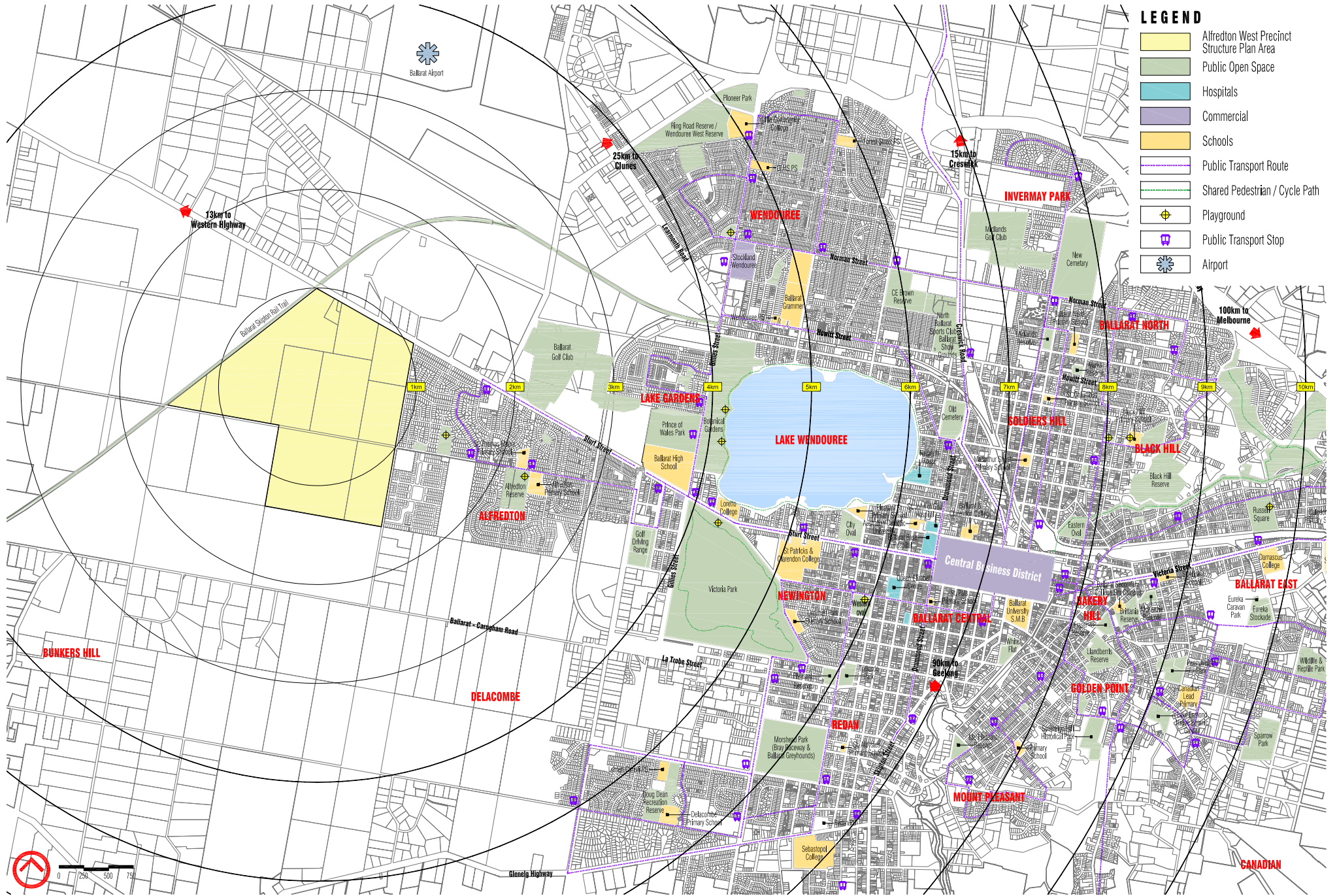


PLAN 4: LOCAL CONTEXT PLAN



LEGEND

- Alfredton West Precinct Structure Plan Area
- Public Open Space
- Hospitals
- Commercial
- Schools
- Public Transport Route
- Shared Pedestrian / Cycle Path
- Playground
- Public Transport Stop
- Airport

2.0 LOCAL CONTEXT AND SITE DESCRIPTION

2.1 Regional Context

The AWSP area is located approximately 6 kilometres from the Ballarat CBD and approximately 120 kilometres from Melbourne. Plan 3 shows the site within the regional context.

Melbourne 2030 specifies Ballarat, along with Geelong, Bendigo and towns in the Latrobe Valley to be the focus for accelerated development of “networked cities” designed to be viable alternative locations to metropolitan Melbourne in which to live, work, run businesses and relax.

Ballarat has also been identified by the State Government as a major transit city. This is emphasised by the recent construction of the Deer Park bypass, Anthony’s Cutting realignment and upgrades to the Ballarat – Melbourne railway line. The region between Melton and Ballarat is identified as a regional transport corridor by Melbourne 2030.

In addition, the ‘Moving Forward’ program has been developed by Regional Development Victoria to help revitalise regional centres, which includes Ballarat, to make them economically vibrant and better places to live and work.

Ready for Tomorrow: A Blueprint for Regional and Rural Victoria is a \$630.7 million Victorian State Government plan to generate new opportunities and build a prosperous and sustainable future for regional and rural Victoria. It includes new initiatives that will create more jobs, improve education opportunities, boost support for businesses and industries and preserve the regional and rural way of life.

The Western Freeway links Ballarat to Melbourne. The proposed Ballarat Western Link Road will allow the passage of traffic from the southern areas of Ballarat through to the Western Freeway. This proposed road will travel adjacent to the eastern boundary of the AWSP area.

The Ballarat Train Station is situated in the Ballarat CBD, and provides regular passenger services to Melbourne. A new commuter train station has recently been constructed just over 3 kilometres from the subject site in Wendouree.

The Ballarat Airport is located approximately 2.5km north of the site and provides a key infrastructure node for Ballarat and the region. Council is currently undertaking extensive investigations into potential development options (including industrial, commercial and associated development opportunities) for the Airport and adjacent land, collectively known as the Ballarat West Employment Zone.

Ballarat is serviced by two major hospitals (Ballarat Base Hospital and St John of God) located in central Ballarat. Both hospitals have been the subject of major upgrades in the past five years and provide public and private health opportunities.

2.2 Local Context

Plan 4 shows the site within its local context.

2.2.1 History

The Wathaurung people have inhabited the land in the AWSP area for at least the last 25,000 years.

Ballarat is the largest inland centre in Victoria, Australia. The city is part of the wider municipality of the City of Ballarat, which encompasses both the suburbs and outlying towns spanning an area of 740 square kilometres. Ballarat is one of the most significant Victorian eraboomtowns in Australia. Gold was discovered near Ballarat in 1851 spawning the Victorian gold rush. The area of Ballarat was found to be a rich alluvial field where gold could easily be extracted, bringing with it rapid growth. The arrival of over 10,000 migrants to the city within a year transformed it from a sheep station to briefly become the largest settlement in the newly proclaimed Colony of Victoria.

2.2.2 Surrounding Neighbourhoods

Traditionally the area has been used for farming although increasingly rural land uses are giving way to urban purposes as a result of the ongoing expansion of Ballarat. Immediately south of the site however, land continues to be farmed. Other surrounding land uses are described below.

East of Dyson Drive is the existing suburb of Alfredton. Alfredton is unconventionally laid out (non-grid) predominantly including a curved road network and comprised of large lots sizes (around 800sqm) but currently contains limited non-residential services. The last stages of development within Alfredton are currently under construction and nearing completion.

Land immediately opposite the site to the north of Remembrance Drive is zoned and used for low density residential purposes. Part of this area is known as Ibis Gardens, a development of 30 lots, each at least 4,000sqm in size with direct access from Remembrance Drive.

West of the site, beyond the Ballarat Skipton Rail Trail, land is zoned Comprehensive Development Zone to potentially accommodate the proposed Lake Federation Resort. This site is currently used for farming purposes.

2.2.3 Transport & Movement

The AWSP area is located to the south of the declared arterial road Remembrance Drive (Ballarat-Burrumbeet Road). This arterial road is often referred to under different names but the section west of Dyson Drive is generally known as Remembrance Drive, and the section east of Dyson Drive is generally known as Sturt Street. Remembrance Drive /Sturt Street provides direct access to Ballarat's central business area located 6km to the east. To the west Sturt Street transitions into the stretch of road known as Remembrance Drive and connects to the Western Freeway 12.5km west of the site.

Ring Road is designated as a link road and connects to Sturt Street 1km east of the AWSP. Ring Road provides further access opportunities to the Western Freeway and is an important transport link to key industrial and employment areas.

The Principal Public Transport Network (PPTN) consists of bus services located along Dyson Drive at the eastern boundary of the AWSP area.

Train services are accessed via the recently completed Wendouree Station at Learmonth / Gillies Street, approximately 3km from the AWSP. The new train station is a key initiative of the Victorian Government's Ballarat Transit City programme. The station will assist to relieve inner city congestion and help cater for the future projected growth of Ballarat West.

The provision of the regional fast train to Ballarat CBD and Wendouree Train Station has enhanced the opportunities for commuter based transport to metropolitan Melbourne and regional townships along the way.

2.2.4 Employment & Activity Centres

The Ballarat Central Business District

Ballarat is a city with a large, centrally located CBD with unrivalled architectural heritage. The Ballarat CBD comprises an estimated 137,000 square metres of retail floor space, located in approximately 500 retail tenancies.

The City of Ballarat has recently completed a CBD Strategy which aims to guide the growth and revitalisation of the CBD over the long term. The Ballarat CBD has a multitude of opportunities, a depth of history and a wealth of strengths on which to focus, develop and provide for the residents of Ballarat.

Ballarat West Employment Zone

The City of Ballarat and State Government collectively own and manage a large area of land at and around the Ballarat Aerodrome, the southern extent of which is approximately 2.5km from the AWSP. This facility is a critical asset for the Ballarat community, with significant potential as an airport to service the region's aviation needs, as well as providing a future supply of industrial and employment based activities.

The City of Ballarat has applied for funding from Regional Development Victoria to secure investment in the airport business and commercial employment zone. It is hoped that this will unlock new light industrial and aviation business and employment opportunities near Ballarat West's emerging residential growth areas and help ensure Ballarat's future population growth is supported by diverse employment opportunities.

Carngham Road Industrial Precinct

Approximately 2 kilometres south east of the site is the Carngham Road industrial precinct which currently provides various industrial employment opportunities.

2.2.5 Community Facilities

Ballarat is well serviced by a range of community facilities including education, open space, active recreation areas, entertainment facilities, and health care facilities.

Education facilities in close proximity to the AWPSP area include:

- Ballarat High School;
- Alfredton Primary School;
- St Thomas Moore Primary School;
- Loreto College;
- Ballarat and Clarendon College; and
- St Patricks College.

Sports and Recreational facilities in close proximity to the AWPSP area include:

- Ballarat Aquatic Centre;
- Alfredton Sports Reserve;
- Prince of Wales Park;
- Lake Wendouree;
- Botanic Gardens;
- Ballarat Skipton Rail Trail;
- Ballarat Golf Club; and
- Victoria Park.

The above facilities are generally located on or in the direct vicinity of Sturt Street, which is a key focus for activity in Ballarat.






PLAN 5: PRECINCT STRUCTURE PLAN AREA

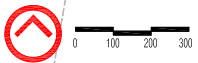


PLAN 6: PRECINCT FEATURES PLAN



LEGEND

-  Alfredton West Precinct Structure Plan Area
-  Site Drainage
-  Lakes/Waterbodies
-  0.5m Contours
-  Existing Long Views
-  Existing vegetation
-  Existing fence



2.3 Precinct Features

Plans 5 and 6 show the key features of the Alfredton West area as described in the sections following. The area is relatively flat and contains limited natural or human-made features which could contribute aesthetically to the future urban environment.

2.3.1 Heritage

Aboriginal Cultural Heritage

The Wathaurung are the traditional indigenous owners and the Wathaurung Aboriginal Corporation is the Registered Aboriginal Party (RAP) for the Precinct under the Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations 2007.

Sites of cultural heritage sensitivity have been identified in Cell A of the AWPSP area. Broader areas of sensitivity have been identified in Cell B.

The conservation of areas of cultural heritage sensitivity is important for the preservation of Aboriginal Heritage. The sites are evidence of past Aboriginal occupation and use of the area, and are a source of information about Aboriginal history. Thirteen Aboriginal archaeological sites were found in Cell A. These include eight artefact scatters and five isolated artefact sites. An area of sensitivity was found on Cell B, generally adjacent to the low-lying and drainage lines.

The preparation of the AWPSP has considered the various findings of the archaeological and heritage assessment reports and responded by locating key sites in open space areas. A Cultural Heritage Management Plan/s will be prepared to address archaeological issues prior to development taking place in both Cell A and Cell B.

European Cultural Heritage

Two sites of European Heritage have been identified within Cell A of the AWPSP. Following detailed sub surface testing, it has been determined the sites have only moderate local significance.

The Avenue of Honour is planted along Remembrance Drive adjoining the northern boundary of the site and is covered by Heritage Overlay 154 in the Ballarat Planning Scheme and is registered by Heritage Victoria (item H2089). The Avenue of Honour

consists of 3,771 trees planted to commemorate soldiers, sailors and nurses from the district who served in World War 1. The Avenue of Honour begins at the Arch of Victory 3km east of the site and covers a distance of approximately 22km. Planting is composed mostly of exotic trees spaced evenly along and across the road.

2.3.2 Biodiversity

Biodiversity Significance

The land lies within the Woody Yaloak and Leigh River catchments and Victorian Volcanic Plains bioregion. The area would have originally supported Plains Grassy Woodland (EVC 55) and potentially a mix of riparian Ecological Vegetation Classes (EVCs).

Several highly degraded, ill-defined ephemeral drainage lines cross the precinct draining towards the south and south-west. These drainage lines have the potential to provide habitat linkages across the site.

The Ballarat-Skipton Rail Trail forms the north-western boundary to the precinct and contains patches of modified Plains Grassy Woodland (EVC) minus the canopy. Whilst simplified in nature this vegetation community has local biodiversity importance as a native grassland corridor.

Biodiversity Assets within the Precinct

General Values

Clearing for agriculture has denuded Alfredton West of most of its native vegetation. The precinct has been subject to a range of agricultural practices and is covered by exotic vegetation, particularly pasture grasses. No Ecological Vegetation Class (EVC) exists on Cell A or Cell B.

Flora Values

A small number of remnant scattered Swamp Gums (*Eucalyptus ovata*) and Yarra Gums (*Eucalyptus yarraensis*) exist across the precinct.

Nine large, old remnant trees are scattered across Cell A (Refer to Plan 6). There are scattered areas of windrow planting comprised of both exotic (cypress and pine) and native species. Due to age and stress caused by extended dry spells many of the windrows and

trees are in poor condition. There are however isolated stands and windrows that may contribute to the new urban form, open space network and may provide foraging and roosting habitat for birds and bats in particular. The retention of these isolated stands should be considered at the time of development. These include three lines of native (gum) windrows in the north of Cell A.

Remnant vegetation on Cell B comprises scattered Swamp Gums (two trees) and Yarra Gum (one tree). A Native Vegetation Precinct Plan is not required for this area.

Fauna Values

The farm dams and ephemeral drainage lines may support some fauna species particularly frogs. These areas, although degraded, may also provide feeding habitat for water birds including ducks and herons.

Rock piles, placed to allow cropping, that are scattered across the precinct have been identified as potential habitat for reptiles.

2.3.3 Topography and Landform

The topography of the site is gently undulating, but in general terms the land falls north to south up to 23 metres and east to west up to 10 metres. From the site there are long range views to the Pyrenees (northwest), Mt Buninyong (southeast) and also to the south.

There are currently a number of low lying areas that collect drainage across the AWPSP area. Cell A contains three dams and Cell B contains four dams.

The site topography and landform features present a number of opportunities for the final residential development.

2.3.4 Road Network

Remembrance Drive/ Sturt Street

Remembrance Drive is a declared arterial road that forms the north boundary of the Precinct and is also the main street of Ballarat. In the vicinity of the site Remembrance Drive is a two-way, single carriageway road, within a broad reservation (around 60 metres)

containing the Avenue of Honour (refer further below). It is estimated Remembrance Drive / Sturt Street carries around 4,000 vehicles per day in the vicinity of Dyson Drive. The posted speed limit on Sturt Street is 70 km/h east of Dyson Drive and 80 km/h on Remembrance Drive for approximately 450 metres west of Dyson Drive. The balance of Remembrance Drive is 100 km/h.

Dyson Drive

Dyson Drive is located on the eastern boundary of the AWPSP area and is currently a local road but has been designated a link road under the City of Ballarat Road Hierarchy Review (2006). It runs north-south between Remembrance Drive and Ballarat-Carngham Road (1.6 km south of Cuthbert Road). The Dyson Drive road reservation, adjacent to the site is 20.12 metres wide and carries a two way single carriageway (8m seal) with kerb on one side and a gravel shoulder on the other. A roundabout exists at the intersection of Cuthberts Road and Dyson Drive. The current posted speed limit adjacent to the Precinct is 60 km/h.

Cuthberts Road

Cuthberts Road originates in Alfredton, passes between cells A & B and then continues west to the Burrumbeet-Hillcrest Road. Cuthberts Road is a sealed collector road within a 20.12 metres wide reservation carrying two way traffic (6m seal) and is currently designated as having future link road status. Cuthberts Road is estimated to currently carry less than 1, 000 vehicles per day, and has a speed limit of 80 km/h abutting the site.

Ballarat Western Link Road

The City of Ballarat is currently undertaking investigations for a link road around the outskirts of Ballarat. The link road will connect the Western Freeway near the Ballarat Airport and the Midland Highway to the south of Sebastopol. The preferred alignment for the link road is along Dyson Drive in the vicinity of the AWPSP.

