

# TREEBY DISTRICT STRUCTURE PLAN

December 2017

## PART ONE - IMPLEMENTATION

STRUCTURE  
PLAN TREEBY  
DISTRICT

## TREEBY DISTRICT STRUCTURE PLAN

### PART ONE - IMPLEMENTATION

Prepared by:



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2310Rep137D  
December 2017



### **1.0 STRUCTURE PLAN AREA**

This District Structure Plan applies to the area shown within the boundary on Plan A – Treeby (Banjup) District Structure Plan.

### **2.0 STRUCTURE PLAN CONTENT**

This structure plan comprises:

- Part One – Implementation Section
- Part Two – Explanatory Section
- Appendices – Technical Reports.

Part One of the District Structure Plan comprises the structure plan map and planning provisions. Part Two of the District Structure Plan is the Explanatory Section which can be used to interpret and implement the requirements of Part One.

### **3.0 OPERATION**

The District Structure Plan is a strategic planning document intended to guide and coordinate more detailed planning (including preparation of Local Structure Plans) for individual sites within the District Structure Plan area. The structure plan comes into effect on the date Council resolves it will become a guiding document for more detailed structure planning. Endorsement by the Western Australian Planning Commission (WAPC) under the provisions of the *Planning and Development (Local Planning Schemes) 2015 Schedule 2 – Deemed provisions* is not proposed although the District Structure Plan has been prepared with reference to WAPC policies and consultation with the Department of Planning.

### **4.0 REZONING, LOCAL STRUCTURE PLAN, SUBDIVISION AND DEVELOPMENT REQUIREMENTS**

The land use arrangements, district level infrastructure and movement network illustrated in the District Structure Planning will inform the City's response to requests for rezoning and more detailed Local Structure Plans within the structure plan area. The layout illustrated within Plan A represents a high level structural response to key issues which may be subject to refinement at more detailed stages of planning.

Local Structure Plans prepared within the District Structure Plan area should:

- Generally conform with the layout illustrated within the District Structure Plan;
- Be accompanied by:
  - A Local Water Management Strategy consistent with any approved District Water Management Strategy;
  - An Environmental Assessment Report;
  - A Bushfire Hazard Assessment;
  - A Noise Impact Assessment; and
  - Other submission requirements consistent with the *Planning and Development (Local Planning Schemes) 2015 Schedule 2 – Deemed provisions*.

Subdivision and development will be determined in accordance with the applicable zoning, planning scheme provisions and, where applicable, approved Local Structure Plans and Local Development Plans.

## **5.0 ADDITIONAL INFORMATION**

All urban development within the District Structure Plan area is subject to Development Contribution Plan No. 13.

In addition, urban development sites abutting Jandakot Road shall be required to provide for the widening and upgrade of any directly abutting portion of Jandakot Road to a 2 lane divided urban standard road, with provision (widening and earthworks) for ultimate upgrade to a 4 lane divided urban standard road. These works and associated widening required shall be agreed via legal agreement entered into with the City of Cockburn prior to approval of a Local Structure Plan for the site if deemed necessary.



This Plan has been adopted by the City of Cockburn to provide strategic direction for land use planning in the precinct, including more detailed local structure planning. Implementation in any form would be subject to the receipt of all appropriate approvals. This plan remains the property of CLE

COCKBURN CENTRAL TRAIN STATION

COCKBURN CENTRAL ACTIVITY CENTRE

EXISTING SIGNALISED INTERSECTION, ULTIMATE ROUNDABOUT WITH UNDERPASS

PROPOSED LEFT IN/OUT INTERSECTION

EXISTING SIGNALISED INTERSECTION, SUBJECT TO REVIEW BY MAIN ROADS WA, ULTIMATE LEFT IN/OUT.

POSSIBLE ADDITIONAL LEFT IN / LEFT OUT INTERSECTION SUBJECT TO FURTHER CONSIDERATION AND APPROVAL AS PART OF LSP PROCESS.

PROPOSED ROUNDABOUT WITH ULTIMATE OVER/UNDERPASS

EXISTING SIGNALISED INTERSECTION

BOUNDARIES SUBJECT TO FORMAL ASSESSMENT AND APPROVAL.

POSSIBLE REALIGNMENT OF JANDAKOT ROAD

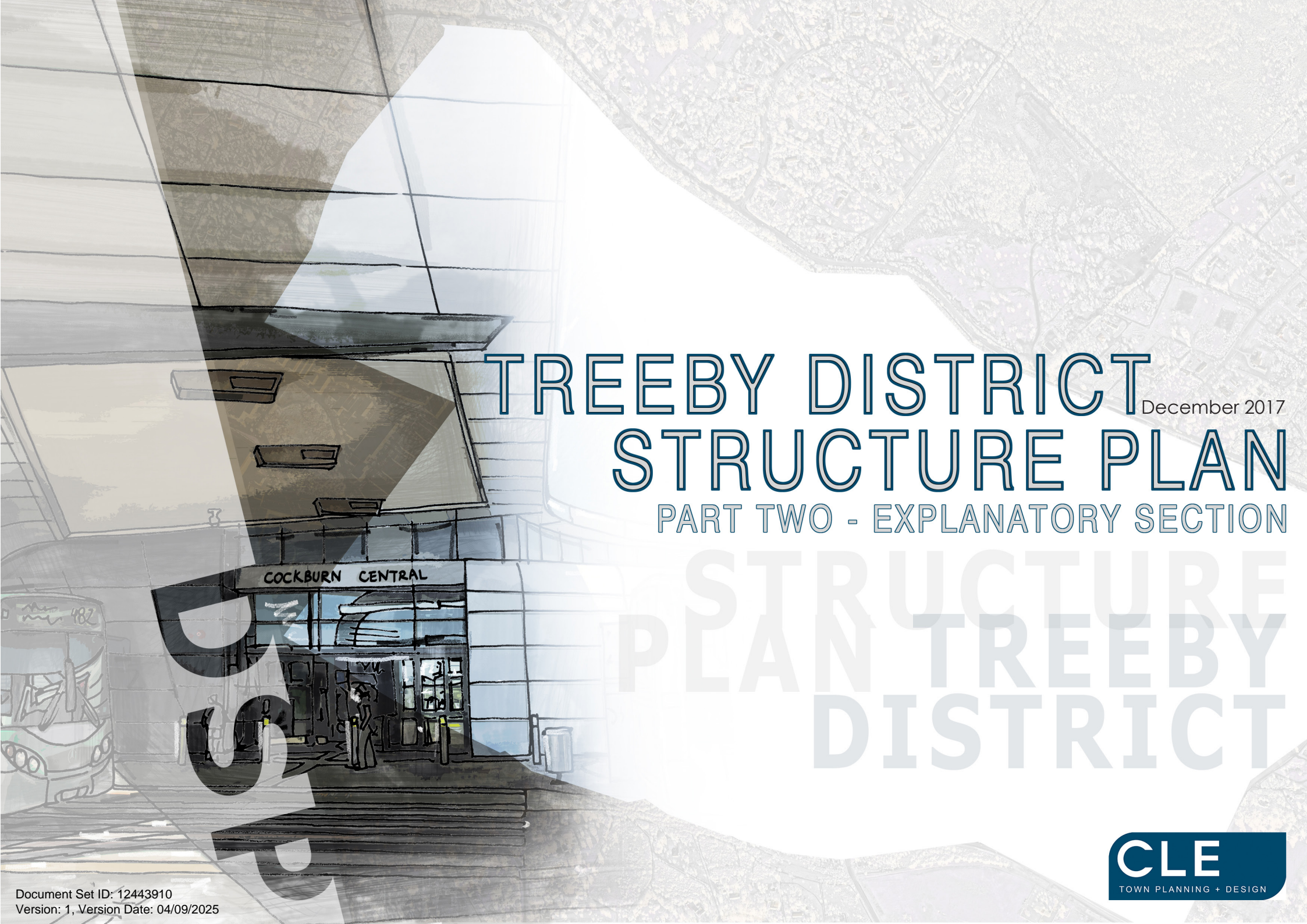
POSSIBLE INTERSECTION (SUBJECT TO LEVELS & DESIGN REVIEW)

EXISTING RESOURCE ZONED LOTS

LEGEND

- Treeby (Banjup) DSP
- Residential
- Public Open Space (District level)
- Public Open Space (including areas with Regional Conservation Values)
- Public Purposes - School / Civic
- Neighbourhood / Local Centre
- Mixed Business and/or Residential
- Resource
- Potential Future Residential (pending inclusion by WAPC in 'Perth and Peel @3.5million' documents)
- Powerline Easement
- Green Linkage
- Primary Regional Road
- District Distributor Road
- Connector Road
- Major Dual Use Path / Cycle path
- distance to Train Station
- distance to Amenities
- Signalised intersection
- Left IN / OUT Only
- Roundabout with access at grade. Subject to current design review by MRWA.
- Potential to relocate Banjup War Memorial (specific location to be determined at LSP stage)





# TREEBY DISTRICT STRUCTURE PLAN

December 2017

## PART TWO - EXPLANATORY SECTION

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PART TWO - EXPLANATORY SECTION

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**DEVELOPER**

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Perron Developments Pty Ltd

**PROJECT TEAM**

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Town Planning - CLE Town Planning + Design

Environmental - 360 Environmental

Hydrology - JDA Consultant Hydrologists

Civil Engineering - Wood & Grieve Engineers

Traffic - Transcore



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TREEBY DISTRICT STRUCTURE PLAN  
PART TWO - EXPLANATORY SECTION





## 1.0 PLANNING BACKGROUND

### 1.1 Introduction and Purpose

This District Structure Plan, hereinafter referred to as the Treeby District Structure Plan (TDSP) has been prepared at the request of the City of Cockburn in consultation with key stakeholders including relevant government agencies and major landholders. It is a strategic document to guide the City's decision making: it has not been prepared under Part 4 of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* and endorsement by the Western Australian Planning Commission is not proposed to be sought.

The TDSP applies to the area generally bounded by Jandakot Road to the north, Warton Road to the east, Armadale Road to the south and Solomon Road to the west. This area totals around 460ha (refer Figure 1 – Site Plan). At the time of adoption, a separate visioning process was being undertaken for land outside the DSP on the north side of Jandakot Road, and a review of design and timing options for the upgrade of Jandakot Road.

The primary objective of the TDSP is to provide a high level strategic spatial planning framework to coordinate the development of land and provision of district level services within the Banjup Urban Precinct. The TDSP identifies the basic physical arrangement of urban areas, the primary road network, neighbourhoods, schools, district open space, commercial centres, public transportation and other major infrastructure. The TDSP consolidates background information and provides broad direction to inform the preparation of Local Structure Plans as part of the more detailed planning process to follow.

The coordination of planning for the Banjup Urban Precinct (now defined as the Treeby DSP area) presents a valuable opportunity for the State to achieve many of its planning and land use objectives for Perth, and consolidation of urban development in the southern metropolitan corridor.

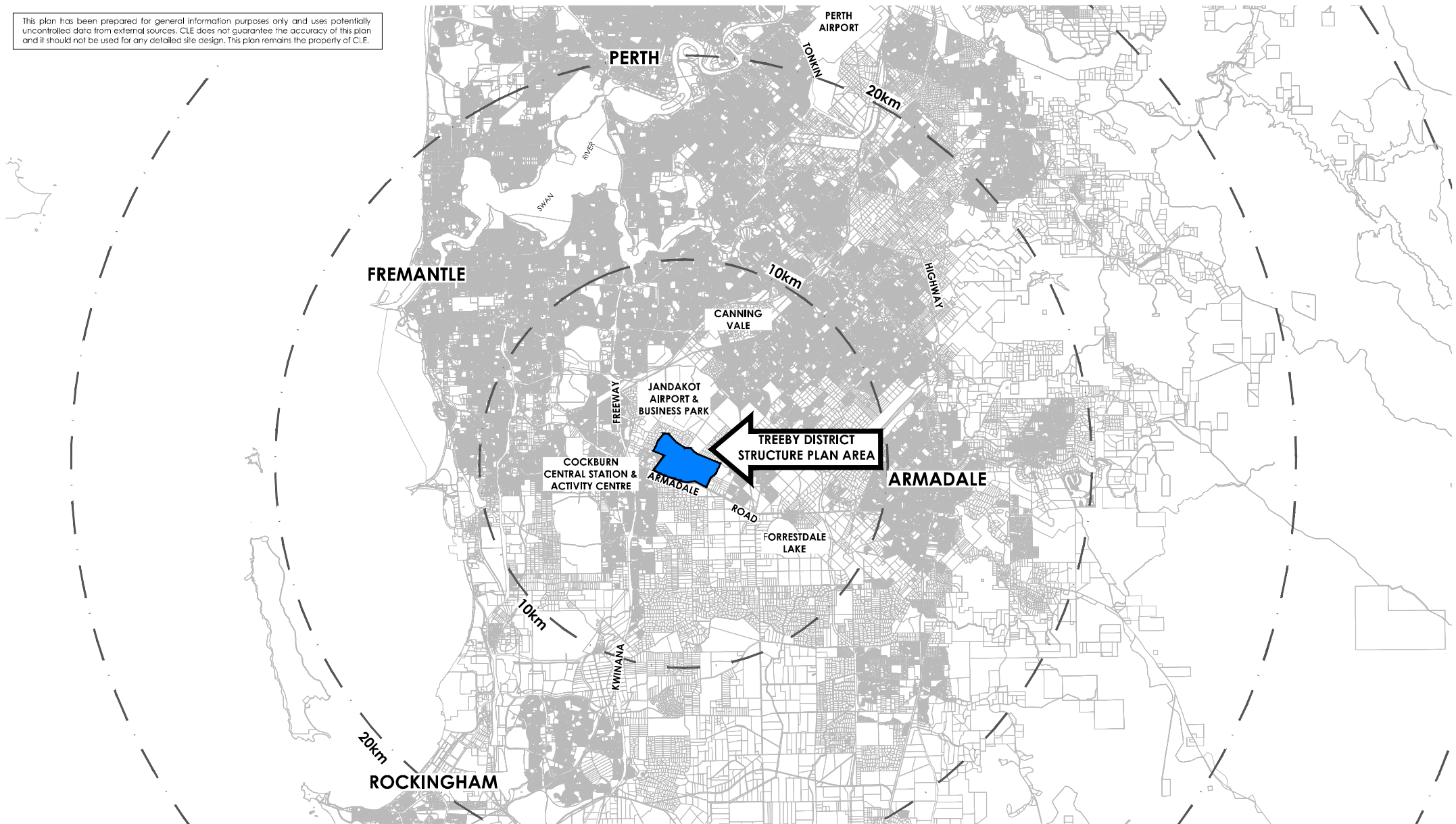
The lodgement of the TDSP aligns with the Project Plan released by the City of Cockburn in September 2015. The Project Plan provides a guide for the preparation of the TDSP which covers the following –

- Broad land-use arrangement, buffers and any relevant targets (eg. density targets);
- Coordination of major infrastructure including:
  - Schools;
  - District Water Management;
  - District Movement Networks;
  - Regional & District level Open Space / Conversation Areas;
  - District recreation facilities.
- Broad funding arrangements for improvements, potentially including the principles of a Development Contribution Plan (DCP).

