAC will meet the more substantial weekly shopping needs of residents.

The following report describes the modelling undertaken, competing retail facilities, population, demographics and a summary of results and observations.

Plan 3: City of Swan Local Commercial Activity Centres Strategy Map – Existing and Future Network of Competing Activity Centres (local centres not shown)



Produced by Essential Economics using MapInfo and BingMaps

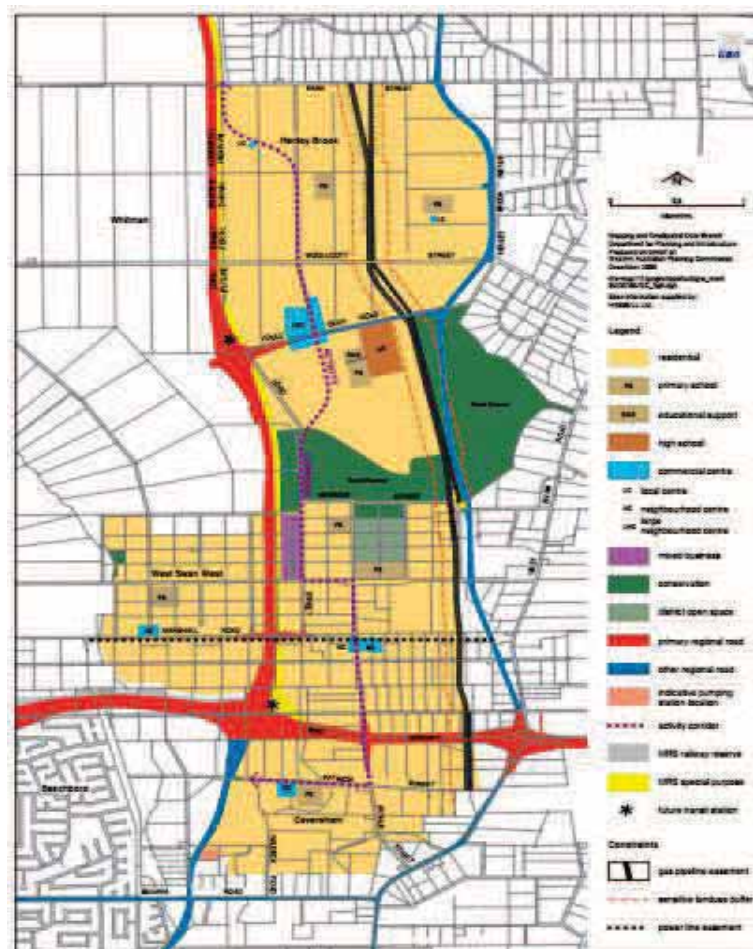
4.2 Population and Income

4.2.1 Current and Past Population Projections

The most recent update to the Forecast ID projections prepared for the City of Swan occurred in July 2015 and these have informed the new LCACS 2016. The City's LCACS indicates that since 2006 the population of the City of Swan has increased by approximately +34,000 persons, being a rate of +3.8% or +4,180 per annum. This compares to an average growth rate of +3.2% per annum throughout metropolitan Perth.

The investigations undertaken to inform the Albion DSP 2008 utilised population projections produced by the Department of Planning (DoP) current at that time. The current LCACS (2016) forecasts a total projected population of 31,250 persons within the Swan Urban Growth Corridor by 2031 (shown in **Plan 5**), whereas the current DoP MLUF projections forecast 19,104 persons for the same year. For the purpose of this assessment the timing for full development of the Albion DSP area, whether this occurs by 2031 or not, is a secondary consideration. Ultimately, the delivery of shopping floorspace over time will be a commercial decision guided by the timing of new residential development. The purpose of this investigation is to determine the orderliness of a minor modification to the size of local activity centre #2 assuming full development of the Albion DSP area, Brabham DAC, and the two other local activity centres identified in the Albion DSP area.