The future Ballarat Western Link Road will be two lanes wide in each direction with service road/s in a reservation of approximately 60m in width (refer Figure 7). The Future Ballarat Western Link Road will need to incorporate critical trunk utility infrastructure such as electricity powerlines within its 60m reservation. Dyson Drive currently has a road reservation of 20m therefore a further reservation is required of approximately 40m. All of

this additional 40m will need to be acquired from the AWPSP area as land to the east has already been developed.

2.3.5 Land Ownership

The AWPSP has a total area of approximately 317ha and is controlled by two separate parties. These two areas have been divided into Cell A and Cell B as shown in Plan 7, Cell Plan. The AWPSP comprises ten separate titles.

Detailed investigations have been undertaken in relation to Cell A and Cell B and are described in the sections above. If the Development Contributions Plan for the Ballarat West Growth Area is not approved at the time of the development of Cell B a section 173 agreement is required to be entered into, to the satisfaction of the responsible authority.



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→ *VISION AND URBAN STRUCTURE*

PLAN 8: ALFREDTON WEST FUTURE URBAN STRUCTURE



3.0 VISION AND FUTURE URBAN STRUCTURE

3.1 Vision

With an emphasis on sustainable living, Alfredton West will be a place where people can enjoy a healthy, quality lifestyle in a place that reflects, in a contemporary way, the strong settlement patterns and traditions of Ballarat.

Alfredton West will be built on the foundations of a walkable street and trail network with access to public transport, retail, local jobs, housing and lifestyle diversity and choice, local schools, and safe, attractive and functional open spaces which offer a broad range of recreational pursuits.

Alfredton West will be a more compact and environmentally sustainable urban form, reducing greenhouse gas emissions and promoting a healthy, active way of life through the provision of open space, encouraging walkability and bicycle usage and a vibrant and highly accessible Neighbourhood Activity Centre (NAC) that provides for local employment, business and retail activity, community facilities, a community village focus and gathering spaces.

The retail activity, employment opportunities, flexible education and community facilities, transport options, housing diversity including the provision of retirement and medium density living opportunities will service not only the future Ballarat West community but will also assist to alleviate deficiencies in community services and infrastructure in Alfredton.

3.2 Urban Structure

The vision will be realised through the development of the future urban structure for Alfredton West as an integrated neighbourhood design that responds to the following objectives.

- To establish a **sense of place and community** that relates to the traditions of Ballarat.
- To create greater **housing choice diversity** and continues Ballarat's tradition of providing affordable places to live.

- To create a highly **accessible and vibrant neighbourhood activity centre** that will serve the future Ballarat West community as well as the existing adjacent Alfredton residents.
- To provide for **local employment and business activity**.
- To provide better **transport choices and access**.
- To increase **environmental sustainability**.
- To deliver **accessible, integrated and adaptable community infrastructure**.

The proposed urban structure for the AWSP is based on the Ballarat West Growth Area Plan and is also supported by various technical documents and detailed site analysis. Plan 8 illustrates the future urban structure of the AWSP.

The following sections describe how the AWSP delivers the Vision, the above mentioned objectives and an integrated neighbourhood design.

3.2.1 Sense of place and community

The AWSP establishes a framework for the development of an environmentally, socially and economically sustainable urban structure. The structural elements (housing, open space, NAC, education, transport and community infrastructure) of the plan are interlinked and combine to create a built environment that supports the development of a strong community and a sense of place that 'extends' Ballarat rather than creating a distinct, new settlement.

A sense of place is fostered through the enhancement of local attributes and careful planning for the development of community infrastructure such as schools, sporting fields and other community facilities that relate closely to residential neighbourhoods. The timely provision of the NAC, sporting / recreation, education and related facilities within the AWSP area will help facilitate community interaction among residents. The AWSP also provides the opportunity to address key community and social infrastructure currently lacking in Alfredton, further enhancing the links with the existing Ballarat community.

The AWSP encourages the provision of community infrastructure as early as possible to maximise their use, to alleviate existing deficiencies in the surrounding neighbourhoods

and to establish community-based groups that assist to create a sense of community and assist through participation in the future community infrastructure development.

The AWSP separates the NAC and integrated education precinct in accordance with current best practice planning and design and to cater for a range of community services and infrastructure – some that are better located centrally to the catchment (making them more accessible other than by car) and others that are better located with the activity and services available in the NAC. This flexibility also allows for the early delivery of services where appropriate. Strong movement links are provided between the two including paths, roads and open space links. This spatial arrangement of the NAC and integrated education precinct, with their potential community facilities and services, promotes positive community interaction.

The provision of shops that provide for both convenience and ‘weekly’ shopping in a ‘main street’ type NAC will promote interaction through the provision of safe, formal and informal meeting spaces. This is further enhanced by the desire to provide for the early delivery of the critical retail components of the NAC and for the remainder of the NAC to develop over time as a place that offers more than just retail services. The NAC will provide for opportunities to establish non-retail related businesses such as office and medical that services both the immediate community and the broader Alfredton catchment. The provision of Council community services may also service the immediate community and the broader Alfredton catchment.

As well as the above, the AWSP further creates the platform for the creation of a strong, Ballarat-based sense of place by focusing on community activity as follows.

- It proposes safe, compact neighbourhoods that make it easy to walk or cycle to shops, local jobs, schools, community facilities, public transport and parks.
- It proposes a series of well-designed public spaces and community facilities that promote healthy lifestyles and diverse communities.
- It proposes a series of inter-linked, multi-use open spaces and avenues that continue Ballarat’s ‘garden city’ traditions for both active and passive recreation.
- It creates a strong Ballarat character through the recognition of natural and cultural features of the site and surrounds (including the Avenue of Honour) as well as providing a contemporary interpretation of the legible, permeable, accessible and beautiful Ballarat urban form.

3.2.2 Housing choice, diversity and affordability

The AWSP provides for a range of lifestyle opportunities through requirements for a diversity of housing and lot sizes. Affordable and medium density housing will be located near services and areas of higher amenity such as the NAC, public transport routes, community and education facilities and open spaces.

To reflect Ballarat’s tradition of a diverse community, a mix of housing and lot sizes at more conventional densities, including intermixed affordable and medium density housing, is proposed throughout each neighbourhood.

The AWSP will also provide an affordable, liveable place that offers variety and choice as follows.

- It proposes a range of lot sizes and housing styles across the AWSP area.
- It proposes housing that meets a range community needs including housing that allows ‘ageing in place’.
- It concentrates affordable and higher density housing (greater than conventional density) around the NAC, close to public open space, education and community facilities and where public transport facilities are available although also proposed throughout each neighbourhood where appropriate.
- It provides the opportunity for employment in and around the NAC.
- It provides safe and walkable neighbourhoods with access to local retail and other facilities in the NAC.
- It proposes a range of vehicle and non-vehicle transport options to all households by providing accessible and central open space, community, education and other facilities.

3.2.3 Accessible and vibrant activity centre

The AWSP provides for a NAC containing local shops and services which will provide local employment opportunities and community based services at the corner of Sturt Street and Dyson Drive. The location of the NAC and access to existing public transport routes will mean that it will serve both the existing (under-supplied Alfredton) and developing communities.

The NAC will be a street based centre, offering a mix of retail, non-retail commercial and other mixed-use, community and employment opportunities. It is proposed that the larger shops such as supermarkets and car parking will generally be 'sleeved' by small shop fronts that face onto 'main street'. Pedestrian access in and around the NAC will be a primary design objective including from bus stops.

A sense of activity will be encouraged within the NAC with buildings designed to address the street, resulting in a continuous and contained streetscape thereby creating interest and interaction at street level. Footpaths will be broad, enabling alfresco dining to further activate the streetscape. The NAC streets will be tree-lined, provided with seating, shelter and shade (verandas) all contributing to provide quality public spaces that enhance the centre as a pedestrian oriented environment.

A permeable network of street, public spaces and pedestrian and cycle paths will provide high quality linkages, particularly for pedestrians, to the NAC and will interlink with other critical community, open space and education infrastructure. The NAC will also be serviced by an extended public transport network. The accessibility of the NAC will reduce the dependency on private vehicles.

It is envisaged that the NAC will provide for a mix of uses and will be developed to allow for growth and change so that it can be adapted over time as the needs of the community evolve.

3.2.4 Local employment and business activity

The NAC will support a variety of local services such as medical, financial, legal, retail and business services and will provide space for other local economic development opportunities thereby creating additional local employment.

The location of the NAC ensures accessibility for both the existing and future communities ensuring its viability. The exposure to passing trade further promotes the economic and social success of the NAC. The provision of a mix of services encourages more efficient use of motor vehicles through the ability to make multi-purpose trips.

The urban structure and location of the NAC and education facilities encourages the use of the network of cycle and pedestrian linkages and public transport routes providing safe and direct links for those living in the AWPSP Area.

Apart from the employment created by retail in the NAC other possible employment generators in the AWPSP Area include education facilities (including kindergarten and schools); community centre/s; non-retail commercial; office; medical; childcare; home-based businesses and retirement housing.

The development of the AWPSP Area will also create a number of construction and other direct jobs as well as numerous indirect jobs.

3.2.5 Better Transport Options

The urban structure established by the AWPSP responds to the need for urban development to be more ecologically, socially and economically sustainable. A key factor in creating a more sustainable urban structure is to reduce travel distances, travel times and carbon emissions from motor vehicle travel.

The AWPSP encourages reduced travel distances by providing the following.

- Employment opportunities in the NAC and integrated education precinct and nearby employment areas.
- An efficient road and public transport (bus) network and grid that allows efficient movement within the area with strong connections to the surrounding area in all directions.
- A walkable street structure that creates permeable and connected residential neighbourhoods and provides safe and easy access to key community facilities such as open space, education and public transport facilities and the NAC by both 'on-road' and 'off-road' facilities.
- The NAC, proposed school/s, community facilities, passive and active open spaces are located to maximise the number of residents within a safe and convenient walking distance to these facilities. The cycle and pedestrian path network is designed to link residential areas with these key community facilities to promote the non-vehicle based modes of transport such as walking and cycling.

The permeable, walkable street network provides access not only to local employment opportunities but also to existing and future employment growth areas such as near Ring Road, the Ballarat Airport, Carngham Road and central Ballarat.



3.2.6 Climate change and environmental sustainability

The AWPSP responds to climate change and increases environmental sustainability as follows:

- The AWPSP is planned with the intention of reducing the dependence on car use by minimising travel distances to local facilities, services and employment and by facilitating alternatives such as public transport, cycling and walking by providing a safe and thorough network of footpaths and both 'on-road' and 'off-road' shared and cycling paths.
- The environmental footprint of the AWPSP is minimised through the efficient use of resources such as land (maximising densities within social and market expectations), energy (using low-energy materials in construction, re-use of site materials and promoting efficient building techniques and technologies) and water (promoting water saving technologies, promoting WSUD).
- The AWPSP creates opportunities for integrated water management including promoting WSUD in local streets and open spaces, exploring stormwater re-use options with the Council and Central Highlands Water and the promotion of the installation of rainwater tanks.
- The AWPSP proposes to enhance the existing drainage line thereby creating habitat areas and improving biodiversity.
- The AWPSP proposes to use land required for community purposes efficiently by creating multiple uses such as drainage, retardation and active and passive open spaces.
- The AWPSP proposes to retain areas of 'high' cultural and environmental heritage significance in areas of open space.
- The AWPSP is responsive to environmental issues and constraints such as salinity, soil erosion, flooding, bushfire risk and weed infestation and seeks to minimise the risk of these events.

3.2.7 Accessible, integrated and adaptable community infrastructure

The AWPSP seeks to service the needs of the community as it grows and changes by providing accessible, integrated and adaptable community infrastructure (facilities and services). The community infrastructure features of the AWPSP are based on an analysis and understanding of the needs of the diverse communities of residents, workers and businesses for different goods, services and facilities and of the deficiencies currently suffered by existing neighbourhoods.

The AWPSP includes the following that encourage the provision of accessible, integrated and adaptable community infrastructure.

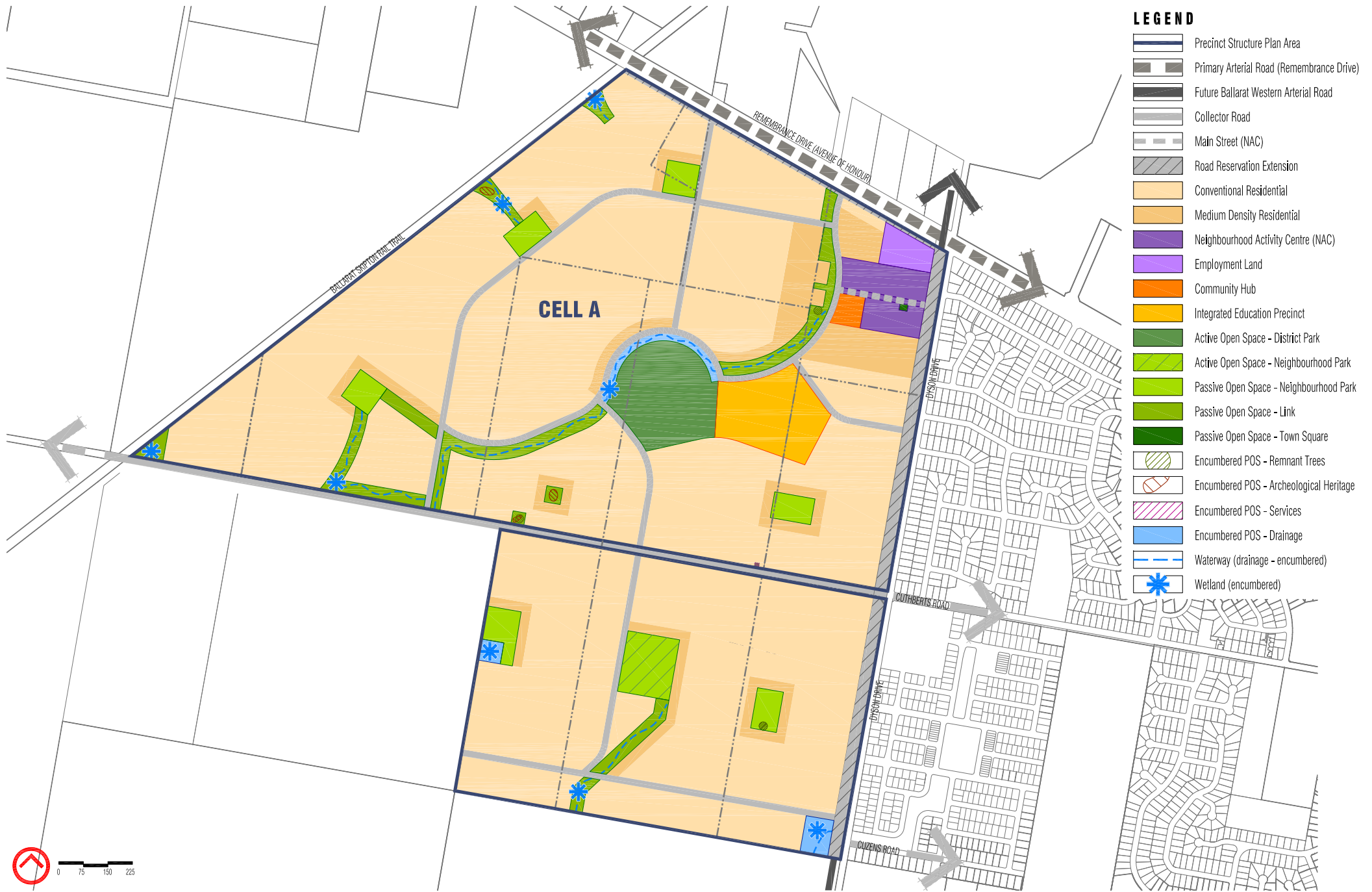
- The AWPSP encourages the provision of community infrastructure as early as possible to maximise its use, to alleviate existing deficiencies in the surrounding neighbourhoods and to assist to create a sense of community.
- The AWPSP proposes that the community facilities are generally co-located and integrated to enable shared community use and flexibility in service provision as the area develops.
- The AWPSP proposes that the community hub is located in or adjacent to the NAC.
- The location of the community facilities allows residents to easily access them by walking, cycling and public transport.

The separation of the NAC and integrated education facility is based on current best practice planning and design and responds to the site conditions (co-locating the education facilities with active sports fields and site drainage and retardation). While there is 200m between the NAC and integrated education precinct there is a network of paths, roads and open spaces that directly link the two activity precincts. The separation also allows for flexibility in the type and timing of provision of community facilities on the basis that some facilities are better located physically more central to the catchment (maximising walkability) and with active open space and other education facilities and others are better located close to the activity and services available in the NAC. Separation also assists in limiting the 'spillage' of students to the NAC during school hours.

The AWPSP also contains a comprehensive network of active and passive open spaces and recreation facilities that are located within easy access of all homes and workplaces. Open spaces range from local parks with infrastructure such as playgrounds to active sports fields and linear open spaces linking regional facilities such as the Avenue of Honour and Ballarat Skipton Rail Trail. The playing fields are co-located with the education facilities and are central to the site making them highly accessible. The hierarchy of open spaces along with the network of footpaths and shared paths will contribute to the formation and maintenance of a healthy community.



PLAN 9: LAND USE BUDGET



3.3 Land Use Budget

The AWPSP covers an area of approximately 317 hectares and comprises a range of different land use components. It has been divided into two cells based on different land ownership.

The land use budget table provides an analysis of the two cells and the various components that make up the ultimate development of the AWPSP. The table highlights the extensive land area (31Ha or approx. 10% of the total Precinct) being devoted to various forms of open spaces (Cell A 12% and Cell B 10% of net developable area approximately).

