

5.4 Community Facilities

5.4.1 Community Facilities Objectives

The objectives for community facilities are:

- To provide a well-connected network of community hubs across the Precinct;
- To foster community activity and interaction within each neighbourhood by co-locating community uses, activity centres, play space, open space, and transport facilities;
- To provide community facilities in line with future population growth;
- To provide opportunities for adaptable, shared, co-located and/or integrated community facilities (land and buildings);
- To plan for a range of community facilities, cultural venues and services to meet the varying needs of local residents;
- To plan for community facilities of a high standard that have flexible designs which can accommodate a range of uses, meet the changing needs of the community and allow for both indoor and outdoor activities;
- To locate community facilities with active and passive open space and, where appropriate, education facilities;
- To plan for community facilities which have safe and convenient access by public transport, walking, cycling, the mobility aided and car;
- To plan for physical connections that integrate future adjoining land uses for community use;
- To provide sporting facilities and supporting infrastructure identified in the plan;
- To allow for the timely delivery of community facilities such as schools, health and children's services and formal recreation facilities as population thresholds are reached and funding becomes available; and
- To provide for an emergency services facility (CFA, Ambulance and possibly Police and SES) to cater for growth outside of their existing service areas.

5.4.2 Implementation

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

- Plan 8: Future Urban Structure Plan;
- Table 6: Community Facilities;
- Plan 13: Community Facilities Plan;
- Community Facilities Planning and Design Guidelines set out in Section 5.4.3; and
- Community Facilities Delivery Statement set out in Section 5.4.4.

5.4.3 Community Facilities planning and design guidelines

General

The following planning and design guidelines must be met:

- Community facilities must be integrated with other community facilities, activity centres and/or open space, and be co-located with proposed children's playgrounds, recreation infrastructure and kindergartens; and
- Education and community services (public and private) and other activities (such as childcare centres) must:
 - Be within and/or adjoining community hubs or activity centres;
 - Be located so they are easily accessible by walking, cycling and public transport; and
 - Provide safe drop-off and pick up locations on access streets and collector roads, not arterial roads.

The planning and development of community facilities should:

- Accommodate a diverse range of users;
- Promote social interaction and foster a sense of place;
- Ensure that built form is of a high standard and of a proportion, scale and character appropriate to their urban context;
- Ensure principal entrances of buildings to streets and/or public spaces are clearly visible from the street and are not isolated from view;
- Be designed with adaptable spaces that can be modified to respond to changing community demands and needs;
- Capitalise on any natural features that currently exist, and emphasise any unique characteristics that may be present; and
- Schools may be designed to incorporate uses such as places of worship or other welfare/community facilities if required.



5.4.4 Community Facilities Delivery Statement

It is important that community facilities are delivered in-line with population growth in the Ballarat West PSP area and provided when demand arises.

Integrated, efficient and timely provision

Sources of funding for community facilities include:

- The Ballarat West DCP;
- City of Ballarat's Capital Works Program;
- Developer funded delivery of an item in the Ballarat West DCP through a works-in-kind agreement. Works-in-kind agreements require approval from the City of Ballarat who is the collecting agency for Development Contributions;
- Non-government organisations. Some community infrastructure may be able to be delivered by the Council working in partnership with non-Government organisations; and
- State and Federal Government Programs. The State and Federal Government have a range of grant programs that could potentially provide funding for a range of community facilities.

Community Facilities Concept Planning

Delivery of integrated and timely community facilities is a complex and evolving task. It requires involvement from many stakeholders with shifting priorities. Models for the delivery of infrastructure also evolve and change over time. This PSP has been designed to be flexible enough to accommodate change over time.

Co-ordination and delivery of community facilities will be assisted by:

- Establishing a governance model for the concept and master planning of 'hubs' that co-locate a number of facilities (for example schools and City of Ballarat services); this may be facilitated by the City of Ballarat through a steering committee;
- The preparation of community hub concept plans; and
- The preparation of master plans that provide details of the delivery of the concept plans.

Governance arrangements and engagement are important parts of identifying, discussing and resolving issues around facility design, ownership, leasing, capital works funding, service delivery funding, management, maintenance and upgrade over time.

The opportunities for integrated facility delivery apply equally to sporting facilities as they do to items such as community centres and schools. Opportunities for shared use of clubhouse and pavilion buildings should be investigated and, if appropriate, accommodated through flexible facility design and integration through hub master planning.

Where facilities are associated with schools, they should be designed concurrently to ensure integrated facility delivery and to maximise sharing opportunities.

The design of education and community hubs should be undertaken in consultation with the local community and the service providers who are likely to operate it.

Private Schools

The PSP makes provision for one site for a private school (3.5ha). Depending on provider needs in negotiation with the landowner, this site could be increased or decreased in size. Similarly, additional private schools could be developed on other sites. The layout of the education and community hub in Sub-Precinct 2 allows several other site options, for example on the northern side of the Indoor Leisure Centre. Options in other Sub-Precincts include land adjacent to the education and community hub in Sub-Precinct 4.

