

part two
explanatory

1.0 Planning Background

1.1 Introduction And Purpose

This report has been prepared on behalf of Novalee Nominees Pty Ltd and Estates 77 Pty Ltd in support of a Local Structure Plan (LSP) for Lots 635, 739 and 740 Baldvis Road, Baldvis ('the site').

The site is zoned 'Urban' in the Metropolitan Region Scheme (MRS) and 'Development' in the City of Rockingham Town Planning Scheme No.2 (the Scheme). The Scheme requires the preparation and endorsement of a Local Structure Plan (LSP) for land zoned 'Development' prior to subdivision and development. The South Baldvis District Structure Plan (SBDSP) provides the strategic framework for the coordination and preparation of LSP's in this locality. The planning for the site described in the LSP rounds out the development for this part of the DSP area.

The LSP design proposes the creation of 879 residential lots (with densities ranging from R20 through to R40), a primary school, retirement village, community site and a neighbourhood centre at the heart of the new community. The design provides numerous areas of public open space, set within a highly legible road network that connects the development to adjoining residential estates.

This report includes a description and analysis of the land, details about the development and confirmation that the proposal is consistent with the State's strategic planning framework and the City of Rockingham's strategic objectives for this locality.

1.2 Land Description

The site comprises approximately 88.5ha particulars of which are provided in the following table:

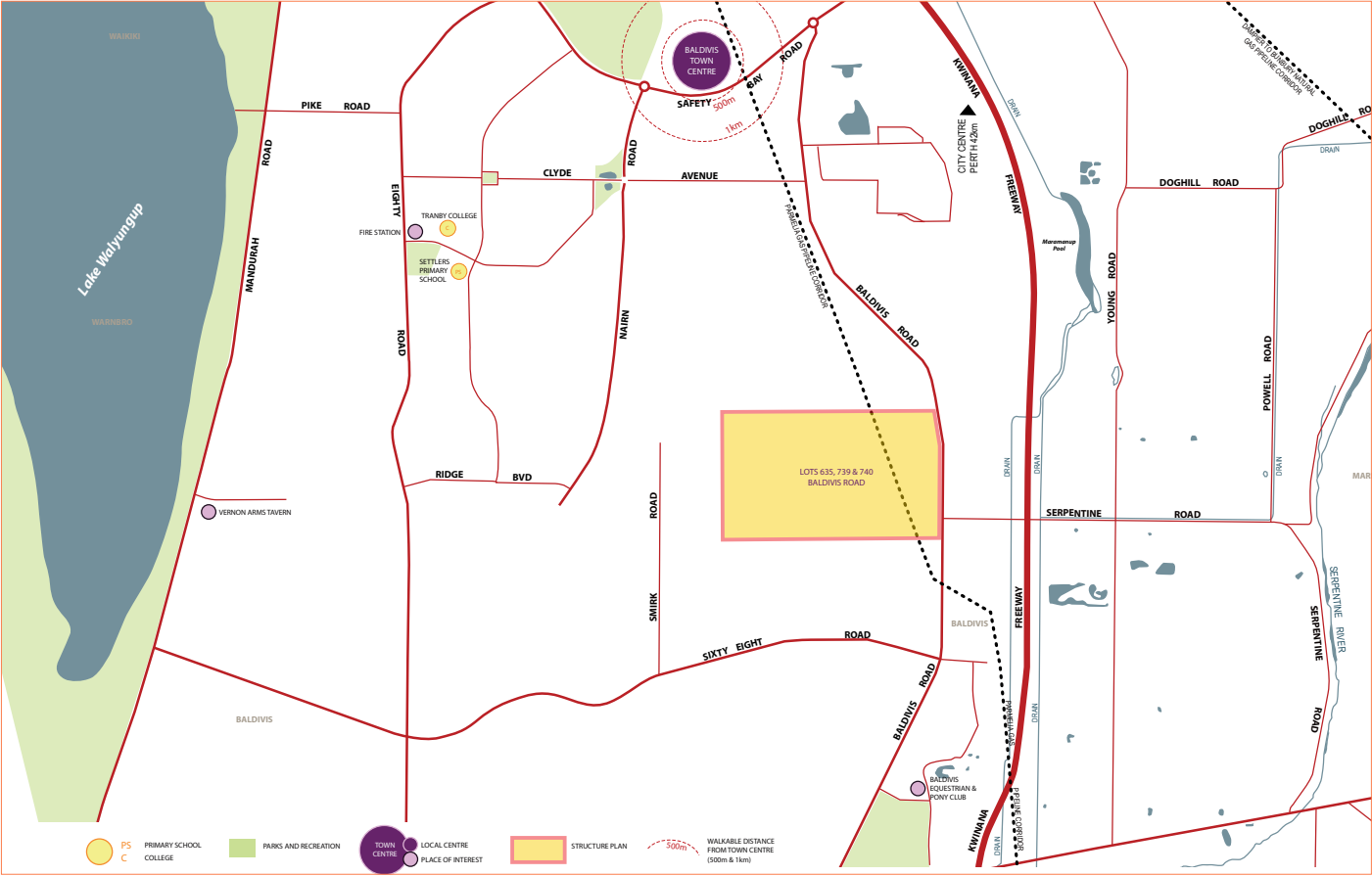
Description	Address	Lot Area
Lot 635 & 739 on deposited plan 202751 (This is a Multi-Lot Title)	(Lot 635) Lot 635 Baldvis Road, Baldvis & (Lot 739) 892 Baldvis Road, Baldvis	1668-259
Lot 740	916 Baldvis Road, Baldvis	2070-265

The site is located approximately 3 kilometres south of the Baldvis Town Centre, with access taken from Baldvis Road. The Parmelia Gas Pipeline passes from north to south through the eastern part of the site. A Parks and Recreation Reserve adjacent to the site's western boundary, forms a linear reservation extending 22 kilometres between the Beeliar and Serpentine Regional Parks, recognising the alignment of a former tramway corridor.

The land is sparsely vegetated, mainly hosting residual trees, after being used as grazing land for many years. The basic landform is undulating sand hills of free draining sand underlain in parts by some pinnacle limestone. The Environmental Geology map of the Geological Survey of Western Australia classifies this site as being suitable for urbanisation.

The site is currently used for grazing and has a residential dwelling accessed from Baldvis Road. The site has previously been used as a poultry farm, although this activity has been discontinued and the associated buildings demolished. All structures will be removed as development progresses.

FIGURE 1: Context Plan



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FIGURE 2: Metropolitan Region Scheme Zoning