The AWPSP will provide for a projected additional population of approximately 11,000 people accommodated on approximately 3950 allotments.

The following should also be noted.

- The land budget takes into account the road widening of Dyson Drive to facilitate the proposed ultimate Ballarat Western Link Road.
- Delivery of the Cell B projections as per the land use budget will be dependent on completion of any additional studies to the satisfaction of the responsible authority.
- The projected dwelling densities provide a range of possible development outcomes.
- The Ballarat Skipton Rail Trail is excluded from all calculations.

Table 1 and Plan 11 (Housing Plan) have been prepared to provide a general guide as to the location of estimated dwelling densities.

The Land Use Budget is shown in detail in Table 2 following.

Table 1: Estimated Residential Lot Yield and Distribution of Densities

DESCRIPTION	Cell A			Cell B			Total Precinct		
	Hectares	Dwellings/NRHa	Dwellings	Hectares	Dwellings/NRHa	Dwellings	Hectares	Dwellings/NRHa	Dwellings
Retail & Employment									
Neighbourhood Activity Centre (retail / office / mixed use)	6.16			0.00			6.16		
Residential									
Residential – Conventional Density	161.89	14.0	2267	77.50	14.0	1085	239.40	14.0	3352
Residential – Medium Density	16.01	25.0	400	7.67	25.0	192	23.68	25.0	592
Total residential Yield against NRHa	177.90	15.0	2667	85.17	15.0	1277	263.07	15.0	3943
	NDA (Ha)	Dwellings/NRHa	Dwellings	NDA (Ha)	Dwellings/NRHa	Dwellings	NDA (Ha)	Dwellings/NRHa	Dwellings
Total Residential Yield against NDA	186.07	14.3	2667	85.17	15.0	1277	271.24	14.5	3943
Future Population at 2.8 persons per dwelling			7467			3574			11041

Table 2: Land Use Budget

DESCRIPTION	Cell A			Cell B			Total Precinct		
	Hectares	% of Total Cell A	% of NDA	Hectares	% of Total Cell B	% of NDA	Hectares	% of Total Precinct	% of NDA
Total Precinct Area (Ha)	220.20	100.00%		96.93	100.00%		317.13	100%	
Transport									
Future Ballarat Western Link Road (reservation)	4.23	1.92%	2.29%	3.23	3.33%	3.65%	7.45	2.35%	2.73%
Remembrance Drive Service Road Reserve	1.36	0.62%	0.74%	0.00	0.00%	0.00%	1.36	0.43%	0.50%
Sub-total	5.59	2.54%	3.03%	3.23	3.33%	3.65%	8.82	2.78%	3.23%
Community Facilities									
Community Hub	0.80	0.36%	0.43%	0.00	0.00%	0.00%	0.80	0.25%	0.30%
Education									
State Government Primary School P-9	5.00	2.27%	2.69%	0.00	0.00%	0.00%	5.00	1.58%	1.84%
Private Primary School P-6	2.00	0.91%	1.07%	0.00	0.00%	0.00%	2.00	0.63%	0.74%
Sub-total	7.00	3.18%	3.76%	0.00	0.00%	0.00%	7.00	2.21%	2.58%
OPEN SPACE									
Encumbered Land									
Telecommunications easements	0.02	0.01%	0.01%	0.00	0.00%	0.00%	0.02	0.01%	0.01%
Archaeological Heritage	0.18	0.08%	0.10%	TBC			0.18	0.06%	0.07%
Waterway / Drainage Line / Wetland / Retarding Basin	4.11	1.87%	2.21%	2.34	2.41%	2.74%	6.45	2.03%	2.38%
Remnant Trees	0.08	0.04%	0.04%	0.05	0.05%	0.06%	0.13	0.04%	0.05%
Sub-total	4.40	2.00%	2.36%	2.39	2.46%	2.80%	6.78	2.14%	2.50%
Unencumbered Land available for Recreation									
Active Open Space – District Park	8.34	3.79%	4.48%	0.00	0.00%	0.00%	8.34	2.63%	3.08%
Active Open Space – Neighbourhood Park	0.00	0.00%	0.00%	3.00	3.10%	3.52%	3.00	0.95%	1.11%
Passive Open Space - Neighbourhood Parks	4.00	1.82%	2.15%	2.28	2.35%	2.67%	6.28	1.98%	2.31%
Passive Open Space – Town Square	0.05	0.02%	0.03%	0.00	0.00%	0.00%	0.05	0.02%	0.02%
Passive Open Space – Links & Other Green Spaces	5.95	2.70%	3.20%	0.87	0.90%	1.02%	6.82	2.15%	2.51%
Sub-total	18.34	8.33%	9.86%	6.15	6.34%	7.22%	23.60	7.72%	9.03%
Total Open Space (encumbered + unencumbered)	22.74	10.33%	12.22%	8.53	8.80%	10.02%	31.27	9.86%	11.53%
NET DEVELOPABLE AREA (NDA) Ha	186.07	84.50%	100.00%	85.17	87.87%	100.00%	271.24	85.53%	100.00%



3.4 Demographic and Population Projections

The City of Ballarat has experienced significant growth over the last decade with an estimated 2010 population of 96,000. This growth is expected to continue in the short, medium and long term. The City of Ballarat's population projection based on *Victoria in Future 2008* is forecast to grow to over 111,000 by 2020 at an average annual growth rate of 1.5% and over 126,000 by 2030 at an average annual growth rate of 1.3%.

Table 3.1 City of Ballarat Population Projection 2010 - 2030

2010	2015	2020	2025	2030	2050
96,000	103,249	111,119	118,784	126,978	163,435

(Source: MacroPlan Australia and City of Ballarat, 2010)

Table 3.2 City of Ballarat Average Annual Growth Rates

2010 - 2015	2015 - 2020	2020 - 2025	2025 - 2030	2030-2050
1.8%	1.7%	1.6%	1.4%	1.3%

(Source: MacroPlan Australia and City of Ballarat, 2010)

The Ballarat West Growth Area forms an important component in accommodating the forecast population growth for the City of Ballarat. The Ballarat West Growth Area is projected to accommodate over 18,100 lots and a population of over 48,000.

Table 3.3 Ballarat West Growth Area Population Projection 2020 – 2050

2020	2025	2030	2050
2,891	8,428	16,261	48,924

(Source: MacroPlan Australia and City of Ballarat, 2010)

Table 3.4 Cumulative Dwelling Growth Comparison 2015-2050

Dwellings	Ballarat West Growth Area	City of Ballarat	
2015	0	44,495	
2020	1,013	48,464	
2025	2,961	52,378	
2030	5,728	56,256	
2050	18,120	72,879	
Change	Ballarat West Growth Area	City of Ballarat	Share of Growth
2015-2020	1,013	3,969	26%
2020-2025	1,948	3,914	50%
2025-2030	2,767	3,878	71%
2030-2050	12,392	16,623	75%
2020-2050	17,107	24,415	70%

(Source: MacroPlan Australia and City of Ballarat, 2010)

The AWPSP will accommodate a proportion of the population growth identified for the Ballarat West Growth Area. The AWPSP is forecast to accommodate approximately 4,000 lots and a population of around 11,000, based on an average household size of 2.8.

It is forecast that the AWPSP will comprise the following demographic profile in 2030.

Table 3.5 AWPSP Demographic Profile in 2030

Couple Families with Children	68%
Young Families	55%
Mature Families	13%
Couple Families without Children	16%
Young Professionals/Key workers	10%
Empty Nesters	5%
Seniors	1%
Other Families	10%
Lone Person Households	5%
Group Households	1%
Total	100%

(Source: MacroPlan Australia and City of Ballarat, 2010)

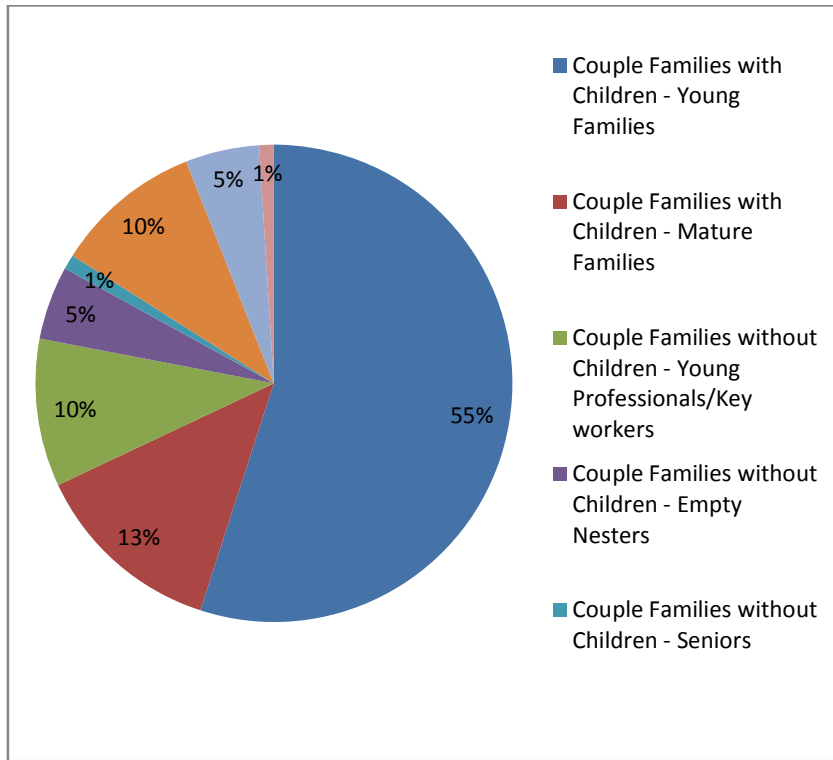


Figure 1 – AWSPSP Projected Demographic Profile in 2030

(Source: MacroPlan Australia and City of Ballarat, 2010)



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→ *ELEMENTS*

4.0 ELEMENTS

This section sets out the objectives and planning and design guidelines for the following key elements of the AWPSP.

- Image and Character.
- Housing and Subdivision.
- Community Facilities.
- Public Open Space and Natural Systems.
- Activity Centre and Employment Areas.
- Transport and Movement.
- Utilities and Energy.
- Staging.

Each element includes:

- **plans/figures** as a spatial expression of objectives;
- **objectives** that describe the desired outcome to be achieved in the completed development;
- **implementation** summaries that describe how the objectives are to be completed;
- **planning and design guidelines** (including figures and tables) that *must* or *should* be met.

If the responsible authority is satisfied that an application for an alternative to a planning and design guideline meets the relevant objectives, the alternative may be considered to the satisfaction of the responsible authority.

4.1 Image and Character

4.1.1 Objectives

The objectives for enhancing image and character as an essential part of the development of the AWPSPP are as follows.

- To respond to the landscape character and topographical features (land form) of the site and surrounds and demonstrate a sustainable approach to their development.
- To protect and/or treat appropriate places of recognised significant (high) cultural, environmental (flora and fauna) or heritage values.
- To acknowledge, sympathetically and appropriately address the interface of the site with the Avenue of Honour, Ballarat Skipton Rail Trail, the future Ballarat Western Link Road and western extent of existing Alfredton by respecting and, where appropriate, improving existing settlement patterns, landscape character and accessibility.
- To develop diverse neighbourhoods with character that reflect and are a continuation of the strong settlement traditions of Ballarat (albeit a contemporary interpretation) providing safe, walkable and beautiful living environments – rather than autonomous, “stand alone” development that does not integrate with older parts of Ballarat.
- To reflect the strong ‘garden city’ tradition of Ballarat by promoting exotic and native tree planting throughout streets (avenues) and high quality interconnected open spaces that are well maintained and provide both passive and active recreation opportunities.
- To provide safe, attractive and walkable neighbourhoods that make the Precinct a desirable place for businesses and home buyers to invest in, and for residents to live, work and play.
- To encourage a high-quality built environment that provides a variety of living (housing) choices and that is functional, safe, aesthetically pleasing and sustainable.
- To implement the urban design guidelines for the interface with the Avenue of Honour.

4.1.2 Implementation

The objectives for image and character are met by implementation of the following.

- Plan 8 Alfredton West Future Urban Structure
- Plan 11 Community Facilities Network Plan.
- Plan 12 Open Space Plan.
- Plan 14 Road Network Plan.
- Plan 15 Public Transport Network Plan.
- Plan 16 Pedestrian and Cycle Network Plan.

4.1.3 Planning and design guidelines

The following planning and design guidelines *must* be met.

- Provide a high quality open space link through the site along the drainage line connecting the NAC, sports (active) facilities and community facilities.
- Provide WSUD, storm flow protection and create habitat for native plants and animals along the drainage line.
- Design new development with an interface to Remembrance Drive to address the Avenue of Honour in accordance with the urban design guidelines adopted by the responsible authority.
- Design the location of passive open spaces to contain cultural features of ‘high’ significance so there is no impact on these.
- Design new development with an interface to the Ballarat Skipton Rail Trail and drainage networks to promote public use and passive surveillance.
- Design new development with an interface to Dyson Drive (future Ballarat Western Link Road) to address the road to promote public use, promote passive surveillance and address the future amenity (visual and noise) and accessibility of the AWPSPP.
- Design the street layout to be legible, permeable and accessible with footpaths.
- Design a network of open spaces including linear park links that provide for a range of open space facilities including playgrounds, shelters, seating and the like catering for active and passive recreation across the entire Precinct.

- Design streets and open spaces to allow for significant tree planting of both exotic and native species including the provision of avenues and other street planting that reflect the road hierarchy.
- Locate medium density development adjacent to open space, the NAC and public transport to reflect the higher amenity values associated with those areas.

The following planning and design guidelines *should* be met.

- Design the location of open spaces to contain existing topographic features, vegetation, habitat or cultural features thereby minimising impact on these.
- Provide opportunity for landmark buildings, a town square and public art within the NAC.
- Design and arrange lots to maximise solar efficiency through orientation.
- Design local streetscapes to promote pedestrian priority and slow vehicle speeds.
- Provide street planting (including trees) that assist with WSUD, neighbourhood and street character definition and provide shade. The size of the street tree species should relate to the scale of the street infrastructure.
- Explore and provide WSUD options within neighbourhood streetscapes and open spaces.

PLAN 10: HOUSING PLAN



4.2 Housing and Subdivision

4.2.1 Objectives

The objectives for housing and subdivision are as follows.

- To provide a range of lot sizes and housing types to satisfy the needs and aspirations of the new community and provide for changing needs over the longer term.
- To provide residential neighbourhoods that are liveable by creating walkable neighbourhoods that allow access to local services, facilities and public transport.
- To provide higher residential housing densities and affordable housing adjacent to areas of high amenity including the NAC, the integrated education precinct, open space areas and public transport facilities.
- To provide housing close to and with direct access to existing and future employment areas including the NAC, Ballarat West Employment Zone and the industrial precinct in Camgham Road.
- To provide integrated housing sites (including but not limited to medium density housing and retirement villages) in the vicinity of the NAC, the integrated education precinct or open space areas.
- To provide diverse and high quality residential streetscapes that contains a variety of lots sizes and is attractive.
- To maximise solar orientation and other energy efficiencies.
- To ensure that an appropriate interface is created along Remembrance Drive (Avenue of Honour), Ballarat Skipton Rail Trail and any public open space that contains a waterway.

4.2.2 Implementation

The objectives for housing and subdivision are met by the implementation of the following.

- Plan 8 Alfredton West Future Urban Structure
- Plan 10 Housing Plan.
- Plan 12 Open Space Plan.
- Plan 16 Pedestrian and Cycle Network Plan.

4.2.3 Planning and design guidelines

The following planning and design guidelines *must* be met.

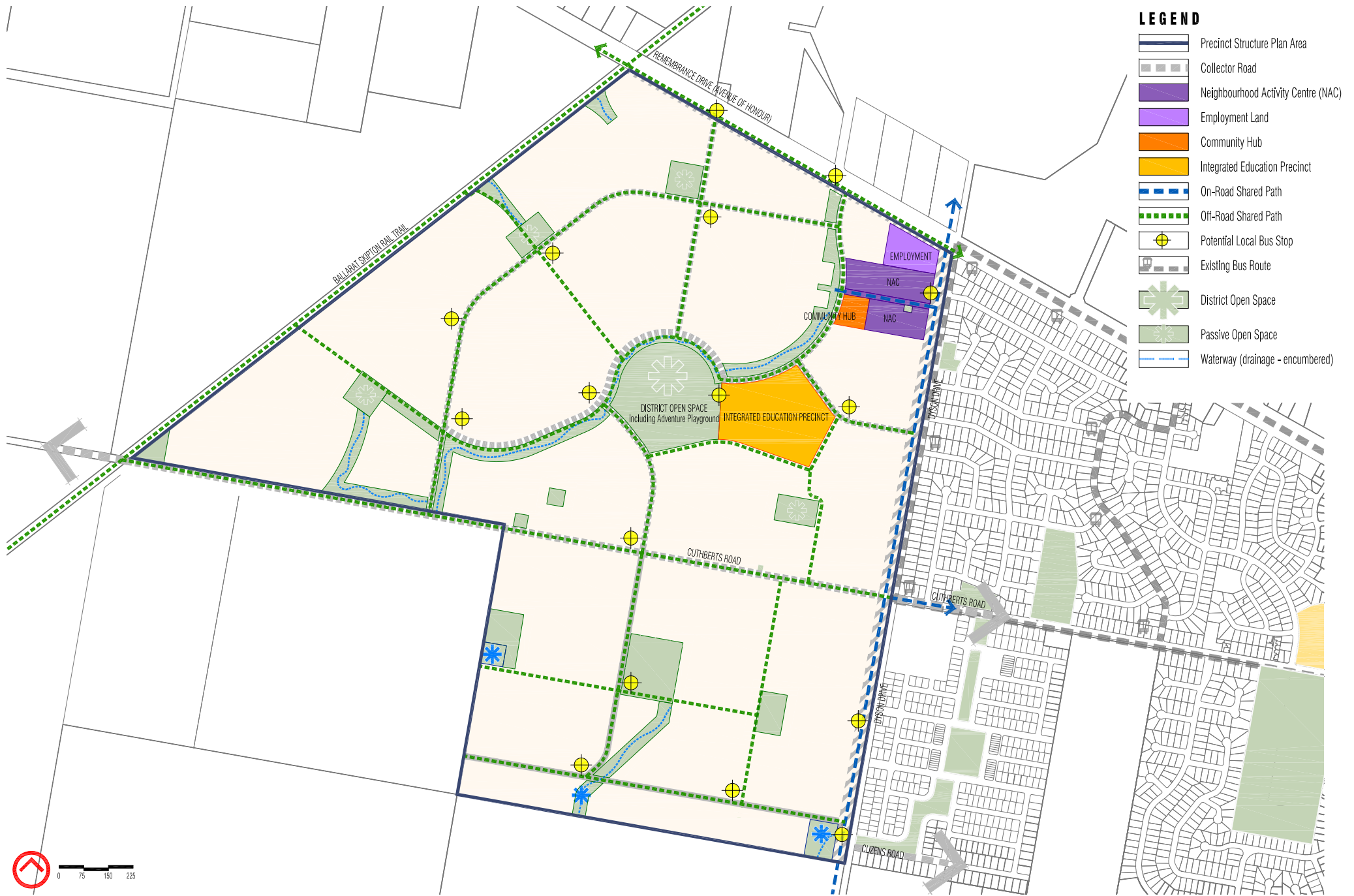
- Provide housing that offers choice and diversity, liveability and passive surveillance of open space.
- Provide a range of lot sizes including medium density housing so that upon full development of the AWPSPP the lot mix generally represents the mix set out in Table 1.