The TDSP addresses and acknowledges all of the objectives of the City's Project Plan.

TREEBY DISTRICT STRUCTURE PLAN  
PART TWO - EXPLANATORY SECTION

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## 1.2 Land Description

The following section provides a brief overview of the TDSP area, and examines its context with respect to location, land use and ownership.

### 1.2.1 Location

The TDSP applies to the area generally bounded by Jandakot Road to the north, Warton Road to the east, Armadale Road to the south and Solomon Road to the west within the City of Cockburn. It is located approximately 19km south of the Perth CBD, 1km east of Cockburn Central Railway Station and Activity Centre, and 13km west of the Armadale Shopping Centre (refer Figure 2 - Location Plan).

### 1.2.2 Area and land use

The TDSP covers an area of approximately 460ha. Existing land use within the TDSP includes residential, extractive industry, rural residential, rural and open space / conservation. This includes:

- 118.48ha of Regional Open Space reserved for Parks and Recreation owned by the State;
- The Calleya (Banjup Quarry) residential development estate which consists of around 145ha of land in the western portion of the TDSP, currently under development by Stockland;
- The currently vacant Lot 1 (west) Armadale Road, to the southwest of the Calleya development (8.09ha);

- Fourteen (14) Resource zoned existing rural residential homesites accessed via Skotsch Road totalling 29.83ha; and
- Four (4) consolidated vacant sites previously used for quarrying activities and now identified for development:

**Table 1: Primary Potential Development Sites**

Lot Details	Landowner	Area(ha)
Lot 1 (east) Ghostgum Avenue	Department of Housing	20.35
Lot 2 Armadale Road	Ronci, Palmerino	3.15
Lot 4 Armadale Road	Midland Brick Co Pty Ltd - under contract to Perron Developments P/L	58.77
Lot 131 Jandakot Road	Limebrook Holdings Pty Ltd. - subject to a JV arrangement with Perron Developments P/L	64.75



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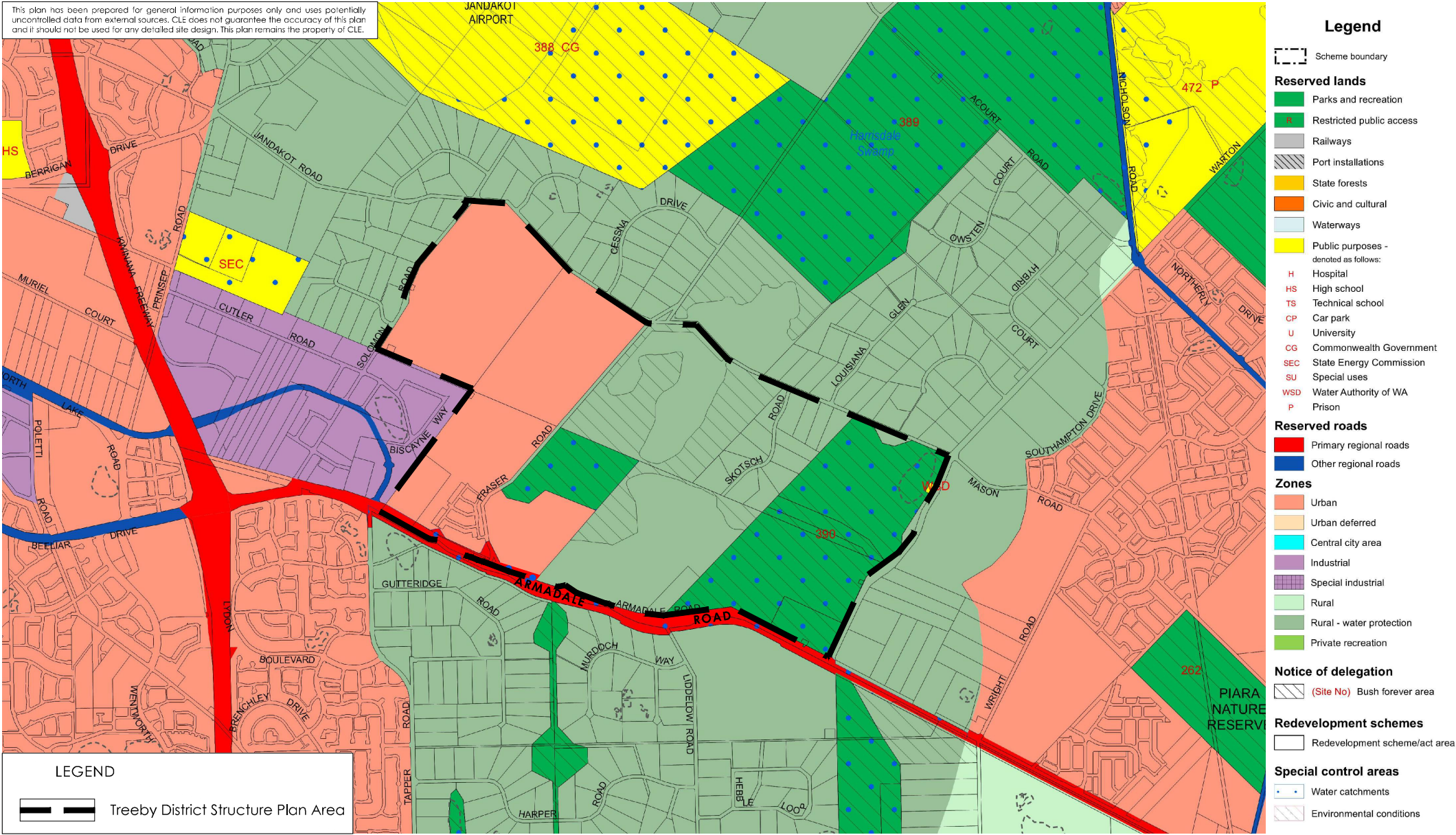
### 1.2.3 Legal Description and Ownership

The following table provides a summary of the land ownership within the TDSP, excluding created single residential lots within Calleya. A Land Ownership Plan is provided at Figure 3.

**Table 2: Land Ownership**

Lot Number	Owner	Certificate Of Title	Area(ha)
1 (west)	Armadale Road Pty Ltd	1209-240	8.09
1 (east)	Housing Authority	2887-742	20.35
2	Ronci, Palmerino	1250-966	3.15
4	Midland Brick Co Pty Ltd	333-129A	58.77
131	Limebrook Holdings Pty Ltd	1524-135	64.75
62-75	Various Skotsch Road private landowners		29.83
500	Dougan, Kiara Helen & Law-David, Daniel John	1663-61	1.19
139	State of WA	LR3144-998	5.30
140	State of WA	LR3096-571	42.56
467	State of WA	LR3081-261	40.31
468	State of WA	LR3024-166	2.59
614	State of WA	LR3032-307	7.68
820	WA Planning Commission (State of WA)	2710-373	20.05
9012	Stockland WA Development Pty Ltd	2867-287	7.43
9021	Stockland WA Development Pty Ltd	2898-453	41.26
9016	Stockland WA Development Pty Ltd	2898-982	41.56

TREEBY DISTRICT STRUCTURE PLAN  
PART TWO - EXPLANATORY SECTION



### 1.3 Planning Framework

#### 1.3.1 Zoning and Reservations

##### 1.3.1.1 Metropolitan Region Scheme

The TDSP area is subject to various zonings and reservations under the Metropolitan Region Scheme (MRS) including 'Urban', 'Rural', 'Rural-Water Protection', 'Parks and Recreation'. A 'Bush Forever' overlay associated with Bush Forever site 390 applies to many parts of the area containing remnant vegetation. The Parks and Recreation reserves are also subject to a Water Catchment Special Control Area. The table below provides details of the MRS zoning for key lots. A Metropolitan Region Scheme (MRS) zoning plan is also provided at Figure 4.

**Table 3: MRS Zoning (Summary)**

Lot Details	Metropolitan Region Scheme Zone / Reserve
Lots 1 (West), 9012, 9014, 9016, Lots 1 (east)	Urban
Lots 139, 140, 467, 468, 614, 820	Parks and Recreation, Water Catchment SCA, Bush Forever overlay
2, 500, 800 and Lots 62-78 Skotsch Road.	Rural – Water Protection.
Lot 4, 131	Rural – Water Protection, Bush Forever overlay (portions).

Lots 9012, 9014 and 9016 within the western portion of the TDSP are zoned 'Urban' under the MRS and are covered by the Banjup Quarry (Calleya) Local Structure Plan, facilitating urban development of this area. An MRS Amendment to rezone Lot 1 (east) to Urban has recently been gazetted, paving the way for a similar process and outcome for this site. A request to rezone Lots 2 and 4 to 'Urban' was also lodged with the WAPC in April 2014, however this request has been held pending further progression of the Perth and Peel @ 3.5 Million (planning) Frameworks currently being finalised.

The 98ha of Parks and Recreation reserve on the eastern portion of the area, and the centrally located 20ha reserve east of Fraser Road south (now Ghostgum Avenue) are covered by the MRS Bush Forever overlay associated with Bush Forever site 390. Site 390 also extends over portions of Lots 4 and 131 which are currently zoned as Rural Water-Protection. These areas of Bush Forever will be subject to review and refinement through the rezoning and local structure planning process. In total 172ha of land within the TDSP is currently shown as Bush Forever within the MRS.

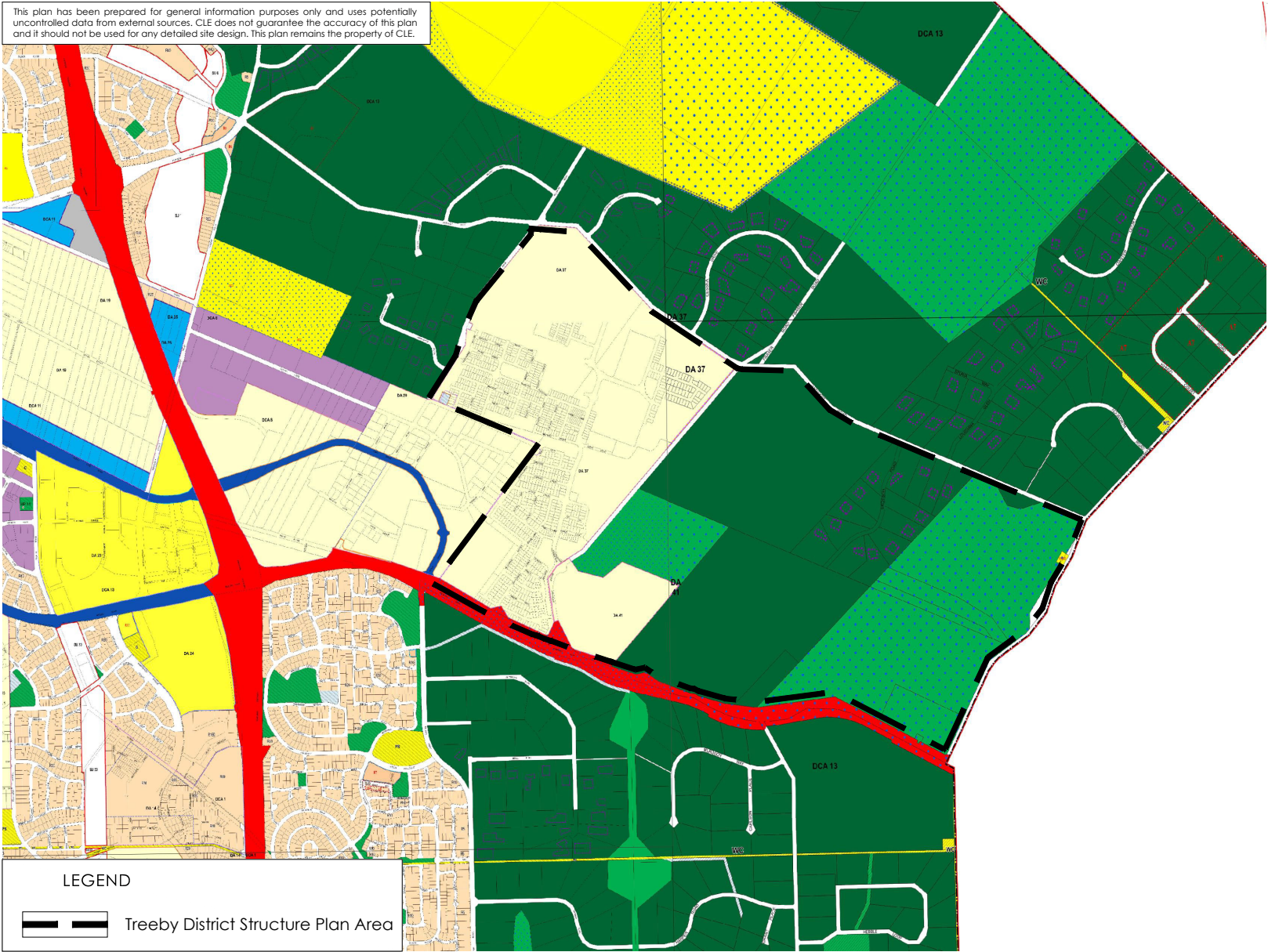
Small slivers of Primary Regional Roads reserve apply along the southern boundary of the DSP area providing for widening of Armadale Road.