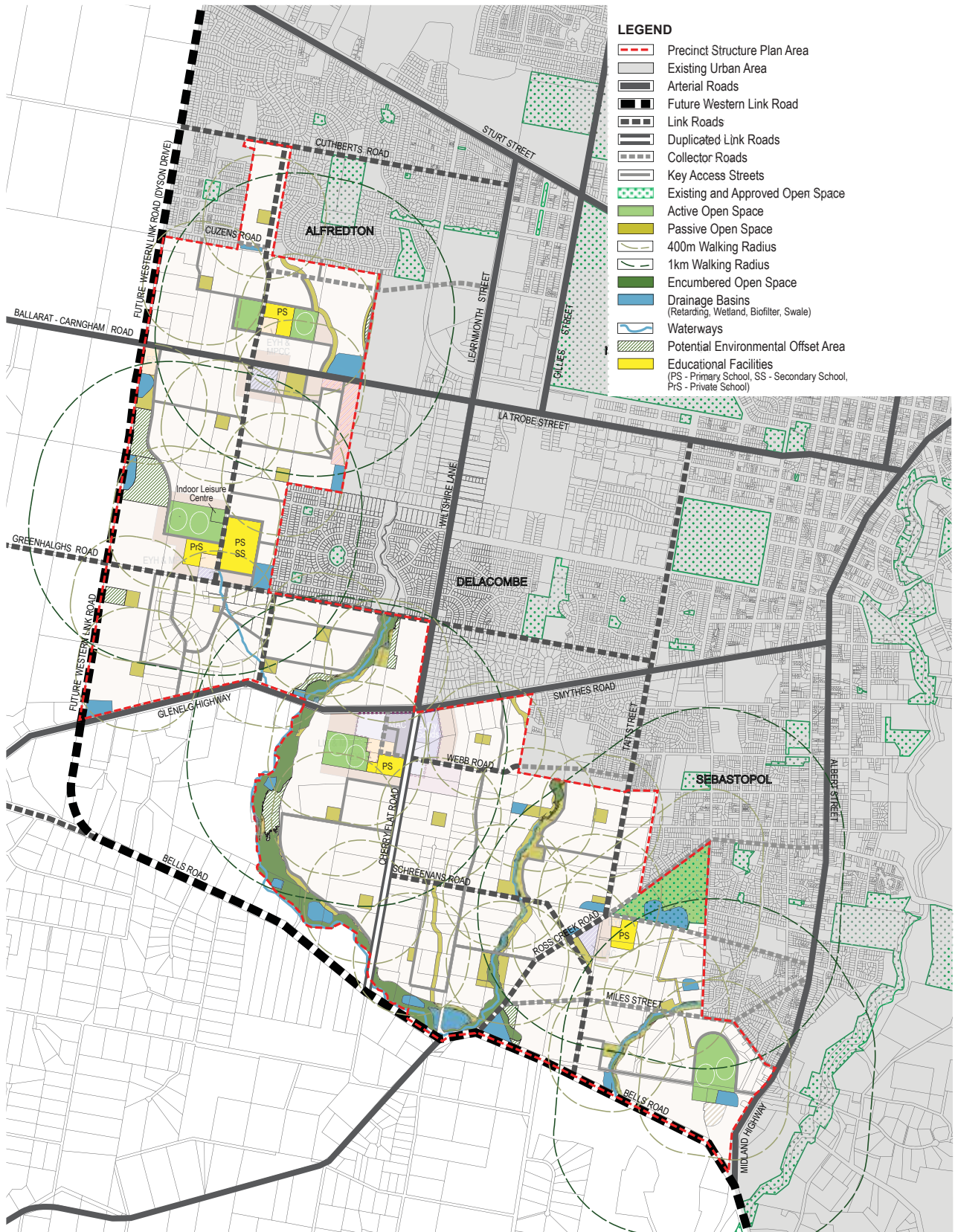


Table 6 Community Facilities

Community Facilities and Services	Location	Area (ha)	Responsibility
State Government School (P-12)	Education and Community Hub in Sub-Precinct 2	10ha	Department of Early Education and Childhood Development (DEECD)
State Primary School	Sub-Precinct 1:Major Activity Centre	3.5ha	Department of Early Education and Childhood Development (DEECD)
	Sub-Precinct 1: co-locate with LAC and MR Power Park	3.5ha	Department of Early Education and Childhood Development (DEECD)
	Sub-Precinct 4: north of Carngham Road co-located with District Park	3.5ha	Department of Early Education and Childhood Development (DEECD)
Private Primary School	Education and Community Hub in Sub-Precinct 2	3.5ha (subject to private provider's needs)	Private provider
Early Years Hubs	Sub-Precinct 1:Major Activity Centre	0.5ha	City of Ballarat
	Sub-Precinct 1: Co-locate with school in south east	0.5ha	City of Ballarat
	Sub-Precinct 2: Education and Community Hub	0.5ha	City of Ballarat
	Sub-Precinct 4: Co-locate with Primary School	0.5ha	City of Ballarat
Multi Purpose Community Centres	Level 3 Centre: Sub-Precinct 1: Major Activity Centre co-located with branch library	1ha	City of Ballarat
	Level 1 Centre: Sub-Precinct 2: Co-located with the Education and Community Hub	0.8ha	City of Ballarat
	Level 1 Centre: Sub-Precinct 4: Co-located with Primary school and Early Years Hub	0.8ha	City of Ballarat
Library – 1800m ² branch library	Sub-Precinct 1: Major Activity Centre co-located with community centre	1ha	City of Ballarat
Indoor Recreation Facility	Sub-Precinct 2: Education and Community Hub	1ha	City of Ballarat
Regional Park (existing Crown Land)	Sub-Precinct 1: M R Power Park	17.68ha	City of Ballarat
District Parks (active open space)	Sub-Precinct 1: South Eastern section	12.96ha	City of Ballarat
	Sub-Precinct 1: Major Activity Centre	8ha	City of Ballarat
	Sub-Precinct 2: Education and Community Hub	10ha	City of Ballarat
	Sub-Precinct 4: co-located with the School	8.02ha	City of Ballarat
Neighbourhood Parks	Throughout the Precinct and within 400m of almost all residents.	Total: 25.35ha	City of Ballarat - constructed by development proponents
	Sub-Precinct 1:14 parks	approx 5 x 0.5ha parks	
	Sub-Precinct 2: 6 parks	approx 21 x 1ha parks	
	Sub-Precinct 4: 6 parks		
Linear Open Space Network including off road paths, furniture and landscaping but excluding open space area encumbered by drainage requirements	Along Creeks and Drainage Lines	Total: 30.1ha	City of Ballarat - constructed by development proponents
		Sub-Precinct 1: 19.29ha	
		Sub-Precinct 2: 2.07ha	
		Sub-Precinct 4: 8.72ha	



Plan 14 Open Space



- LEGEND**
- Precinct Structure Plan Area
 - Existing Urban Area
 - Arterial Roads
 - Future Western Link Road
 - Link Roads
 - Duplicated Link Roads
 - Collector Roads
 - Key Access Streets
 - Existing and Approved Open Space
 - Active Open Space
 - Passive Open Space
 - 400m Walking Radius
 - 1km Walking Radius
 - Encumbered Open Space
 - Drainage Basins (Retarding, Wetland, Biofilter, Swale)
 - Waterways
 - Potential Environmental Offset Area
 - Educational Facilities (PS - Primary School, SS - Secondary School, PrS - Private School)

0 0.25 0.5 .75km



5.5 Open Space and Natural Systems

5.5.1 Open Space Objectives

The objectives for open space are:

- To provide an accessible and connected network of open spaces suitable for a broad range of civic, passive and active recreation uses;
- To provide a variety of open spaces to meet the active and passive recreation needs of the community;
- To maintain and enhance environmental, landscape and heritage features within open space, where possible;
- To protect and enhance areas of significant native vegetation and fauna habitat and integrate these areas with open spaces;
- To restore and enhance existing natural creek lines and establish an attractive urban environment with a strong sense of place; and
- To protect Growling Grass Frogs in line with obligations under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*.

5.5.2 Implementation

The objectives for open space are met by implementation of all of the following:

- Plan 8: Future Urban Structure Plan;
- Plan 14: Open Space Network Plan;
- Plan 19: Walking and Trails Plan;
- Figure 8: Winter Creek Master Plan;
- Open Space Planning and Design Guidelines at Section 5.5.3;
- Ballarat West Native Vegetation Precinct Plan;
- Ballarat West Development Contributions Plan; and
- Ballarat West Conservation Management Plan.



5.5.3 Open space planning and design guidelines

General

The following planning and design guidelines must be met:

- Open spaces must be designed to address Crime Prevention through Environmental Design principles (refer *Safety by Design Guidelines, Department of Sustainability and Environment 2001*);
- Streetscape planting and paths must complement and integrate with the adjoining parkland design;
- Residential, commercial and/or community facilities adjacent to open space must be designed to enhance the open space area; and
- Open space must be designed and constructed to meet its designated purpose, to the satisfaction of the Responsible Authority.

The following planning and design guidelines should be met:

- Neighbourhood parks should be central to their catchment, in a prominent location such as on the intersection of two key local streets and be in a location where streets provide a high degree of connectivity;
- Car parking areas should be designed and located to maximise safety and security;
- Open spaces should be connected through an integrated network of pedestrian and cycle paths;
- The design and construction of open spaces should consider and reflect any natural or heritage elements in the area;
- All edges of open spaces should have either a road frontage or a direct frontage that is activated and provides passive surveillance of the open space;
- Passive parks should cater for a broad range of users by providing a mix of spaces and planting to support both structured and informal recreational activities;
- Active recreation reserves should be designed to allow co-location and sharing opportunities between complementary sports and school facilities;
- Parks should contain both open areas for unstructured activities, as well as areas for shade and shelter;
- The design and layout of open spaces should implement Water Sensitive Urban Design (WSUD) principles;
- Parks should be designed to make efficient use of water and implement best practice storm water quality standards; and
- Paths for pedestrian and cyclist movement should be provided along all creek corridors.

Bonshaw, Kensington and Winter Creek

The following planning and design guidelines must be met:

- Provide a minimum width of 35 metres of open space on each side of the named creeks (measured from centre line of creek) to provide habitat for significant flora and fauna species, as well as catering for drainage requirements;
- Create significantly wider nodes for passive recreation by locating unencumbered local open space abutting the encumbered open space along the creek lines;
- Ensure habitat is created for Growling Grass Frogs along the creek line in accordance with the Ballarat West Growling Grass Frog Conservation Management Plan; and
- Where the creek forms the boundary between the Ballarat West PSP area and rural areas, the landscape design of the creek corridor must minimise the risk of bushfire transmission into developed areas, in accordance with the requirements of the Country Fire Authority and any applicable standards.

Open Space Improvements

Individual development proponents are required to provide basic improvements to local parks and passive open space including earthworks, fencing, water tapping, grassing, tree planting, local playgrounds, shared paths and footpaths, furniture and paving.

The City of Ballarat may add to these basic improvements over time with the provision of additional facilities through its Capital Works Program.



This page has been intentionally left blank.