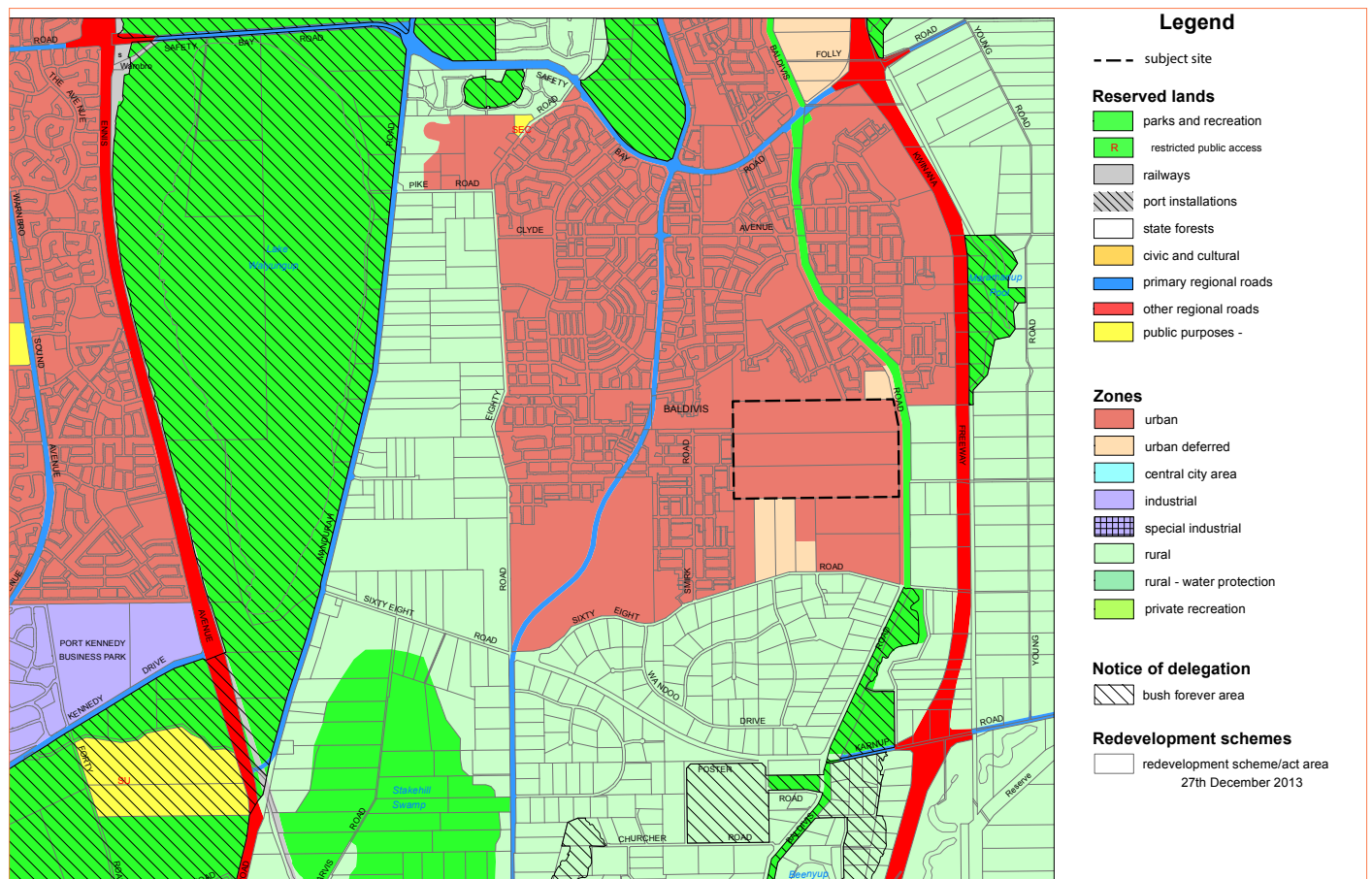
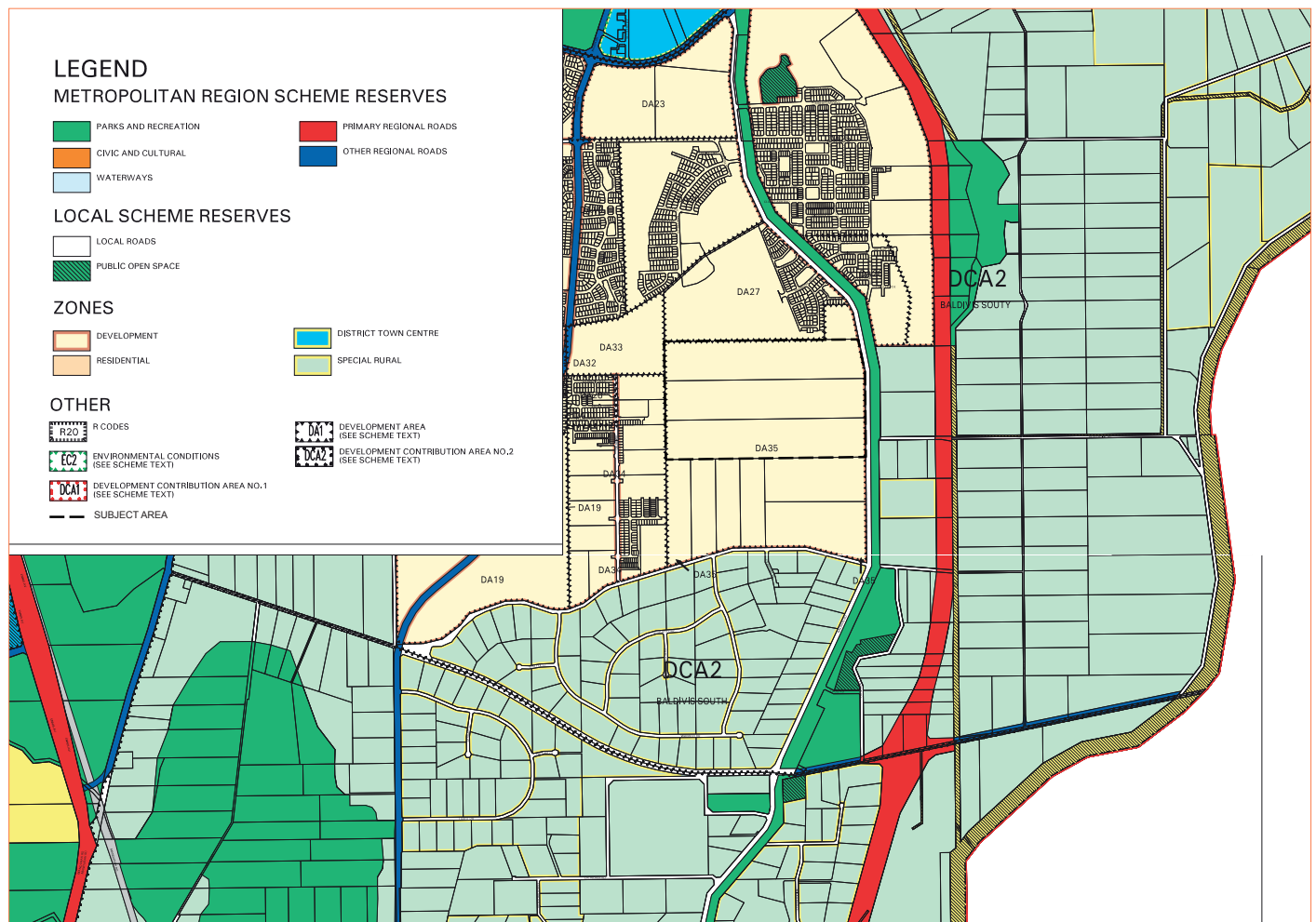


FIGURE 3: Town Planning Scheme Zoning



1.3 Planning Framework

1.3.1 Zoning and reservations

1.3.1.1 Metropolitan Region Scheme

The site is zoned 'Urban' in the MRS (Figure 2). Adjoining land to the north, west and south is zoned 'Urban' and 'Urban Deferred'. The land east of Baldvis Road is zoned 'Rural'. A former Tramway Corridor adjacent to Baldvis Road site is reserved for 'Parks and Recreation'.

1.3.1.2 Town Planning Scheme No.2 (2004)

The site is zoned 'Development' in TPS 2 (Figure 3). Adjoining land to the north, west and south (north of Sixty Eight Road) is also zoned 'Development'. The land east of Baldvis Road is zoned 'Rural'. The MRS 'Parks and Recreation' reservation adjacent to Baldvis Road is reflected in the Scheme.

1.3.2 Regional and Sub-Regional Structure Plans

1.3.2.1 Directions 2031 and Beyond (WAPC, 2010)

Directions 2031 and Beyond (Directions 2031) provides an overarching strategic framework for the detailed planning and delivery of housing, infrastructure and services for the Perth and Peel regions to support an estimate population of 3.5 million people in 2031. Directions 2031 seeks a 50 per cent increase from the current average residential density of 10 dwellings per gross urban zoned hectare to 15 dwellings per gross urban zoned hectare in new development areas.

The site is located within the 'South-west sub-region' that in accordance with the connected city scenario, is forecast to grow by an additional 70,000 people to an estimated population of 278,000 by 2031. It is estimated that an additional 41,000 dwellings are required to accommodate this growth.

Development of the site will contribute to meeting the forecast housing needs of the region consistent with the site's 'Urban' zoning under the MRS.

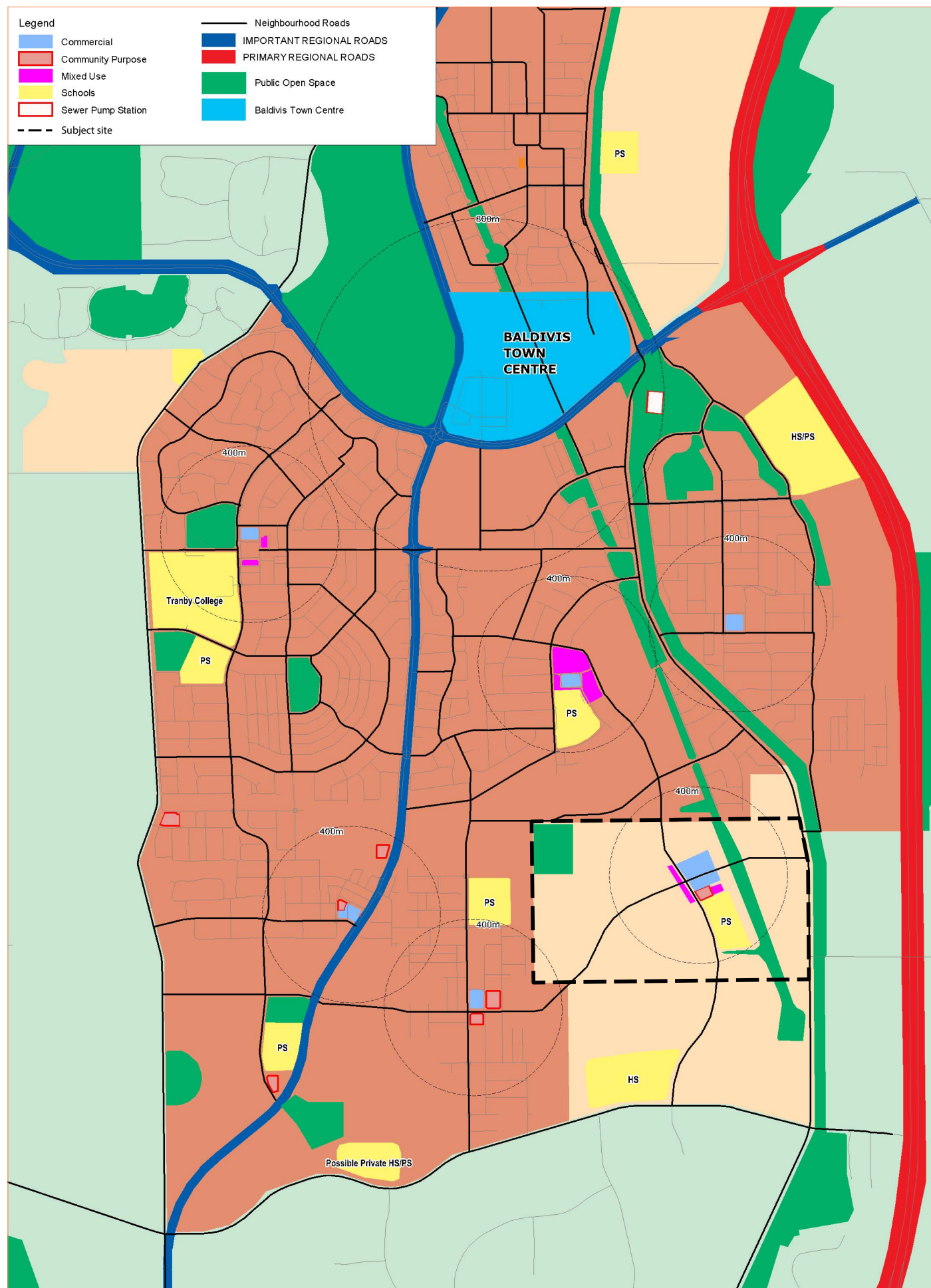
1.3.2.2 Draft Outer Metropolitan Perth and Peel Sub-Regional Strategy