The 'Rural - water protection' zone over the balance of the area reflects its historic use and the presence of the Jandakot water mound.



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LEGEND

REGION SCHEME RESERVES (MRS)

Public purposes	Public purposes - car park
CP	Public purposes - Commonwealth Government
CG	Public purposes - high school
HS	Public purposes - hospital
H	Public purposes - prison
P	Public purposes - special uses
SU	Public purposes - State Energy Commission
SEC	Public purposes - technical school
TS	Public purposes - university
U	Public purposes - Water Authority of WA
WSD	

LOCAL SCHEME RESERVES

(see scheme text for additional information)

Lakes and drainage	GS	Public purposes : Gas pipeline
Local road	OP	Public purposes : Oil pipeline
Parks and recreation	P	Public purposes : Police station
C	K	Public purposes : Pre-school
AG	PS	Public purposes : Primary school
FS	WC	Public purposes : Water Corporation
	WP	Public purposes : Western Power

LOCAL SCHEME ZONES

(see scheme text for additional information)

Development	Mixed use
District centre	Regional centre
Industry	Residential
Light and service industry	Resource
Local centre	Rural
Mixed business	Rural living
	Special use

OTHER CATEGORIES

(see scheme text for additional information)

Scheme boundary	No zone
Local Government boundary	Waterbodies
Hope Valley - Watteup Redevelopment Area	
R20 R Codes	
A1 Additional uses	
R1 Restricted uses	
SU1 Special use area	
Peel-Harvey coastal plain catchment area	
Building envelope	
BVA Bushfire vulnerability areas	
DA1 Development area	
Development contribution area	
JA Jandakot airport	
Heritage place	

LEGEND

Treeby District Structure Plan Area



### 1.3.1.2 Local Planning Scheme

The City of Cockburn Town Planning Scheme No. 3 (TPS 3) zoning applicable to the TDSP area is shown at Figure 5 (Local Scheme Zoning). Table 4 below also provides summary details of the local planning schemes zones applicable to key lots within the TDSP.

**Table 4: Local Scheme Zoning (Summary)**

Lot Details	Local Planning Scheme Zone
Lots 1 (west), 1 (east), 9012, 9014, 9016	Development
Lots 139, 140, 467, 468, 614, 820	Parks and Recreation
Lots 2, 131, 500, 800, 4 and 62-78 Skotsch Road	Resource

The Development zone, generally reflecting areas zoned Urban under the MRS, provides for adoption and application of local structure plans to guide subsequent subdivision and development (as is occurring over the Calleya estate). The Resource zone reflects the water protection provisions of the current MRS zoning applicable over non reserved sites and caters for larger lot (Rural Residential style) development. This would require amendment (following MRS rezoning) to facilitate urban development.

### City of Cockburn Development Contribution Plan No. 13

Schedule 12 of TPS3 specifies infrastructure and community items that are required to be funded through development contribution plans. The TDSP is within Development Contribution Area No. 13 (DCP 13). DCP 13 includes regional, sub-regional and local infrastructure items that have been determined as necessary to support the community within its boundaries, with allocation of a proportion of the cost of these items levied upon new lots created in the area.

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## 1.3.2 Planning Strategies and Sub-Regional Structure Plan

### 1.3.2.1 State Planning Strategy 2050

The State Planning Strategy (SPS) provides the basis for the long-term State and regional land use planning within Western Australia. It sets out the key principles, strategies and actions relating to the environment, community, economy, infrastructure and regional development which should guide the creation of State Planning Policy, Regional Strategies/ Frameworks and all future planning decisions.

The SPS identifies planning considerations and approaches that directly relate to the formulation of Cockburn Central Activity Centre Plan and set the agenda for more compact urban development in close proximity to public transport nodes as well as regeneration projects throughout Perth, those being:

- Place based approaches – That plan for the local economy, enhance and protect the identity of places, and provide for diverse, accessible and liveable communities.
- Affordable living – Identifying opportunities for housing diversity, infill development opportunities in appropriate locations and sustainable developments.
- Health and wellbeing – Identifying opportunities for the built environment to encourage the wellbeing of communities such as through the design of environments, streets and open spaces that people want to be active within.
- Land availability – Providing diverse and affordable housing outcomes.

Expansion of the Cockburn Central catchment to accommodate additional masterplanned communities on disused ex-quarry sites directly aligns with many of the objectives of the Strategy.

### 1.3.2.2 Directions 2031 and Beyond: Metropolitan Planning Beyond the Horizon

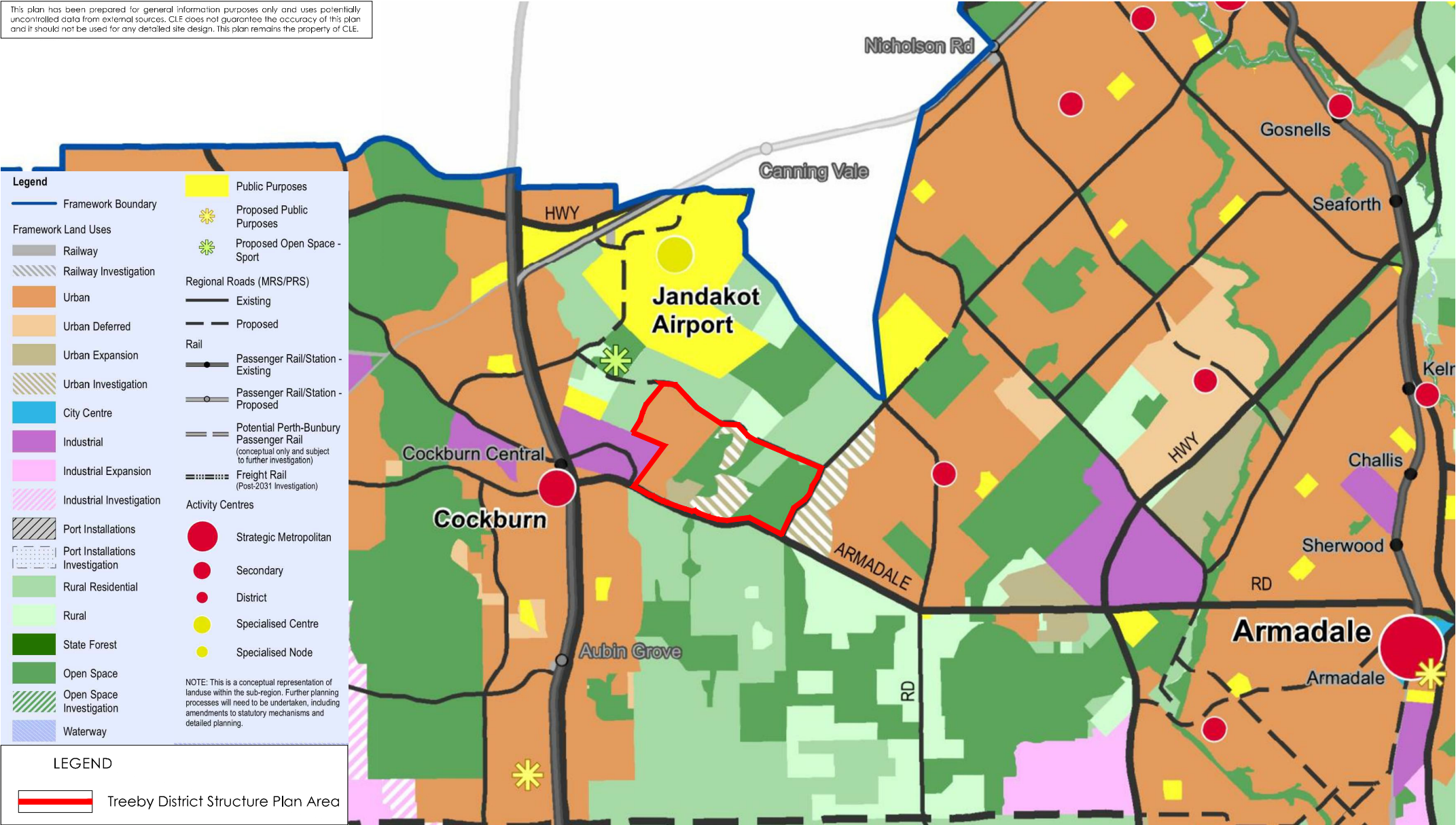
'Directions 2031 and Beyond' provides a high level spatial framework and strategic plan for the metropolitan Perth and Peel region. It has a 20 year horizon within which time it anticipates how the projected growth and development of Perth can be best accommodated. Amongst other things, it anticipates the need for an additional 328,000 dwellings to accommodate the growing population, with half of these sought as infill development to limit the expanding urban footprint, service extension and vegetation clearing on the fringes of the city.

Directions 2031 seeks a 50% improvement on current infill residential development trends of 30 and 35%; and has set a target of 47 per cent or 154,000 of the required 328,000 dwellings as infill development. This translates to 11,100 as part of infill / redevelopment opportunities within the City of Cockburn.

Directions 2031 also promotes a 50 per cent 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. This translates to 18,280 new dwellings as part of Greenfield development opportunities within the City of Cockburn.

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Directions 2031 and Beyond: Metropolitan Planning Beyond the Horizon was adopted by the WAPC in August 2010 and is the current spatial planning framework document for Perth and Peel, guiding the planning vision and direction to 2031 and beyond.

The reuse of ex-quarry sites within Banjup within an established residential area in close proximity to existing infrastructure, transport and services aligns strongly with the strategy.

#### 1.3.2.3 Draft Perth and Peel @ 3.5 Million

Draft Perth and Peel @ 3.5 Million seeks to build on and extend Directions 2031 in providing an overarching strategic planning framework for the metropolitan Perth and Peel regions, considering an increased population projection of 3.5 million by 2050. The documents include Central, North-West, and North-East and South Metropolitan Peel subregional frameworks (discussed below) which provide spatial guidance on where development should occur over the next 35 to 40 years. The document continues to promote more efficient use (and reuse) of land and infrastructure, and maintains a target of 47% of new lots by infill. It anticipates the need for 800,000 new dwellings to accommodate an additional 1.5 million people within the region by 2050, of which 380,000 are sought in strategic infill positions. Additional residential development within the DSP area would contribute to these targets, whilst protection of significant remnant vegetation and wetland areas responds to environmental objectives.

#### 1.3.2.4 Draft South Metropolitan Peel Sub Regional Framework

The Draft South Metropolitan Peel Sub Regional Framework (the Framework) is one of three frameworks prepared for the outer sub regions of Perth and Peel, which along with the Central

Sub-Regional Planning Framework established a long term integrated framework for land use and infrastructure provision as a component of the Perth and Peel @ 3.5 Million strategy.

The framework identified the need to accommodate more than 1.26 million people in the south metropolitan region by 2050 and identifies both the locations within which new development is to occur, and an indication of anticipated staging and sequencing of urbanisation to inform public investment in regional, community, service and service infrastructure.

The Planning Framework endeavours to facilitate the more consolidated urban form promoted by Directions 2031 and Perth and Peel @ 3.5 Million by limiting the identification of new Greenfield areas to where they provide a logical extension to the urban form, and placing a greater emphasis on urban infill and increased residential density.

The Framework satisfies the density objectives of Draft Perth and Peel @ 3.5 with a target of 30,119 dwellings to be provided in the City of Cockburn, of which 14,678 dwellings are to be via infill development opportunities and 15,441 via Greenfield development. This mix of infill and Greenfield development will contribute an estimated additional population of 66,957 people in the City of Cockburn.

The Framework identifies the larger site areas unaffected by Bush Forever site 390 within the BDSP as Urban and Urban Investigation area (refer Figure 6), with the staging and sequencing of land development being in the short term (2015 - 2021) and medium term (2015 - 2031) (refer Figure 7). The TDSP is consistent with this, albeit seeking a minor refinement to the basic boundaries illustrated in the Framework on the basis of the more detailed site analysis undertaken as part of the DSP exercise.