The following planning and design guidelines *should* be met.

- Encourage medium density housing in close proximity to services or areas of high amenity including but not limited to schools, the NAC, community facilities, public transport facilities and open space areas.
- Explore the provision of 'ageing in-place' housing (retirement village) in close proximity to services or areas of high amenity including but not limited to the NAC, community facilities, public transport facilities and open space areas.
- Provide affordable housing options by creating small lots and greater housing diversity throughout the AWPSPP particularly around areas of high amenity.
- Connect each dwelling to a rainwater tank for garden watering and toilet flushing.

Plan 10 illustrates the key principles of housing within the AWPSPP

PLAN 11: COMMUNITY FACILITIES NETWORK PLAN



LEGEND














-  Precinct Structure Plan Area
-  Collector Road
-  Neighbourhood Activity Centre (NAC)
-  Employment Land
-  Community Hub
-  Integrated Education Precinct
-  On-Road Shared Path
-  Off-Road Shared Path
-  Potential Local Bus Stop
-  Existing Bus Route
-  District Open Space
-  Passive Open Space
-  Waterway (drainage - encumbered)



Figure 2: Indicative Concept of Integrated Education Precinct

Road configuration around school and district park provides high accessibility and good distribution of traffic whilst allowing opportunities for on-street parking

Potential indoor sports facility with seating amphitheatre area interfacing with main oval

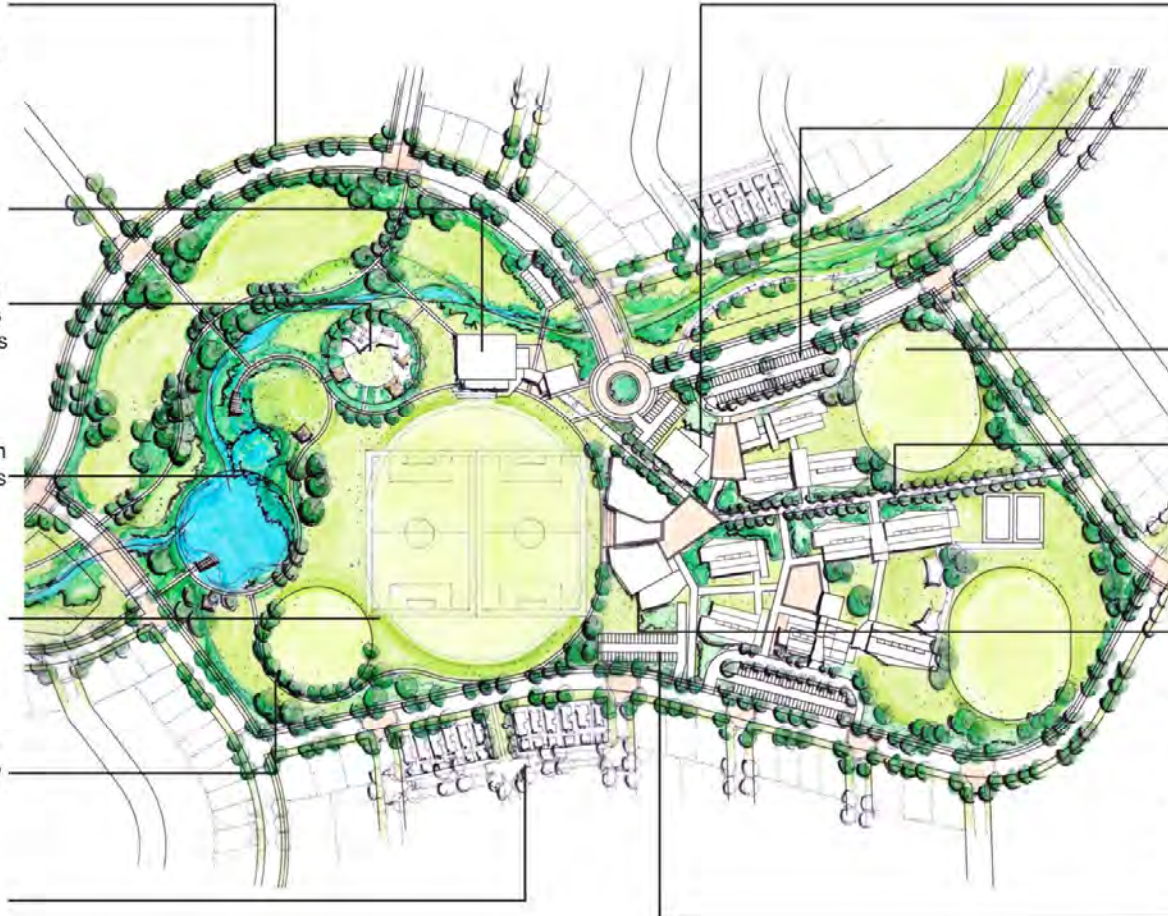
Adventure playground and picnic / seating nodes located to provide a series of recreational destinations throughout the park

Wetland and lake integrated with active open space areas and pathways to form key recreational feature of district park

District park and oval strategically located to be accessible to schools whilst still being central to the community

Pathway linkages provide a high level of connectivity and offer a variety of walking / jogging trails

Potential to incorporate higher density uses to frame key open space areas



School administration buildings form entry / control point into school grounds

Designated bus and carpark zones provide safe and convenient access for school setdowns and pickups

Each school incorporates sports oval whilst still maintaining access to main oval for major sporting activities / events

Concourse provides central linkage to main plaza and shared facilities whilst built form maintains definition and controlled access between schools

Shared facilities with potential to include library, meeting / conference rooms, large multi-purpose / assembly / performance space, art / music / technology / home economics workspaces with opportunity to facilitate community access

Shared carpark to act as overflow parking for school and provide parking for community access to district park and shared facilities

4.3 Community Facilities

4.3.1 Objectives

The objectives for community facilities are as follows.

- To provide facilities that meet the social needs of individuals, families and groups in the community.
- To support and plan for the provision of community facilities to be located within the vicinity of the NAC (community hub) and integrated education precinct and that are accessible by public transport, walking and cycling.
- To support the early provision of facilities such as schools, children's services, health facilities and formal recreation facilities as the population thresholds are reached or if funding becomes available.
- To support the provision of facilities such as local parks, playgrounds, and community meeting places in each neighbourhood as it is developed.
- To design high quality (architecturally designed) community facilities that are flexible and cater for a range of uses to accommodate changing community needs over time.
- To promote a strong and vibrant sense of place and community by supporting community groups and facilities.
- To maximise the efficiency of government and non-government investment.
- To enable the integrated delivery of programs, activities and services across government and non-government investment.
- To maximise accessibility for all members of the community.

4.3.2 Implementation

The objectives for community facilities are met by the implementation of all of the following.

- Plan 8 Alfredton West Future Urban Structure.
- Plan 11 Community Facilities Network Plan.
- Table 4 Community Facilities.
- Plan 12 Open Space Plan.
- Plan 14 Road Network Plan.
- Plan 15 Public Transport Network Plan.
- Plan 16 Pedestrian and Cycle Network Plan.
- Figure 2 Indicative Concept of Integrated Education Precinct

- Figure 3 Indicative Concept of Neighbourhood Activity Centre

4.3.3 Planning and design guidelines

The following planning and design guidelines *must* be met.

- Provide an integrated education precinct that includes provision for a public and / or private primary school that is bounded by roads on a minimum of three sides and that will allow for sufficient student drop off zones, bus parking and car parking.
- Ensure that the integrated education precinct is co-located with the district open space facilities.
- Locate community facilities within the integrated education precinct and NAC depending on the specific location requirements for each facility.
- Locate primary schools on collector roads with a bus stop at the school boundary.
- Co-locate community facilities including government and non-government facilities.
- Provide safe and convenient access to and between community facilities by walking, cycling, public transport and car.
- Ensure the building proportion, scale and character are appropriate to their urban context.

The following planning and design guidelines *should* be met.

- Explore the co-location of early childhood learning and child care facilities within the integrated education precinct.
- Ensure that the community's needs have been considered and appropriately addressed in the location, design and provision of community facilities.
- Design facilities to maximise the opportunity for multiple uses and ability to be flexible and expandable over time.

4.3.4 Community Facilities Delivery Statement

Community facilities should be delivered in an integrated and coordinated manner to enable both early and cost effective provision.

The following statements should guide these outcomes.

Integrated, efficient and timely provision

- Funding opportunities and partnerships will be sought to support the early provision of community facilities.
- Potential funding sources to be considered include developer contributions (from the Ballarat West Growth Area) and the City of Ballarat Capital Works Program.
- Development Proponent Funding. This may include an injection of additional funding or potential for a development proponent to deliver an item in the Developer Contributions Plan or section 173 agreement through in-kind works. Provision of in-kind works requires approval by the City of Ballarat.
- State Grant Programs. The State Government provides grant programs with funding potential across a broad range of community facilities and services.
- Non-Government Organisations. The City of Ballarat may deliver some community facilities in partnership with non-government organisations.

Community Hub Concept Planning

- Delivery of integrated and timely community facilities is a complex and evolving task that takes place in stages over a long period of time. Many stakeholders are involved and the priorities of individual stakeholders are subject to change over time. Models for service delivery and the facilities designed to implement those models also change over time as new approaches are adopted.
- Governance arrangements and engagement is an important part of identifying, discussing and resolving issues around facility design, ownership, leasing, capital works funding, service delivery funding, management and maintenance upgrade over time.
- Coordination will be greatly assisted by the establishment of:
 - a governance model for the concept and master planning – this may be facilitated by the City of Ballarat through a community hub steering committee;
 - the development of community hub concept plans;
 - masterplans that provide detail for the delivery of the concept plans.

- Community facilities that have traditionally had single purpose functions (schools, sporting facilities, pre-schools) should be planned to respond to a wider range of community needs.
- Community facilities should include appropriate and flexibly designed spaces which match the needs of the community in which it is located and the services and programs identified to operate from it.
- The community hub should be designed to maximise sharing opportunities and integrated community facilities and provide opportunities for services and clubs to co-locate.
- Integrated community facilities should be designed to maximise opportunities for sharing of common spaces (reception, meeting rooms, toilet, storage, consulting rooms) between some or all providers / users where synergies exist.
- Where possible, community facilities should be constructed in a manner that makes alterations to respond to changing needs and service delivery models both easy and cost-effective.
- The design of the community hub should be undertaken in consultation with the local community in which it is to be located and the services providers likely to operate from it.

Table 4: Community Facilities

Community Facilities and Services	Location	Area (Ha)	Responsibility
State Government Primary School (P-9)	Integrated Education Precinct (central to the AWPSP area)	5.0 Ha	Department of Early Education and Childhood Development (DEECD)
Private Primary School (P-6)	Co-locate with State Primary School central to AWPSP	2.0Ha	Catholic Education Office
Community Hub/Early Years Facility of 1500sqm with 600sqm outdoor play area and including activity spaces; classrooms; 3 and 4 year old kindergarten; and, consulting rooms.	Neighbourhood Activity Centre	0.8Ha	City of Ballarat (CoB)
District Park (active open space) including 1 senior multipurpose oval (cricket; football); 1 soccer pitch; 1 netball court.	Co-locate and share with Education Precinct.	8.3 Ha	CoB constructed by development proponents
Adventure Playground (district level)	District Park.	n/a	CoB constructed by development proponents
Neighbourhood Park (active open space) including but not limited to informal sports grounds, shade and shelter, tree and other planting, paths, furniture	Central to cell B.	Cell B – 3 Ha	CoB constructed by development proponents
Neighbourhood Parks (passive open space) including but not limited to shade and shelter, tree and other planting, paths and furniture	Throughout and generally within 400m of most residents including 5 in cell A (including 1 within the district park) and 2 in cell B.	Cell A – 4 Ha Cell B – 2Ha	CoB constructed by development proponents
Playgrounds within neighbourhood level parks.	Within each neighbourhood park (6 No)	n/a	CoB constructed by development proponents
Linear Open Space Network including off-road paths, furniture and landscaping but excluding encumbered open space.	Along natural drainage lines.	Cell A – 6.0 Ha Cell B – 0.9 Ha	CoB constructed by development proponents



PLAN 12: OPEN SPACE PLAN



4.4 Public Open Space and Natural Systems

4.4.1 Objectives

The objectives for public open space and natural systems are as follows.

- To create an attractive urban environment with a strong sense of place through the provision of well-designed streetscapes and landscapes.
- To provide open space areas to meet the active and passive recreation needs of the community.
- To design a network of appropriately sized, connected and distributed open spaces to efficiently meet local and district open space needs recognising the increased use patterns resulting from increased residential densities.
- To share the burden of the provision of open space between landowners.
- To provide a standard of open space development that ensures a sustainable future maintenance regime and recognises forecast use increases.
- To provide drainage corridors and retarding basins to manage the quality and quantity of stormwater generated and explore opportunities for multiple uses of these open space areas.
- To improve the ecological and habitat functions of drainage corridors to allow for the movement of fauna species.
- To restore and enhance areas of 'high' environmental significance and to integrate these areas into open space areas where practicable.
- To appropriately protect places of 'high' cultural heritage value within open space areas where recommended.

4.4.2 Implementation

The objectives for open space and natural systems are met by the implementation of the following.

- Plan 8 Alfredton West Future Urban Structure.
- Plan 12 Open Space Plan.
- Plan 13 Integrated Water Management Plan.
- Plan 16 Pedestrian and Cycle Network Plan.
- Any landscape masterplan for the AWPSP approved by the responsible authority.

4.4.3 Planning and design guidelines

The following planning and design guidelines *must* be met.

- Provide open space fit for its designated purpose.
- Include a feature park or town square within the NAC.
- Locate the district park centrally and adjacent to the integrated education precinct.
- Design the location of passive open spaces to protect cultural features of 'high' significance where recommended.
- Provide at least one road frontage to neighbourhood and district parks and linear parks.
- Provide connectivity between open space areas for both pedestrians and cyclists.
- Provide a linear open space reserve along the main drainage line with an average total width of 30m and a minimum width of approximately 10 metres from the top of bank on either side of the drainage line to the back of kerb / lot line.
- Prepare a Landscape Masterplan for the AWPSP to the satisfaction of the responsible authority. This masterplan should include but not limited to:
 - a vision for the AWPSP landscape;
 - an overall concept plan showing the general location and role of the open spaces;
 - landscape principles for the interface treatment along the Avenue of Honour, Dyson Drive and the Ballarat Skipton Rail Trail;
 - indicative preferred tree species for streets; parks and sporting ovals; open space links and the NAC.
 - the total width of the linear open space along the main drainage line.
 - the identification of potential features such as waterbodies, refugia, and revegetation works to be incorporated along the linear open space to allow for the movement of fauna species.
 - a schematic layout of paths and trails;
 - a schedule of furniture and infrastructure found in each open space; and
 - a schedule of maintenance levels for each AWPSP landscape.

The following planning and design guidelines *should* be met:

- Promote connectivity to and passive surveillance over the Ballarat Skipton Rail Trail. Access should be located to avoid degradation of significant flora within the rail trail reserve.
- Provide connections to surrounding neighbourhoods and regional trails such as along the Avenue of Honour and the Ballarat Skipton Rail Trail.
- Incorporate the drainage lines in open space and utilise WSUD principles where appropriate.
- Locate neighbourhood open spaces with approximately 400m walkable catchments.
- Plant a diversity of drought tolerant exotic and native plant species that reflect the strong 'garden' traditions of Ballarat in streets and open spaces.
- Encourage active frontages and maximise passive surveillance.

Plan 12 illustrates the Open Space Plan for the AWSPS.



4.4.4 Biodiversity Objectives

The objectives for biodiversity are as follows.

- To enhance the environmental values of a highly disturbed and modified farmland particularly along the central drainage line.
- To enhance the biodiversity and natural values of the precinct.
- To locate open spaces to assist in buffering waterways.
- To retain and protect remnant trees in open spaces subject to a health and safety review at the time of development.

4.4.5 Implementation

The objectives for biodiversity are met by implementation of the following.