Plan 4 –Swan Urban Growth Corridor



4.2.2 Modelled Population Projections

Forecast ID projections informing the City's LCACS (2016) were modelled for the year 2031, as an update to relevant DoP MLUF projections. The projections are listed below in **Table 1**, taken from Table 3.4 of the LCACS.

Table 1 – ID Consulting Projections by Small Area, From Table 3.4 - City of Swan LCACS 2016

Id Consulting Area	2015	2021	2026	2031	2036	2015-2036
Population (No.)						
Altone	22,930	22,350	22,290	23,100	23,330	+400
Ballajura	19,790	19,090	18,990	18,710	18,650	-1,140
Bullsbrook	4,910	7,780	11,720	15,840	20,300	+15,390
Ellenbrook	36,290	50,670	57,580	64,210	70,260	+33,970
Gidgegannup	2,870	3,110	3,590	4,870	6,580	+3,710
Guildford	6,280	7,380	8,440	9,770	11,050	+4,770
Midland	14,180	15,860	17,260	18,970	20,970	+6,790
Noranda	1,470	1,430	1,430	1,440	1,480	+10
Swan Valley	5,500	5,450	5,420	5,440	5,510	+10
Swan View	10,230	11,390	13,100	13,700	13,620	+3,390
Upper Swan	1,440	1,660	1,940	2,130	2,170	+730
Urban Growth Corridor	6,190	22,370	28,130	31,250	31,630	+25,440
City of Swan	132,080	168,540	189,890	209,430	225,550	+93,470

Source: ID Forecast

4.2.3 Yield Analysis of Albion DSP Area

It was mentioned previously that a dwelling yield analysis was undertaken as an update to the assessment undertaken by Chappell Lambert Everett to inform the commercial assessment for the Albion DSP (2008). The original dwelling yield analysis was prepared prior to the preparation and endorsement of structure plans within the Albion DSP area. The results of the revised yield analysis are contained in **Appendix 1**, using the original table and plan format contained in the Albion DSP.

Once identifying the *site area* and yield associated with each approved structure plan, this was subtracted from the original estimated developable site area. The balance undeveloped site area was used to estimate a yield for remaining undeveloped areas, based on the original assumptions applied in the DSP.

The balance yield for undeveloped areas is likely to be understated, given that to date lot yields have been higher on average.

In total, the dwelling yield of the Albion DSP area is assumed to be 6,177, as opposed to the original estimate of 5,555. Where applying an occupancy rate of 2.72 as at 2031 (Forecast ID), this amounts to 16,800 persons.

4.2.4 Income

Various demographic features of the local population are shown below, obtained from the 2011 Census.

Table 2 below compares incomes for those residents in the Albion DSP area and Swan LGA relative to Greater Perth and the State as at 2011.

Table 2 - Income

Characteristics	Brabham/ Dayton	Swan LGA	Greater Perth	WA
Income				
Median Individual (\$)	643	653	669	662
% variation from state median	-2.5	-1.4	+1.1	N/A
Median Household (\$)	1,660	1,545	1,459	1,415
% variation from state median	17.3	9.1	+3.4	N/A

Source: ABS 2011

On average, the suburbs of Brabham and Dayton featured household incomes exceeding that of the Swan LGA and Greater Perth as at 2011. Individual incomes were relatively consistent with Greater Perth and State averages. Household incomes are expected to remain close to or above the Greater Perth average as new families move into the area servicing mortgages on newly established homes. This is a common observation among other newly establishing suburbs in the Greater Perth area.

Table 3 compares per capita expenditure on PLUC 5 food and non-food goods for those residing in suburbs in the Albion DSP area, with the averages for the Greater Perth and Swan LGA areas. Per capita expenditure is shown to be relatively consistent.