The draft Outer Metropolitan Perth and Peel Sub-Regional Strategy (Draft Sub-Regional Strategy) provides a strategic framework for the planning of urban growth consistent with Directions 2031. The Draft Sub-Regional Strategy focuses on achieving the greenfield target of 15 dwellings per gross urban zoned hectare through a range of planned and future urban growth areas.

The 'South-west sub-region spatial framework map' identifies the site as 'urban deferred zoned undeveloped' and designates it 'BA6'. The 'Urban Deferred' zoning reflects the zoning at the time of preparation of the Draft Sub-Regional Strategy. This has since been lifted to 'Urban'. The spatial framework map does not specify a 'connected city scenario dwelling yield' for area 'BA6'.

The proposed 1,192 dwellings proposed in the LSP will contribute significantly to the broader sub-regional target of 41,000 dwellings. Further discussion regarding the Directions 2031 density target is provided at Part 3.3 of this report.

FIGURE 4: South Baldvis District Structure Plan



1.3.2.3 South Baldivis District Structure Plan (Rockingham, 2001)

The SBDSP provides the strategic framework for the coordination and preparation of LSP's in this locality (Figure 4). The site is located within Precinct 4 of the DSP. This describes the indicative location and allocation of:

- Gross area of 125.5Ha, with a predominant zoning of 'Urban';
- Approximate yield of 1,589 lots and an ultimate population of 4,290 people;
- A Neighbourhood Centre of maximum NLA 4,500m² and including areas for Mixed Use and Community Use;
- A primary school; and
- Approximately 13.36Ha for POS and drainage.

The LSP comprises approximately 70% by area of Precinct 4. On a proportional basis it satisfies the requirements of the DSP as follows:

Requirement	DSP	LSP	Relative Proportion
Gross Area	125.5ha	88.5ha	70.52%
Yield	1,589 lots	879 lots	55.32%
Population (2.7 pp/du)	4,290 people	3,214 people	74.92%
Neighbourhood Centre 4,500m ²	1	1	Achieved
Primary School	1	1	Achieved
POS and Drainage	13.36ha	9.76ha	73.05%

The LSP is therefore consistent with the strategic direction provided by the DSP and its requirements pertaining to the land.

1.3.3 Planning Strategies and Policies

1.3.3.1 Liveable Neighbourhoods (WAPC, 2007)

Liveable Neighbourhoods (LN) is the WAPC's operational policy guiding the design and approval of structure plans. The objective of LN is the delivery of new developments that provide high quality living, working and recreational environments, thereby contributing to the successful implementation of the State Planning Strategy and State Sustainability Strategy.

The LSP meets the requirements of LN with a particular focus on the following key aims:

- An urban structure based on interconnected, safe and walkable neighbourhoods;
- Creating a sense of community, identity and a sense of place;
- Providing a variety of lot sizes and housing types to cater for the diverse housing needs of the community at density that can support local services and public transport;
- Maximising land efficiency wherever possible; and
- Achieving a residential density of 23.24 du/ha, complying with the LN target of a minimum 20 du/ha.

Further discussion regarding density targets is provided at Part 3.3 of this report.

1.3.3.2 Planning Bulletin 87 – High Pressure Gas Transmission Pipelines in the Perth Metropolitan Region (WAPC, 2007)

The site is traversed by the Australian Pipeline Trust (APT) Parmelia High Pressure Gas Pipeline and the Water Corporation's Stirling Trunk Water Main. The Parmelia High Pressure Gas Pipeline is accommodated within a 67 metre wide easement across the western half of the site. This contains the 375mm natural gas pipeline in its centre, plus the Water Corporation's 1400mm Stirling Trunk Water main located on the eastern side of the gas pipeline.

The development setbacks from the pipeline must be in accord with the requirements of Planning Bulletin 87 – High Pressure Gas Transmission Pipelines in the Perth Metropolitan Region (PB 87) for the Parmelia Pipeline (south of Caversham):

- 70 m to sensitive developments;
- 65 m to residential development; and
- 45 m to industrial commercial development.

PB 87 identifies that prior to commencement of subdivision works, the subdivider shall prepare and implement a Pipeline Risk Management Plan (PRMP) detailing measures to ensure public safety and the protection of the high pressure natural gas pipeline, including completion of a risk assessment in accordance with AS2885 and implementation of measures required to ensure that the level of risk to future inhabitants of the subdivision is as low as is reasonably practical.

A PRMP prepared by the applicant has been approved by APT and is provided at Appendix F. The outcomes of the PRMP include higher risk land uses such as the aged persons accommodation, the primary school and the neighbourhood centre being moved beyond the higher risk zone depicted on the Structure Plan Map as the 'Gas Pipeline Setback'.

While the requirements of PB 87 have been satisfied relative to this stage of the planning process, the PRMP recommends that prior to construction the developer will liaise further with APT to develop a Pipeline Protection Plan. This will ensure that construction works in close proximity to the pipeline are properly managed to ensure the safety of the construction personnel. This will also include detailed consideration of proposed road crossings, levels and management measures. This may be imposed as a condition of subdivision approval for land adjacent the pipeline corridor.

1.3.3.3 Planning Policy 3.4.1 – Public Open Space (Rockingham, 2009)

The Policy sets out the "the objectives and policy provisions which the 'Council' shall have due regard to in assessing the provision, location, design and development of POS in the City of Rockingham."

Some of the key policy statements include:

- Requirement for the lodgement of a POS Concept Plan, POS Schedule and Local Water Management Plan to accompany proposed Structure Plans;
- Criteria for the provision of restricted POS, community purpose sites and the joint use of POS;
- Criteria for the location, design, development and maintenance of POS;
- Provisions for cash in lieu and urban water management; and
- Managing development adjacent to High Pressure Gas Pipelines.

The proposed LSP meets the requirements of the Policy. Detailed consideration is provided at Part 3.2 of this report.

2.0 Site Conditions And Constraints

The following summary outlines the site's existing environmental conditions and is taken from the comprehensive Environmental Assessment Report (EAR) provided at Appendix A to this report. The key objectives of the EAR are to:

1. Outline the key environmental characteristics of the site;
2. Identify the relevant characteristics of the proposed development and structure plan design;
3. Detail any potential environmental impacts associated with the development; and
4. Outline how these impacts intend to be managed throughout the planning and development process.

2.1 Biodiversity and Natural Area Assets

2.1.1 Flora

The vegetation across the property consists of overstorey only as a result of the land being used for grazing for many years. Many of the trees are in reasonably good condition, confirmed by a general survey of vegetation health / tree condition undertaken on 24 May 2007.

There are no Bush Forever Sites located across the three properties, or within the general vicinity of the site.

A search of the Department of Parks and Wildlife (DPaW) Declared Rare and Priority Flora (DRF) databases was conducted in May 2007 and indicated that no DRF are known to exist on the site. This was confirmed by a targeted spring flora survey undertaken in 2009.

A search of the Department of Environment, Water, Heritage and the Arts' Environment Protection and Biodiversity Act 1999 (EPBC Act) 'Protected Matters' database was undertaken on 21 July 2009. This database provides information on species on or within the vicinity of the site that are considered 'Matters of National Environmental Significance (NES)'. The search identified 4 species of national significance, however none are likely to be found on the site, due to the lack of suitable soil types and/or vegetation communities.

Much of the central portion of the property is at topographic elevations greater than 30 m AHD; a height above which potable water will not be able to service future lots. The Water Corporation has advised that there is a need to reduce the levels across the site to a maximum of approximately 28–30 m AHD. This will result in limited opportunities to retain native trees across portions of the site. Wherever possible, existing native trees will be retained in public open space areas, particularly focusing on retaining those species providing preferred habitat for significant fauna species.