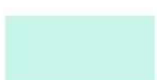
# TREEBY DISTRICT STRUCTURE PLAN


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### Legend

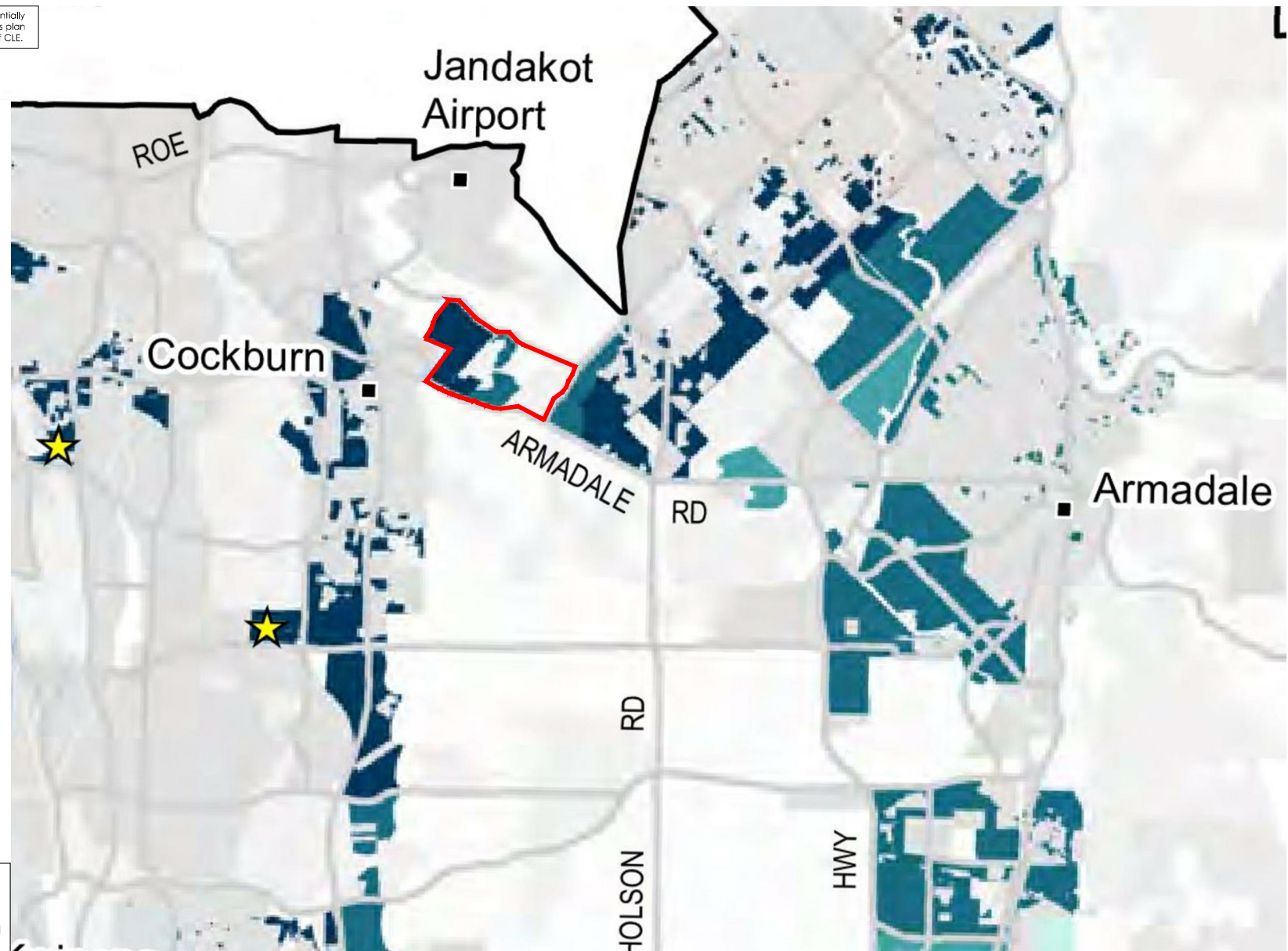
#### Staging

-  Short Term (2015-2021)
-  Short-Medium Term (2015-2031)
-  Medium Term (2022-2031)
-  Medium-Long Term (2022+)
-  Long Term (Beyond 2031)

-  Subject to the finalisation of Kwinana Industrial (including Air Quality) Buffer

#### LEGEND

-  Treeby District Structure Plan Area



DRAFT SOUTH METROPOLITAN PEEL SUB-REGIONAL FRAMEWORK  
- URBAN STAGING

Source: Draft South Metropolitan Peel Sub-regional Planning Framework\_May 2015

2310-130-01 (07.07.2016), NTS



Figure 7



#### 1.3.2.5 City of Cockburn Planning Strategy

The City of Cockburn's Local Planning Strategy sets out long term planning direction and provides the rationale for the zones and other provisions of the City of Cockburn Town Planning Scheme No.3. The Local Planning Strategy outlines the general aims and intentions for future long-term growth and change within the City of Cockburn. The Strategy includes a comprehensive list of strategies and actions to guide the development of regional and local communities, with the following particularly relevant to the TDSP:

##### *Transport*

- Maximise development near public transport routes
- Minimise trip lengths in order to maximise local convenience and minimise the environmental impacts of private car users.
- Encourage cycling by defining an implementing cycle networks and promoting the provision of end-of-trip facilities.

##### *Open Space*

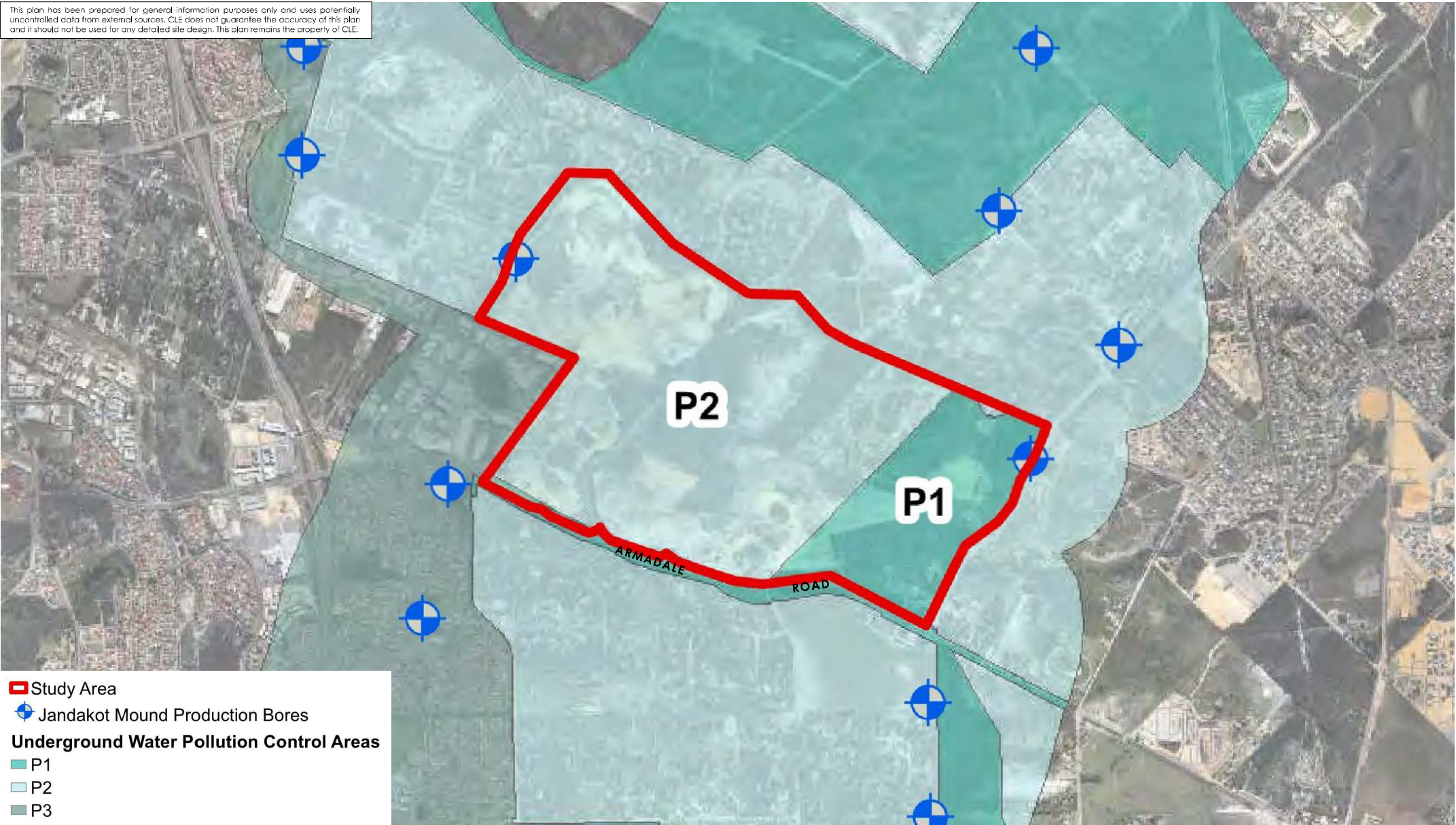
- Maintain the amount of local open space per capita
- Improve the quality, amenity and accessibility of local and regional open space.

#### Heritage

- Enhance local identity and character by preserving buildings and places with historic, architectural, scientific or scenic value. (and by deduction, encouraging development in those locations without such attributes).

The TDSP either directly contributes to these directions, or provides a framework by which they can be pursued in more detailed planning processes to follow.

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### 1.3.3 Planning Policies

#### 1.3.3.1 SPP 2.3 Jandakot Groundwater Protection

The Jandakot Groundwater Protection policy aims to prevent, control and manage development and land use changes in the Jandakot Groundwater Protection Policy Area to limit impacts on groundwater. It works in concert with the Jandakot Underground Pollution Control Area (UWPCA) (declared under the *Sewerage and Drainage Act 1909*), and seeks to give statutory effect to, and implement the *Jandakot Land Use and Water Strategy*, and the *Jandakot Groundwater Protection Area Drinking Water Source Protection Review*. These documents allocate management priority designations 1-3 to land within the Policy Area and, amongst other things, outline the framework for assessing development within its boundaries. Priority 1 (risk prevention) applies to state owned Parks and Recreation Reserves, Priority 2 (risk minimisation) to privately owned rural areas and Priority 3 (risk management) to urban areas – refer Figure 8 Underground Water Pollution Control Areas.

Further urbanisation within the DSP area will require recategorisation of some existing Priority 2 areas to Priority 3. A revision to SPP 2.3 advertised for public comment outlines the circumstances under which this will be contemplated, as follows:

- Large land holdings that were previously cleared and disturbed;
- Land directly adjacent to already developed areas;
- Land identified as appropriate for more intensive development through strategic planning instruments such as regional or sub-regional structure plans;

- Where appropriate risk mitigation measures are available; and
- Where net long term public benefit is demonstrated.

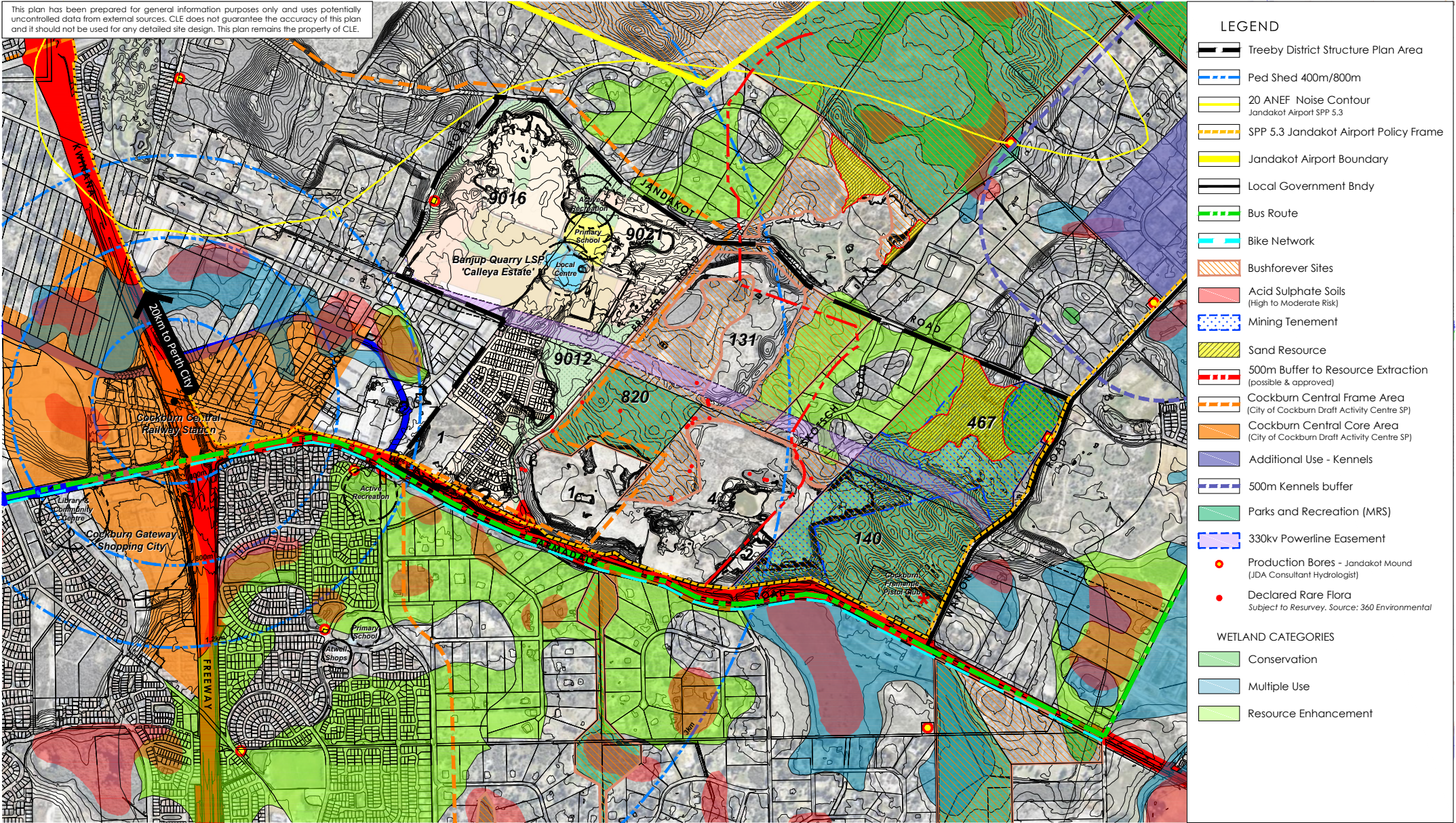
Recent advice from the Department of Water has indicated that should the WAPC determine through a strategic planning process (i.e. South Metropolitan Peel Sub Regional Planning Framework) that development in this location is warranted taking into account social, environmental and economic factors, the Department will re-classify rezoned areas to P3, which is compatible with urban development.

#### 1.3.3.2 SPP 2.8 Bushland Policy for the Perth Metropolitan Region

SPP 2.8 – *Bushland Policy for the Perth Metropolitan Region* seeks to provide a policy and implementation framework to ensure bushland protection and management in the Perth region. It identifies bushland areas, and specifies the policy approach to their management based on categorisation. Bush Forever site 390 within the DSP area (illustrated on Figure 4 – Metropolitan Region Scheme plan) is classified as 'BFA – Urban, industrial or resource development' under SPP 2.8, essentially on the basis of its status under private ownership and its prior land use. The Policy consequently requires consideration of impacts on the bushland in the future planning of the site, and promotes negotiation of the conservation of all or part of the site as part of the process. The proposed retention and management of the majority (95%) of the Bush Forever site proposed by the DSP achieves alignment with the key precepts of the policy. More detailed negotiation on the areas to be retained versus removed, and any applicable off-sets package will occur through the rezoning and local structure planning stages.