Table 3 – PLUC 5 Expenditure

	Brabham/Dayton Average	Swan LGA Average	Greater Perth Average
Per Capita Expenditure PLUC 5 goods 2012	\$12,542	\$12,554	\$12,362

Source: Marketinfo

4.3 Competing Activity Centres

Known existing and future competing activity centres are identified in the City's LCACS (2016), and include the following higher order centres and lower order centres in proximity to the Albion DSP area:

- The City of Swan LCACS recommendation for the Brabham DAC is 15,000m² nla, and it is understood that a total of 20,000m² nla may be sought. For the purpose of this exercise, 15,000m² nla has been assessed, given this represents current planning framework.
- The LCACS indicates the Ellenbrook Secondary Centre will provide grocery and higher-order comparison shopping including large format retailing. The PLUC 5 retail floorspace component as at 2031 is assessed at 50,000m² PLUC 5 nla, assuming the remaining 10,000m² envisaged will be PLUC 6 large format bulky goods floorspace.
- The LCACS indicates the Midland SMC will provide grocery and higher-order comparison shopping including large format retailing. The PLUC 5 retail floorspace component as at 2031 is assessed at 170,000m² PLUC 5 nla.
- Existing neighbourhood / local activity centres as identified in **Figure 1** from the City's LCACS were modelled, including but not limited to:
 - Woodlake NAC (3,600m²).
 - Aveley LAC (1,000m²) between Woodlake NAC and the Vale Town Centre.
 - Egerton Drive NAC (Vale Town Centre) (3,400m²).
 - Future Vale NAC (5,000m²).
 - Future Bennet Springs East NAC (5,000m²).
 - Future Dayton NAC (5,600m²).
 - Caversham NAC (5,200m²).
- Local centre #1 (520m²) and local centre #2 (300m²) as shown in the Albion DSP.
- Avonlee activity node in LSP3A with floorspace totalling 1,000m² nla as proposed.

4.5 Retail Potential Model

4.5.1 Regional Model

Table 5 below shows floorspace and turnover outputs for centres in the Albion DSP area and adjoining competing activity centres surrounding the DSP area as at 2031. The outputs are derived from a regional model across the Swan LGA and surrounding areas. Major competing centres external to the LGA including Westfield Cannington, Belmont City Centre and Morley Galleria are maintained as outlying centres influencing the travel patterns of residents, along with lower order centres surrounding the Swan LGA boundary.

The results indicate that there is capacity to accommodate each of the proposed local activity centres in the Albion DSP, with a minor increase in size to the Avonlee Activity Node of 580m² to a total 1,000m².

Table 5 – 2011 and 2031 LGA Model Outputs

LGA	Centre Name	PLUC 5 Floorspace 2011 / 2031 (m ²)	Turnover 2011 (2011/12 \$/m ²)	Turnover 2031 (2011/12 \$/m ²)
Swan	Midland SMC	91,493 / 170,000	\$7,750	\$8,118
Swan	Ellenbrook DAC	9,870 / 50,000	\$8,830	\$6,869
Swan	Woodlake NAC	3,600	\$7,169	\$6,101
Swan	Egerton Drive Vale TC NAC	3,400 / 3,400	\$6,323	\$6,749
Swan	Aveley LAC	1,000 / 1000	\$5,880	\$5,496
Swan	Bennett Springs East NAC	0 / 5,000	na	\$6,146
Swan	Caversham NAC	0 / 5,200	na	\$6,551
Swan	Dayton NAC	0 / 5,600	na	\$7,017
Swan	Brabham DAC	0 / 15,000	na	\$6,815
Swan	Local Centre 1	0 / 520	na	\$6,177
Swan	Avonlee Local Centre 2	0 / 1000	na	\$6,530
Swan	Local Centre 3	0 / 300	na	\$6,075

The regional model outputs show that turnover in Ellenbrook is likely to be trading highly in 2011 in advance of development of other centres. Although turnover is shown to decrease with the establishment of future activity centres, it remains viable. Further, total turnover will increase a great deal due to the increase in floorspace.