- Plan 8 Alfredton West Future Urban Structure.
- Plan 12 Open Space Plan.
- Plan 13 Integrated Water Management Plan.
- Any landscape masterplan for the AWSP approved by the responsible authority.

4.4.6 Biodiversity planning and design guidelines

The following planning and design guidelines *must* be met.

- Locate a linear open space along the drainage line and create a waterway that includes flora and fauna habitat for appropriate native species.
- Establish suitable habitat for local species through planting and rockwork along other drainage lines.
- Ensure that soil erosion is minimised during development and adhere to Construction Techniques for Sediment Pollution Control (EPA 1991) or its successor.
- Retain remnant trees in accordance with Table 5 (subject to an arborist's report into the health and safety of the tree at the time of development) and in accordance with the requirements of the Native Vegetation Management framework including fencing and planting.
- Assess remaining remnant trees for retention within road reserves and lots subject to detailed design and an arborist's report into the health and safety of the

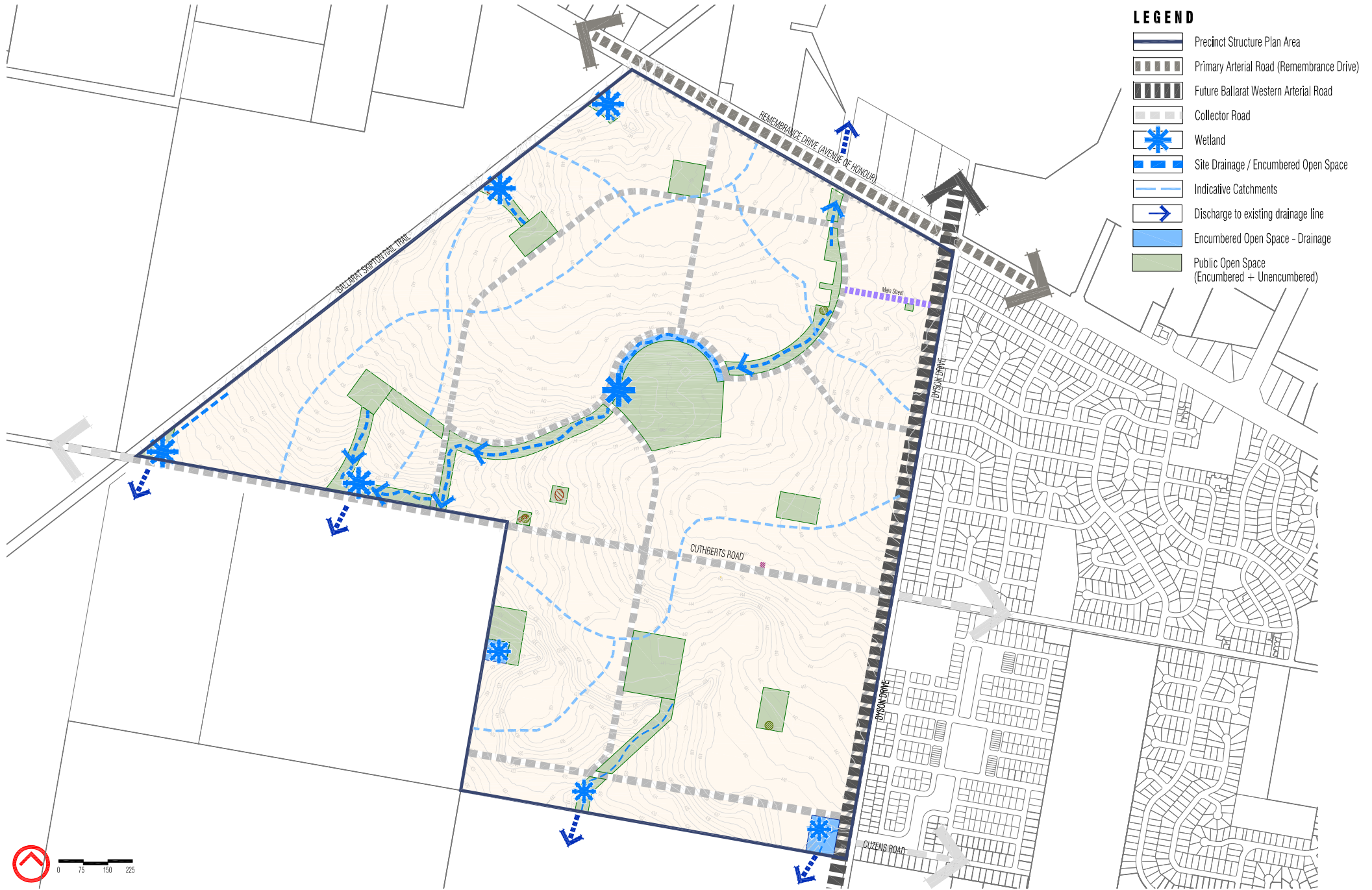
tree at the time of subdivision. Trees retained without adequate fencing or buffers should be offset in accordance with a native vegetation offset plan.

Plan 6 illustrates the location of the remnant trees in the AWSP area.











Table 5: Scattered Remnant Trees

Tree ID	Location	Species	Tree Size Class	Retain
1	Cell A	Swamp Gum	Large Old Tree	Assess & Offset
2	Cell A	Swamp Gum	Large Old Tree	Assess & Offset
3	Cell A	Yarra Gum	Very Large Old Tree	Assess & Offset
4	Cell A	Swamp Gum	Very Large Old Tree	Retain & Protect
5	Cell A	Swamp Gum	Large Old Tree	Assess & Offset
6	Cell A	Swamp Gum	Large Old Tree	Assess & Offset
7	Cell A	Swamp Gum	Large Old Tree	Assess & Offset
8	Cell A	Yarra Gum	Large Old Tree	Assess & Offset
9	Cell A	Yarra Gum	Large Old Tree	Retain & Protect
64	Cell B	Yarra Gum	Small Tree	Assess & Offset
65	Cell B	Swamp Gum	Medium Old Tree	Assess & Offset
66	Cell B	Swamp Gum	Large Old Tree	Retain & Protect

PLAN 13: INTEGRATED WATER MANAGEMENT PLAN



LEGEND

-  Precinct Structure Plan Area
-  Primary Arterial Road (Remembrance Drive)
-  Future Ballarat Western Arterial Road
-  Collector Road
-  Wetland
-  Site Drainage / Encumbered Open Space
-  Indicative Catchments
-  Discharge to existing drainage line
-  Encumbered Open Space - Drainage
-  Public Open Space (Encumbered + Unencumbered)



4.4.7 Integrated Water Management Plan Objectives

The objectives for the integrated water management plan are as follows.

- To secure reductions in potable water consumption through the use of alternative water sources.
- To encourage the use of recycled water and stormwater within the Precinct.
- To ensure that the savings generated meet the policy targets set for the Ballarat and District Water Supply System for Average litres per person per day and average litres per lot per day.
- To explore, in consultation with Central Highlands Water, the Corangamite CMA and the City of Ballarat, the efficiency and sustainability of providing recycled water through harvesting stormwater, third pipe, aquifer recharge or other means to meet potable water use targets.
- To encourage household initiatives such as the installation of rainwater tanks for toilet flushing and garden irrigation to reduce demand for potable water, particularly if a third pipe system is not implemented.
- To locate open spaces to assist in buffering of newly designed waterways.
- To design wetlands and waterways that maximise the habitat values for local flora and fauna.
- To implement WSUD treatment measures where appropriate throughout the precinct.

4.4.8 Implementation

The objectives for the Integrated Water Management Plan are met by the implementation of the following:

- Plan 13 Integrated Water Management Plan for Alfredton West
- The Integrated Water Management Plan for Alfredton West.
- Design guidelines for households in relation to water efficient appliances and fittings, low water use gardens, the use of recycled water (if adopted for this precinct) or the installation and plumbing of rainwater tanks for toilet flushing and garden watering (if recycled water is not provided).
- The assessment of the efficiency and feasibility of the options for alternative water supply and the effective integration of multiple sources of water supply for the Precinct.

- Explore in consultation with Central Highlands Water, Corangamite CMA and City of Ballarat to explore the cost and feasibility of the installation of:
 - Stormwater harvesting and capture,
 - Aquifer Recharge and retrieval,
 - A third pipe recycled water system either using decentralised treatment or linked to the Ballarat North Wastewater Treatment Plant, and
 - Other to be determined based on best practice, new technologies or Government Policy.
- Any other integrated water management strategy for the Precinct as approved by the responsible authority in consultation with Central Highlands Water and the Corangamite CMA.

4.4.9 Integrated Water Management Planning and Design Guidelines

The following planning and design guidelines *must* be met.

- Provide stormwater detention in the AWSPS area to the satisfaction of the responsible authority.
- Protect downstream waterways from adverse impacts from urban runoff.
- Maintain at least pre-development stormwater flow north towards Winter Swamp.

The following planning and design guidelines *should* be met.

- Maximise the potential for the collection, retention and reuse of stormwater by using the site topography.
- Encourage opportunities for stormwater harvesting and reuse including in public open spaces.
- Ensure a net gain of flora and fauna habitat in the construction of wetlands and drainage waterways.
- Develop initiatives such as the installation of rainwater tanks for toilet flushing and garden irrigation to reduce demand for potable water.
- Explore maximising stormwater flows north towards Winter Swamp.

Plan 13 illustrates the Integrated Water Management Plan for the AWSPS. Refer below for indicative concept of the main waterway through cell A of the AWSPS.

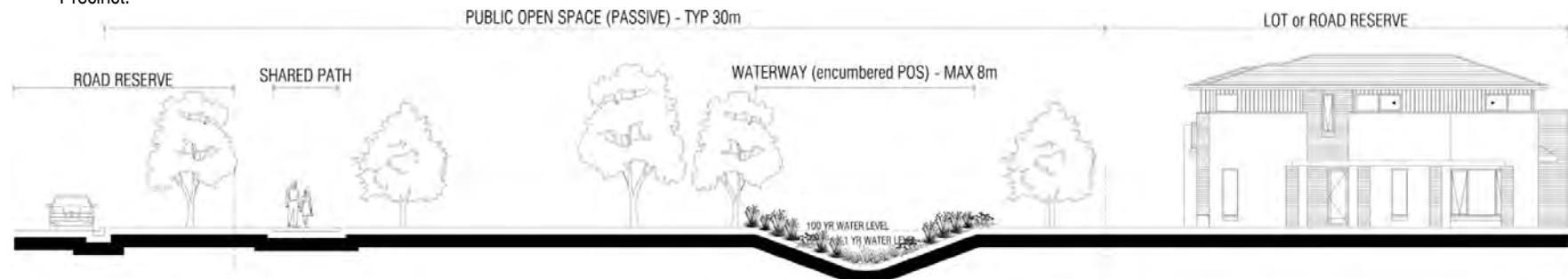
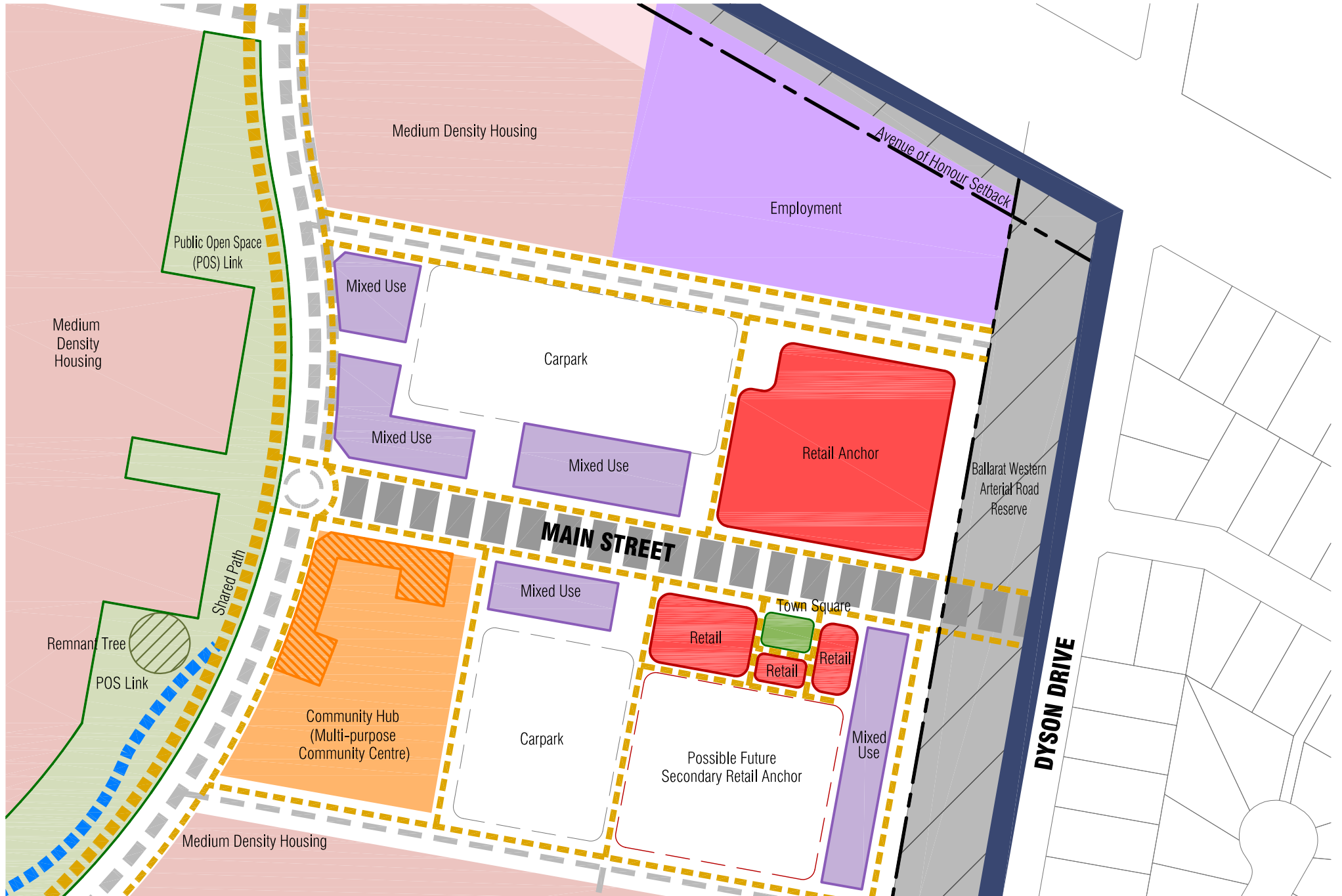


FIGURE 3: INDICATIVE CONCEPT OF NEIGHBOURHOOD ACTIVITY CENTRE



4.5 Activity Centre and Employment Areas

4.5.1 Objectives

The objectives for activity centre and employment areas are as follows.

- To create a “main street” based activity centre that services the AWPSA and surrounding areas that is vibrant and provides a mix of retail and commercial uses and diversity of employment opportunities and community space.
- To encourage and facilitate a range of employment opportunities.
- To facilitate the development of services and employment opportunities located within or in the vicinity of the neighbourhood activity centre.
- To encourage the development of home based businesses.
- To achieve a well-designed, safe and attractive activity centre that provides a convenient place for residents to shop, work and meet locally.
- To ensure that the activity centre is easily accessible via public transport and for pedestrians and cyclists.
- To ensure the neighbourhood activity centre has capacity for growth as required over time.
- To encourage medium density residential development in close proximity to the NAC.
- To acknowledge and appropriately address the interface of the site with Remembrance Drive (Avenue of Honour) and Dyson Drive.

4.5.2 Implementation:

The objectives for neighbourhood activity centres and employment areas are met by the implementation of the following.

- Plan 8 Alfredton West Future Urban Structure.
- Plan 11 Community Facilities Network Plan.
- Figure 3 Indicative Concept of Neighbourhood Activity Centre.
- Planning and design guidelines as set out below.

4.5.3 Activity Centre and Employment Areas – Urban Design Framework Guidelines

A permit should not be granted to use or subdivide land, or to construct a building or construct and carry out works within a Neighbourhood Activity Centre shown in the PSP area until an Urban Design Framework for the development of the activity centre has been prepared to the satisfaction of the responsible authority.

An Urban Design Framework may be subsequently amended to the satisfaction of the responsible authority.

The responsible authority may grant a permit to subdivide land or to construct a building or construct and carry out works prior to the preparation of an Urban Design Framework Plan if it is satisfied that the subdivision, building or works will not affect the achievement of the vision, the integrated neighbourhood design and implementation of the objectives for each element of the AWPSA.

The following planning and design guidelines for the activity centre and employment areas *should* be met when preparing a neighbourhood activity centre urban design framework.

- Address the entire NAC area and its interface with surrounding areas.
- Address any relevant design guidelines prepared by the Victorian Government or the responsible authority.
- Demonstrate an appropriate design response that addresses the NAC urban design framework guidelines and the indicative concept illustrated in Figure 3.
- Prepare a landscape masterplan for the NAC.
- Provide guidelines to address environmental sustainability including integrated water management and energy conservation.
- Set out provisions for car parking including the location and design of car parking areas and car parking rates for proposed uses within the NAC.
- Ensure the design of the NAC addresses the provision of service areas for deliveries and waste disposal including access for larger vehicles and measures to minimise the impact on the amenity of the NAC and adjoining neighbourhoods.
- Set out guidelines for the provision of advertising signs.
- Demonstrate how opportunities for medium density housing and future commercial expansion can be incorporated into the NAC.