FIGURE 5: Opportunities for Tree Retention



2.1.2 Fauna

The likelihood of the site providing preferential habitat to native fauna is varied. Given the parkland cleared nature of the site, the potential for the site to provide habitat to ground dwelling animals is minimal. The large trees on site provide good canopy habitat for certain avian species. During the site visit in May 2007, Western Grey Kangaroos were observed at the site. These kangaroos appear to be relocating south, away from continuing development currently being constructed north of the site.

A search of the DPaW Declared Rare and Threatened Fauna database highlighted a number of species of significance that could potentially utilise the subject land. Of these species, only the Baudin's Black Cockatoo is considered to have the potential to utilise the site, due to the on-site environmental characteristics not being suitable habitat for the other species. This is mainly the result of the lack of understorey, and thus protection for ground dwelling species.

A search of the Department of Environment, Water, Heritage and the Arts' EPBC Act 'Protected Matters' database was undertaken on 21 July 2009. The search resulted in the following species of national significance being recorded as having the potential to utilise the site. Of these species the habitat at the site is considered to have the potential to support the following species:

- Forest Red-Tailed Black Cockatoo;
- Baudin's Black Cockatoo;
- Carnaby's Black Cockatoo (although this species prefers the protection offered by stands of dense trees); and
- Rainbow Bee-Eater (although this species is known to occur in a large range of habitats types).

2.2 Landform and Soils

The site generally slopes upwards from Baldivis Road (a minimum of 5.5 m AHD), to a ridge that extends north-south almost through the centre of the subject land at a maximum height of 39.5 m AHD. From here, the site falls north-west to a localised low point of 15 m AHD (approximately 80 m from the western boundary along the intersection between Lot 635 and 739) and to the north, to a low of 17 m AHD just outside the northern site boundary.

Two localised low points exist within the site between the high ridgeline and Baldivis Road, one in the central third of Lot 740 (at 19 m AHD) and 23 m AHD at the manmade dam on Lot 739. The undulating topography provides opportunities for drainage and public open space in regional and localised low points.

The site comprises sandy soils (S7 and S8 geological classification). Both soil types are suitable for development as they are stable and highly permeable. The sandy soils will ensure high rates of filtration of stormwater and as such provide a good opportunity for development for residential purposes.

2.3 Hydrology

The large depth to groundwater means the residential land use is unlikely to impact groundwater resources post-development.

Urban water management strategies will be implemented in accordance with the combined District and Local Water Management Strategy (November 2013) approved by the Department of Water on 18th November 2013. This prescribes water conservation strategies, as well as mechanisms to protect hydrological characteristics on site and off site.

Given the sandy soil types, large depth to groundwater, the outcomes of the WAPC regional ASS mapping, and the fact that dewatering is not required, it is unlikely that ASS will be present on site.

FIGURE 6: Landform



2.4 Bushfire Hazard

A Fire Management Plan (September 2014) has been prepared for the proposed development in accordance with requirements of Planning for Bush Fire Protection Guidelines Edition 2 (May 2010) with consideration of Draft State Planning Policy 3.7 Planning for Bushfire Risk Management and accompanying draft guidelines (May 2014). The FMP was reviewed and approved by the Department of Fire and Emergency Services in November 2013. A final revision (dated September 2014) incorporating modifications requested by the Department of Planning is provided at Appendix E.

The FMP details the approach to bush fire management for the proposed development and the measures to be implemented to protect future life and property assets on an ongoing basis and achieve a suitable, compliant and effective bush fire management outcome for the site.

The pre-development, on-site bush fire hazard level was assessed as 'Low' and this hazard will be removed on development of the site. The adjacent Tramway Reserve to the east contains a combination of 'Moderate' and 'Extreme' bush fire hazards due to the intact nature of the woodland vegetation. These hazards will pose a permanent bush fire risk to future assets of the proposed development. Adjacent south Lots 19 and 20 contain an 'Extreme' bush fire hazard rating due to the occurrence of intact woodland vegetation. These hazards are proposed to be cleared pending development approval of these lots; however, prior to clearing, they will pose a temporary bush fire risk to future assets of the proposed development. The bush fire hazard level within adjacent south Lot 21 and the sand quarry (temporary hazards) is 'Low' due to the presence of grassland vegetation with some isolated individual overstorey trees. The undeveloped block to the northeast contains managed grassland with some individual tree canopy cover; however, this is not a classified vegetation type and is considered to be low threat vegetation in accordance with AS 3959-2009.

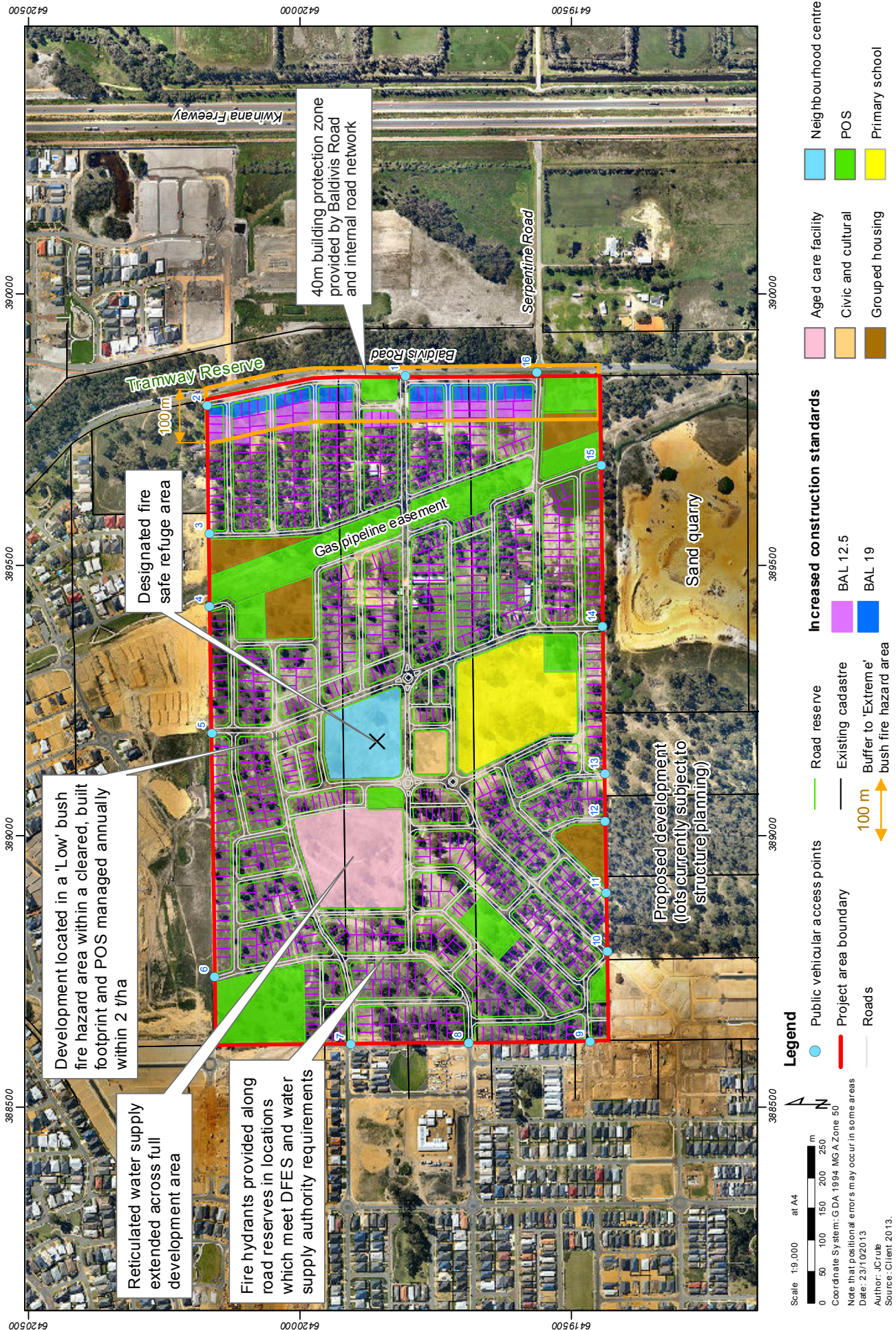
Regardless of the permanent or temporary status of the vegetation and hazard, all 'Moderate' and 'Extreme' classifications that exist prior to development will trigger application of AS 3959-2009 for any proposed development that cannot achieve a 100 m Hazard Separation Zone.

To comply with current State requirements, the FMP describes a range of bush fire risk mitigation measures, a works program for implementation and a series of additional optional techniques that can be adopted by residents to further mitigate the risk to life and property from bush fire. These measures are depicted on Figure 7 and include:

1. Provision of a 40 m wide Building Protection Zone (BPZ) coupled with Bushfire Attack Level (BAL) ratings of BAL 12.5 and 19 for dwelling construction in accordance with AS 3959-2009 to address the permanent bush fire risk posed by vegetation to the east in the Tramway Reserve;
2. The application of AS3959-2009 to individual dwellings within the remaining 60 metres of the 100 metre hazard separation zone as a result of the Extreme bushfire hazard presented by the Tramway Reserve to the east;
3. Provision of BAL 12.5, BAL 19, BAL 29 and a 20 m wide BPZ (development exclusion zone) in accordance with AS 3959-2009 to mitigate the temporary bush fire risk posed by vegetation to the south
4. Staging of the development to assist with mitigation of the temporary bush fire risk;
5. Allowance for those measures devised to mitigate temporary bush fire risk to become redundant should the temporary bush fire hazard to the south be removed prior to development of affected lots;
6. Maintenance of POS areas annually at less than 2 t/ha;
7. Provision of a significant public vehicular access and reticulated water supply network throughout the development footprint;
8. Annual fuel inspections;
9. Landowner education and awareness; and
10. Section 70 Notification to be placed on all Titles with a BAL classification to ensure prospective landowners are aware that an FMP exists over the site and that specified landowner and building requirements may apply.