4.5.2 Local Model

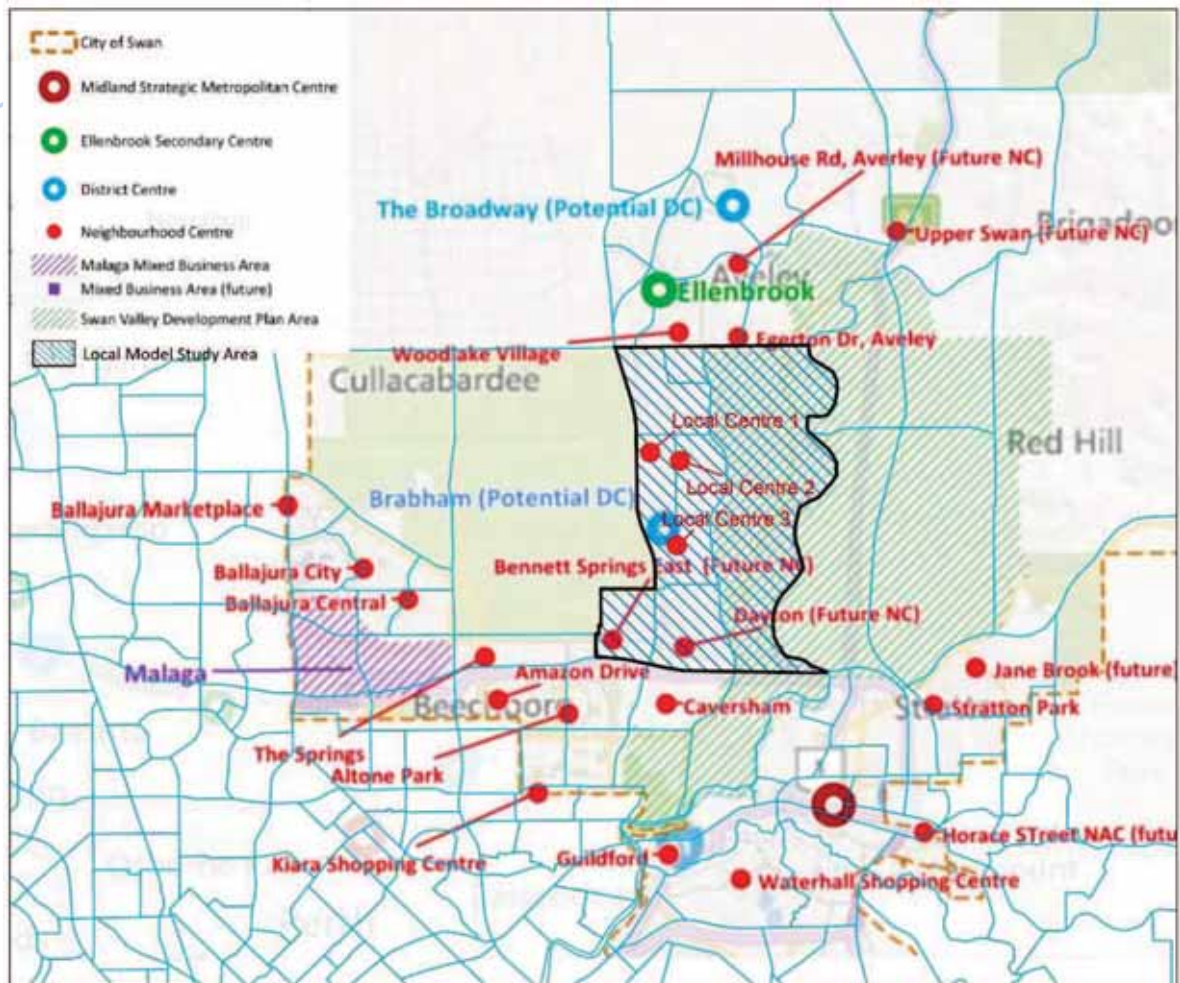
Table 6 below lists outputs from a localised model incorporating the Albion DSP area and immediate surrounds, as depicted in **Figure 6**.