(a) Site Design - Planning and Design Guidelines

- Complement and enhance the character of the surrounding area (as reflected in the AWPSP) by addressing appropriately the topography and physical features of the site.
- Promote a 'main street' layout and structure that will provide a permeable (within the centre and beyond) network of streets, walking / cycling links and public spaces.
- Encourage a variety of land uses within the NAC.
- Acknowledge key views into and out of the NAC in its planning and design.
- Ensure there is an appropriate transition between the NAC, medium density housing and the surrounding more conventional residential areas.
- Include verandas or covered pedestrian ways to provide functional weather protection.
- Reinforce the sense of place for the community.
- Incorporate public art in the NAC public realm.
- Ensure a high standard of landscaping throughout the NAC.
- Promote surveillance and personal safety on streets, walking / cycling links and public spaces by installing appropriate lighting.
- Locate and design public toilets to be safe and accessible.
- Ensure all public spaces are designed to allow 'access for all'.
- Design new development with an active interface to Sturt Street to address the Avenue of Honour and promote passive surveillance (consistent with urban design guidelines adopted by Council).
- Design new development with an interface to Dyson Drive to address the road to promote public use, promote passive surveillance and address the future amenity and accessibility of the AWPSP.

(b) Building Design - Planning and Design Guidelines

- Provide opportunities for architecturally designed, landmark buildings in the NAC.
- Develop a high quality 'town square' within the NAC.
- Encourage multistorey buildings within the NAC to accommodate a mix of uses including residential.
- Ensure that the design of each building contributes to a planned cohesive and legible character for the NAC as a whole.
- Articulate long, continuous facades with building elements such as windows, panels, materials, colours and textures to reduce the apparent scale of the building.

- Align the built form with the frontage property boundary in the main street.
- Ensure street facades and any exposed side or rear facades are activated and are visually rich and interesting.
- Ensure fencing and walls for security purposes do not compromise the accessibility and safety of the streetscapes and other public areas.
- Screen (visually and acoustically) building services from the public realm - any equipment screens or housings should be integrated with the overall building design.
- Maximise outward-looking active facades on buildings with frontage onto streets and public spaces to contribute to the vibrancy and visual attraction of the NAC's public realm – large footprint standalone retail is discouraged.
- Identify sites in prominent locations for significant buildings, structures and urban art.
- Design corner sites, where the 'main street' meets an intersecting road, to provide built form that anchors the 'main street', which could be achieved, for example, through the use of a substantial volume building located at the corner; and, should be developed to have a ground floor retail space component to the 'main' frontage.

(c) Activity Centre Composition - Planning and Design Guidelines

- Plan for and encourage a variety of employment and business opportunities (including retail, non-retail commercial, community and residential uses) to maximise the success of the NAC and thus promote its activation.
- Facilitate convenience through encouraging variety and choice of a viable mix of retail, business, office, community and open space facilities.
- Service the existing and future residents of Alfredton and the wider area as the primary NAC in this area of Ballarat while recognising the primacy of the Ballarat CBD.
- Ensure ground floor uses address the street to maximise exposure to passing trade, promote active frontages and facilitate social interaction, surveillance, safety and active meeting places.
- Encourage buildings with a variety of widths and floor areas to promote a diversity of occupancies and opportunities.

(d) Public Transport & Movement - Planning and Design Guidelines

- Provide priority for pedestrian movement within the NAC.
- Provide adequate car parking to meet the needs of the NAC.

- Design appropriate vehicle / pedestrian linkages to the existing residential area of Alfredton.
- Locate retail and other commercial or community anchors separately (and ideally at opposite ends of the main street) to promote pedestrian traffic that maximises movement along the length of the 'main street'.
- Incorporate access, movement and linkage principles contained in the AWPSP.
- Design footpath widths to allow for comfortable movement and access for pedestrian including those with restricted mobility, outdoor seating and eating spaces including any hoarding or temporary enclosure fencing, approved footpath display and sales areas and access to parked vehicles, along the 'main street' frontages.
- Concentrate heavy vehicle movements associated with loading / unloading to the rear and / or side of street based retail frontages.
- Promote efficient and safe movement of pedestrians to and from key destinations in the NAC by the careful location of bus stops and taxi bays.
- Locate parking areas to the rear and / or side of street based retail frontages.
- Design car parking areas that accommodate alternative temporary uses at specified nonpeak parking times.
- Include on-street, short-stay parking to encourage easy access and activity.
- Ensure car parking entry and exit points are limited in accordance with an approved traffic and parking study for the NAC and designed to minimise pedestrian / vehicle (including delivery and service) conflict.
- Provide bicycle parking facilities in safe, convenient and accessible locations and in numbers, in accordance with the Planning Scheme, to the satisfaction of the responsible authority.

(e) Supermarkets and other Large Floorspace Occupancies - Planning and Design Guidelines

- Locate and design supermarkets and other large floorspace occupancies to assist with the planned movement of people to activities and destinations within and outside the NAC.
- Design and site supermarkets and other large floorspace occupancies to provide an appropriate response to the entire public realm, including car parking areas, walking / cycling links, streets and other public places.
- Ensure that secondary accesses to supermarkets and other stores from car parking areas do not diminish the role of a key access from the 'main street'.
- Ensure supermarkets or other large floorspace occupancies with street frontages (particularly to the 'main street') are glazed to allow views into and out of the

building from the street. (Planning permits for buildings and works should include conditions against the use of white washed windows and excessive window advertising).

- Design supermarkets and other 'anchor' stores to have a key access point that directly addresses the 'main street' (such as via a short access mall through which the supermarket entry is clearly visible from the footpath) so that the use integrates with and promotes activity within the 'main street'. 'Veneer' the perimeter of such supermarkets and other stores with speciality shops and other uses where possible.
- Design large floor plate offices to allow views to and address the Avenue of Honour.
- Design large floor plate offices to ensure that large car parking areas and services are screened from the Avenue of Honour.

(f) Service Areas - Planning and Design Guidelines

- Design service areas (such as loading bays, trolley storage and waste holding / collection areas) away from main pedestrian areas wherever possible.
- Design and locate service areas including their screening (acoustic and visual) to minimise visual and acoustic amenity impacts.
- Design service areas, wherever possible, to separate manoeuvring and access of heavy delivery and service vehicles from car park access lanes and entry / exit points.

(g) Advertising Signage - Planning and Design Guidelines

- Incorporate advertising signs in the design of buildings and not as an 'afterthought'.
- Ensure planning permits for buildings and works include conditions discouraging excessive window advertising.
- Minimise large free-standing pole signs preferably to no more than one pole sign for the NAC advertising its existence and its traders.
- Ensure signage developed along the Avenue of Honour is appropriate and complies with the urban design guidelines adopted by the responsible authority.



(h) Landscaping - Planning & Design Guidelines

- Design the landscape of the NAC to make it an attractive place to work, do business and live.
- Design the landscapes and streetscapes in accordance with the approved landscape masterplan for the NAC.
- Design car parking areas to allow large growing trees to be planted and provide shade.
- Design the 'town square' to be a flexible urban space and to allow for significant use patterns.
- Design landscape treatments to minimise the visual bulk of large, featureless walls that are visible from public areas of the NAC and surrounds.

(j) Sustainability - Planning and Design Guidelines

- Incorporate high environmental standards into the NAC to reduce greenhouse gas emissions, such as water conservation, stormwater harvesting, landscaping of streets and public open space, bicycle paths, WSUD, energy conservation and waste management
- Incorporate appropriate energy efficiency measures and initiatives that reflect current best practice in building design including double glazing, solar systems and the use of vegetation to manage microclimates.
- Incorporate water conservation and reuse measures such as the installation of rainwater tanks for toilet flushing, WSUD and stormwater harvesting.
- Encourage solid waste recycling and provide adequate storage space for recycling bins.
- Encourage natural ventilation of buildings to reduce the reliance on non-renewable energy for heating and cooling.
- Maximise passive solar orientation.
- Building design should be consistent with environmentally sustainable design (ESD) principles.

The planning and design of the AWPSPP will reduce travel distances to work by providing the following.

- Employment opportunities within the Precinct such as in the NAC and integrated education precinct.
- Open space links to promote alternate travel modes such as walking and cycling.

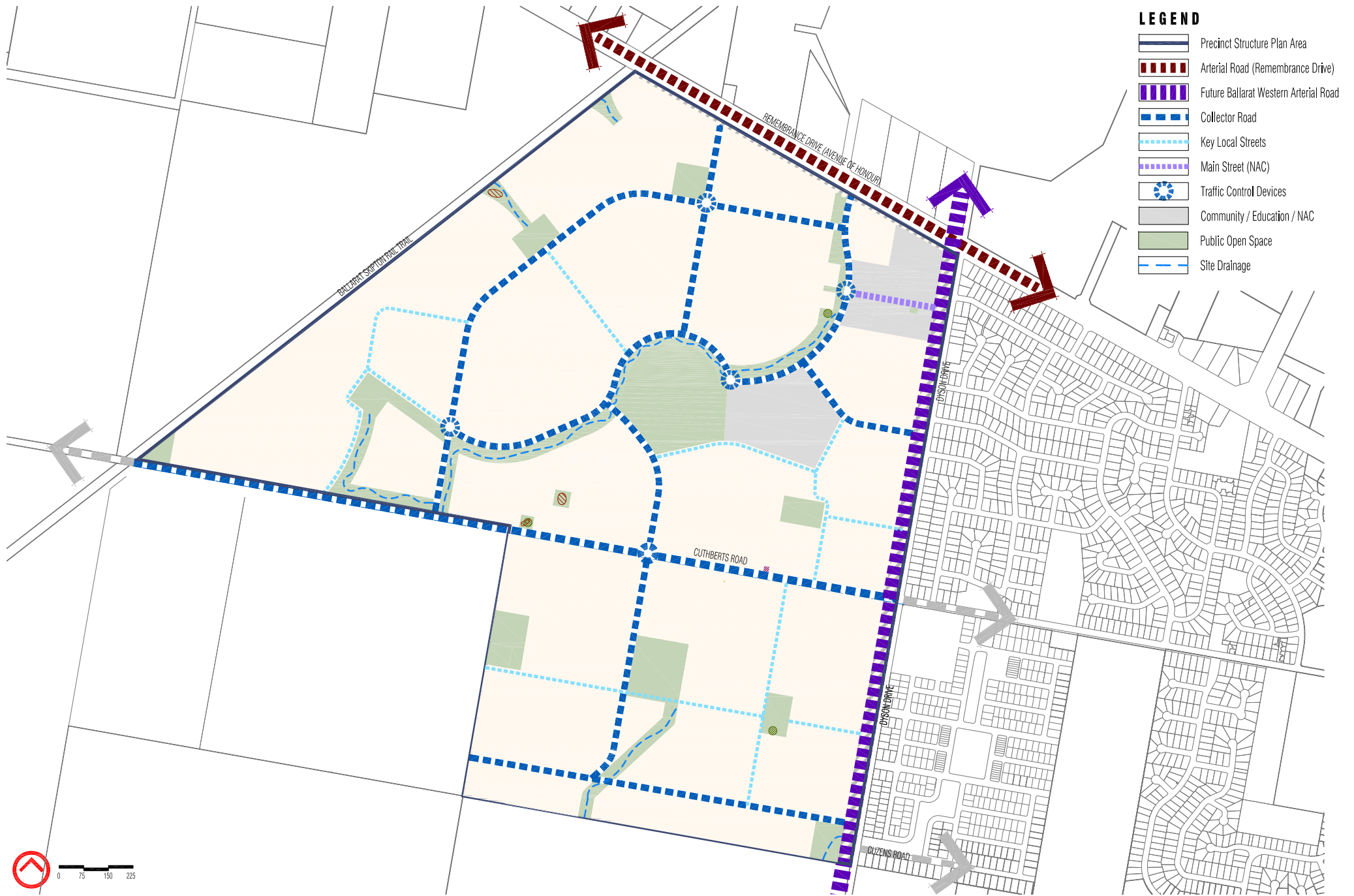
- An efficient road and public transport (bus) network.
- A road network grid that is located to promote efficient movement within the Precinct with strong connections to the surrounding area in all directions.
- A permeable and walkable street network.
- Attractors located to promote walking to frequently used services.

(k) Integration - Planning and Design Guidelines







- Design the NAC and employment precinct to provide a sympathetic transition between the two precincts including through: building design (massing and configuration); street and path network (linking for vehicles and pedestrians); an overall landscape treatment; and the potential for expansion.



PLAN 14: ROAD NETWORK PLAN

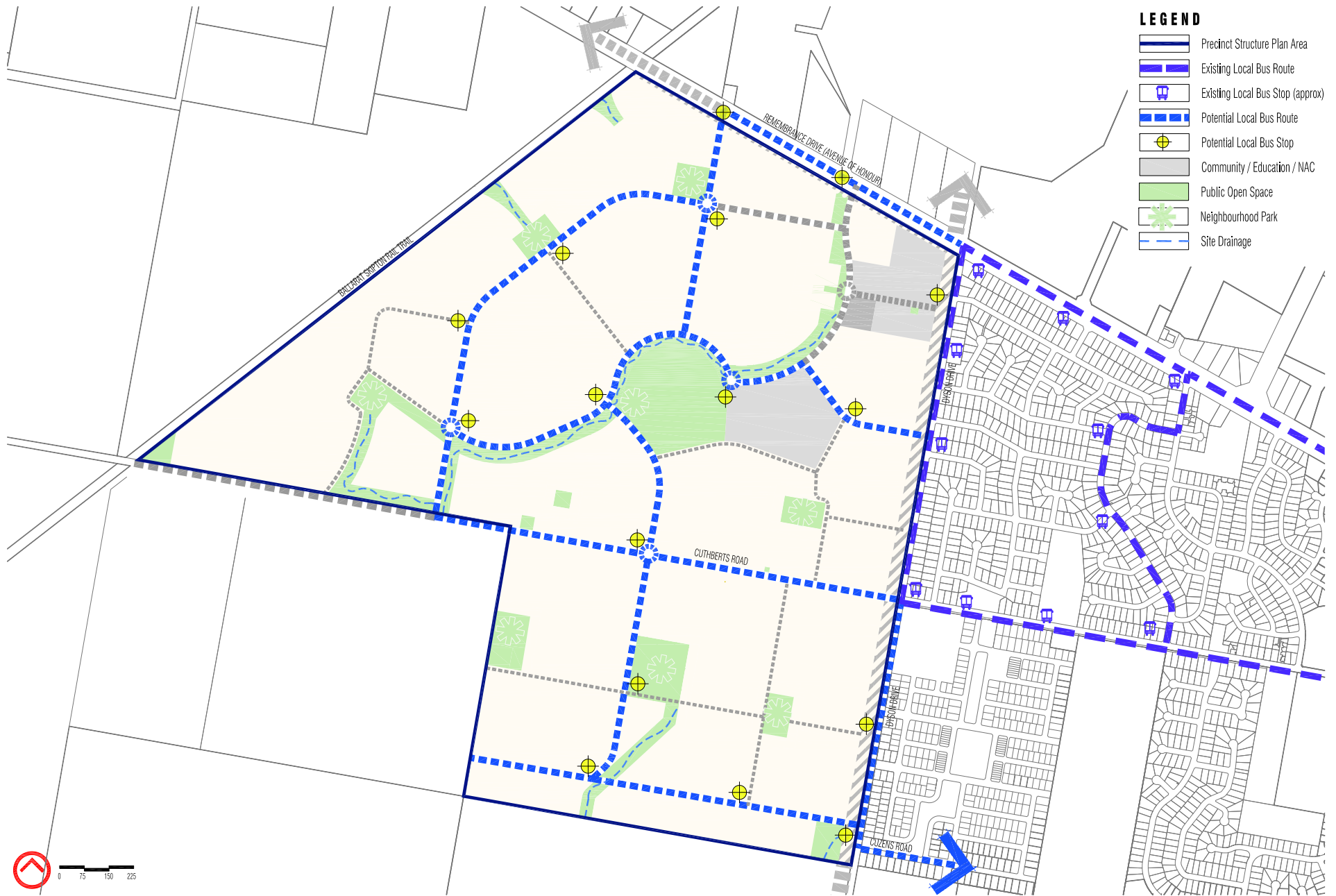


LEGEND










-  Precinct Structure Plan Area
-  Arterial Road (Remembrance Drive)
-  Future Ballarat Western Arterial Road
-  Collector Road
-  Key Local Streets
-  Main Street (NAC)
-  Traffic Control Devices
-  Community / Education / NAC
-  Public Open Space
-  Site Drainage