TREEBY DISTRICT STRUCTURE PLAN  
PART TWO - EXPLANATORY SECTION





#### 1.3.3.3 SPP 4.2 Activity centres for Perth and Peel

SPP 4.2 Activity Centres for Perth and Peel identifies the broad requirements for the planning and development of new activity centres and the renewal of existing centres in Perth and Peel. A primary objective of the policy is to increase the density and diversity of housing within and around activity centres to the improve land use efficiency, residential amenity and access to services, housing variety and centre vitality. The Cockburn Central Secondary Centre is located approximately 1km west of the DSP boundary. Development of the DSP area will increase the population catchment east of the activity centre, contributing the Policy objectives. Provision for smaller more local services within the DSP area is also accommodated within the TDSP, consistent with the recommendations of the policy.

#### 1.3.3.4 SPP 5.3 Jandakot Airport Vicinity

SPP 5.3 Jandakot Airport Vicinity applies to land in the vicinity of Jandakot airport, which is, or may in the future, be affected by aircraft noise. The objectives of the policy are to:

- Protect Jandakot Airport from encroachment by incompatible land use and development, so as to provide for its ongoing, safe and efficient operation; and
- Minimize the impact of airport operations on existing and future communities with particular reference to aircraft noise.

The Policy describes two areas to which the policy applies. Firstly a Core Area defined by the 20ANEF contour and a Frame Area defined by the area between the 20ANEF contour and Roe Highway, Ranford Road, Warton Road, Armadale Road and Kwinana Freeway.

The TDSP is wholly located outside the 20ANEF contour, with the policy consequently containing no constraints to development within it. Notwithstanding, the City expects that memorials be placed on all new residential lots within the policy area identifying the existence of the airport and associated noise to ensure understanding of this by future lot purchasers, and that has a Noise Management Plan be prepared for all lots within the DSP.

The location of the TDSP area in relation to the airport and 20ANEF contour is illustrated in the Opportunities and Constraints Plan provided at Figure 9.

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1.3.3.5 SPP 5.4 - Road and Rail Transport Noise and Freight Considerations in Land Use Planning

SPP 5.4 addresses how amenity impacts, specifically transport noise, associated with high volume roads, rail lines and freight routes should be addressed through the planning system. The policy provisions are applicable to development along both Armadale Road and Jandakot Road because of the expectation that traffic volumes along these roads will exceed 20,000 vehicles per day within 20 years. Armadale Road is also designated a primary freight route which also triggers application of the policy.

The policy seeks to ensure that transport noise impacts on sensitive land uses (including residential development) is kept within targets for both night and day time, through the appropriate design of development. This will require assessment of anticipated transport noise reaching sensitive land uses and submission of mitigation measures to achieve the noise targets specified by the Policy as a component of local structure planning for each development site abutting either road. Typical mitigation measures include use of noise walls or bunds to screen noise reaching development sites, and application of 'Quiet House Design' requirements on dwellings requiring this to meet the specified threshold.

It is understood from discussions with the City of Cockburn that conflicts can occur between the construction standards application for Quiet House Design Package B and BAL19+ construction standards and therefore it is preferable to avoid an overlap between these where possible.

In addition to SPP 5.4, consideration should be given to other potential noise sources (including the Jandakot airport and nearby land uses including the Jandakot Pistol Club) in the local structure planning of the area to ensure that noise impacts experienced within residential areas are reduced and that conflicts between the new residences and existing operations are minimised through appropriate separation, treatment and / notification on title.

1.3.3.6 SPP 2.4 Basic Raw Materials

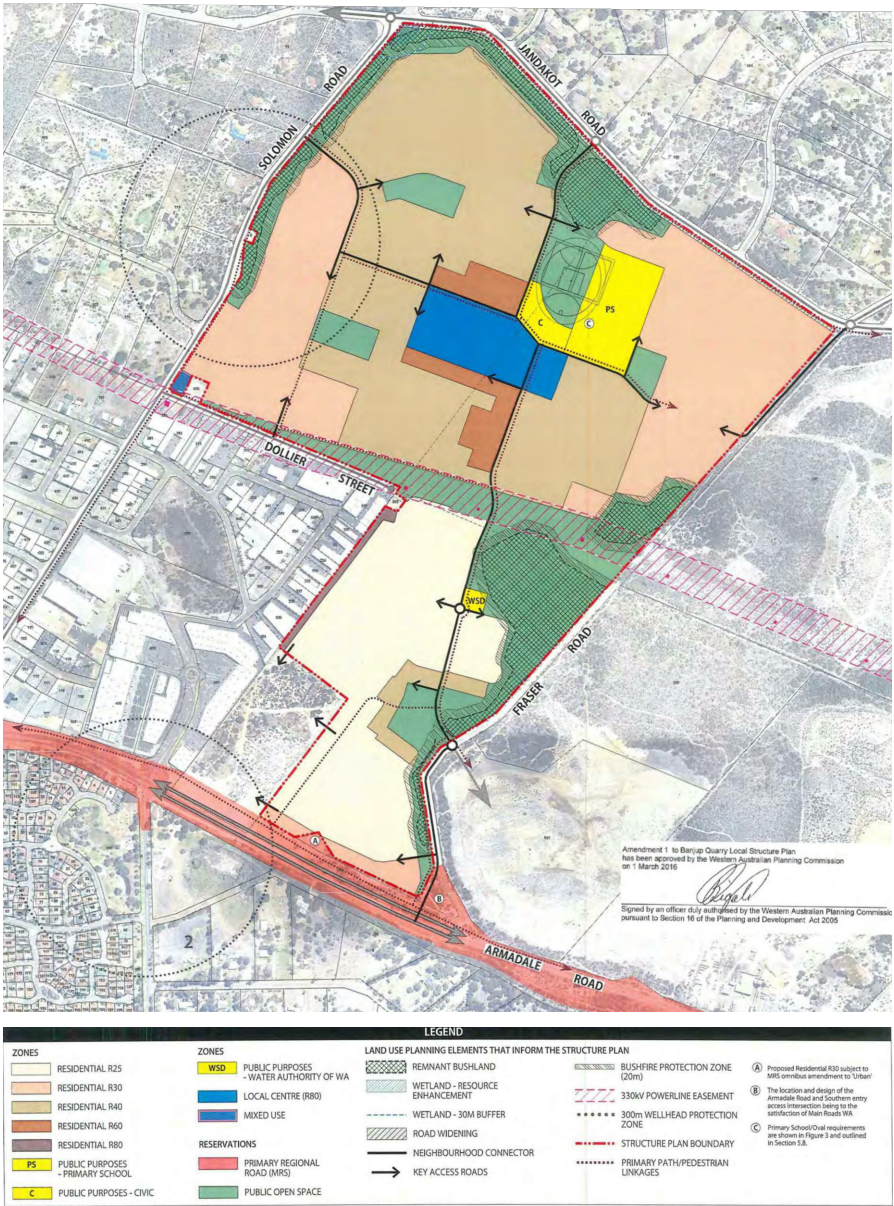
This policy sets out matters which are required to be taken into account when considering zoning, subdivision and development applications for extractive industries or on land identified as containing a strategic resource. The key objectives of this policy are to:

- Identify the location and extent of known basic raw material resources;
- Protect Priority Resource Locations, Key Extraction Areas and Extraction Areas from being developed for incompatible land uses which could limit future exploitation;
- Ensure that the use and development of land for the extraction of basic raw materials does not adversely affect the environment or amenity in the locality of the operation during or after extraction; and
- Provide a consistent planning approval process for extractive industry proposals including the early consideration of sequential land uses.



TREEBY DISTRICT STRUCTURE PLAN  
PART TWO - EXPLANATORY SECTION

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The DSP features several sites previously used for extractive industry (primarily sand quarrying) including Calleya, Lots 1 (east), 4, 131, and 140. A live mining tenement also exists over portion of Lots 140, 139, 468 and 467 however it is uncertain whether further clearing will be permitted within this reserve to enable extraction of the remaining sand resource. Redevelopment and / or rehabilitation of sites following the completion of resource extraction as proposed within the DSP consistent with the policy. Maintenance of a temporary buffer to the live tenement and associated weighbridge in the west of the DSP area may be required along the eastern boundary of lots 2 and 4 should further mining be approved within tenement however the impacted area is small and will only be a consideration for a limited period pending completion of sand extraction. Similarly a buffer to approved sand extraction on Lot 130 north of Jandakot Road may impact on the northern portion of Lot 131 but is expected to be shortlived and can therefore be easily addressed through staging, in the event that it has not concluded at the point that development of this site commences.

#### 1.3.3.7 Local Planning Policies

In addition to the state and regional planning policies in operation, the City has a number of local planning policies relevant to the planning of the DSP area. These include (but are not limited to):

- LPP 1.12 Noise Attenuation
- LPP 5.1 Public Open Space
- LPP 5.2 Incorporating Natural Areas in Public Open Space

- LPP 5.3 Control Measures for Protecting Water Resources in Receiving Environments
- LPP 5.4 Location of High Voltage Overhead Power Lines and Microwave Towers
- LPP 5.6 Vehicle Access
- LPP 5.7 Uniform Fencing
- LPP 5.15 Access Street – Road Reserve & Pavement Standards

These do not pose a conflict with the DSP but will require consideration in the more detailed design and implementation planning processes to follow.

#### 1.3.4 Other Approvals and Decisions

##### 1.3.4.1 Banjup Quarry Local Structure Plan

Lots 9012, 9014, 9015 and the newly created residential lots west of Fraser Road south (now Ghostgum Avenue) form part of the 144ha Banjup Quarry structure plan area, being developed by Stockland as the Calleya Estate. The area was rezoned from 'Rural-Water Protection' to 'Urban' under MRS Amendment 1221/41 in November 2012 following which it was rezoned for development under the City's Local Planning Scheme.

The Banjup Quarry Local Structure Plan was formally adopted by the City of Cockburn in May 2013, and endorsed by the Western Australian Planning Commission (WAPC) (subject to conditions) on the 22<sup>nd</sup> October 2013. An amended version of the Plan approved in 2015.

The LSP provided for a 1.46ha Neighbourhood Activity Centre (NAC) incorporating a Mixed Use and Commercial (Shop/Retail) development, Public Purpose site (Primary School with co-located community land uses) and can support in excess of 2000 dwellings at 15 dwellings per gross hectare, with 1990 dwellings representing the estimate stated in current version of the LSP.

The first subdivision application (WAPC 148012) was approved by the WAPC on the 22<sup>nd</sup> October 2013, comprising 460 residential lots within the southern precinct of the LSP area, much of which has now been developed.

A second subdivision application (WAPC 149633) was approved by the WAPC on 8 August 2014, comprising approximately 1300 lots in the northern precinct (north of the Western Power easement) and inclusive of Primary School, Civic, Local Centre and Light Industry zoned sites.

Staged development of the estate is anticipated to continue over coming 5-7 years (dependent of rate of sales) to completion.

#### 1.3.4.2 MRS Amendment 1289/57 – Lot 1 (east) Armadale Road to 'Urban'

Amendment 1289/57 to the Metropolitan Region Scheme rezoned Lot 1 (east) Ghostgum Avenue / Armadale Road from Rural to Urban and reserved the abutting Lot 820 to the north for Parks and Recreation. This was gazetted on 20 May 2016. Rezoning under the local planning scheme and formal submission of a local structure plan will be required prior to development of this site for urban (residential) purposes.

In considering the Amendment, the EPA noted the existence of flora and vegetation on Lot 1 requiring consideration in the structure planning and subdivision of the site. It recommended that fringing remnant vegetation be retained and that textual provisions be included in the Planning Scheme to this effect. The EPA also suggested that the interface with Bush Forever site 390 to the north be suitably treated to minimise adverse impacts from development, and that the protection afforded to the population of *Calandenia huegelii* on-site under both the *Environmental Protection and Biodiversity Conservation Act 1999* and the *Wildlife Conservation Act 1950* as an endangered species be noted, and that protection be incorporated into subsequent site planning processes. It is noted that while the EPA are suggesting additional scheme provisions, this amendment is yet to be formally considered by the WAPC and the Minister for Planning. The City of Cockburn has not supported the inclusion of specific scheme text as requested, as the matters can be appropriately dealt with via the structure planning process.



## 2.0 EXISTING ENVIRONMENT: SITE CONDITIONS AND CONSTRAINTS

An Environmental Assessment Report (EAR) has been prepared by 360 Environmental, refer Appendix 1. The report identifies key environmental issues relevant to the TDSP, provides the key findings of environmental assessments that relate to the TDSP, and recommends appropriate management responses to facilitate and guide future development and local structure planning within the TDSP. The EAR concludes that none of the key environmental issues identified on the site pose a significant constraint to implementation of the TDSP and that the overall environmental outcomes achieved are positive.

### 2.1 Biodiversity and Natural Area Assets

#### 2.1.1 Remnant Vegetation

Much of the DSP area has been cleared as a result of previous land uses and mining activities. The majority of vegetation remaining falls within Bush Forever Site 390. In accordance with State Planning Policy 2.8 (SPP 2.8), the Bush Forever Site 390 falls under the 'Bush Forever Area (BFA) – Urban, Industrial and Resource Development' site implementation category. SPP 2.8 recognises that regionally significant bushland in this category is constrained by existing commitments, approvals and policies. Therefore, development proposals should seek to achieve a reasonable balance between conservation and development or resource extraction through a negotiated outcome which has regard for the specific conservation values involved.

A total of 176ha of open space incorporating environmental values (including 94% of the portion of Bush Forever site 390 within the DSP area) is proposed for retention under the DSP. An area of approximately 10.5ha of Bush Forever within Lot 131 is proposed for residential development. Of this area, 4.2ha (40%) comprises of vegetation that is mapped as 'Completely Degraded' or previously cleared as a result of past sand quarrying activities and poorly rehabilitated. Further assessment of this component of the plan will occur through the subsequent rezoning and local structure planning processes, in accordance with SPP 2.8 which specifies the impact assessment process to be followed. Offsets for the removal of the better quality vegetation may be required and will be negotiated through the statutory approval process.