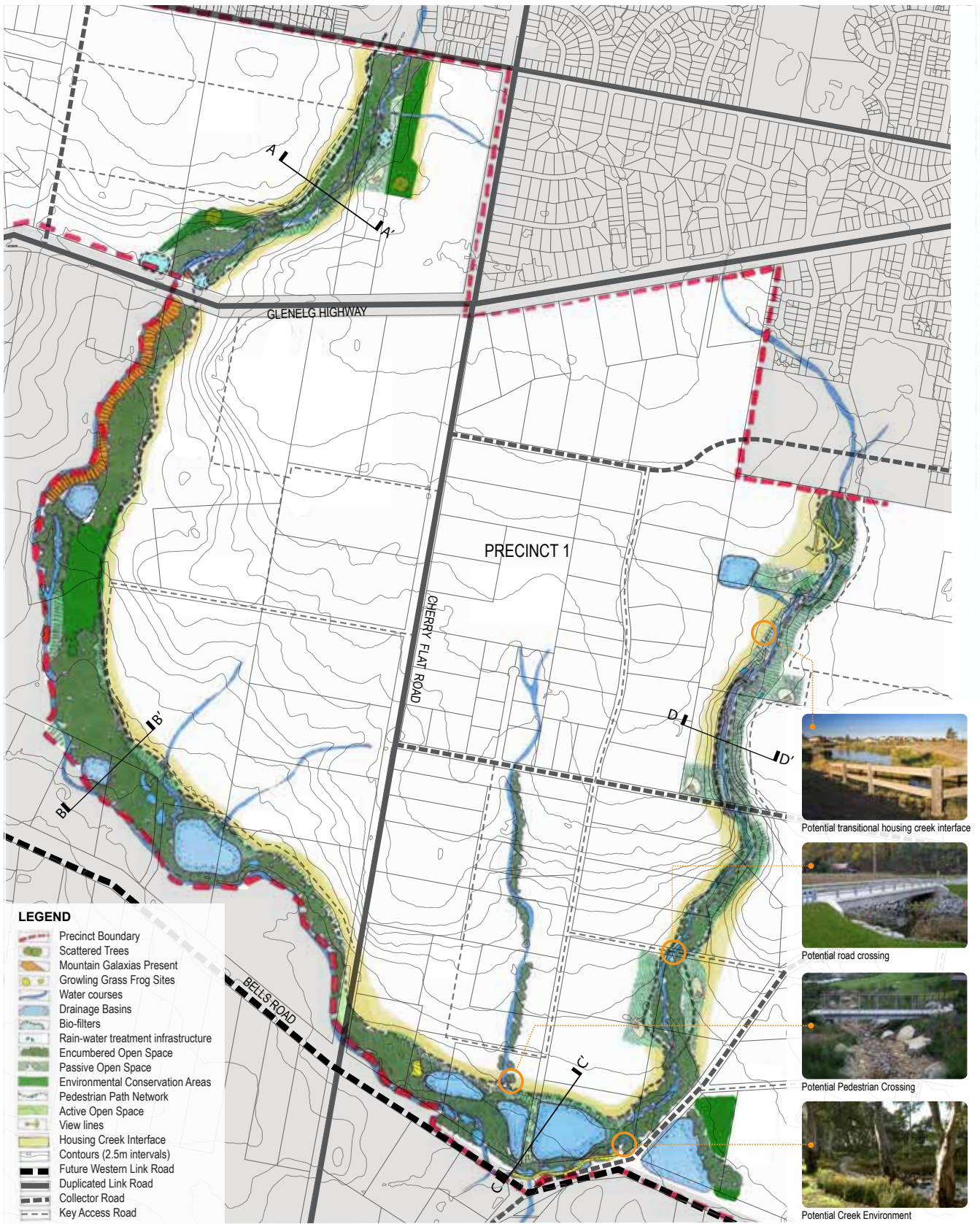
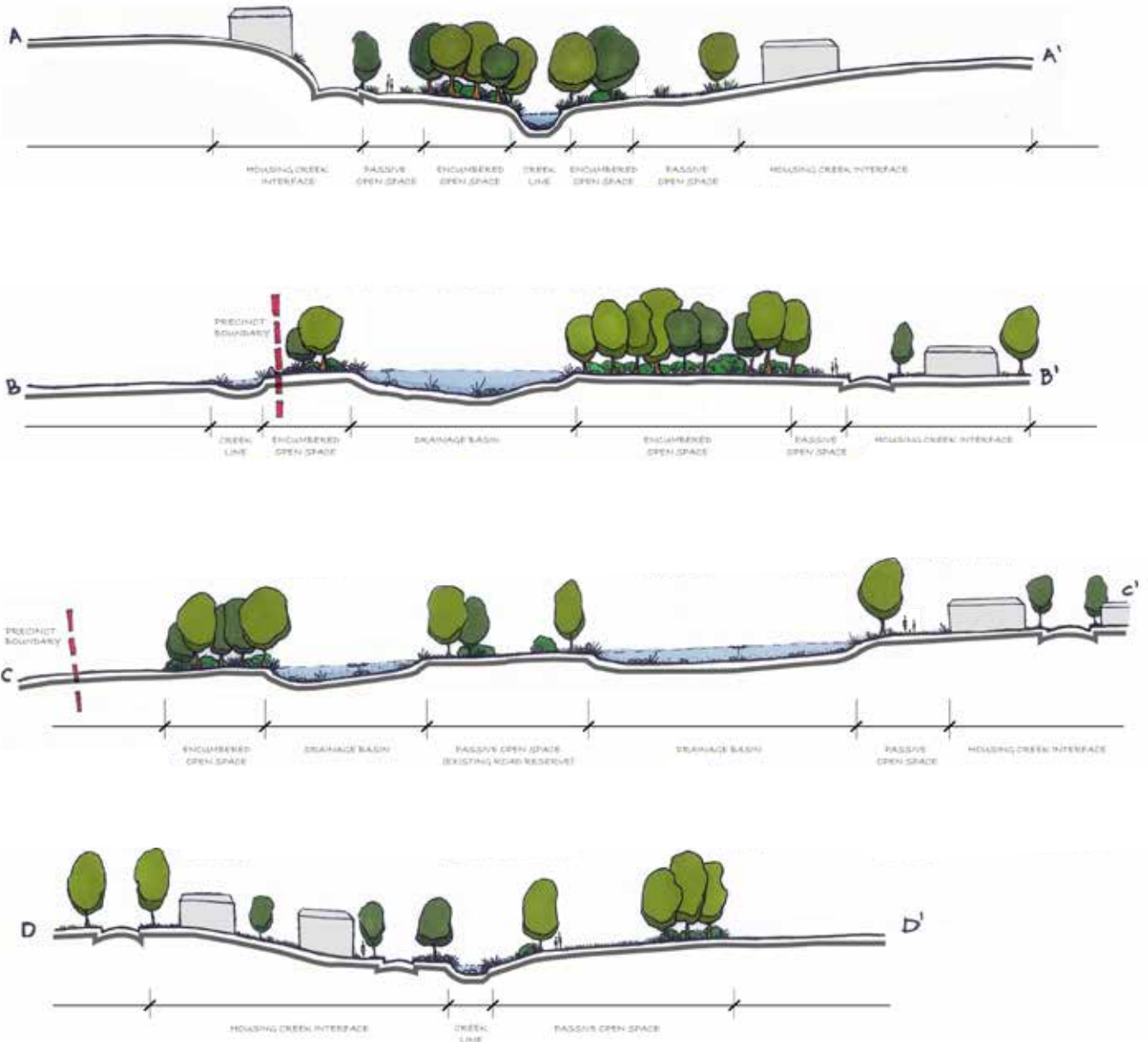


Figure 8 Winter Creek Master Plan





Cross Sections - Winter Creek Master Plan



5.5.4 How to make a passive open space contribution

Clause 52.01 of the Ballarat Planning Scheme specifies a public open space contribution which must be made upon the subdivision of the land. This requirement is only in respect of passive public open space. Active open space is addressed through the Ballarat West Development Contributions Plan (June 2012).

Because the Ballarat West PSP identifies a desired distribution of passive open space across the area of the PSP (land shown as Passive Open Space in Plan 14), all landowners must make a passive open space contribution equivalent to the amount set out in the schedule to clause 52.01 either in land or in cash or a combination of both as advised by Council. Landowners who contribute more land than the specified open space contribution required by clause 52.01 will be entitled to a payment. This process is referred to as equalisation and is explained further below.

All land within the Ballarat West Precinct Structure Plan area must make a passive open space contribution specified at 5.31% Gross Developable Area (GDA).

Where land is required by Council for unencumbered passive public open space purposes and that area of land is less than or equal to 5.31% of the Gross Developable Area of that land, that land is to be transferred to Council at no cost.

Where no land or less than 5.31% of the GDA of any land is provided to Council for unencumbered passive public open space purposes, a cash contribution is to be made to Council to bring each property's total passive public open space contribution up to an amount equivalent to 5.31% of the value of the Gross Developable Area.

Where the land required by Council for unencumbered passive public open space purposes is more than 5.31% of the GDA of any land, Council will pay an amount equivalent to the value of the additional land being provided by that property over the 5.31% of the area required as a passive public open space contribution but Council will not pay an amount for land provided as public open space which is in excess of the land required by Council to be set aside as passive public open space.



5.6 Biodiversity Assets

The following flora and fauna are present within the Precinct:

- Growling Grass Frog species and suitable habitat (listed under the *Environmental Protection and Biodiversity Act 1999*);
- Mountain Galaxias (listed under the *Flora and Fauna Guarantee Act 1986*); and
- A number of scattered remnant trees.

5.6.1 Biodiversity Objectives

The objectives for biodiversity are:

- To provide for the long term conservation and management of areas of significant vegetation in accordance with the Ballarat West NVPP;
- To plan for the enhancement of creek corridors and drainage lines and integration of these spaces into the open space network;
- To protect and create suitable habitat for the Growling Grass Frog along Kensington, Winter and Bonshaw Creeks in accordance with the Ballarat West Conservation Management Plan; and
- To provide native vegetation offsets within the conservation areas identified in the Ballarat West Native Vegetation Precinct Plan.

5.6.2 Implementation

The objectives for biodiversity are met by implementation of all of the following:

- Plan 8: Future Urban Structure Plan;
- Figure 8: Winter Creek Master Plan;
- Plan 15: Integrated Water Management Plan;
- Ballarat West Conservation Management Plan;
- Ballarat West Native Vegetation Precinct Plan; and
- Biodiversity Planning and design guidelines set out in Section 5.6.3.

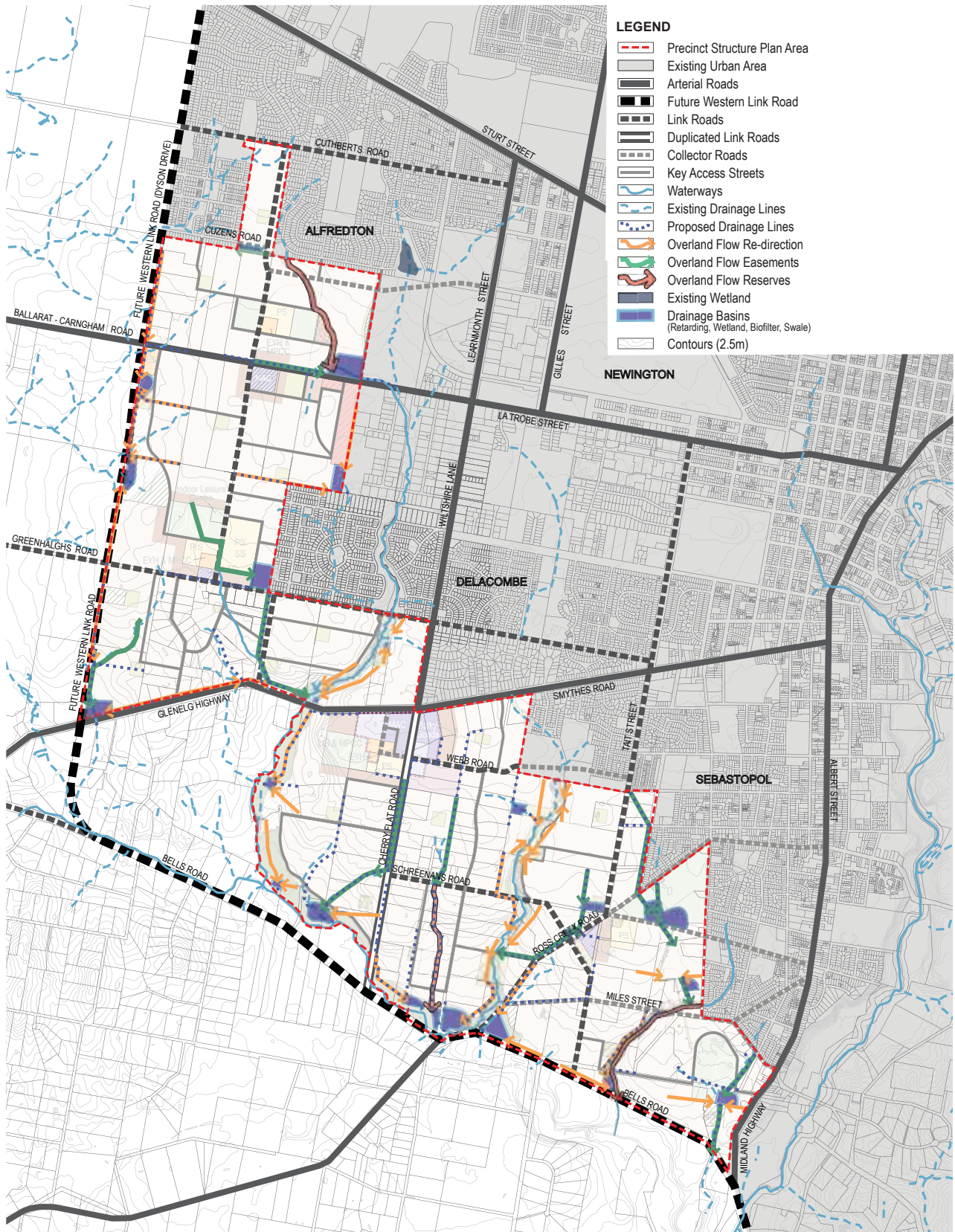
5.6.3 Biodiversity Planning and Design Guidelines