Competing centres in the Swan LGA are maintained as outlying centres influencing the travel patterns of residents. It is recognised the Brabham DAC will draw trade from a wider area than the local activity centres in the Albion DSP area, and therefore the local model was prepared to reflect the trade area of the local activity centres alone. It is expected 90% or more of turnover at the local activity centres would be derived from the Albion DSP area and immediate surrounding areas (Figure 6). Outputs below show that under these circumstances, the Brabham DAC would derive approximately 60%-65% of its turnover from within the assessed area, which generally correlates with its primary trade area and portion of its secondary trade area.

The local study area makes up only a small part of the trade area of the Dayton, Caversham, Bennett Springs, Egerton Drive and Ellenbrook activity centre trade areas, as they are drawing trade from well beyond the local study area. This is why the outputs indicate low turnovers for all but the local centres.

Table 6 – 2031 Local Model Outputs

LGA	Centre Name	PLUC 5 Floorspace 2031	Turnover 2031 (2011/12 \$/m ²)
Swan	Midland SMC	170,000	\$260
Swan	Ellenbrook DAC	50,000	\$2,078
Swan	Woodlake NAC	3,600	\$1,990
Swan	Egerton Drive Aveley NAC	3,400	\$2,804
Swan	Aveley LAC	1000	\$1,611
Swan	Bennett Springs East NAC	5,000	\$2,304
Swan	Caversham NAC	5,200	\$1,341
Swan	Dayton NAC	5,600	\$2,434
Swan	Brabham DAC	15,000	\$4,168
Swan	Local Centre 1	520	\$5,486
Swan	Avonlee Local Centre 2	1000	\$5,777
Swan	Local Centre 3	300	\$5,463



Plan 6 – Local Model Study Area



4.5 Summary

Population growth estimates for the Albion DSP area and surrounds have increased since the preparation of the Plan. Recent Forecast ID data indicates growth of up to 31,250 persons in the Swan Urban Growth Corridor by 2031. A new analysis of lot yield reveals an 11% higher yield for the Albion DSP area than originally estimated.

It is only when local structure plans are being implemented that the setting of a local centre may be understood, including those features and benefits that can affect retail floorspace potential and viability. The Avonlee Activity Node is proposed to be positioned in a central location in the northern part of the Albion DSP area, opposite a school, open space areas and co – located with a medical centre. These local factors support its viability.

The regional and local modelling exercises incorporated growth assumptions from the City's new Local Commercial Activity Centres Strategy (2016) for all competing activity centres influencing the travel patterns of residents in the Albion DSP area. The assessment identifies that the proposed Avonlee Activity Node, with a total of 1,000m² nla, is unlikely to impact the intended activity centres hierarchy or the role and function of future planned centres in the Albion DSP area.

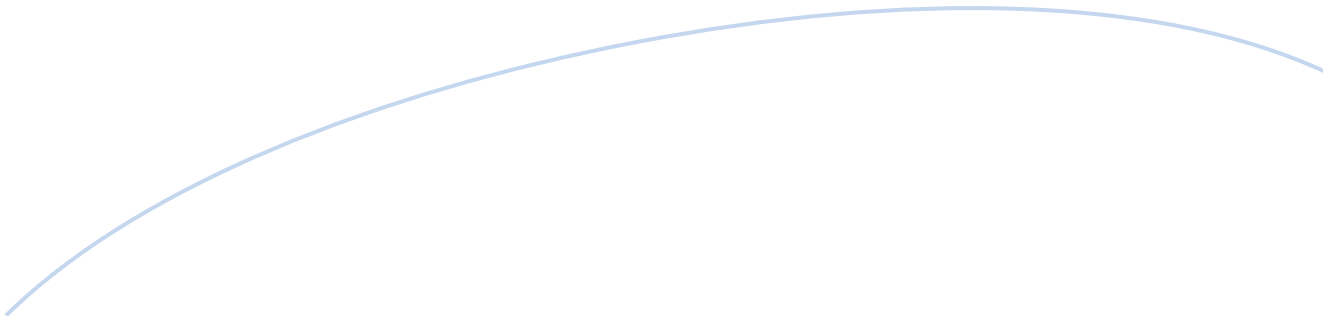
The provision of a convenience supermarket, pharmacy, medical centre, and other small shops in a local centre at the north of the Albion DSP area, will facilitate a level of service and accessibility to goods and services to be reasonably expected by the local community. This type of provision in a local activity centre is common in the Perth Metropolitan Region and the nature of goods and services will fulfil daily sporadic household needs complementing the higher order Brabham DAC, which will provide a much greater range of goods satisfying weekly needs with its full – scale supermarkets.