#### 2.1.2 Conservation Significant Flora

*Caladenia huegelii*, a conservation significant flora species (better known as a spider orchid), has been identified within the TDSP. *Caladenia huegelii* is classified as Threatened in accordance with the *Wildlife Conservation Act 1950* (WC Act) and *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The population of *Caladenia huegelii* is mainly known to occur within Bush Forever 390 and all *Caladenia huegelii* within Bush Forever 390 are proposed to be retained. Two isolated occurrences located outside the Bush Forever area within Lot 4 will be proposed for relocation.



The mapped Resource Enhancement wetland within Lot 131 is proposed for retention within a public reserve, and will be subject to an appropriate management strategy.

## 2.4 Bushfire Hazard

SPP 3.7 Planning in Bushfire Prone Areas seeks to apply risk-based land use planning and development controls to ensure that bushfire hazards are considered in planning decisions, to preserve life and reduce the impact of bushfire on property and infrastructure. The Policy is to be read in conjunction with the Deemed provisions of the *Planning and Development (Local Planning Scheme) Amendment Regulation 2015*, the supporting *Guidelines for Planning in Bushfire Prone Areas*, and *Australian Standard 3959: Construction of Buildings in Bushfire Prone Areas*.

Areas of the DSP are mapped as Bushfire Prone and so will require detailed Bushfire Hazard Assessment and application of Bushfire Management Plans to address bushfire risk. Likely measures include provision of hazard separation through the placement of roads and / or managed local open space abutting areas of retained vegetation, and application of BAL construction standard requirements to lots in closest proximity to areas of retained vegetation. This approach has been successfully applied within Calleya. Detailed assessment will be required as a routine component of the preparation of local structure plans.

## 2.5 Heritage

The Department of Aboriginal Affairs (DAA) Aboriginal Heritage Information System (AHIS) indicates the location of three 'Other Heritage Places' and no 'Registered Sites' with the TDSP. The three 'Other Heritage Places' are defined below –

- Banjup Calsil – Place ID. 3301 associated with artefacts/scatter. The status of the place is 'Stored Data/Not a Site', which means it has been assessed as not meeting Section 5 of the *Aboriginal Heritage Act 1972*.
- Readymix Sandpit 1 – Place ID. 4108 associated with artefacts/scatter. The status of the place is 'Lodged Site', which means it has not been determined whether or not it meets Section 5 of the *Aboriginal Heritage Act 1972*.
- Camp Site – Place ID. 18752 associated with artefacts/scatter. The status of the place is 'Lodged Site', which means it has not been determined whether or not it meets Section 5 of the *Aboriginal Heritage Act 1972*.

The location of these places is shown in Figure 12 of the Environmental Assessment Report. The latter two places are located within Calleya and in the very south-west corner of the DSP area (potentially outside its actual boundaries), respectively. The Calsil site impacts a substantial portion of the regional reserve in the east of the DSP area and portion of Lots 2, 4 and the Skotsch Road estate.

The closest 'Registered Site' is Kraemer Reserve (Place ID. 21811), which is approximately 1.1km to the south of the Study Area. The site is registered due to its mythological significance.



Obligations precluding interference with registered sites without prior clearance, and disturbance of any artefacts discovered exist under the Aboriginal Heritage Act which will need to be observed in any development within the DSP.

## **2.6 Context Analysis and Opportunities and Constraints**

An Opportunities and Constraints Plan has been prepared illustrating the context and the site and its key opportunities and constraints (refer Figure 9). This illustrates the strategic location of the site from an urban infill potential and the availability of goods, services, transport and urban infrastructure already in place. It also identifies a number of constraints to which the DSP and subsequent local structure plans must respond. Items illustrated on the plan include:

- The area's exceptional access to employment opportunities, retail and services, both within the immediate area, and accessible via the Perth-Mandurah Rail Line nearby;
- Its proximity to the Cockburn Central railway station providing direct access to the Perth CBD, Mandurah, and other stops along the line (including Murdoch providing a regional hospital and university facility);
- The surrounding road network and cycle network;
- Existing cadastral boundaries, illustrating areas in consolidated ownership versus those previously developed;
- Existing planning for the Calleya Estate;
- Areas of regional reserve, and Bush Forever sites;

- Surveyed Declared Rare Flora (surveyed locations subject to confirmation);
- Areas cleared for sand mining versus areas of remnant vegetation;
- Mapped wetland areas;
- The location of ground water extraction bores;
- The boundaries of the Jandakot Airport and associated ANEF noise contours;
- The Cockburn - Fremantle Pistol Club;
- The absence of buffers associated with kennel zones to the north east affecting the area;
- Mapped sand resources;
- The 330kv powerline easement running east west through the DSP area;
- Walking and cycling catchments to Cockburn Central railway station and activity centre.

The TDSP provides a design response to these considerations as detailed in section 3.0 below.

### **3.0 DISTRICT STRUCTURE PLAN**

The District Structure Plan has been drafted to respond to the key opportunities and constraints presented by the precinct and provide a broad framework for future land use planning and infrastructure provision. It seeks to optimise the reuse of consolidated sites which have previously been cleared for sand mining given the strategic location of the precinct, whilst preserving areas of significance, and recognising existing uses and approvals. It provides for:

- The continued development of the Banjup Quarry / Calleya estate in accordance with the approved Local Structure Plan;
- The development of Lot 1 (west) Armadale Road for either Service Commercial and/or Residential purposes, in accordance with an approved Local Structure Plan (to be prepared);
- The development of Lot 1 (east), 4, 2 and 131 for urban residential purposes in accordance with approved Local Structure Plans (to be prepared following or concurrent with rezoning);
- Potential residential development of Lot 500 and the Skotsch Road precinct subject to inclusion in the WAPC Perth and Peel @ 3.5 Million documents;
- Retention of Lots 467, 139, 468, 140, 614 and 820 for Regional Open Space;
- Retention of additional areas (totalling 58 ha to create a total of approximately 177ha) of open space incorporating environmental values and vegetation retention;
- Restriction of access from Armadale Road to approved access points into Lot 1 (west) (Left in Left out), Ghostgum Avenue / Calleya (full movement but ultimately subject to restriction to Left in Left out) and Lots 2 and 4 (full movement at extension of Liddelow Road). Potential for an additional Left in Left out into Lot 4 to relieve pressure on the full movement intersections has also been recommended by Transcore to improve traffic flow and load share however the impact of this intersection on the function of Armadale Road has been flagged by MRWA as of concern and so it is subject to further investigation and approval during the local structure planning phase;
- Extension of internal north south road linkages through Calleya (as approved) and through Lots 4 and 131 to Fraser Road to provide for through connection between Armadale Road and Jandakot Road;
- Extension of internal east-west linkages to facilitate internal movement within the DSP area, and access to local services and amenities;
- Upgrade of Jandakot Road to a two lane divided urban road with ultimate provision for upgrading to a four lane road (subject to the outcomes of the City's design review);
- Provision of two centrally located Primary Schools (within Calleya and Lot 4);
- Provision of a Neighbourhood (within Calleya) and a Local (within Lot 4) Activity Centre to cater for provision of local services to supplement those available within Cockburn Central and the broader district.

Development in accordance with the DSP is estimated to yield approximately 3500-3800 dwellings (including the 1990-2350 estimated to be created/potentially created within the approved Calleya area). In the event that portion or all of Lot 1 (west) is developed for Residential instead of Service Commercial purposes, this might yield a further 100 commercial lots (approximately) or a higher number of retirement dwellings.

### 3.1 Land Use

The Structure Plan provides a general indication of land use designation and arrangements. However, refinements to the details of boundary alignment and layout may occur as part of the more detailed site planning occurs.

The basic land use areas indicated on the DSP are as follows:

**Table 5 – Land Use Schedule (Plan 2310-122D-01)**

	<b>Sub Total (ha)</b>	<b>Total (ha)</b>
Total DSP Area		458ha
<b>Non Residential Land Uses</b>		
Mixed Business (assume 100% Urban-zoned portion of Lot 1 west)	7.03	
Neighbourhood & Local Centres	4.57	
Primary School & Community Purpose	8.20	
Non Residential Land Use Total		19.61
Rural Residential <sup>1</sup>		31.02
<b>Open Space with Conservation Values</b>		
Existing Parks & Recreation Reserve	118.48	
Additional Open Space incorporating Conservation Values	58.75	
Open Space with Conservation Values Sub Total		177.23
<b>Gross Residential Area</b>		230.30

\* All areas approximate only.

\* Areas of open space credited under WAPC policy (including potential areas with conservation value) to be determined through Local Structure Plan and subdivision processes.

<sup>1</sup> Pending identification of Lot 500 and Skotsch Road for urban purposes by the WAPC in the Perth and Peel @ 3.5 Million documents



### 3.1.1 Residential Densities and Yield Projections

The Calleya LSP estimates a total residential lot yield of 1,990 with ultimate planned potential up to 2,350 to provide an upper range catering for growth over time. These yields are provided via a range of residential densities including 'traditional' R20/25 single residential lots with a proportion of smaller R30, R40 and a smaller component of R60 lots within strategic locations.

Extension of these principles and the Perth and Peel @ 3.5 Million target of 15 dwellings per hectare to Lots 1 (east), Lots 4 and 2 and the portion of Lot 131 identified for urban investigation will generate approximately 1,500 additional lots. Lot 1 (West) might provide a further 100 lots (approximately) if fully developed for traditional residential purposes.

Density allocation within development sites should follow the principles of Liveable Neighbourhoods (as illustrated at Calleya) with a base providing for traditional single residential lots with higher density lots concentrated around local amenities, open space and transport routes. Further detail on density codings will be provided through local structure plans prepared for each site.

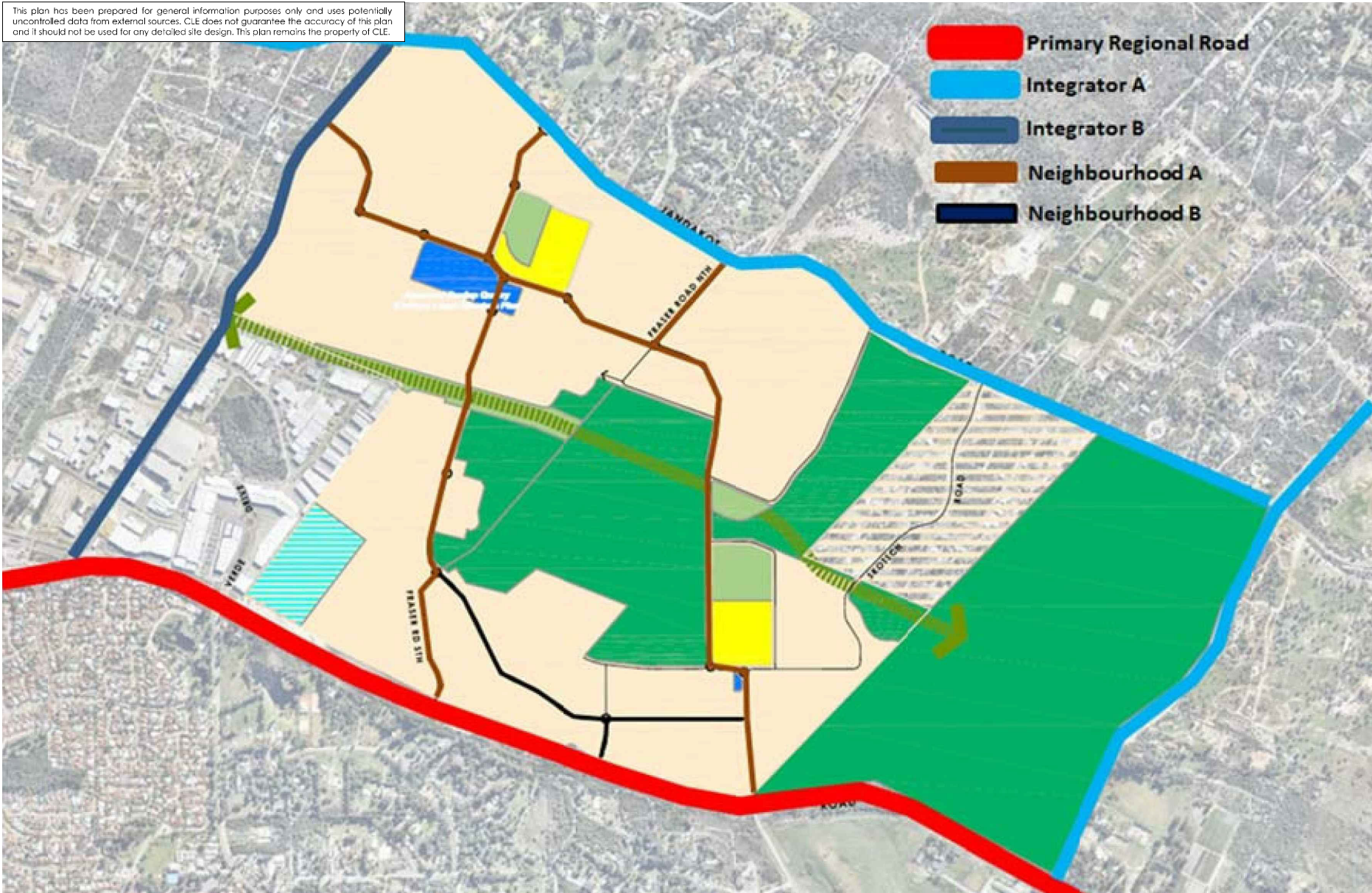
### 3.1.2 Non-Residential Land Uses/Facilities

The site is exceptionally well located in relation to access to employment opportunities, retail and services. Cockburn Central, a strategic metropolitan centre, is located within 1.5km-3km from the DSP whilst the rail line provides direct connection to the Perth CBD 20km to the north. Jandakot Business Park and other district business and industrial areas nearby provide further opportunities.

To supplement these, the DSP provides for a Neighbourhood Centre within Calleya and a small Local Centre within Lot 4 to provide for a range of daily needs within walking distance of most urban areas of the DSP. Uses accommodated within these centres might include a deli, cafe, medical services, childcare and / or local offices, depending on market demand. The Neighbourhood Centre might also incorporate a small supermarket and specialty shops.