Implementation of the bush fire management measures outlined in the FMP will ensure that should a bush fire occur within or adjacent to the proposed development, fire intensity on-site will be minimised and life and property assets have a higher level of protection. In addition, a fire occurring on the site is highly likely to be readily contained within 30 minutes, which is the expected emergency response time provided by local bush fire brigades.

FIGURE 7: Fire Management Plan (Courtesy: Strategen)



2.5 Heritage

A search of the Department of Indigenous Affairs Heritage Register indicated that there are no known archaeological or ethnographic Aboriginal sites recorded on the project site. The nearest known site lies immediately south of Sixty Eight Road, just over 500 m south of the subject land. If any archaeological material is discovered during subdivision or development, construction within that area will cease immediately and the findings be reported to the Department of Indigenous Affairs.

There are no areas of European Heritage recorded as being on, or within the vicinity of, the site. The closest are the Baldivis Primary School, Group Settler's home and a natural bush reserve at the rear of the school, located along Fifty Road, approximately 5 km north of the site (<http://register.heritage.wa.gov.au/>).

2.6 Past Land Uses

There are three past land uses known to have been undertaken on the site that have the potential to result in soil and/or groundwater contamination. The three land uses of interest known at this time include:

- The lessee of Lot 739 had around 500-1,000 ostriches, a land use which ceased over five years ago. The animals were bred for their eggs;
- Lot 740 contains poultry sheds, which ceased operation approximately two to three years ago; and
- The poultry sheds were previously used as part of a piggery. The dam on Lot 739 was used to contain the run-off water from the piggery.

A Preliminary Site Investigation (PSI) was conducted in August 2009 that confirmed zones of potential contamination on all three lots. The Auditor engaged to satisfy the Mandatory Auditing Requirement (MAR) associated with the Department of Environment and Conservation (DEC) assessment and approvals process has confirmed the adequacy of Rev C of the PSI.

A Sampling and Analysis Plan (SAP) is now being prepared for review by the Auditor, and once approved, will inform the scope of the Detailed Site Investigation (DSI). The DSI will comprise a program of soil and groundwater sampling and analysis to identify sources of contamination, to validate clean-up of these sources, and to confirm the contamination status of the site.

It is anticipated that should remediation not be fully completed prior to subdivision, that this will be imposed as a condition of the relevant subdivision approvals.

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FIGURE 8: Local Structure Plan with 400m walkable catchment

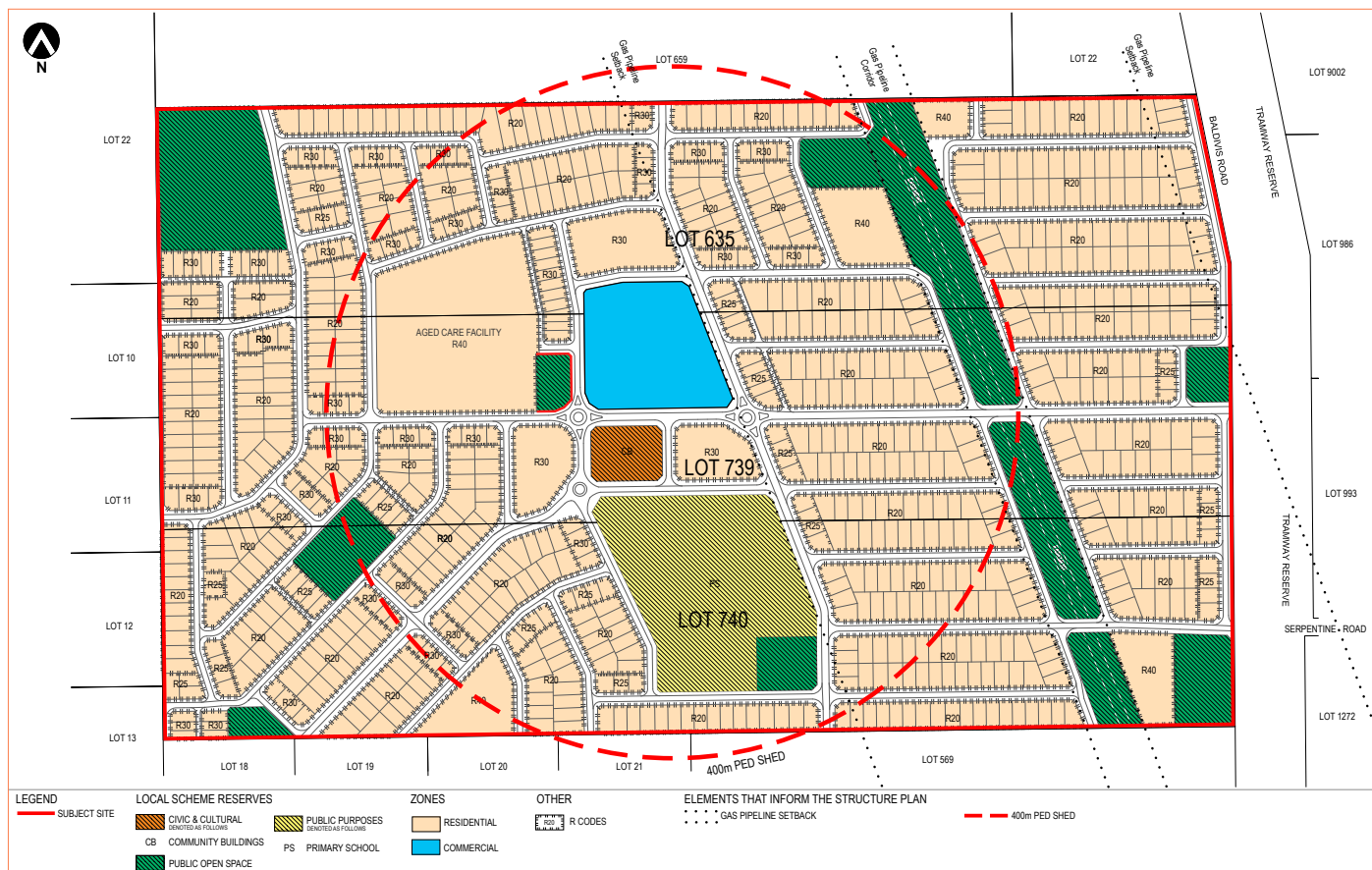
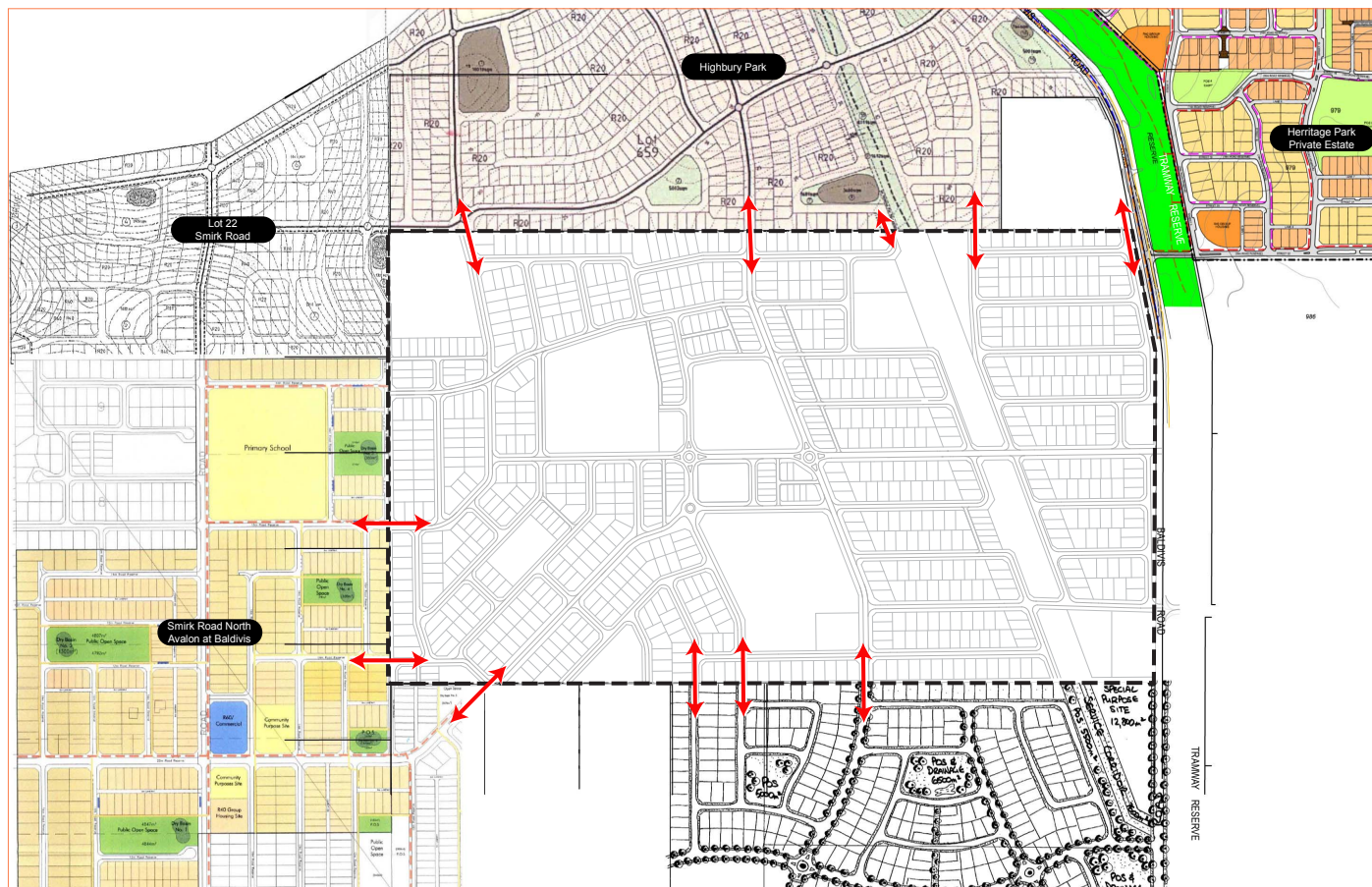