The following planning and design guidelines must be met:

- Green links, drainage corridors and linear parks are to be re-vegetated with indigenous flora species to provide habitat for local fauna, including Growling Grass Frogs where appropriate;
- Indigenous vegetation will be retained as shown on the Ballarat West NVPP;
- In accordance with the Ballarat West NVPP, native vegetation offsets are to be provided within the conservation areas. If offsets cannot be provided in these areas, offsets are to be secured off-site; and
- Development on any site identified in the Ballarat West Conservation Management Plan as being a site where Growling Grass Frogs have been found or as being within the Growling Grass Frog Offset Trigger Area must be in accordance with the Ballarat West Conservation Management Plan and any approvals pursuant to the *Environmental Protection and Biodiversity (EPBC) Act 1999*.



Plan 15 Integrated Water Management



- LEGEND**
- Precinct Structure Plan Area
 - Existing Urban Area
 - Arterial Roads
 - Link Roads
 - Duplicated Link Roads
 - Collector Roads
 - Key Access Streets
 - Waterways
 - Existing Drainage Lines
 - Proposed Drainage Lines
 - Overland Flow Re-direction
 - Overland Flow Easements
 - Overland Flow Reserves
 - Existing Wetland
 - Drainage Basins (Retarding, Wetland, Biofilter, Swale)
 - Contours (2.5m)

0 0.25 0.5 .75km



5.7 Integrated Water Management

Integrated Water Management is an approach which considers the whole of the water cycle with an aim to make the most of water resources. This is achieved through integrating the various water systems such as water supply, stormwater and wastewater in ways which achieve improved social, economic and environmental outcomes.

Engeny Water Management was engaged by SMEC Urban to prepare a drainage report to assist with drainage and water sensitive urban design (WSUD) for the precinct area. This report forms the basis for the Integrated Water Management Plan (Plan 15). Engeny consulted with the City of Ballarat and the Corangamite Catchment Management Authority (CMA). RORB modelling was applied to the study area to calculate the peak 100 year ARI flow rates, retarding basins and waterways. Retarding basins are used to maintain the pre-development 100 year ARI event peak flow rate, as required by the Corangamite CMA.

Water discharging into existing waterways is required to meet the Best Practice Environmental Guideline Targets for Stormwater Treatment. This is achieved through the use of water sensitive urban design techniques such as wetlands and biofilters or rain gardens.

The drainage functions shown in Plan 15 are integrated with other land uses in a way which will maximise both development and environmental potential.

The Integrated Water Management Plan has been designed in a way which will lead to complimentary open space, recreation and ecological benefit. This is achieved through the co-location of retarding basins and open space where possible, and by retaining natural drainage and creek lines. This not only provides for the drainage needs of the urban area but creates focal points for communities and adjacent development and attractive recreation areas.

The biodiversity value of encumbered land is maximised through providing for the protection of vegetation and fauna habitat. Further WSUD elements can be incorporated into individual developments which will enhance the integrated water management objectives and amenity of the public realm.

5.7.1 Integrated Water Management Objectives

The objectives for Integrated Water Management are:

To meet the drainage needs of the planned future urban environment:

- Protect the urban areas from flooding through managing the flows of stormwater run-off.

To manage the flows of stormwater runoff and improve the quality of water entering downstream systems:

- Provide stormwater detention to the satisfaction of the Responsible Authority;
- Maintain pre-development stormwater flows to receiving waterways;
- Reduce and filter sediment and nitrogen levels through an integrated water sensitive urban design system; and
- Design developments to meet the current best practice performance objectives for stormwater quality as contained in the *Urban Stormwater – Best Practice Environmental Management Guidelines (Victorian Stormwater Committee 1999)* as amended.

Design leads to maximising the habitat values and management of wetlands, waterways and open space functions:

- Protect downstream waterways from adverse impacts from urban stormwater run-off.

Water use and savings meet any policy targets for the Ballarat and District Water Supply System set by the Water Authority:

- Reduce potable water consumption through the use of alternative fit-for-purpose water sources;
- Encourage the use of recycled and harvested storm water within the Precinct;
- Encourage consultation with Central Highlands Water, the Corangamite Catchment Management Authority and City of Ballarat regarding the efficiency and sustainability of providing recycled water through harvesting storm water and/or third pipe systems, roof capture and use of water within properties; and
- Encourage consultation with Central Highlands Water, the Corangamite Catchment Management Authority and City of Ballarat regarding the treatment and storage of water within local aquifers.

5.7.2 Implementation

The objectives for Integrated Water Management are met by implementing all of the following:

- Plan 8: Future Urban Structure Plan;
- Plan 15: Integrated Water Management Plan; and
- Integrated Water Management Planning and Design guidelines set out in Section 5.7.3.



5.7.3 Integrated Water Management planning and design guidelines

Each planning permit application submitted must include an Integrated Water Management Statement which addresses how the objectives and guidelines of the Integrated Water Management Plan are achieved.

Water management solutions may deviate from the centralised drainage scheme yet must meet the technical engineering and water quality requirements needed to protect urban areas from flooding. Proposed solutions must be consistent with the financial management and staging principles contained within this Precinct Structure Plan.

The following planning and design guidelines must be met:

- All developments must achieve the provisions and standards in Clause 56-07 and other relevant provisions of the Ballarat Planning Scheme which promote Integrated Water Management;
- All drainage and waterway reserves must be designed to cater for 1:100 year flow events and the requirements of the Responsible Authority at the time of submission. Final sizes of drainage and waterway reserves will be subject to detailed design and approval by the Responsible Authority;
- Proposed water management arrangements must not hinder future development downstream and must consider the ultimate depth and location of piping further downstream; and
- All development must be in accordance with the City of Ballarat Water Sensitive Urban Design Guidelines, Stormwater Management Policy and related policies adopted by Council, as amended.

The following planning and design guidelines should be met:

- If new development brings forward the need for new drainage infrastructure or works, the developer should ensure that drainage requirements are managed without adversely affecting the financial capacity of the drainage authority to fund infrastructure using development contributions levies. Out of sequence development should be avoided unless infrastructure requirements can be funded or financed by developers;
- Drainage systems should be designed to ensure that stormwater quality is enhanced to best practice standards prior to discharge to the drainage lines;
- Design of drainage infrastructure should provide a high degree of visual amenity to adjacent residential areas and allow for recreational use where possible;

- Where retarding of storm flows is required in or adjacent to open space, the area used for retarding should be integrated into the open space. The area available for recreation use outside of flood periods should be maximised. Dual use of land for retarding and active open space (for example ovals) is encouraged;
- Maximise the potential for the collection, retention and re-use of stormwater by using site topography;
- Provide opportunities for stormwater harvesting and re-use in public open spaces, where possible;
- Ensure a net-gain of flora and fauna habitat in the construction of wetlands, water courses and associated constructed features;
- All development should demonstrate a 40% reduction on potable water demand from business as usual;
- Encourage the use of rainwater tanks for uses within domestic, commercial and community facility buildings, and for external irrigation; and
- Consider and explore opportunities to implement innovative solutions including the installation of:
 - Stormwater harvesting and capture systems;
 - Aquifer recharge and retrieval systems;
 - A third pipe recycled water system either using decentralised treatment or linked to the Ballarat South Wastewater Treatment Plant; and
 - Other to be determined based on best practice, new technologies or Government Policy.

The City of Ballarat, in consultation with Central Highlands Water and Corangamite CMA, is willing to explore the cost and feasibility of implementing innovations within the Precinct.

Drainage Network Delivery Statement

The drainage scheme has been designed to service the development with infrastructure that is optimal in terms of cost and performance while protecting properties, existing waterways and the environment.

Construction works for the drainage scheme will be completed in stages over the 30-plus year development of the Ballarat West PSP area. An annual capital works program will be prepared by City of Ballarat and works will be undertaken on a priority basis. Prioritisation of the scheme's works will include:

- allocation of funding over the life of the PSP, the flow of funding from the Ballarat West DCP and any medium term capital works plan developed by City of Ballarat;



- the rate of development within each sub-catchment;
- the estimated total cost of the downstream works required to provide trunk drainage for an individual parcel; and
- the likely timing of other civil infrastructure including sewerage and roads.