The Calleya Neighbourhood Centre incorporates provision for a community centre to be developed in conjunction with the local school and active recreation facilities, consolidating this as a focus for community interaction. Collocation of the school with the local centre is also proposed on Lot 4 to facilitate multi-purpose trip, manage traffic and access, and provide a concentration of activity within a central point within the precinct. The shared use oval abutting the Lot 4 primary school has also be notionally sized to accommodate a senior sized oval, should there be unmet demand for this (as has been the case elsewhere within the region).

Lot 1 (west) abuts service commercial (showroom type) development to the west, and residential to the east and north. As such, this site has the opportunity to accommodate either land use or a combination of the two (subject to appropriate planning and interface treatment). Any residential component would be required to integrate with Calleya, and access provision has been incorporated in the Calleya LSP to facilitate this. The City has indicated that non residential uses would be expected to restrict access and egress to Armadale Road (and / or integration with development to the west if this can be negotiated). The details



of land use mix, access and layout for this site will be determined through the subsequent LSP. Given its location, either land use option integrates with the DSP, and its size limits the impact on either land use scenario on the overall outcome.

### **3.2 Public Open Space and Recreation**

The DSP illustrates the existing network of state owned regional reserves supplemented by additional areas (approximately 58ha) of open space incorporating environmental values. These areas incorporate the majority of Bush Forever site 390 and an area of contiguous conservation within Lot 9012. These areas, ultimately forming part of a district parkland, total 177ha. Whilst much of this area is proposed for retention for environmental reasons, it includes parts with an existing or potential recreation function, including cleared areas previously subject to sandmining. There is also the opportunity to integrate the park with the 330kv Western Power Easement running east-west through the precinct to provide not only a 'green linkage' through the area, but also a potential recreation linkage. Preparation of a masterplan over the park could assist in achieving a well thought out and integrated management arrangement which maximises both conservation, recreational and aesthetic benefits, and creates a focus for the district.

Two active recreation areas are identified on the DSP to provide for playing fields abutting schools. The precise sizing and location of these will be subject to detailed planning in conjunction with the City, but both cater for multiple sporting uses including potential senior sized football oval. The City has indicated the need for clubrooms (change rooms, toilets and the like) to service these.

Local open space areas are not illustrated on the DSP (being a detailed design item) however provision for these will be required in addition to those areas identified on the DSP in accordance with Liveable Neighbourhoods policy. These will need to be placed to ensure accessibility to local residents, and provision of a range of functions accommodating different recreational and social needs. Management considerations will also inform detailed open space planning and treatment in the detailed design processes to follow.

### **3.3 Education Facilities**

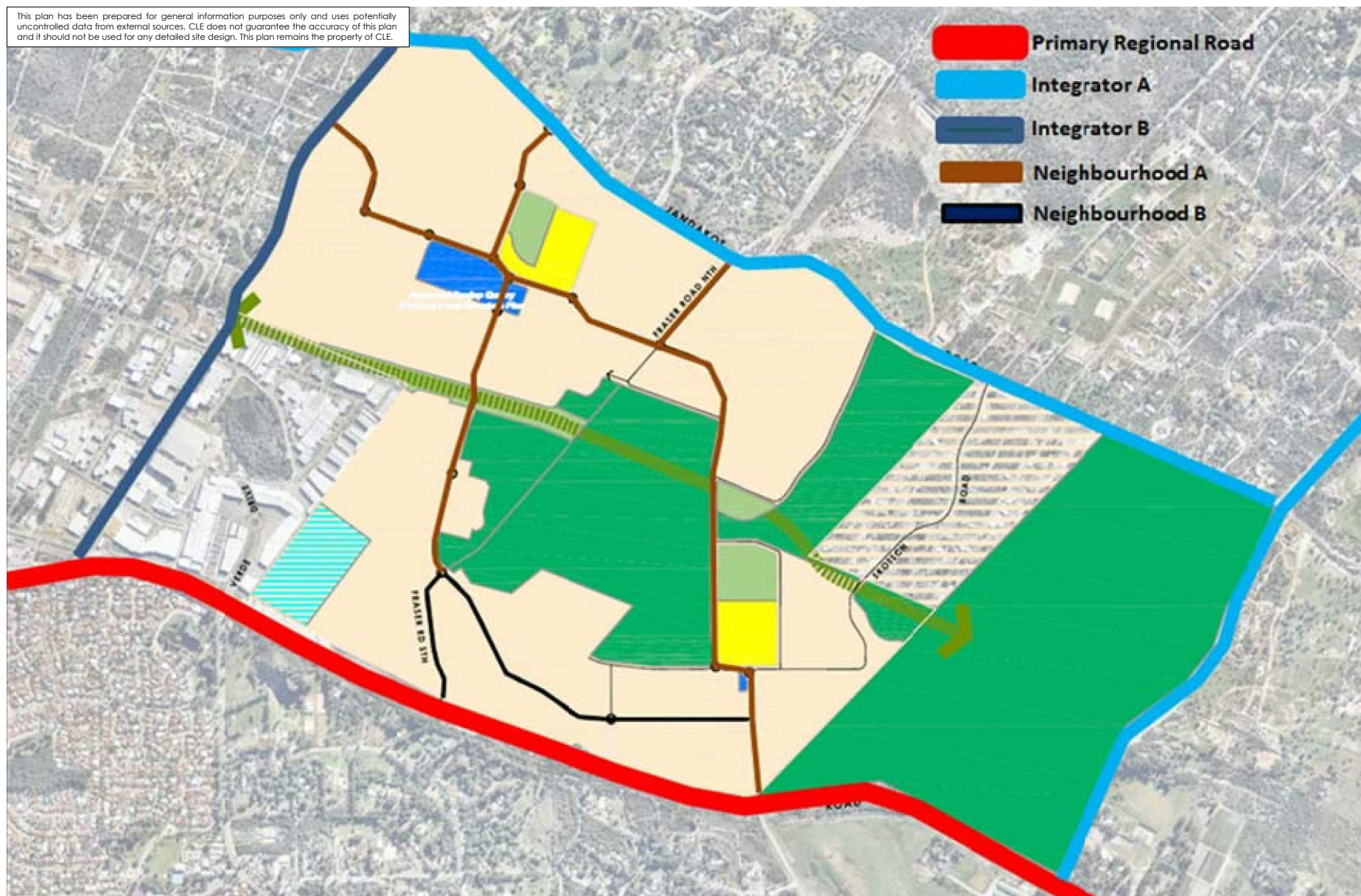
Provision for two primary school sites, one within Calleya and one in the east of the DSP within Lot 4 is made within the DSP to accommodate projected population. This rate of provision is consistent with Liveable Neighbourhoods and the advice of the Department of Education based on the estimated lot yield. The eastern (Lot 4) school site is shown at 4ha at the request of the Department of Education catering for the higher end of the yield range and some incremental growth.

In the event of urban designation of Lot 500 and Skotsch Road precinct, liaison with the Department of Education on Primary School capacity would be necessary as part of any rezoning proposal. The Department of Education has advised that no high school is required for the site with demand to be met by existing and planned high schools within the locality including Lakelands, Atwell and Harrisdale.

Tertiary education facilities are provided at a range of locations accessible from the DSP area including at Murdoch, Bentley, Crawley, Armadale, Mandurah, Fremantle, Perth CBD and within private facilities within nearby business parks.



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### **3.4 Employment**

The DSP area has excellent access to a range of employment opportunities provided at:

- Cockburn Central (1.5-3km from DSP);
- Jandakot Business Park (2.5km from DSP);
- Perth CBD (20km from DSP on train line);
- Canning Vale industrial area (6km from DSP));
- Armadale centre (10km from DSP); and
- Bentley Business Park (15km from DSP).

Employment opportunities within the DSP will include those available at the two local primary schools, within the Neighbourhood and Local centres, within the community facility, and within home based businesses.

### **3.5 Movement Networks**

The Precinct is bounded by an established (and largely higher order) road network, with the local network being extended through the Calleya development providing for internal movement. Extension of this to integrate with additional development sites, and optimise access to services and amenities is relatively simple, though access to Armadale Road and Jandakot Road is restricted due to projected volumes, existing access points and topography, making interconnection of the internal network particularly critical. Transcore traffic engineers have provided input into the preparation of the DSP and prepared the appended Transport Assessment (refer Appendix 2) confirming the suitability of the structure proposed in the DSP. The following section outlines the key elements of the Transport Assessment including details of

the existing and proposed road networks and road hierarchy classifications. The section also provides an overview of public transport, cyclist and pedestrian network provision within the TDSP area.

#### 3.5.1 Ultimate Road Network

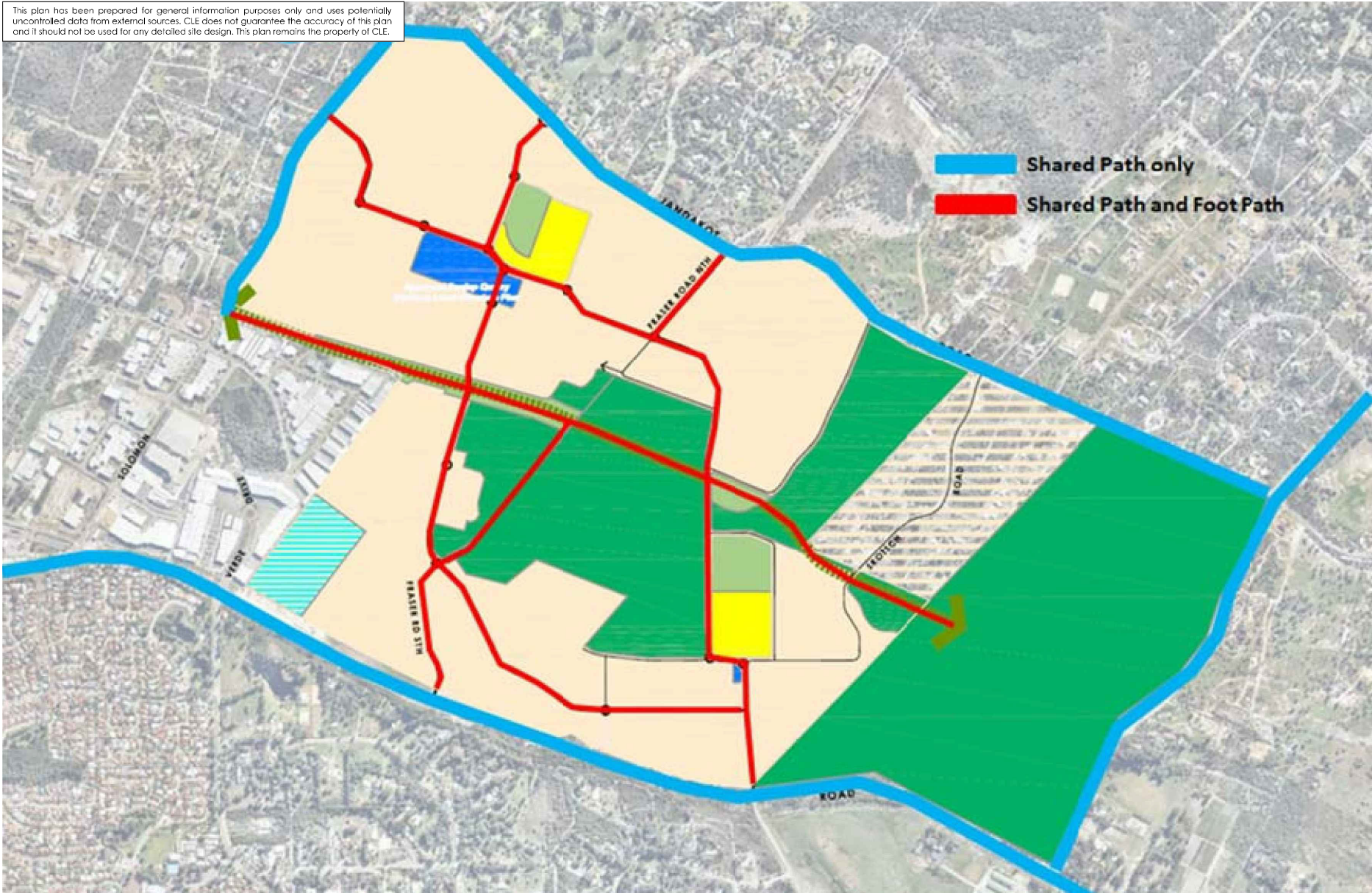
The proposed road network for Banjup provides sufficient and logical connectivity through Primary Regional, Integrator and Neighbourhood Connector Roads, compatible with sub-regional planning outcomes including the existing and potential future network changes. The proposed internal road network (shown in Figure 11) of the TDSP reflects local structure planning within the Calleya Estate and facilitates good traffic circulation throughout the balance of the TDSP, and appropriate connectivity to the surrounding regional roads including Armadale Road and Jandakot Road. A revision of this to reflect longer term upgrading plans for Armadale Road is shown in Figure 12.

The Transport Assessment notes that:

- Armadale Road is a Primary Distributor and is proposed to be upgraded to dual carriageway in the vicinity of the DSP in the short-medium term, and 6 lanes in the long term, at which point the projected traffic volume is expected to be over 50,000vpd. The proposed internal road network includes three connections with Armadale Road, including:
  - One full movement intersection (at Liddelow Road);
  - The existing Ghostgum Avenue intersection (ultimately requiring modification to Left in Left out upon construction of the Armadale Road deviation); and
  - A Left in Left out intersection to Lot 1 (west)



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A further Left in Left out only intersection was proposed between Liddelow Road and Ghostgum Avenue to improve connectivity and permeability of the DSP areas and to relieve pressure on the 4-way intersection/s, however this will only proceed if MRWA concern with it can be resolved.