FIGURE 9: Surrounding Estates



3.0 Land Use And Subdivision Requirements

3.1 Land Use

Consistent with LN the design objectives for the LSP include the following:

- To respond to the topography and site conditions of the land;
- To provide a walkable, interconnected street network that is integrated with adjoining development;
- To integrate the drainage with POS for the aesthetic and recreational value of future residents;
- To ensure a balanced mix of lot sizes and dwelling types appropriate to the locality that contribute to affordable housing options; and
- To maximise the solar orientation of residential lots.

The LSP proposes a generally rectilinear subdivision layout that integrates with the lot design and road network of surrounding, approved development. The design delivers a range of residential densities between R20 – R40, with development generally being contained within the 400 metre walkable catchment of the proposed neighbourhood centre. All lots are within 800 metres or a ten minute walk of the neighbourhood centre (Figure 8).

The neighbourhood centre is located on the neighbourhood connectors linking the site with adjoining development. A primary school site, proposed retirement village and community site are provided near to the neighbourhood centre consistent with LN recommendations.

Surrounding land within the SBDSP area comprises a number of approved residential estates, being Highbury Park to the north, Smirk Road and another residential estate to the west and Heritage Park Private Estate to the east (Figure 9). Preliminary planning has commenced to the site to the south. This southern site has been subject to extensive mining (now ceased) with the result that minimum levels are significantly below that of the subject site, although the levels at the common boundary are comparable. The LSP design is consistent with the surrounding pattern of urban development (as described in the SBDSP and approved LSP's) and provides appropriate open space and vehicle linkages to these estates.

3.2 Public Open Space

The Requirement for the lodgement of a POS Concept Plan (Figure 10), POS Schedule (Figure 11) and Local Water Management Plan to accompany proposed Structure Plans set out at clause 4.1.1(a) of the City's Local Planning Policy 3.4.1 (LPP3.4.1) is satisfied by this Part.

The location of POS is influenced by a number of factors including drainage, integration with POS in adjoining developments and the need to provide for local amenity. The POS Schedule provided at Figure 11 demonstrates that the required minimum 10% open space is provided, allocated in accordance with the requirements of LN .

Open Space areas meet the size and location criteria established in Liveable Neighbourhoods and clause 4.3 of the City's Local Planning Policy, noting that:

11. All areas of POS are greater than 2,000m²; and
12. The spatial distribution of local, neighbourhood and district parks meet the required proximity and servicing targets.

The amount and location of POS meets the proportional requirements of the DSP.

FIGURE 10: Public Open Space



FIGURE 11: Public Open Space Schedule

PUBLIC OPEN SPACE SCHEDULE				
Site Area				88.50 ha
Deductions				
Neighbourhood Centre	2.08 ha			
Primary School	4.02 ha			
Dedicated drainage reserve not included in POS (1:1 yr event)	1.30 ha			7.40 ha
Gross subdivisible area				81.11 ha
Public open space @ 10 per cent				8.11 ha
May comprise:				
- minimum 80% unrestricted POS	6.49 ha			
- maximum 20% restricted use POS	1.62 ha			
Public open space contribution	Open Space Area (Nett)	Unrestricted	Restricted (includes drainage >1:1 event)	Dedicated Drainage not included in POS (1:1 yr event)
POS 1	2.15 ha	1.57 ha	0.08 ha	0.50 ha
POS 2	0.21 ha	0.21 ha		
POS 3	0.69 ha	0.69 ha		
POS 4	0.25 ha	0.25 ha		
POS 5	0.43 ha	0.28 ha	0.03 ha	0.12 ha
POS 6	0.56 ha	0.37 ha	0.01 ha	0.18 ha
POS 7 (Parmelia Gas Pipeline Setback)	3.06 ha	2.95 ha	0.02 ha	0.09 ha
POS 8 (Parmelia Gas Pipeline Corridor)	0.89 ha		0.89 ha	
POS 9	0.70 ha	0.26 ha	0.03 ha	0.41 ha
POS 10	0.31 ha	0.31 ha		
Community purposes site	0.51 ha	0.51 ha		
	9.76 ha	7.40 ha	1.06 ha	1.30 ha
Sub-Total		7.40 ha	1.06 ha	
Total Public Open Space Provision				9.76 ha

3.3 Residential

The design proposes 879 residential lots within a residential density range of R20-R40, providing a variety of housing options and lifestyles to suit all stages of the lifecycle, and including a retirement village located adjacent to the neighbourhood centre. A total of 1,192 dwellings can be achieved across the development.

The development achieves a residential density of 23.24 du/ha, complying with the LN target of a minimum 20 du/ha within 400m of a neighbourhood centre and 250m of a bus route.

The development falls marginally short of the Directions 2031 density target of 15 dwellings per gross urban zoned hectare, achieving 13.47 dwellings per gross urban zoned hectare. This is a significant improvement on the current metropolitan average of 10 dwellings per gross urban zoned hectare, achieving 35% rather than the aspirational 50% increase noted in Directions 2031. The yield also represents a 5% relative increase to the density targets for the Precinct prescribed in the SBDSP, as well as an increase relative to the LSP approved by Council in 2011. It is also notable that if additional land provided for open space (over and above the 10% requirement), the neighbourhood centre and the primary school is deducted from the site area that the development would achieve 14.76 dwellings per gross urban zoned hectare.

Active frontages to main streets and areas of amenity (such as the neighbourhood centre, primary school and POS areas) are achieved by the use of laneways to minimise the dominance of garages in these key locations. Visual interest throughout the development is further enhanced by the alignment of streets to terminate views on areas of interest and amenity such as parkland and retained landscape features. These measures result in an attractive and safe pedestrian environment with high levels of passive surveillance.

With the exception of one area where the road alignment precludes it, the development achieves high levels of solar orientation with most lots cardinally aligned east/west and north/south (Figure 13).

Detailed Area Plans (DAP's) will be utilised in specific areas where it is important that solar orientation, built form and/or streetscape issues be addressed in a uniform and co-ordinated manner. Areas where DAP's are required include:

- Lots with rear-loaded vehicle access;
- Lots with direct boundary frontage (primary or secondary) to an area of Public Open Space;
- Aged care facility;
- Lots deemed to be affected by a recognised Bush Fire Hazard; and
- All land zoned 'Commercial' on the Structure Plan Map.