City of Ballarat will generally undertake drainage scheme works from the downstream end first as it ensures that all properties in the sub-catchment receive the benefit of these works and are not adversely impacted by additional flows. Alternatively, where works are not 'out-of-sequence', these works may be constructed in conjunction with development as an in-kind contribution.

If finances are not available to deliver drainage infrastructure landowners may:

- submit proposals for works in kind which defray or avoid costs for drainage infrastructure accounted for in the DCP which enhance the financial position of the DCP;
- fund the required drainage works themselves, and seek reimbursement when funds become available to the Collecting Agency.

For sub-catchments with larger landholdings, developers will be encouraged to pool resources to fund permanent drainage works, rather than constructing temporary drainage works for individual development sites.

Where landholdings are more fragmented, this may affect the rate at which development can be expected to occur and in turn, the timing of new public works.

Out-of-sequence development

Developments may be required to provide temporary works where development is 'out-of-sequence' for drainage provision. If a developer provides an interim solution to service its development that benefits the scheme and results in significant savings to the scheme finances, development contributions may be reduced. This will be assessed on a case-by-case basis.

Where an out-of-sequence development brings forward works as an in-kind contribution, City of Ballarat may delay financial recognition of these works for the purposes of the Ballarat West DCP.

Non-scheme works and innovative solutions

City of Ballarat may compensate a developer or reduce the scheme contribution for non-scheme works or design innovations that financially benefit the scheme. The level of compensation will be based on the particular circumstances relating to each solution. The compensation or reduction in the scheme contribution will be based on the saving to the scheme and overall benefit of the solution.

Developers should note the following:

- Early development of the Major Activity Centre and the area north of Webb Road is within long-term drainage catchments and alternative solutions are likely to be required in consultation with the Responsible Authority.
- The stormwater treatment areas proposed in the drainage scheme have been sized assuming there are no rainwater tanks in the catchment as a conservative approach for preliminary sizing. Modelling assumptions such as this can be revisited when more information becomes available on the design of individual developments.

Design standards for drainage

Non-scheme works will generally be required to meet relevant design standards. Key design standards for the DCP area are as follows:

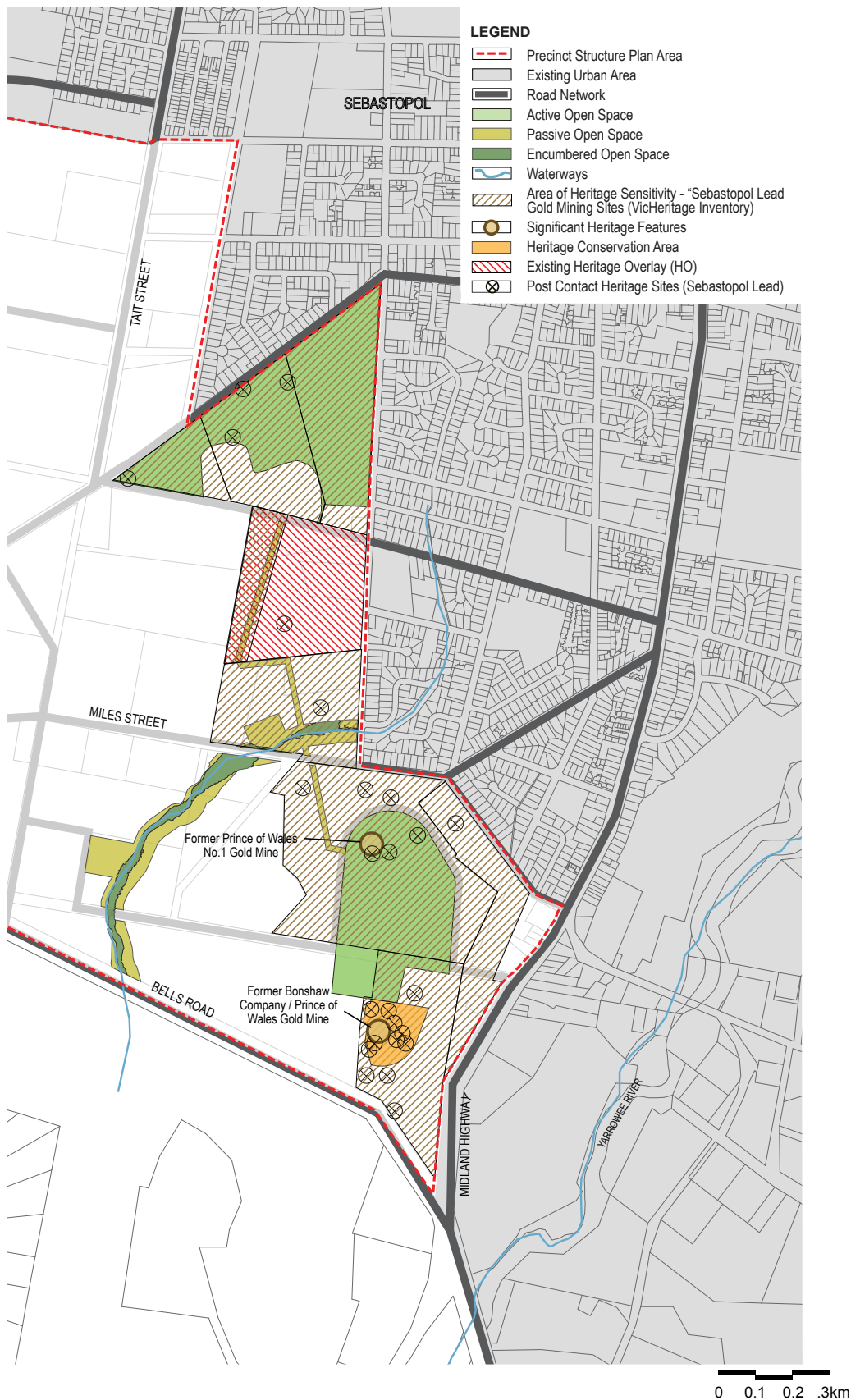
- downstream flows must be no greater than pre-development levels
- stormwater management should promote conservation and re-use of stormwater for non-potable purposes;
- all new development is to be protected from the 1:100 year flood;
- the local drainage system will have capacity to process a 1 in 5 year storm event;
- water quality is to be treated to best standard practice (currently 45% reduction in total nitrogen and phosphorus and 80% reduction in total suspended solids);
- development should protect and enhance the environmental, social (including heritage) and economic values of waterway.

Reviews

The scheme requires financial, engineering and environmental reviews on a regular basis to ensure costs are neither over nor under recovered and up-to-date requirements are met. Financial reviews will occur on an annual basis as part of setting the capital works program. Engineering reviews of the drainage scheme will be undertaken as part of regular reviews of the Ballarat West PSP and the Ballarat West DCP (approximately five-yearly). These will address the changing circumstances of the scheme, changes to engineering and environmental standards, revisions to climate change forecasts and so forth.



Plan 16 Gold Mining Heritage



5.8 Heritage

5.8.1 Heritage objectives

The objectives for heritage are:

- To protect and enhance the heritage values of the Ballarat West PSP area;
- To build sense of place through enhancing connection to past communities; and
- To incorporate significant heritage features into the public open space network.

5.8.2 Implementation

The objectives for heritage are met by implementing all of the following:

- Plan 8: Future Urban Structure Plan;
- Plan 14: Open Space Plan;
- Plan 16: Gold Mining Heritage Plan; and
- Heritage Planning and Design guidelines set out in Section 5.8.3.

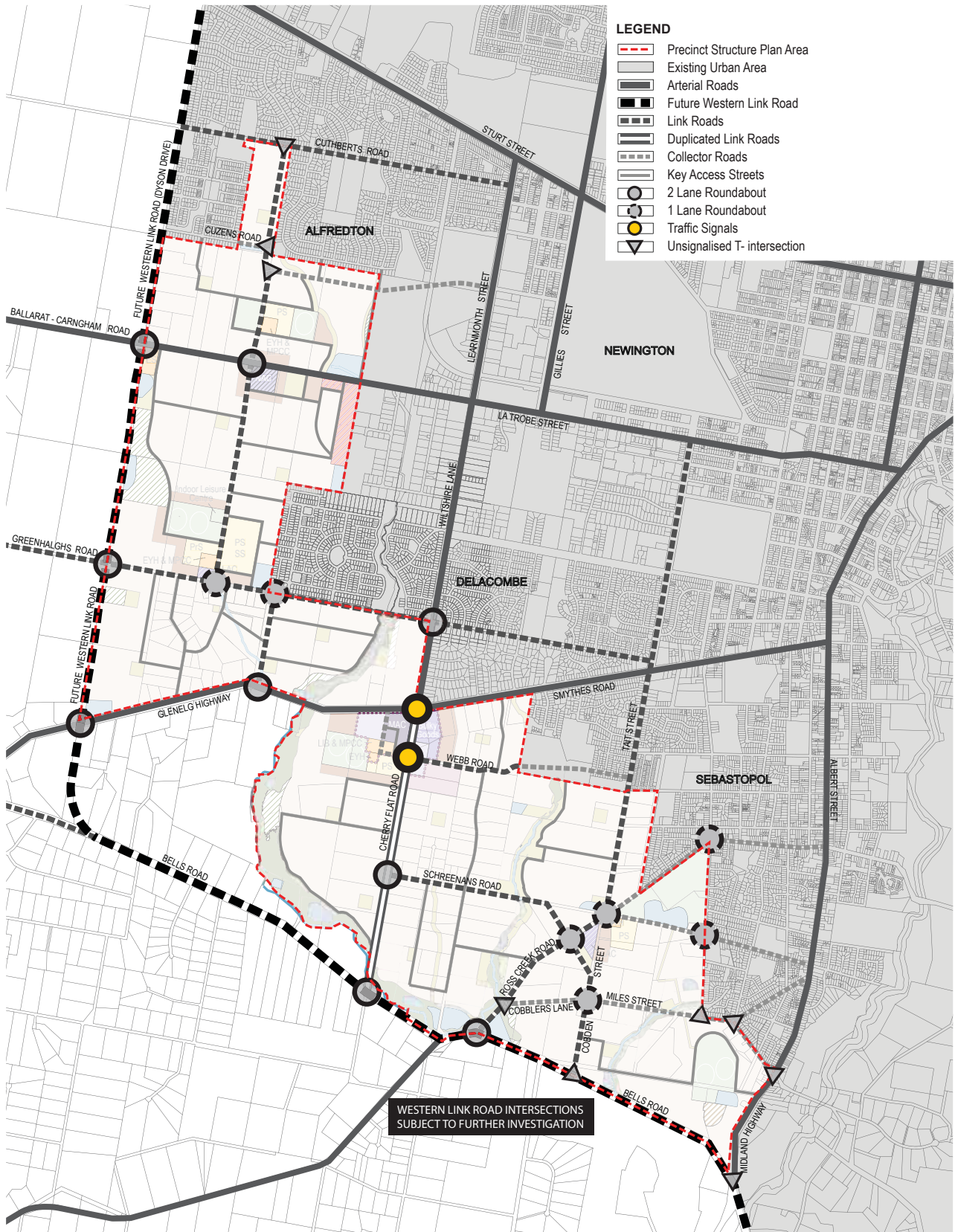
5.8.3 Heritage planning and design guidelines