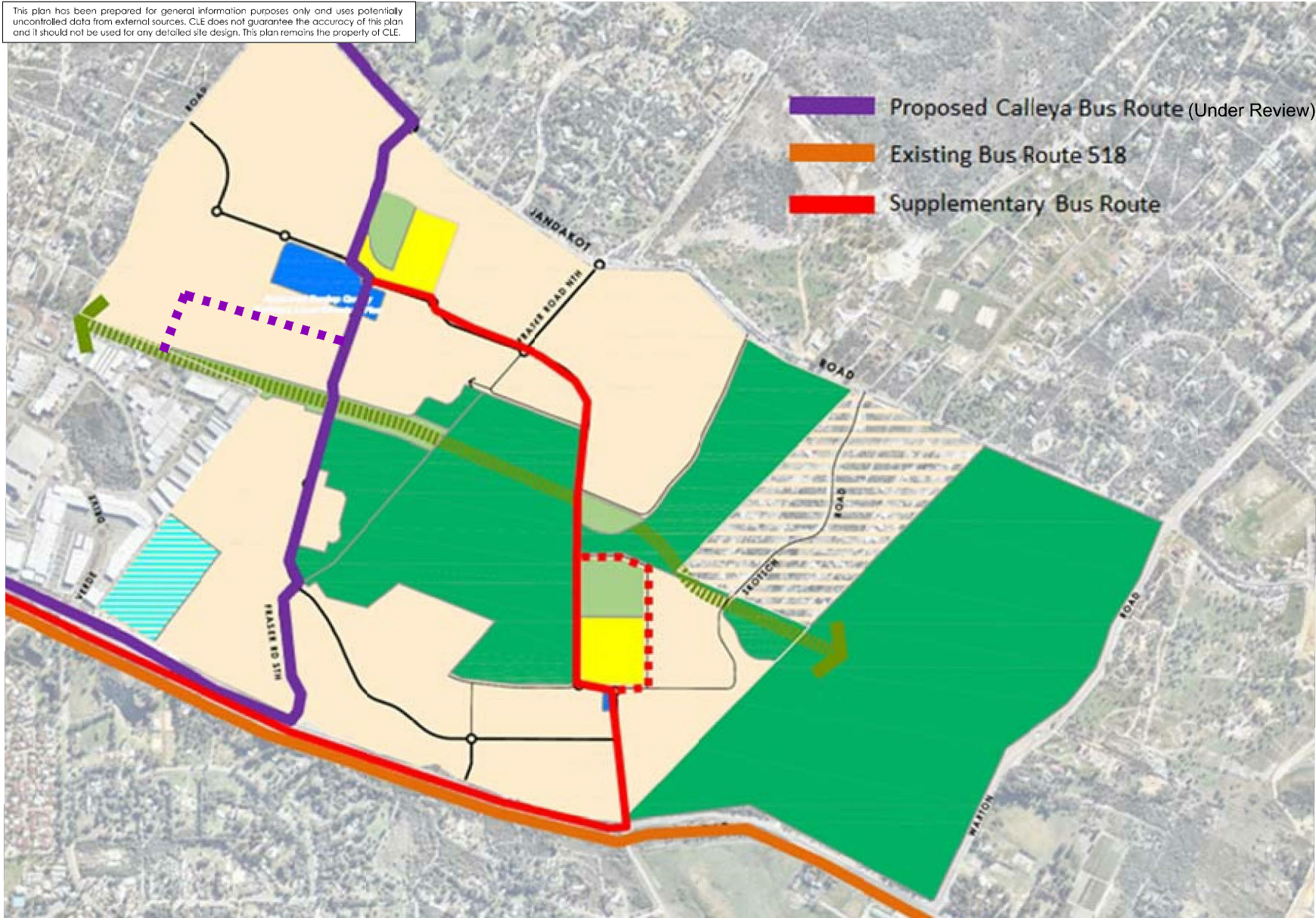
- Jandakot Road forms the northern boundary of the DSP area and is classified as an Integrator A road requiring dual carriageway standard with a predicted traffic volume of 20,000-30,000vpd. The ultimate road design will include two traffic lanes in both directions and a 6m median. This upgrade will require land resumption to accommodate the widening though the design and upgrade timeframe are subject to review. The internal road network includes four connections to Jandakot Road including roundabout intersections at Solomon Road, the north-south Neighbourhood Connector A road through Calleya, and Fraser Road, and a priority T-intersection at Skotsch Road.
- Warton Road is a north-south District Distributor A road of dual carriageway standard, connecting Jandakot Road with Armadale Road along the eastern boundary of the DSP area. The Jandakot Road intersection is currently controlled with a roundabout whilst the Armadale Road intersection is signalised. Warton Road experiences traffic volumes of approximately 18,600 vpd.
- Solomon Road is a north-south Integrator B road, running between Armadale Road and Jandakot Road on the western edge of the DSP area. It will carry a projected traffic volume of approximately 12,000vpd. Two priority controlled T-intersections are proposed to connect the DSP area with Solomon Road, at Dollier Road and the east-west Calleya Estate Neighbourhood Connector A road.

- A Planning Control Area has been issued by the WAPC for the future upgrade and deviation of Armadale Road west of the DSP area. The upgrade would involve modification to the alignment of Armadale Road including trenching portions of the road to improve through movement capacity and reduce traffic congestion in and around the Cockburn Central activity centre and Station precinct. Regardless of whether these additions to the regional road network eventuate, this proposal can connect into the current network configuration.
- The DSP proposes a permeable network of north-south and east-west Neighbourhood Connector roads providing good access to the Calleya Neighbourhood Centre, two primary schools and residential areas. The roads provide efficient connectivity to the surrounding arterial road network of Armadale Road, Jandakot Road and Solomon Road.

Neighbourhood Connectors within the eastern portion of the DSP area (Calleya Estate) are classified as Neighbourhood Connector A roads, and have been established as part of Local Structure Plan associated with this site. The eastern portion of the TDSP area includes a north-south Neighbourhood Connector A road through lots 4 and 131, providing a connection between Jandakot Road, Armadale Road and linking into the Calleya Estate. The proposed east-west road between lots 4 and 1 (east), and the Left in Left out access point to Armadale Road are classified as Neighbourhood Connector B roads.

Traffic volumes on Neighbourhood Connector roads are predicted to be less than 5,000vpd; therefore no restrictions to direct lot access are required for lots within the DSP area.

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### 3.5.2 Pedestrian and Cycle Network

The TDSP proposes a pedestrian and cycle network that will provide excellent accessibility and permeability for residents within the DSP area, connecting the area to neighbouring precincts and strategic locations. On average, the walking / cycling distance between the DSP area and the Cockburn Central Station/ Activity Centre will be 2 to 3km. The DSP includes a network of shared paths and footpaths on all Neighbourhood Connector A roads and the east –west neighbourhood Connector B road proposed through lots 4 and 1 (east) refer Figure 13. Shared or dedicated cycle and foot paths are also proposed on the existing arterial road network, including Armadale Road, Solomon Road and Jandakot Road, and potentially through the parkland and Western Power easement running east-west through the site (subject to open space masterplan).

### 3.5.3 Public Transport

Public transport provision for the Banjup DSP area is anticipated to include the following:

- Continuation of route 518 along Armadale Road between Murdoch and Piara Waters;
- A proposed route through the Calleya Estate between Jandakot Road and Armadale Road servicing the Calleya Neighbourhood Centre and primary school. This route is likely to ultimately connect Banjup with the Cockburn and Murdoch Stations. The precise route is currently under review given MRWA plans restrict access from Armadale Road, with several options being considered.

- A possible supplementary bus service between the Calleya Neighbourhood Centre and the eastern residential area and primary school, providing access to Cockburn Central (refer Figure 14). The WAPC Transport Assessment Guidelines for Developments (2006) suggest that it is desirable for at least 90% of dwellings to be within 400m of a bus route. The provision of the secondary bus route in the east of the DSP area would satisfy this objective.
- Possible future bus rapid transit route between Armadale and Cockburn Central on Armadale Road, proposed as part of the Public Transport Plan for Perth in 2031.

Access to the Cockburn Central Railway Station can be enhanced through extension of an east-west cycle / pedestrian link through the DSP area and connection to Dollier and Solomon Roads to the station.

## 3.6 Water Management

The TDSP is located within the Jandakot Underground Water Pollution Control Area (UWPCA) and incorporates Priority 1 and 2 areas. This makes consideration of groundwater impacts a critical consideration in any land use planning for the future of the site, and one which has been very carefully assessed in the formulation of this proposal. A Strategic District Water Management Strategy has been prepared by JDA Hydrologists for the TDSP (refer Appendix 3) to provide direction on appropriate management of water and groundwater, in particular, to inform more detailed site strategies required to support individual rezoning and local structure plan proposals.



The SDWMS investigations conclude that the extensive work undertaken in relation to site conditions, hydrogeology and groundwater management for the Calleya and Lot 4 rezoning proposals is pertinent to abutting sites (which exhibit similar attributes), with the conclusion that groundwater impacts can be appropriately managed through best practice management practices similarly extended.

Initiatives recommended to be applied to limit potential groundwater impact associated with urban development, include:

- Extension of deep sewer to all lots;
- Application of water sensitive urban design principles including at-source stormwater infiltration, rain gardens and water harvesting;
- Appropriate road design and treatments to minimise the risk of high speed car collision (which may result in oil or petrol spillage);
- Provision of lot types which maximise land use efficiency and reduce excessive garden area (and hence fertiliser and pesticide use);
- Encouragement of home purchasers to use native plants for landscaping (which will also reduce fertiliser and pesticide use);
- Use of promotional information to land purchasers aimed at raising awareness of water issues; and,
- An on-going monitoring programme.

Exclusion of higher risk land uses (such as service stations) is also proposed.

The analysis concludes that reclassification of the land within the TDSP from a P2 to P3 water protection zone classification (with retention of P1 or P2 in areas of retained bushland), can be supported against the criteria listed within the revised SPP 2.3, subject to implementation of appropriate Local Water Management Strategies and Urban Water Management Plans consistent with the direction set within the SDWMS.

### **3.7 Service Infrastructure**

Wood and Grieve Engineers have reviewed service capability within the area and prepared the appended Engineering Infrastructure Report for TDSP, refer Appendix 4. This concludes that the DSP area can be serviced by the construction, upgrade and / or extension of regional service infrastructure to the site, with details as follows.

#### **3.7.1 Sewer**

Water Corporation has commenced conceptual wastewater supply planning for the DSP area. Approval of MRS amendments within the DSP area will trigger review of the Water Corporation formal sewer planning scheme and detailed network design.

Wastewater disposal will be achieved via a network of gravity fed reticulation sewers, gravitating to two Waste Water Pumping Stations (WWPS). One station has been constructed within the Calleya Estate which discharges to existing infrastructure west of the DSP area. The balance of the DSP area discharges to a proposed type 40 WWPS within Lot 4, which will discharge to the existing Calleya estate WWPS.

A site of approximately 1000m<sup>2</sup> is required centrally within lot 4 to accommodate an additional pumping station, which will be determined through local structure planning. Design of local structure plan development concepts will have a layout sympathetic to the landform and will provide direct links through the development to the WWPS to minimise sewer length and depth.

### 3.7.2 Water Supply

The Water Corporation has commenced conceptual water supply planning for the DSP area, as an extension to the Thompson Lake Gravity Supply Scheme. This indicates provision of a water main extension from the existing DN760 main crossing Liddelow Road south of Armadale Road. Provision of a potable water supply to individual lots would be achieved through the construction of a network of smaller DN100 to DN250 pipes throughout the internal road network.

Approval of the MRS amendment will provide the catalyst for more detailed planning for water supply over the site.

### 3.7.3 Power

Power supply can be achieved via expansion and/ or upgrade to the existing Western Power network in the Vicinity of the DSP area. 22kv power lines are currently installed within the Armadale Road and Jandakot Road reserves and high voltage underground power has been installed within the Calleya estate.

It is anticipated that the existing Armadale Road and Jandakot Road overhead power lines will be replaced with underground cables as part of the development. An underground network will be provided throughout the DSP area providing low voltage connections to each lot.

### 3.7.4 Telecommunications

National Broadband Network (NBN) has been installed within the Calleya estate. It is expected that this would be extended through the DSP area (in a common trench with underground power) as a component of urban development, and would be progressively constructed with fibre distribution hubs located throughout the site as required.

### 3.7.5 Gas

The DSP can be serviced by ATCO Gas's DN300 high-pressure steel gas main located in the Armadale Road reserve. It is anticipated that ATCO Gas will service the development with reticulation of natural gas within a common trench with water reticulation. A pressure reducing valve will also be required to reduce operating pressures to that suitable for residential reticulation.

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#### 4.0 IMPLEMENTATION

The TDSP provides a broad overarching framework to coordinate more detailed local structure planning required of individual development sites following their rezoning. It also outlines the basic principles upon which such rezonings may be based.

Implementation of the TDSP will primarily occur through the rezoning of identified development sites under the MRS and TPS3, and subsequent local structure planning which would refine and build upon the basic structure and principles outlined in this document. It is anticipated that individual LSPs would be required for Lots 1 (west), 1 (east), 4, 2 and 131 with Lots 4 and 2 expected to combine. An LSP would also be required for the Skotsch Road precinct in the event of its rezoning for urban development. These LSPs would provide more detailed analysis and justification for the layouts proposed in accordance with the WAPC's Structure Planning Framework.

Preparation of an overarching Masterplan for the interconnected regional open space area may also be desirable and could form a component of an offset package for removal of a portion of remnant vegetation in the north of Lot 131. Individual open space management plans are routinely required as a condition of subdivision approval for individual sites however the Masterplan would provide a framework for a more integrated and strategic approach to management, given the scale of the open space area and the multiple functions and conditions it currently contains.

The sites are already subject to Development Contribution Plan No. 13 which provides for per lot contributions towards regional, district and local community infrastructure. Rezoning of additional sites within the TDSP area would trigger a review of the DCP to factor in the additional lots over which DCP items costs would be allocated. Inclusion of limited additional items (namely an additional district recreational facilities required to support the active open space shown on Lot 4) into a new DCP or through private arrangement may be appropriate, and upgrading obligations associated with the portion of Jandakot Road abutting urban areas will also require agreement.