FIGURE 12: Residential Density

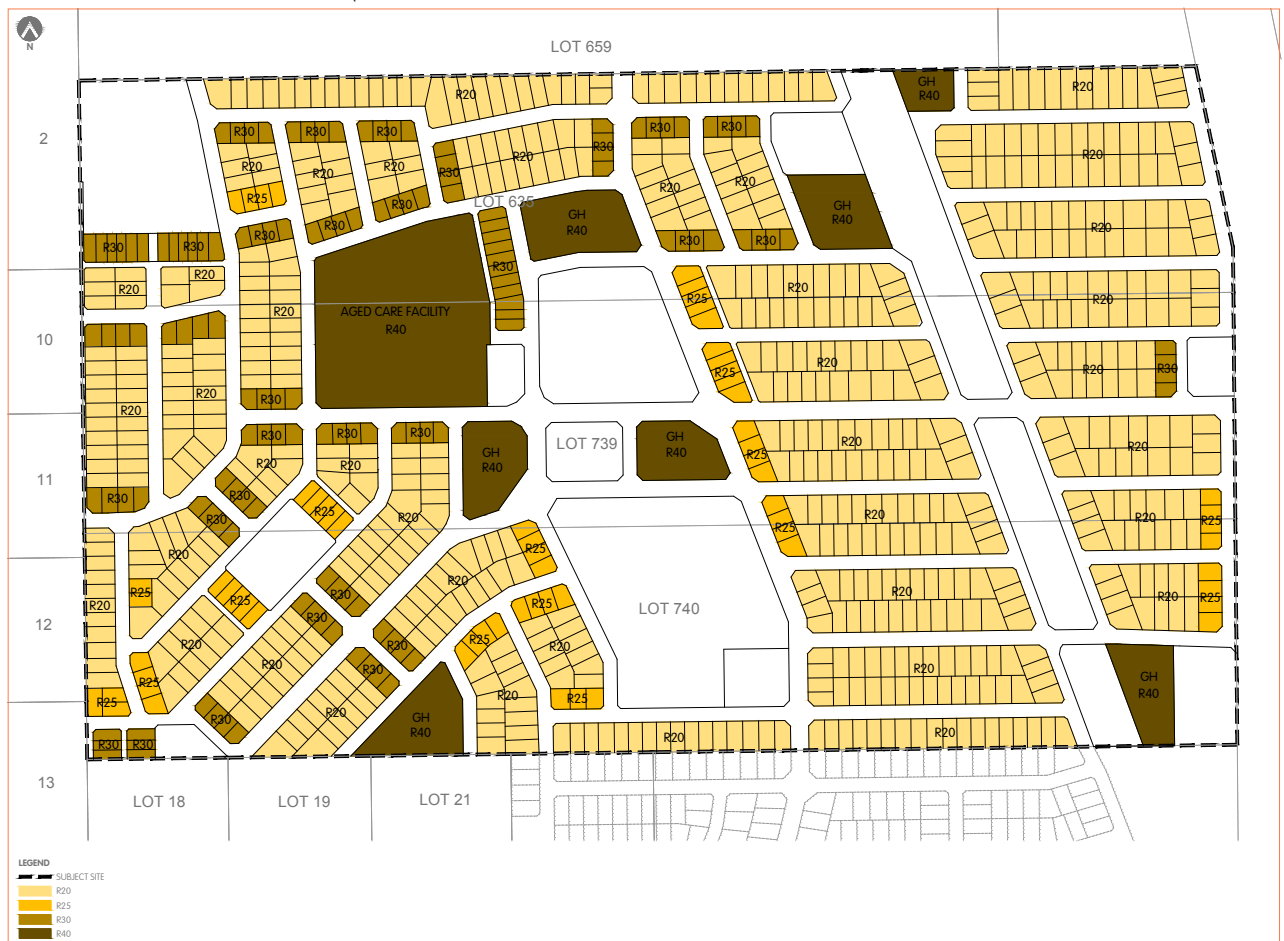


FIGURE 13: Solar Orientation

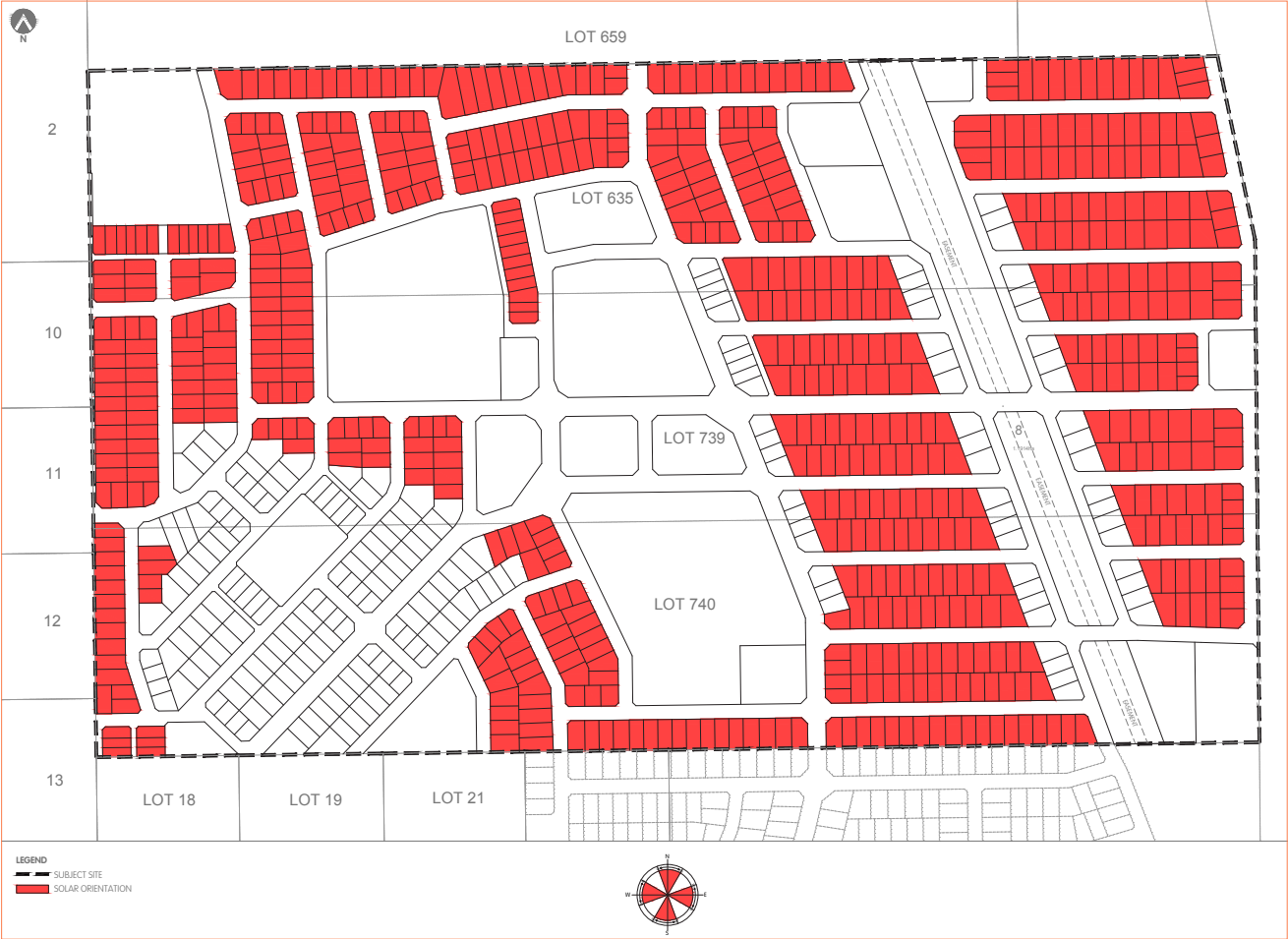
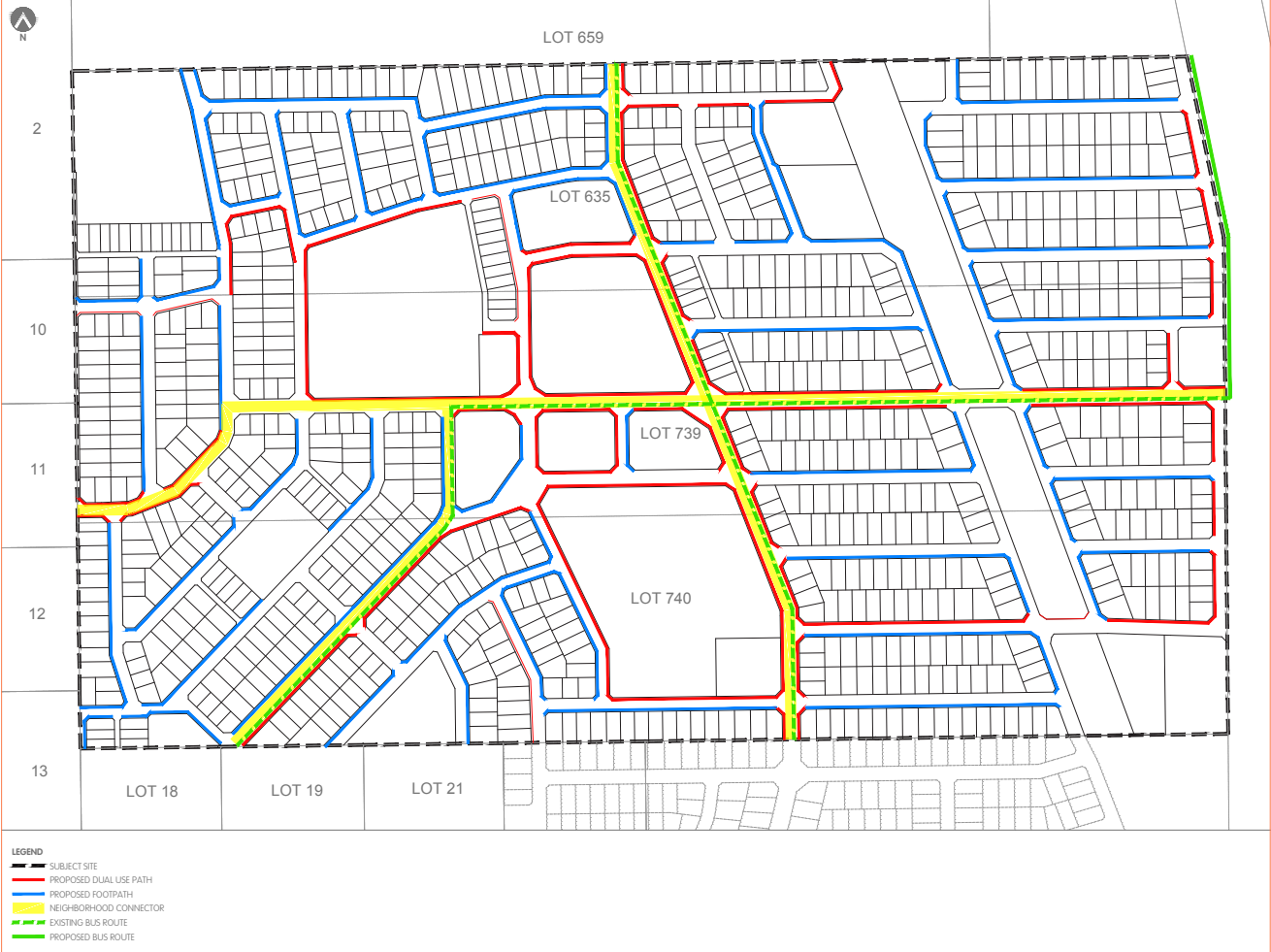


FIGURE 14: Movement Network



3.4 Movement Networks

The site provides east/west connections from Baldivis Road to the residential estates to the west and facilitates future connections north to south through the site (Figure 14). The primary neighbourhood connectors are generally consistent with the alignment of roads shown in the DSP and the Baldivis Road Needs Study.