The following planning and design guidelines must be met:

- Developments along the Sebastopol Lead historic gold mining area must respond to the following design principles:
 - The Prince of Wales / Bonshaw Company former gold mining site (H7622-0217 and H7622-0137 – Heritage Overlay under development) is to be incorporated into the south-eastern District Open Space. The site is to be managed to allow public access and provide heritage interpretation;
 - The key features of the Prince of Wales No. 1 former gold mining site (H7622-0136) are to be incorporated into the south-eastern District Open Space. This area will have a recreation function, and will be managed in a way that maintains key landscape features and provides heritage interpretation of the site;
 - Development will acknowledge the key features of the former gold mining use through heritage interpretation of the former mining camp, mine shaft and mullock heap sites;
 - Development will provide an urban design and/or heritage interpretation response to the path of the underground Sebastopol Lead;
 - Landscape treatments within the vicinity of the Sebastopol Lead and former gold mining sites heritage areas must take cues from the gold mining history of the area; and
 - Vistas should be maintained from the intersection of Miles and Grants Streets and the intersection of Queen, Miles and Prince Streets to the Prince of Wales No. 1 and the Prince of Wales / Bonshaw Company former gold mining sites. Appropriate heritage interpretation should be included at these view points.



Plan 17 Road Network



- LEGEND**
- Precinct Structure Plan Area
 - Existing Urban Area
 - Arterial Roads
 - Future Western Link Road
 - Link Roads
 - Duplicated Link Roads
 - Collector Roads
 - Key Access Streets
 - 2 Lane Roundabout
 - 1 Lane Roundabout
 - Traffic Signals
 - Unsignalised T- intersection

WESTERN LINK ROAD INTERSECTIONS
SUBJECT TO FURTHER INVESTIGATION

0 0.25 0.5 .75km



5.9 Transport and Movement

5.9.1 Transport and movement objectives

The objectives for transport and movement are:

- To encourage walking and cycling and reduce the dependency on cars by providing a sustainable transport and movement network;
- To design a safe and efficient pedestrian and bicycle network that connects to the activity centres, education and community hubs, and the open space network;
- To create quality on and off road pedestrian and cycle links that allow for safe and efficient movement between residential areas and key community infrastructure;
- To ensure roads can meet traffic demands and accommodate services;
- To balance the competing demands of encouraging direct and safe access to shops, schools and services and minimising traffic congestion within activity centres;
- To provide safe and efficient bus routes, with stops that promote passive surveillance and passenger safety;
- To ensure that 95% of dwellings are located within 400 metres of a bus route;
- To meet the access management requirements of VicRoads for arterial roads;
- To design a legible, permeable and interconnected street and links network;
- To integrate the Ballarat West PSP with the proposed Ballarat Western Link Road and to reserve land for it where required;
- To design streetscapes including landscaping and other urban design treatments to reinforce the identity of each place, legibility and safety of routes; and
- To create landscaped roads and streets which reflect the character of established boulevards in Ballarat.

5.9.2 Implementation

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

- Plan 17: Road Network Plan;
- Plan 18: Public Transport Network Plan;
- Plan 19: Walking and Trails Plan;
- Table 7: Road Network;
- Figures 9-11: Road cross sections; and
- Transport Planning and design guidelines set out in Section 5.9.3.



5.9.3 Transport planning and design guidelines

The following planning and design guidelines must be met:

- All intersections with existing or proposed arterial and link roads as shown on Plan 17 must be designed, constructed and controlled to the satisfaction of the Responsible Authority;
- Staging of subdivision must provide for the timely connections of road links between properties to the arterial and link road network to support timely transport connections (walking, bus and cycle) to the satisfaction of the Responsible Authority; and
- Development must provide a permeable street network with a clear road hierarchy generally in accordance with the road cross sections in Figures 9-11.

Arterial and Duplicated Link Roads

The following planning and design guidelines must be met:

- Allow for the widening of Carngham Road to an ultimate road reserve of 40m wide in accordance with the existing Public Acquisition Overlay;
- Allow for the eventual widening of the southern section of Cherry Flat Road to a duplicated link road with an ultimate 40m road reserve in accordance with the existing Public Acquisition Overlay;
- Residential lots fronting arterial roads or duplicated link roads (including the Western Link Road) must be accessed from service roads or local roads and lanes only. No direct lot access is permitted to arterial roads or duplicated link roads;
- Intersection design must provide for the safe and efficient operation of the arterial road and the side road to the satisfaction of the relevant authority (VicRoads for Arterial Roads, City of Ballarat for Duplicated Link Roads), with consideration to vehicle speeds, vehicle queues and conflicting movements on approach to and departure from the intersection; and
- Access points (temporary and permanent) to the existing or proposed arterial roads or duplicated link roads beyond those shown on Plan 17, will be considered on a case by case basis in accordance with VicRoads access management policies.

Link and Collector Roads

The following planning and design guidelines must be met:

- Allow for the widening of the following roads to an ultimate 24m road reserve:
 - Greenhalghs Road within the PSP boundary;
 - Webb Road (east-west section);
 - Cobden Street; and
 - Schreenans Road.

The following planning and design guidelines should be met:

- Where it is expected that higher than average bicycle traffic volumes may occur on a Link Road, consideration should be given to providing an alternative road cross section with Copenhagen bicycle lanes.

Bus Network

The following planning and design guidelines must be met:

- Ensure bus routes link the activity centres, education and community hubs and the Industrial/Commercial Precinct;
- Design roads designated as potential bus routes to accommodate bus movements to the satisfaction of the Responsible Authority in consultation with the Department of Transport and in accordance with the Public Transport Guidelines for Land Use and Development;
- Where a bus route is shown on a local street, the local street cross-section must be in accordance with Figure 11 Cross-Section 'CS1 - Collector Street: Constrained'; and
- Where a requirement for a bus route or bus stop has been nominated:
 - Bus stop facilities must be constructed by development proponents as part of the subdivision works (prior to the issue of a statement of compliance for the relevant stage) in accordance with the requirements of the Public Transport Guidelines for Land Use and Development to the satisfaction of the Director of Public Transport;
 - The facilities must be provided with DDA compliant direct and safe pedestrian access connected to an existing pedestrian/shared path; and
 - The facilities must be designed as an integral part of activity centres and activity-generating land uses, such as schools, sports fields and employment areas.



Walking and Cycling Network

The following planning and design guidelines must be met:

- Walking and cycling networks must be constructed by development proponents as part of subdivision works (prior to the issue of a statement of compliance for the relevant stage);
- Footpaths and cycle paths must be provided with increased width in areas expecting high foot traffic such as near schools, community centres, activity centres and bus stops;
- Pedestrian and cycle crossings must be provided at all relevant street intersections and along key desire lines, particularly along the interface between residential and employment areas and in the vicinity of bus stops;
- Bicycle lane connections must be designed to allow for the smooth transition between on-road and off-road facilities;
- Pedestrian and cycle paths must be designed and located to maximise passive surveillance and provided in wide road verges with safe crossing points at key locations;
- The local street network must be designed to provide permeable, direct and safe routes for walking and cycling to activity centres, community facilities, parks and open space, major trail networks and public transport;
- The local street network must provide connection between adjoining developments where possible, including future development sites; and
- Regular walking and cycling connections are to be provided across creeks, where residential development is expected on both sides.

The following planning and design guidelines should be met:

- The 'Sebastopol Lead' linear trail from the former gold mining sites within M R Power Park to the Prince of Wales / Bonshaw Company former gold mining site (see Plan 16) should follow the Sebastopol Lead and/or connect key mining features such as the former mining camp, mine shaft and mullock heap sites where possible. Heritage interpretation should be provided at key points;
- Paths and trails should be sealed rather than unsealed;
- The local street network should not create long barriers to walking and cycling; and
- On Link Roads with high bicycle traffic volumes, consideration should be given to providing an alternative road cross section with Copenhagen bicycle lanes.