The demand assessment for medical services undertaken revealed that the population in the Albion Structure Plan area would ultimately support approximately 21 GPs by headcount and 13 by FSE. It is intended that the proposed Avonlee Activity Node will house 8 GPs by headcount and 5 GPs by FSE, supported by specialist and ancillary services. This leaves potential for one or more additional medical centres in the Albion DSP area, housing at least 13 GPs by headcount and 8 GPs by FSE. This may or may not be accommodated within the district activity centre at some point in the future.

The Avonlee Activity Node will provide a well-located retail and service centre for households in the Albion DSP area, which will be characterised by a large proportion of young families with children. Existing and future residents will benefit from a level of access to retail amenity and services consistent with that enjoyed by other residents in Swan LGA area. Furthermore, the new proposed location of the Avonlee Activity Node will improve the potential for the centre to be accessed on foot by a greater proportion of residents in the Albion DSP area.

Appendix 1: Lot Yield Estimates





Cell	Original Estimated Site Area	Original Yield Estimate	Less Site Area of Structure Plan / Developed Site Area	Balance Estimated Site Area	Dwelling Yield Estimate for Balance	Add Structure Plan / Estate Plan Lots	New Dwelling Total
LSP 1 Area							
A	16.14	290	NA	NA	NA	398 – North Whiteman Edge	398
B	13.67	270	NA	NA	NA	NA	270
C	44.97	1045	NA	NA	NA	Whiteman Edge	878
D	12.83	295	NA	NA	NA	Areilla Plan - 479	479
E	16.74	546	NA	NA	NA	687 - Whiteman Edge	687
F	16.82	405	7.636 (45.4% of the Cell F site area - Lot 17)	9.184	221	239 - Portion Whiteman	460
Sub Total	121.7	2,851					3,172
LSP 2 Area							
G	15.45	506	NA	NA	NA	NA	506
H	8.2	270	NA	NA	NA	NA	270
I	21.39	493	NA	NA	NA	NA	493
J	8.03	170	NA	NA	NA	235 - LSP3A Area	235
Sub Total	53.07	1,439					1,504
LSP3 Area							
K	9.37	217	NA	NA	NA	363 - LSP3A area	363
L	19.05	422	2.1ha – LSP 3B north (from LWMS) 3.2ha – LSP3A south (Landgate)	13.75	290	100 - LSP3A area 64 – LSP3B North	454
M	16.95	397	8.86ha LSP 3B south (from LWMS)	8.09	189	266 – LSP3B South	455
N	11.42	229	NA	NA	NA	NA	229
Sub Total	56.79	1,265					1,501
Total	231.03	5,555					6,177

Appendix 2: Retail Model Description

The retail gravity model forecasts customer choice for different retail centres, resulting from the distribution of shopping floor space and the nature of the transport network.