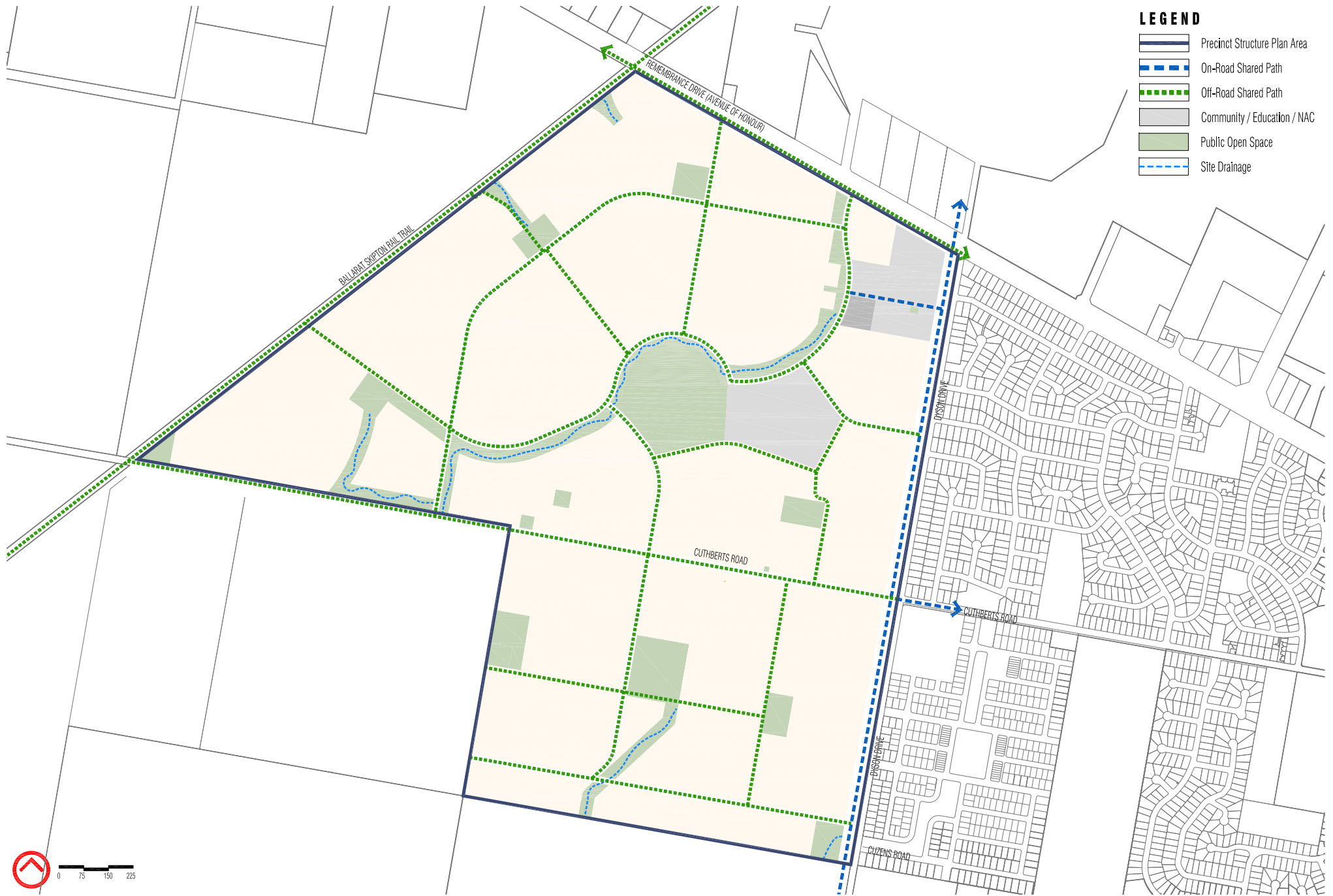
PLAN 15: PUBLIC TRANSPORT NETWORK PLAN



LEGEND

-  Precinct Structure Plan Area
-  Existing Local Bus Route
-  Existing Local Bus Stop (approx)
-  Potential Local Bus Route
-  Potential Local Bus Stop
-  Community / Education / NAC
-  Public Open Space
-  Neighbourhood Park
-  Site Drainage

PLAN 16: PEDESTRIAN & CYCLE NETWORK PLAN



4.6 Transport and Movement

4.6.1 Objectives

The objectives for transport and movement are as follows.

- Encourage walking and cycling and reduce the dependency on cars by providing a sustainable transport and movement network.
- Design a safe and efficient pedestrian and bicycle network that connects to the NAC and the integrated education precinct as well as neighbourhood parks.
- Balance the competing demands of encouraging direct and safe access to shops, schools and services and minimising traffic congestion within activity centres.
- Design public transport stops to promote passive surveillance and passenger safety.
- Promote 'access for all'.
- Provide safe and efficient bus routes.
- Design a legible, permeable and interconnected street and links network.
- Allow a sufficient land reserve to allow for the widening of Dyson Drive to deliver the future proposed Ballarat Western Link Road.
- Design appropriate access to, from and along Dyson Drive.
- Design appropriate access to, from and along Remembrance Drive (Avenue of Honour) in accordance with any guidelines that may be adopted by the responsible authority.
- Design streetscapes including landscaping and other urban design treatments to reinforce the identity of each place, legibility and safety of routes.
- Design street landscapes to allow for tree planting in accordance with Ballarat's 'garden city' tradition.

4.6.2 Implementation

The objectives for transport and movement are met by implementation of the following:

- Plan 14 Road Network Plan.
- Plan 15 Public Transport Network Plan.
- Plan 16 Pedestrian & Cycle Network Plan.
- Table 6 Transport and Movement.
- Standard road cross section designs approved by the City of Ballarat for roads other than bus routes.
- Public Transport Guidelines for Land Use and Development.

- Figure 4 Ballarat Western Link Road Cross Sections.

4.6.3 Planning and Design Guidelines

General

The following planning and design guidelines *must* be met.

- Provide a permeable street network with a clear road hierarchy to the satisfaction of the Responsible Authority.
- Orientate roads generally in a north / south and east / west direction, except in areas where natural or other constraints exist including the central spine open space link and the location of parks generally in accordance with plan 14,
- Undertake development to provide for the timely connections of road links between the AWSP and the existing and future arterial road network to support transport and movement links.
- Provide DDA compliant bus stops to facilitate an efficient public transport network in consultation with the Director of Public Transport.

The following planning and design guidelines *should* be met.

- Design streetscapes to include landscaping and other urban design treatments to reinforce the identity of each place, legibility and safety of routes.
- Provide pedestrian and cyclist through routes where cul-de-sacs exist.

Arterial Road – Remembrance Drive (Avenue of Honour)

The following planning and design guidelines *must* be met:

- Provide no more than 2 direct collector road accesses to Sturt Street.
- Design the Sturt Street interface in accordance with any guidelines adopted by the responsible authority.

Future Ballarat Western Link Road – Dyson Drive

The following planning and design guidelines *must* be met.

- Provide for the widening of the Dyson Drive road reserve to an ultimate 60m wide road reserve.
- Limit access points to Dyson Drive to key points where traffic can be managed.
- Rear fences to link road must not be provided.

The following planning and design guidelines *should* be met.

- Explore a range of design treatments along Dyson Drive to ensure an appropriate interface is achieved.
- Maintain pedestrian permeability between the arterial and local streets by designing an appropriate interface.

Collector and Local Roads

The following planning and design guidelines *must* be met.

- Create streetscapes that encourage lower vehicle speeds and give priority to pedestrian and cyclists.
- Allow for tree planting within all streets.
- Provide footpaths on both sides of collector and local streets.

Service Roads

The following planning and design guidelines *should* be met.

- Incorporate short sections of side fencing where appropriate.

Pedestrian & Cycle Network

The following planning and design guidelines *must* be met.

- Provide a shared path network (off road) along collector roads and the major drainage line traversing the site generally consistent with Plan 16.

The following planning and design guidelines *should* be met.

- Provide a network of bicycle paths to link the NAC, the integrated education precinct, open space areas and bus stops.
- Design a permeable network of local streets that provides direct access for pedestrians to public transport facilities.
- Design the path network to ensure safety and maximise passive surveillance.
- Provide bicycle parking facilities in the NAC and other areas of high activity in accordance with the requirements of the Ballarat Planning Scheme

Bus Network

The following planning and design guidelines *must* be met:

- Allow for bus routes to link the NAC, integrated education precinct, aged care facilities and sports facilities.
- Design roads designated as potential bus routes to accommodate bus movements to the satisfaction of the Responsible Authority in consultation with the Director of Public Transport and in accordance with the *Public Transport Guidelines for Land Use and Development* of the Department of Transport (section 3.3.1 Local Road Design).
- Design roads designated as potential bus routes to accommodate low-floor buses to the satisfaction of the Responsible Authority in consultation with the Director of Public Transport.
- Ensure 95% of all households are within 400 metres street walking distance to a public transport stop.

The following planning and design guidelines *should* be met:

- Provide for bus stops to be located generally within a 400 metres walkable distance to activity generating land uses including schools.

Plan 15 illustrates the Public Transport Network Plan for the AWSP.



The following road categories are proposed for the AWPSP.

Table 6: Transport and Movement

Road/Street Type	Road Hierarchy ¹	Indicative VPD (design)	Existing Reservation	Ultimate Reservation	Carriageway	Traffic Lanes	Posted Speed (km/h)	Bus	On Road Cycle	Shared Path	Ultimate Responsibility
Remembrance Drive	Arterial	up to 15,000	60m	60m	11.9m	2	80	Yes	No	Yes	VicRoads
Ballarat Western Link Road ²	Arterial	up to 15,000	n/a	60m	11.5+11.5m	4	80	Yes	Yes	No	VicRoads
Dyson Drive	Collector Road ³	up to 10,000	20.12m	20.12m	10.6m	2	60	Yes	No	Yes	Council
Cuthberts Road ⁴	Link Road	up to 10,000	20.12 m	24m	14.9m	2	60	Yes	Yes	No	Council
Collector Roads ⁴	Collector Road	up to 10,000	n/a	24m	14.1m	2	50	Yes	Yes	No	Council
Access Streets	Access Street	up to 1000	n/a	18m	7.6m	2	50	No	No	No	Council
Access Lanes	Access Lane	up to 300	n/a	10m	5.5m	1	30	No	No	No	Council

¹City of Ballarat Road Hierarchy Review, September 2006.

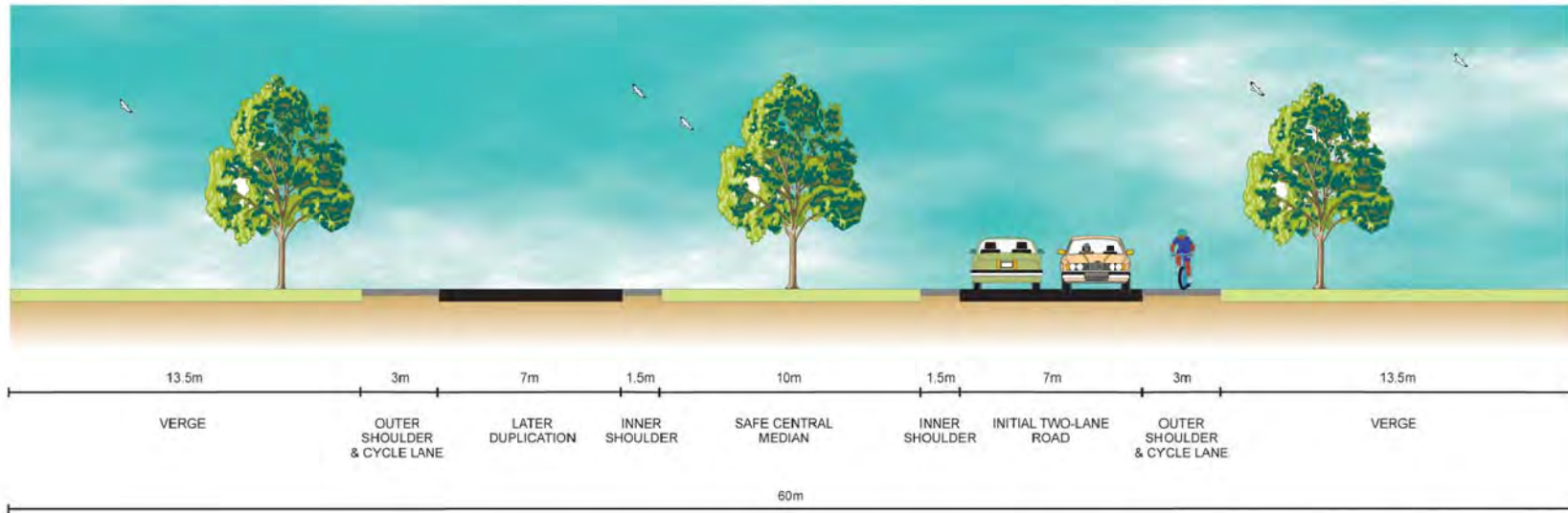
² Future proposed.

³ On existing carriageway.

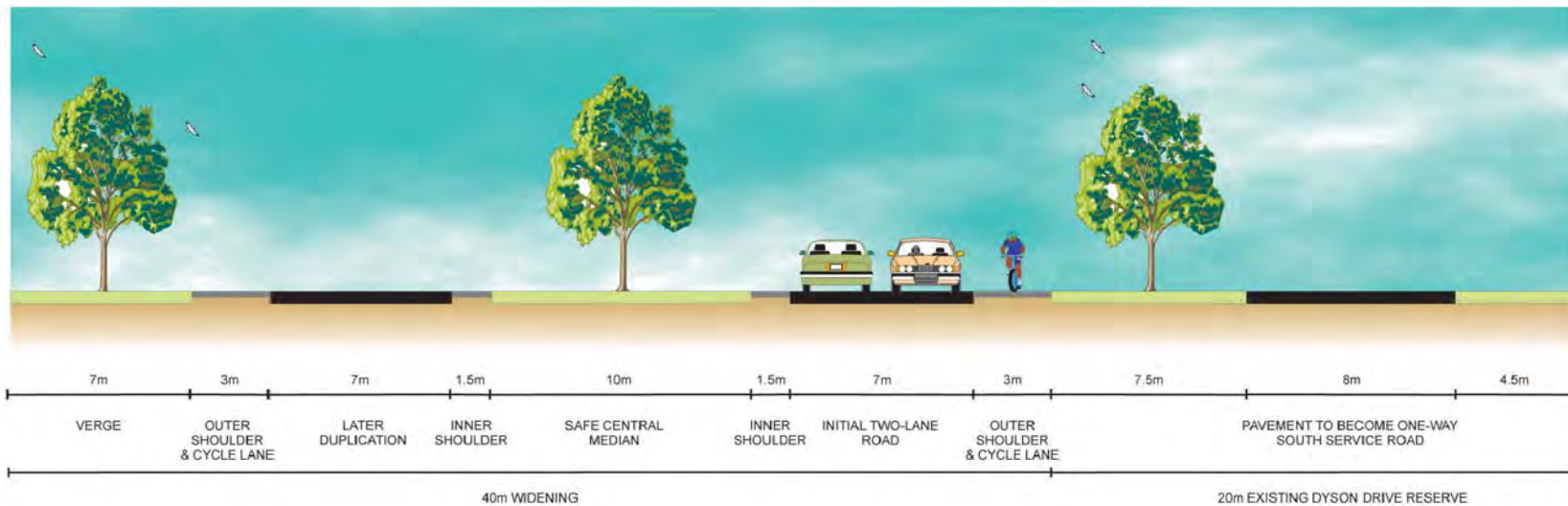
⁴ Collector and Link Roads designated as bus routes must be designed to accommodate bus movements to the satisfaction of the Responsible Authority in consultation with the Director of Public Transport and in accordance with the 'Undivided Connector Road – A' cross-section of the *Public Transport Guidelines for Land Use and Development* (section 3.3.1 Local Road Design) of the Department of Transport.



FIGURE 4: BALLARAT WESTERN LINK / ARTERIAL ROAD CROSS SECTIONS



**FIGURE 3.9A
BALLARAT WEST FUTURE ARTERIAL ROAD
TYPICAL PROPOSED RESERVATION AND CROSS-SECTION**



**FIGURE 3.9B
BALLARAT WEST FUTURE ARTERIAL ROAD
PROPOSED CROSS-SECTION WEST OF DYSON DRIVE**

4.7 Utilities and Energy

4.7.1 Objectives

The objectives for Utilities and Energy are as follows.

- To ensure all new lots are serviced appropriately to the satisfaction of the relevant servicing authorities including the provision of:
 - a potable water supply;
 - electricity;
 - a reticulated sewerage service;
 - stormwater drainage;
 - gas;
 - telecommunications.
- To provide physical services in an efficient, equitable and cost effective manner at the time of development.
- To encourage implementation of leading edge telecommunications technology.
- To explore opportunities for the use of recycled water or harvested rainwater.
- To provide landscaping that promotes water conservation through the appropriate selection of plant species.
- To support the planting of large growing trees throughout the Precinct to reduce energy use (passive cooling and shading) and to reduce re-radiation of heat from pavement (heat-island effect).
- To provide local retail, employment, education and community facilities to reduce the length of frequent trips and car use.
- To provide walking and cycling paths to reduce car use.
- To provide higher than conventional density development around the NAC, integrated education precinct and other areas of high amenity to provide more efficient use of services and infrastructure.

4.7.2 Implementation

The objectives for the provision of utilities and energy are met by the implementation of the following.

- Plan 8 Alfredton West Future Urban Structure.
- Table 8 Infrastructure and Services within the AWPSP area.
- Table 9 Infrastructure and Services outside the AWPSP area.
- The requirements of the relevant service providers.

4.7.3 Planning and Design Guidelines

The following planning and design guidelines for utilities and energy *must* be met.

- Provide utility services to each new lot at the time of development.
- Design and arrange lots to maximise solar efficiency through orientation.
- Provide footpaths in each street.
- Provide linking bicycle and pedestrian paths between the NAC, district and other open spaces and along the drainage line to encourage alternate means of travel that are safe and efficient.

The following planning and design guidelines for utilities and energy *should* be met.

- Place reticulated services for water, gas, electricity and telecommunications in shared trenches.
- Explore opportunities for potable water replacement.

Table 7: Service Providers

Service	Provider
Water supply	Central Highlands Water
Sewerage	Central Highlands Water
Electricity	Powercor
Gas	TRU Energy
Telecommunications	Telstra

4.8 Staging

4.8.1 Objectives

The objectives for Staging are as follows.

- To ensure that the staging of development is timely and integrated with existing development and infrastructure.
- To stage development so that it proceeds in a westerly direction from Dyson Drive as a logical extension to the existing Alfredton area.

4.8.2 Implementation

The objectives for Staging are met by the implementation of the following.

- Meeting requirements of the relevant service authority / provider.
- Planning and design guidelines set out below.

4.8.3 Planning and Design Guidelines

Staging will be determined by the development program of developers within the Precinct and the availability of infrastructure services particularly the availability of water and sewerage as advised by Central Highlands Water.

Within this context, the following planning and design guidelines *must* be met:

- Development staging shall proceed westerly from Dyson Drive, shall have regard for the availability of services.
- Development staging is not to create the circumstance where residents will be unreasonably isolated from existing or future commercial and community facilities or public transport.
- Development staging must be integrated with adjoining developments, including the timely provision of connecting roads and walking / cycling paths.
- Access to each new lot must be on a sealed road.