Table 7 Road Network

Future Road Names	Road Hierarchy^	Road Cross Section Number	Indicative VPD	Existing road reservation	Proposed road reservation	Traffic Lanes	Designed Speed	Suitable for Buses	Cycle Facility	Shared Path	Ultimate Responsibility
Cuthberts Road	Link	N/A	10250	25	25	2	60	Yes	On-road	TBC	Council
Cuzens Road*	Collector	CS1	10750	18.5	18.5	2	60	No	No	No	Council
Carngham Road	Arterial 2	N/A	15250	20	40	4	70	Yes	On-road	Yes	VicRoads
Greenhalghs Road	Link	LR2	13000	20	24	2	60	Yes	On-road	Yes	Council
Glenelg Highway	Arterial 1	N/A	29000	60	60	4	70	Yes	On-road	Yes	VicRoads
Dyson Drive (future Western Link Road) ₁	Interim: Link Ultimate: Duplicated Link	LR1 DLR2	20500	20	60	2/4	80	Yes	On-road	Yes	Council
North-South Road 1 (Sub-Precincts 2 & 4)	Link	LR2	16000	0	24	2	60	Yes	On-road	Yes	Council
North-South Road 2 (Sub-Precinct 2)	Link	LR2	9500	0	24	2	60	Yes	On-road	Yes	Council
Wiltshire Lane	Arterial 2	N/A	22500	40	40	4	70	Yes	On-road	Yes	VicRoads
Cherry Flat Road ₂	Interim: Link Duplicated Link	LR2 DLR1/ DLR2	13750	40	40	2/4	70	Yes	On-road	Yes	Council
Tait Street ₃	Link	LR3	13250	40	40	2	60	Yes	On-road	Yes	Council
Cobden Street	Link	LR2	8000	20	24	2	60	Yes	On-road	Yes	Council
Webb Road (east-west section)	Link	LR2	15500	20	24	2	60	Yes	On-road	Yes	Council
Schreenans Road	Link	LR2	7000	20	24	2	60	Yes	On-road	Yes	Council
Ross Creek Road ₄	Link	LR2	5750	30	30	2	60	Yes	On-road	Yes	Council
Crown Street*	Collector	CS1	8250	20	20	2	60	Yes	Wider traffic lanes	Yes®	Council
Morgan Street*	Collector	CS1	7500	20	20	2	60	Yes	Wider traffic lanes	Yes®	Council



Future Road Names	Road Hierarchy [^]	Road Cross Section Number	Indicative VPD	Existing road reservation	Proposed road reservation	Traffic Lanes	Designed Speed	Suitable for Buses	Cycle Facility	Shared Path	Ultimate Responsibility
Cobblers Lane	Collector	CS2	6250	20	24	2	60	Yes	On-road	Yes	Council
Miles Street*	Collector	CS1	7500	20	20	2	60	Yes	Wider traffic lanes	No	Council
Prince Street*	Collector	CS1	4250	20	20	2	60	Yes	Wider traffic lanes	No	Council
Bells Road east of Cherry Flat Road and Three Chain Road, (future Western Link Road)	Interim: Link Ultimate: Duplicated Link	LR1 DLR2	16000	40	40	2/4	80	Yes	On-road	Yes	Council
Major Activity Centre western collector	Collector	CS2	Varies	N/A	24	2	60	Yes	On-road	Yes	Council
Sub-Precinct 4 East-West Collector	Collector	CS2	Varies	N/A	24	2	60	Yes	On-road	Yes	Council
Ascot Gardens Drive	Link	LR2	Varies	N/A	24	2	60	Yes	On-road	Yes	Council

* Existing road reserves which cannot be widened. Constrained road cross-section required.

@ Where road reservation is too narrow, may be provided within the adjacent Active Open Space.

[^] The terms Link and Collector relate to the City of Ballarat road hierarchy. State Government road hierarchies refer to these levels collectively as Connector roads.

1 - Service Roads should be provided and are outside the road reservation (developer land);

- Driveways and low-volume streets are not to be accessed directly from the Western Link Road traffic lanes.
- Once the ultimate (duplicated) alignment is installed, full intersections will be limited to the locations shown in the Ballarat West Precinct Structure Plan. Other locations will be left-in / left-out only. This is to be reflected in the design of interim arrangements and the local street network.

2 - Driveways are not to be accessed directly from Cherry Flat Road (i.e. are to be access from the rear, local streets or service roads).

- Service roads are optional and would be outside the road reservation (developer land) if a developer chooses to provide them.
- Once the ultimate (duplicated) alignment is installed, full intersections will be limited to key streets - other locations will be left-in / left-out only. This is to be reflected in the design of interim arrangements and the local street network.

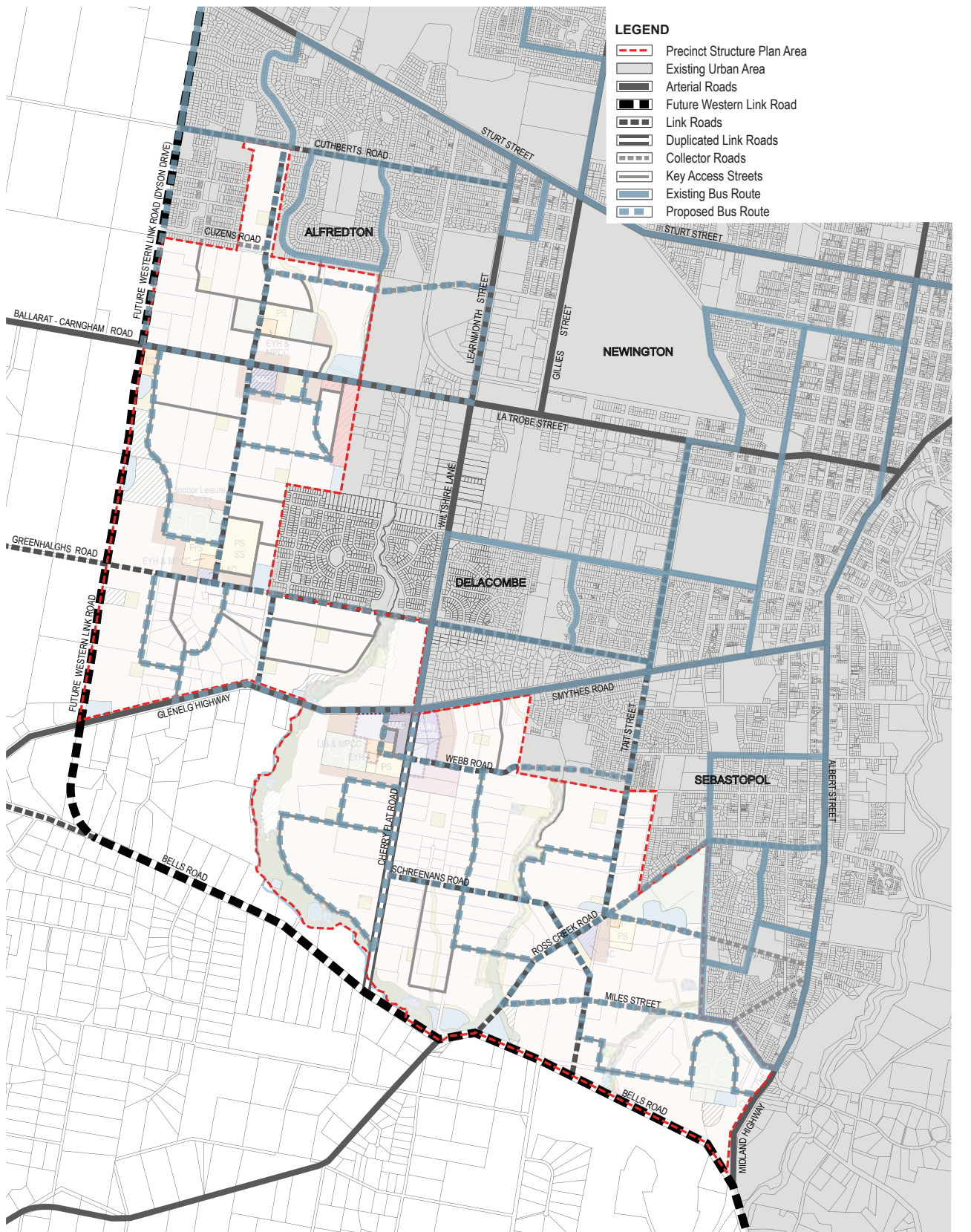
3 - Service roads are to be provided within the road reservation (City of Ballarat land).

- Driveways and low-volume streets are not to be accessed directly from Tait Street traffic lanes (i.e. accessed via the service road).
- Full intersections should be limited to key streets, other locations (e.g. entrances to service roads) are to be left-in / left-out only.