The gravity model assumes that shoppers are more likely to use shopping centres which are located closer to their homes, rather than centres that are further away. However, the model also accommodates the potential for shoppers to travel to other competing centres further away through bypassing smaller shopping centres to visit larger centres. The model determines a trade area for each activity centre simultaneously, based on the probability of visitation to each centre from each origin zone in the study area. That is, the model accommodates the overlapping of catchments for all centres.

$$S_{ij} = O_i \frac{A_j^a (\exp^{-bT_{ij}})}{\sum_j A_j^a (\exp^{-bT_{ij}})}$$

The modelling involves use of the above formula, where:

- S_{ij} = the proportion of population or \$ household expenditure attracted from origin zone i to centre j ;
- ' O_i ' = population or household expenditure in zone i ;
- ' A ' = is a measure of centre j size;
- ' T ' = travel time from each origin zone to each activity centre; and
- ' b ' = the gravity parameter;
- A separate attraction factor ' a ' is applied to an activity centres' floor space ' A ', to calibrate against reported turnover for shopping centres, and retail averages.

In summary, the model estimates the probability of visitation and level of expenditure at each activity centre, based on:

- the size of each activity centre.
- the travel time to all competing activity centres from all origin zones modelled; and
- population / aggregate household expenditure.

The gravity model assumes that the probability of visitation from any given *origin zone* to each activity centre is proportional to a product of the size of centres, and inversely proportional to travel time to each competing activity centre.



Methodology / Data Inputs

PLUC 5 Floorspace Modelled

All activity centres having PLUC 5 shop/retail floor space in the study area were modelled, including small local activity centres and future activity centres identified in the City's LPSACN, as reproduced in **Figure 2** previously. The Department of Planning Land Use and Employment Survey (LUES) (2008) was reviewed in order to determine existing PLUC 5 shop/retail floor space for the base modelling year (2011). The Data Source is as follows:

1. *WAPC Land Use and Employment Survey 2008 Perth Metropolitan Region:*
 - a. *PLUC 5 Total Floorspace In Survey Development Areas By Planning Land Use Category Extracted On 23 November 2010.*

The same LUES data was utilised to inform the LPSANC, and is depicted graphically below in **Figure 4**, taken from the strategy.

Driving Travel Time

Travel time is an important factor impacting on the relative attractiveness of a centre and a measurement taken into account in the retail gravity model. The shortest travel time through the road network from the centroid of each origin zone (Census SA1 boundary) to the location of each shopping centre is provided as an input to the model.

Household and Per Capita Expenditure

Per capita expenditure data was prepared by MDS Market Data Systems at SA1 level, based on the Western Australian PLUC 5 shop/retail goods and services category. The micro-simulation model run by MDS Market Data Systems is based on the ABS Household Expenditure Survey (HES) and census population data, which is updated through the use of data informing spending behaviour such as Australian National Accounts and Taxation Statistics. The data is provided at SA1 level, allowing the retail gravity model to more accurately represent actual variations in expenditure by residents across the study area.

Calibration

Calibration of the model involves refinement to ensure that centres turnover outputs accord with values reported by shopping centre owners or metropolitan benchmarks. Publications utilised included *Shopping Centre News*, the Property Council of Australia *Shopping Centre Manual* and *Urbis Retail Averages*.

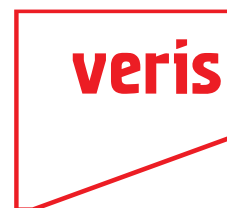
The population external to the Bunbury LGA has limited influence on the proposed local activity centre, but is accommodated simply to facilitate calibration of the retail gravity model to reflect the current trading levels of the Bunbury Forum and Bunbury CBD, being the nearest competing supermarket – based centres. Also, the PLUC 5 shop/retail floorspace at the Bunbury Homemaker Centre features a regional level of attraction.



Appendix 3

Pre-Lodgement Consultation

AGENCY	DATE OF CONSULTATION	METHOD OF CONSULTATION	SUMMARY OF OUTCOME
City of Swan	February 2017	Meeting	<p>Preparation of Structure Plan Amendment required incorporating modifications to update existing approved Structure Plan Part One section to conform to the new Planning Regulations.</p> <p>Proposed modification to approved structure plan supported in-principle, subject to Commercial Sustainability Assessment and Activity Node not compromising future planned Albion District Commercial Centre.</p> <p>Structure Plan format to include approved Structure Plan as Appendix 1 as reference only.</p>



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