→ *PRECINCT INFRASTRUCTURE PLAN*

5.0 PRECINCT INFRASTRUCTURE PLAN

5.1 Introduction

This section sets out the requirements for infrastructure and services to meet the needs of development within the Precinct. The plan identifies a range of physical and social infrastructure required as part of the development of the Alfredton West Precinct.

5.1.1 Development Contributions Plan

A Development Contribution Plan (DCP) is being prepared in conjunction with the Ballarat West Growth Area Plan. The DCP will be an incorporated document in the Ballarat Planning Scheme. Developments that seek to proceed before the approval of the DCP require an arrangement to be in place to provide for the making of development contributions to the precinct and the broader Ballarat West Growth Area as a condition on any planning permit and before the issue of a building permit, the completion of an agreement under section 173 of the Planning and Environment Act 1987 (the Act) requiring:

- the payment of development contributions to the satisfaction of the responsible authority in accordance with the approved DCP;
- if the DCP is not approved at the time of required payment, the payment of development contributions to the satisfaction of the responsible authority in accordance with the exhibited DCP;
- if the DCP is not yet exhibited at the time of required payment, the payment of development contributions to the satisfaction of the responsible authority in accordance with the exhibited DCP as soon as it is exhibited. Should this be the case a section 173 agreement will still be executed to avoid any delays in the release of land and construction of buildings.

The agreement must specify that any development contribution payment made by a party that is greater than the payment that otherwise would have been payable under the approved DCP:

- must be refunded to that party by City of Ballarat; or

- subject to agreement between that party and City of Ballarat, may become a credit against the payment by that party of other development contributions under the DCP.

Conversely, the agreement must specify that the extent of any development contribution payment made by a party that is less than the payment that otherwise becomes payable under the approved DCP, will be paid by that party to City of Ballarat within 6 months of approval of the DCP.

A DCP has not been prepared for the AWPSA but will be managed through the provision of a section 173 Agreement made between the developer/s and the City of Ballarat in accordance with the above.

The key infrastructure and service items to be included in the section 173 agreement are outlined in Table 8 and Table 9 of this section.

Table 8: Infrastructure and services required within the AWPSP area to support development of the precinct.

Item	Group	Project Category	Title	Project Description	Lead Agency	Timing	Indicative Costs (\$)	Funding Responsibility
1	Transport	Roads	Collector Roads	Land and Construction of Collector Road in accordance with City of Ballarat cross sections and Department of Transport requirements for designated bus routes.	Developer	Staged with development	n/a	Developer/s
2	Transport	Roads	Access Streets and Lanes	Land and Construction of Access Streets and Lanes in accordance with City of Ballarat cross sections.	Developer	Staged with development	n/a	Developer/s
3	Transport	Public Transport	Bus Services	Provision of new / extension of existing bus services.	Department of Transport (DOI)	Staged with development	n/a	DOI
4	Transport	Public Transport	Bus Stops	Provision of bus stops to be delivered with local road system as part of subdivision construction.	Developer	Staged with development	Unknown	Developer/s
5	Education	School	Primary School P-9	Acquisition of land and construction of government primary school located in Integrated Education Precinct.	DEECD	3-5 years	TBC	DEECD
6	Education	School	Primary School P-6	Acquisition of land and construction of private primary school co-located with government primary school in Integrated Education Precinct.	Catholic Education Office	5-10 years	TBC	Catholic Education Office
7	Community	Community Services	Community Hub (Multipurpose Community Centre)	Acquisition of land and construction of a multi-purpose community centre in or adjacent to the NAC.	City of Ballarat (CoB)	No later than 800 lots	\$5m + land	DCP / S173
8	Community	Community Services	Early Years Facility	Provision of early years facilities - co-located with Multipurpose Community Centre.	CoB	No later than 800 lots	Included in above.	DCP / S173



Item	Group	Project Category	Title	Project Description	Lead Agency	Timing	Indicative Costs (\$)	Funding Responsibility
9	Open Space	Active	District Park	District Park including 1 senior multipurpose oval (cricket / football); 1 soccer pitch; 1 netball court located adjacent to Integrated Education Precinct	CoB	No later than 1000 lots	\$2.6m + land	Developer/s
10	Open Space	Active	Adventure Playground	Construction of a district level adventure playground within the District Park.	CoB	With District Park	\$450K	Developer/s
11	Open Space	Passive	Neighbourhood Parks	Construction of unencumbered neighbourhood parks including but not limited to earthworks, landscaping, grassing, planting local playgrounds, paths, BBQs, furniture and structures (shelter).	Developer	Staged with development	\$500K each	Developer/s
12	Open Space	Passive	Linear Open Space	Construction of open space links (unencumbered) along drainage lines to provide habitat and access to district and regional level facilities within the AWSP area.	CoB	Staged with development	Unknown	Developer/s



Table 9: Infrastructure and services required outside the AWPSP area to support development of the precinct.

Item	Group	Project Category	Title	Project Description	Lead Agency	Timing	Indicative Costs (\$)	Funding Responsibility
13	Transport	Road	Ballarat Western Arterial Road	Acquisition of 40m wide road reservation.	VicRoads / CoB	Subject to PAO	TBC	VicRoads / CoB
14	Transport	Road	Dyson Drive Upgrade.	Upgrade of Dyson Drive to Collector (10.6m pavement) including pavement widening, kerb and drainage).	Developer	Staged with development	\$1.8m	Developer/s
15	Transport	Intersection	Dyson Drive Access (Cell A)	Provide a T-intersection with separate turn lanes to provide access to the NAC (Cell A).	Developer	Staged with development	\$120K	Developer
16	Transport	Intersection	Dyson Drive Access (Cell A)	Provide T-intersection to provide access to the AWPSP area – between Remembrance Drive and Cuthberts Road (Cell A).	Developer	Staged with development	\$120K	Developer
17	Transport	Intersection	Dyson Drive Access (Cell B)	Provide single lane roundabout intersection at Cuzens Road (south boundary) to provide access to AWPSP area (Cell B).	Developer	Staged with development	\$200K	Developer
18	Transport	Road	Cuthberts Road Upgrade.	Upgrade of Cuthberts Road to Link (14.9m pavement) including pavement widening, kerb and drainage.	Developer	Staged with development	\$2.6m	Developer/s
19	Transport	Intersection	Sturt Street Access	Provide 2 No intersections to provide access to AWPSP area.	Developer	Staged with development	\$500K	Developer



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→ *OTHER INFORMATION*

6.0 OTHER INFORMATION

6.1 Glossary

Active Open Space - Land set aside for the specific purpose of formal outdoor sports by the community.

Activity Centre - Provide the focus for services, employment and social interaction. They are where people shop, work, meet, relax and live. Usually well-served by public transport, they range in size and intensity of use. In the growth areas, these are referred to as principal activity centres, major activity centres, neighbourhood activity centres and local centres.

Affordable Housing - Well-located housing, appropriate to the needs of a given household, where the cost (whether mortgage repayment or rent) is no more than 30 per cent of that household's income. Exceeding the mark places one under 'housing stress', particularly in the lower 40 per cent of the income distribution scale.

Arterial Road - A higher order road providing for moderate to high volumes at relatively high speeds typically used for inter-suburban journeys and linking to freeways. Declared arterial roads are identified under the Road Management Act 2004 and managed by the State Government.

Co-location - Adjoining land uses to enable complementary programs, activities and services and shared use of resources. For example, the co-location of schools and active open space.

Community Facilities - Infrastructure provided by government or non-government organisations for accommodating a range of community support services, programs and activities. This includes facilities for education and learning (e.g. government and non-government schools, universities, adult learning centres); early years (e.g. preschool, maternal and child health, childcare); health and community services (e.g. hospitals, aged care, doctors, dentists, family and youth services, specialist health services); community (e.g. civic centres, libraries, neighbourhood houses); arts and culture (e.g. galleries, museums, performance space); sport, recreation and leisure (e.g. swimming pools); justice (e.g. law courts); voluntary and faith (e.g. places of worship) and emergency services (e.g. police, fire and ambulance stations).

Conventional Density Housing - Housing with an average density of 10 to 15 dwellings per net developable hectare.

District Park - An area of open space that incorporates a large area for active open space. This would normally incorporate 2 ovals and be a minimum of 8 hectares in size.

Encumbered Land - Land that is constrained for development purposes. Includes easements for power/transmission lines, sewers, gas, waterways/drainage; retarding basins/wetlands; landfill; conservation and heritage areas. This land may be used for a range of activities (e.g. walking trails, sports fields). This is not provided as a credit against public open space requirements. However, regard is taken to the availability of encumbered land when determining the open space requirement.

Established facilities - Community facilities required during the later stages of the precinct's development. This might include a fully operational primary school, and the addition of a pavilion on an oval already provided at foundation level.

Frontage - The road alignment at the front of a lot. If a lot abuts two or more roads, the one to which the building or proposed building faces.

Foundation facilities - Community facilities required as the precinct is developing. This might include ovals, a community centre, or land for facilities that will be required later in the precinct's development.

Gross Developable Area - Total precinct area excluding encumbered land, arterial roads and other roads with four or more lanes.

Housing Density (Gross) - The number of houses divided by gross developable area.

Housing Density (Net) - The number of houses divided by net developable area

Linear Open Space Network - Corridors of open space, mainly along waterways that link together forming a network.

Linear Parks and Trails - See Linear Open Space Network

Land Budget Table - A table setting out the total precinct area, gross developable area, net developable area and constituent land uses proposed within the precinct.

Lot - A part (consisting of one or more pieces) of any land (except a road, a reserve, or common property) shown on a plan, which can be disposed of separately and includes a unit or accessory unit on a registered plan of strata subdivision and a lot or accessory lot on a registered cluster plan.

Lower Density Housing - Housing with an average density of less than 10 dwellings per net developable hectare.

Main Street - A function of an activity centre, where vitality and activity are created by orienting uses towards the street, and ensuring that the primary address of all retail stores is the street. This would normally be a connector street rather than an arterial road.

Medium Density Housing - Housing with an average density of 16 to 30 dwellings per net developable hectare.

Native Vegetation - Plants that are indigenous to Victoria, including trees, shrubs, herbs, and grasses.

Native Vegetation Precinct Plan - A plan, as specified in clause 52.16, relating to native vegetation within a defined area that may form part of the precinct structure plan. Native vegetation precinct plans are incorporated into local planning schemes and listed in the schedule to Clause 52.16. A native vegetation precinct plan can form part of a precinct structure plan.

Neighbourhood Activity Centre (NAC) - Activity centres that are an important community focal point and have a mix of uses to meet local needs. Accessible to a viable user population by walking, cycling and by local bus services and public transport links to one or more principal or major activity centres. This should be of sufficient size to accommodate a supermarket.

Net Developable Area - Land within a precinct available for development. This excludes encumbered land, arterial roads, railway corridors, government schools and community facilities and public open space. It includes lots, local streets and connector streets. Net Developable Area may be expressed in terms of hectare units (i.e. NDHa).

Net Residential Area - As for Net Developable Area but excluding commercial/retail component of activity centres and known non-government school sites and other existing or permitted non-residential land uses (e.g. golf course sites).

Passive Open Space - Open space that is set aside for parks, gardens, linear corridors, conservation bushlands, nature reserves, public squares and community gardens that are made available for passive recreation, play and unstructured physical activity including walking, cycling, hiking, revitalisation, contemplation and enjoying nature.

Precinct - An area of land within the Urban Growth Zone for which a precinct structure plan is to be produced. Precincts will be defined by the Growth Areas Authority, in consultation with the relevant growth area council. Their extent will be determined based on a need to create reasonably self-contained communities and on an understanding of the strategic level land use and topographical features. They will normally be between 200 hectares and 2000 hectares, but larger or smaller precincts may be defined in specific circumstances.

Precinct Infrastructure Plan - Section within the precinct structure plan that defines the priority regional and local infrastructure requirements for future planning and investment by council and government agencies.

Precinct Structure Plan - A statutory document that describes how a precinct or series of sites within a growth area will be developed over time. A precinct structure plan sets out the broad environmental, social and economic parameters for the use and development of land within the precinct.

Principal Public Transport Network - A high-quality public transport network that connects Activity Centres to the CBD and comprises bus routes.

Public Open Space - Land that is set aside in the precinct structure plan for public recreation or public resort; or as parklands; or for similar purposes. Incorporates active and passive open space.

Shared or Joint Use - When councils, schools and community service organisations come together to plan, build and in some cases jointly manage a single facility to be used by multiple service providers. E.g. Using a school as a facility for wider community utilisation.

Small Office Home Office - A small office, which would usually include a home, but where the business is too large to be accommodated within a standard home, perhaps because of parking or storage requirements. Normally employs up to perhaps 10 staff.

Strategic Employment Area - Areas identified on the Growth Area Framework Plan for economic and employment growth. This is different to land identified for employment uses within a residential precinct.

Social Infrastructure - Community facilities plus public open space.

Urban Growth Zone - Statutory zone that applies to land that has been identified for future urban development. The UGZ has four purposes: (1) to manage transition of non-urban land into urban land; (2) to encourage development of well-planned and well-serviced new urban communities in accordance with an overall plan; (3) to reduce the number of development approvals needed in areas where an agreed plan is in place; and (4) to safeguard non-urban land from use and development that could prejudice its future urban development.

Walkable catchment of an activity centre - Within 400m of a neighbourhood activity centre, or 800m of a principal or major activity centre

Water Sensitive Urban Design - A sustainable water management approach that aims to provide water-quality treatment, flood management and green landscapes. Key principles include minimising water resistant areas; recharging natural groundwater aquifers (where appropriate) by increasing the amount of rain absorbed into the ground; encouraging onsite reuse of rain and incorporation of rain gardens; encouraging onsite treatment to improve water quality and remove pollution, and using temporary rainfall storage (retarding basins/wetlands) to reduce the load on drains.

The above is an extract from the *Precinct Structure Planning Guidelines: Two – Preparing the Precinct Structure Plan* by the Growth Areas Authority, 2009 (pp53-55).



6.2 Supporting Information

The following documents may assist in understanding the background to the vision, objectives and other requirements of the AWPSP.

- Amendment C117 Panel Report, August 2008.
- ASR Research Pty Ltd, March 2010, *Assessment of Community Infrastructure Requirements and Opportunities*.
- Australian Bureau of Statistics (ABS), 2006, *Regional Population Growth in Australia*.
- Biosis Research Pty Ltd, September 2010, *Alfredton West Precinct Structure Plan, Dyson Drive, Alfredton, Victoria: Archaeological Assessment*.
- Biosis Research Pty Ltd, March 2007, *Flora and Terrestrial Fauna Assessment of Alfredton West*.
- City of Ballarat, March 2008, *Ballarat Open Space Strategy*.
- City of Ballarat, March 2009, *Ballarat West Growth Area Plan*.
- City of Ballarat, June 2009, *Road Management Plan* (version 3).
- City of Ballarat, July 2008, *Standard Road Cross Sections*.
- City of Ballarat, April 2011, *Standard Urban Road Cross Sections* (draft document).
- Designflow Pty Ltd, July 2010, *Integrated Water Management Plan, Alfredton West Precinct Structure Plan*.
- Department of Sustainability and Environment (DSE), 2003, *Advisory List of the Threatened Vertebrate Fauna in Victoria*.
- Ecology Partners Pty Ltd, 23 August 2010, *Ballarat West Growth Area, Precinct 3 cell B, Alfredton, Victoria: Aboriginal and Historical Heritage Assessment*.
- Ecology Partners Pty Ltd, July 2010, *Flora and Fauna Assessment and Aquatic Fauna Review for the Ballarat West Growth Area*.
- Essential Economics, October 2010, *Alfredton West Neighbourhood Activity Centre – Review of Employment Area*.
- Growth Areas Authority, October 2008, *Precinct Structure Planning Guidelines, Consultation Draft*.
- Growth Areas Authority, October 2009, *Precinct Structure Planning Guidelines*.
- Homewood Consulting Pty Ltd, April 2007, *Arboriculture Report*.
- KPMG Pty Ltd, June 2008, *Economic Impact Analysis of Designating site C117 as Future Urban*.
- Last Waltz Consulting, September 2006, *City of Ballarat Road Hierarchy Review*.
- Leader Property Practice Pty Ltd, 11 January 2010, *Residential Land Supply and Demand for Ballarat*.
- MacroPlan Australia and City of Ballarat, 2010, *Ballarat Demographic Projections*.
- O'Brien Traffic Pty Ltd, October 2010, *Ballarat Planning Scheme Amendment C122 – Alfredton West Precinct Structure Plan, Traffic and Transportation Report*.
- Phillips Agribusiness Pty Ltd, June 2007, *Land Capability Assessment, Alfredton West Ballarat*.
- Pitney Bowes MapInfo Pty Ltd, May 2008, *Alfredton Neighbourhood Activity Centre, Ballarat Economic Impact Assessment*.
- Provincial Geotechnical Pty Ltd, July 2007, *Preliminary Environmental Site Assessment*.
- Hansen Partnership in association with Laidlaw and Laidlaw Designs, November 2010, *Ballarat West Growth Area – Avenue of Honour Urban Design Guidelines*.
- Department of Transport, 2008, *Public Transport Guidelines for Land Use and Development*.
- Ratio Consultants Pty Ltd, March 2007, *Ballarat Transport Strategy – Consultants Final Report*.
- Ratio Consultants Pty Ltd, October 2007, *Proposed Cross Section West of Dyson Drive, Ballarat West Future Arterial Road Alignment Investigations and Implementation Plan*.
- TGM Group Pty Ltd, July 2007, *Alfredton West Services Infrastructure Report*.
- *The Ballarat Planning Scheme*.
- Urban Growth Zone, June 2008, *VPP Practice Note*.