The local road network enables safe and legible movement throughout the site and to adjoining development and includes proposed routes for future public transport services. The road network is highly connected, maximising pedestrian permeability.

Laneways are provided to some smaller lots to facilitate attractive streetscapes, prevent vehicle access in some locations (such as adjacent the neighbourhood centre), and to provide uninterrupted pedestrian access. Smaller lots serviced by laneways are located in areas of high amenity such as opposite parkland, community facilities and the neighbourhood centre.

Dual use paths will be provided on neighbourhood connectors with footpaths adjacent to open space and on the higher order local access streets. Lower order access streets will carry minimal traffic and can therefore safely accommodate on street pedestrian movement.

A Traffic Impact Statement had been prepared in support of the LSP and is provided at Appendix D.

3.5 Water Management

A combined District and Local Water Management Strategy (October, 2013) was approved for the site by the Department of Water on 18th November 2013. This describes the proposed water conservation strategies and mechanisms to protect hydrological characteristics on site and off site.

Experience with this land form in developments north of the site shows the soils to be free draining, meaning that all stormwater can be retained on site by soakage in swales in line with current best practice as outlined in Liveable Neighbourhoods and Better Urban Water Management (WAPC, 2008).

3.6 Education Facilities, Activity Centre and Employment

Consistent with the SBDSP, the LSP identifies a 2Ha site (comprising maximum NLA of 4,500m²) for the provision of a neighbourhood centre, co-located with a primary school, a 5,000m² community site and a future retirement village (Figure 15). This complex of activities will provide for local convenience retail and amenities, a walkable school environment and the conditions for a more mixed demographic to inject vibrancy into the future centre.

The proximity of the site to the Kwinana Freeway (giving high speed access to Perth and Mandurah) and the Rockingham Town Centre ensures good employment opportunities for future residents.

3.7 Infrastructure Coordination and Servicing

The accompanying Engineering Services Report (Appendix B) confirms that the land can be connected to all services, either by extension from neighbouring developments or by extension from Baldivis Road.

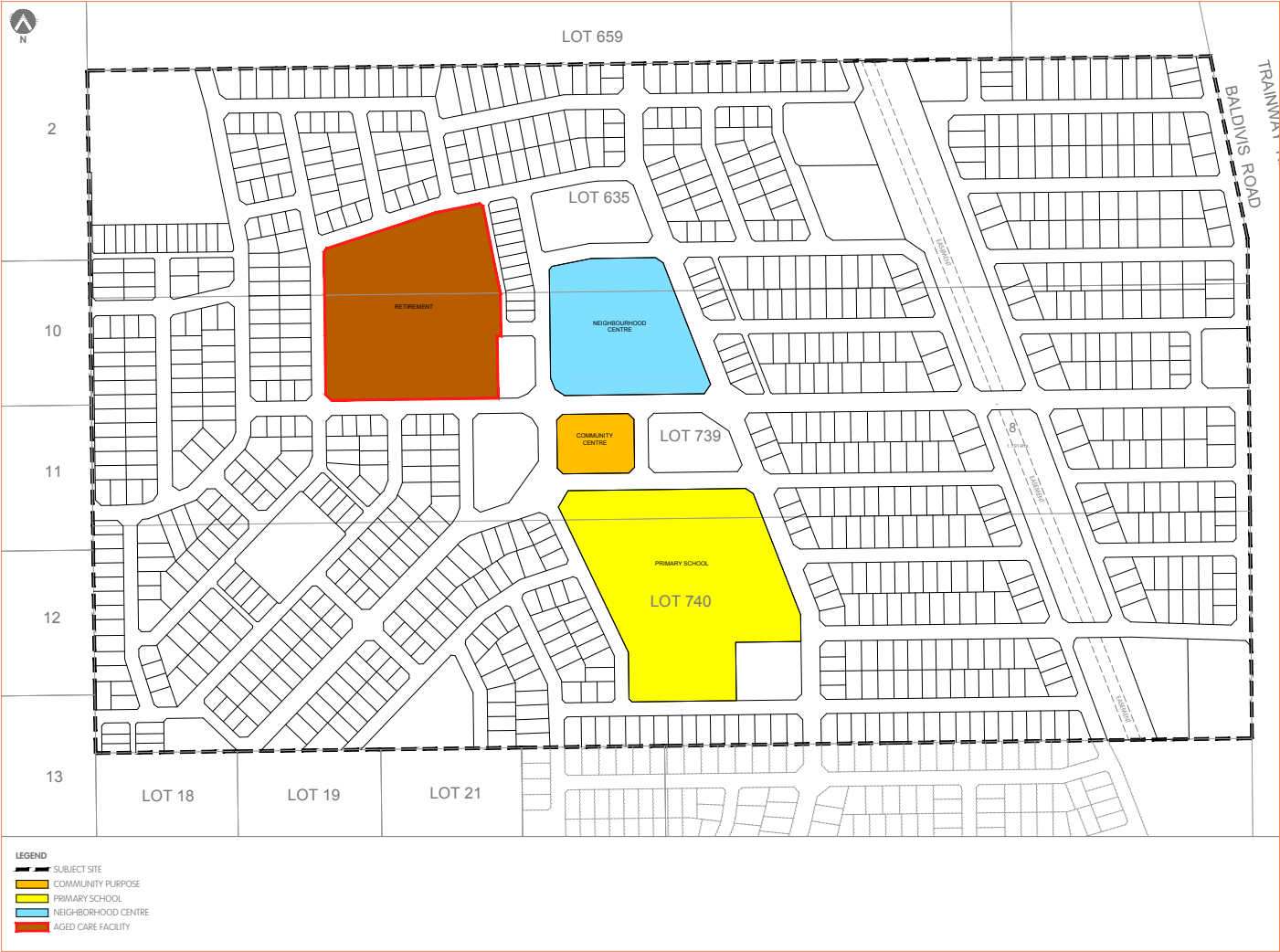
The Water Corporation has given advice that the land can be serviced with reticulated water to a level of RL 30m AHD, meaning the higher parts of the land above this level will need to be reduced to this level. Sewer services are available either from the neighbouring developments, or by installation of a new 'permanent' pumping station at or about the intersection of Baldivis Road and Serpentine Road.

3.8 Staging

No definitive time frame for staging is currently proposed. As detailed earlier in this report, the land will be subject to significant site works to enable provision of water services, and it is anticipated that these works will occur for a period of approximately 3-5 years. Subsequent urban development will follow in accordance with the endorsed LSP.

In accordance with the FMP, appropriate measures will be put in place to minimise the risk of fire from and to the adjacent Lots 18, 19, 20, 21 and 569 to the south. These measures include the staging of development adjacent to these lots until planning and/or development has been progressed and implementation of the approved Fire Management Plan (September 2014).

FIGURE 15: Neighbourhood Centre



4.0 Conclusion

The LSP proposes the creation of 879 residential lots (with densities ranging from R20 through to R40), a primary school, retirement village, community site, neighbourhood centre and numerous areas of public open space set within a highly legible road network.

The LSP design is consistent with the surrounding pattern of urban development of approved, developed and proposed LSP's with appropriate open space and vehicle linkages to these estates.

The LSP meets the requirements of the City and the Commissions statutory and policy framework for the area, noting that:

13. The land is now zoned 'Urban' under the MRS, enabling the Commission's favourable consideration of the proposal;
14. The LSP is consistent with the strategic direction and site-specific targets set out in the South Baldivis District Structure Plan, rounding out the development of this part of the DSP area;
15. The 1,192 dwellings proposed in the LSP will contribute to meeting the forecast housing needs of the South-east region identified in Direction 2031, consistent with the site's 'Urban' zoning under the MRS; and
16. The LSP has been approved by the City of Rockingham.



appendices

A

Enviromental Assessment Report

(September, 2011)

B

Engineering Services Report

(October, 2011)

C

District/Local Water Management Strategy (October, 2013)

D

Traffic Impact Statement

(March, 2014)

E

Fire Management Plan

(November, 2013)

F

Pipeline Risk Management Plan

(November, 2010)