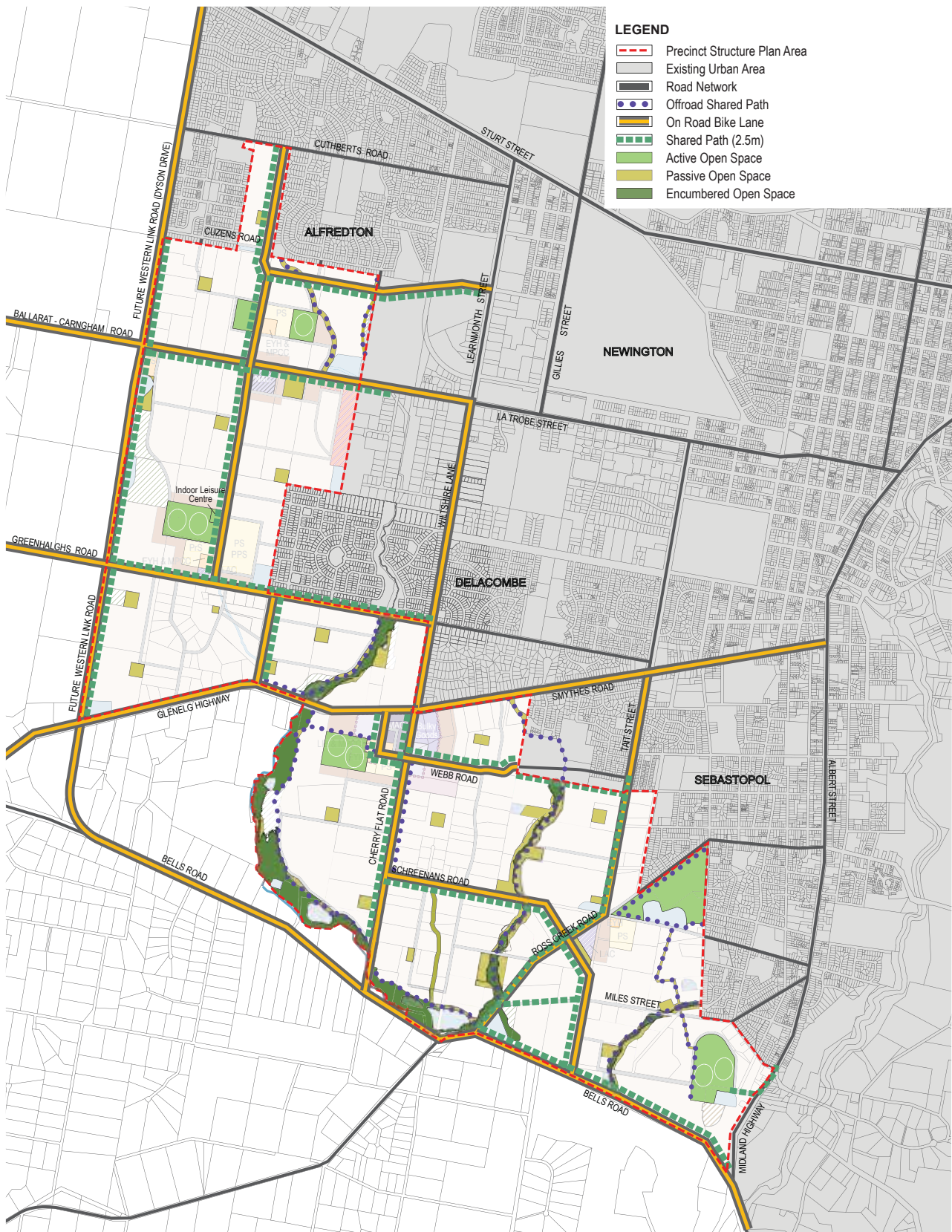
4 - Cross-section LR2 is to be used, with wider verges. The location of the current road seal within the Ross Creek Road Reserve varies and therefore the width of verges & the location of the centreline of the road will vary.



Plan 18 Public Transport



Plan 19 Walking and Trails



- LEGEND**
- Precinct Structure Plan Area
 - Existing Urban Area
 - Road Network
 - Offroad Shared Path
 - On Road Bike Lane
 - Shared Path (2.5m)
 - Active Open Space
 - Passive Open Space
 - Encumbered Open Space

0 0.25 0.5 .75km



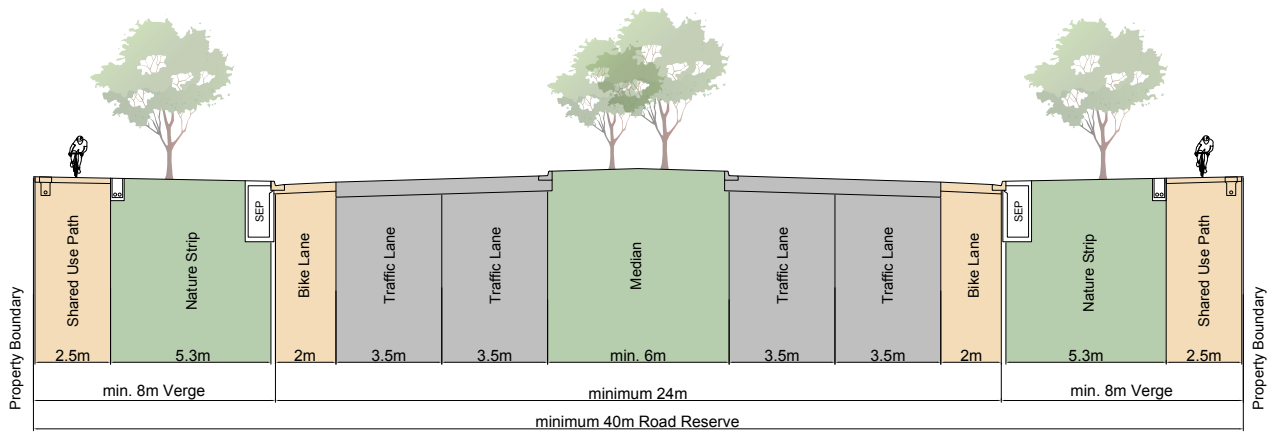


Figure 9: DLR1 - Duplicated Link Road with Verge on both sides

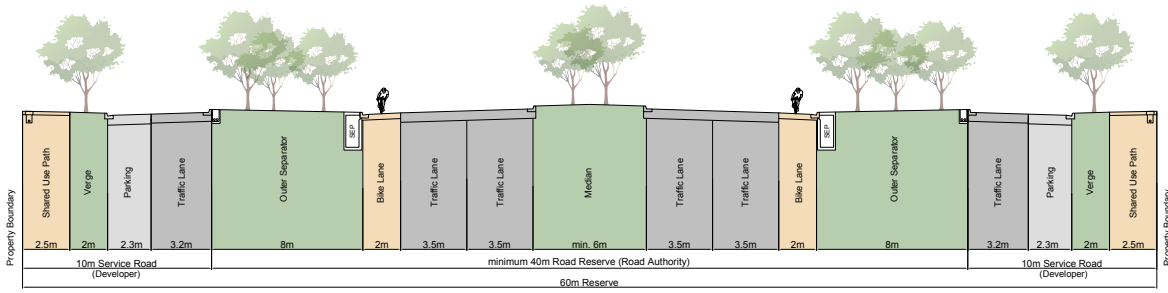
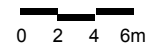


Figure 9: DLR2 - Duplicated Link Road with Service Road on both sides



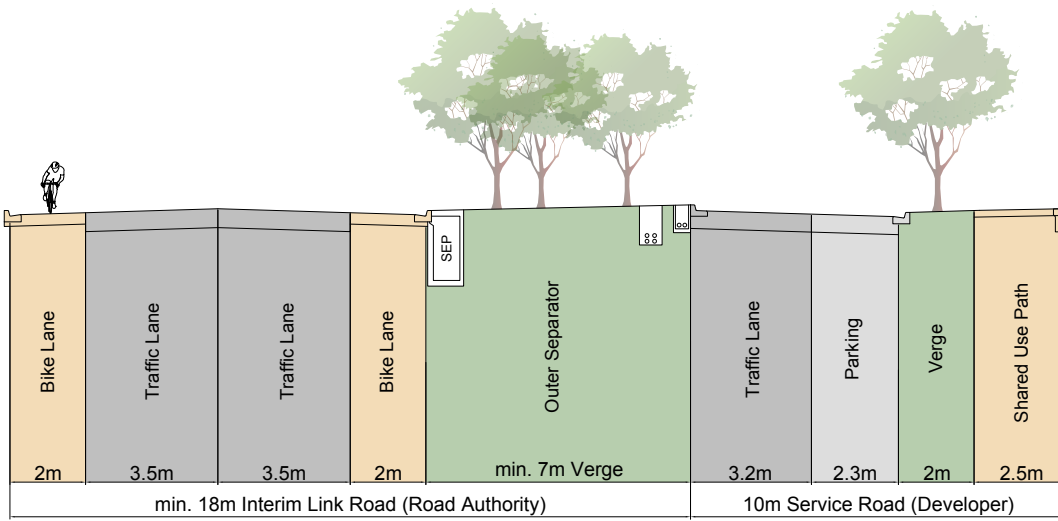


Figure 10: LR1 - Interim Link Road with Service Road on One Side

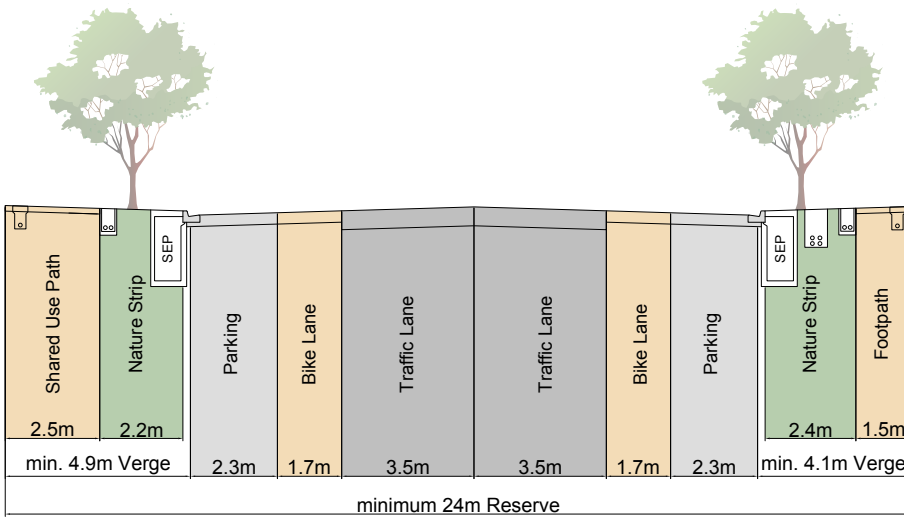
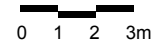


Figure 10: LR2 - Link Road with On-Road Bike Lane

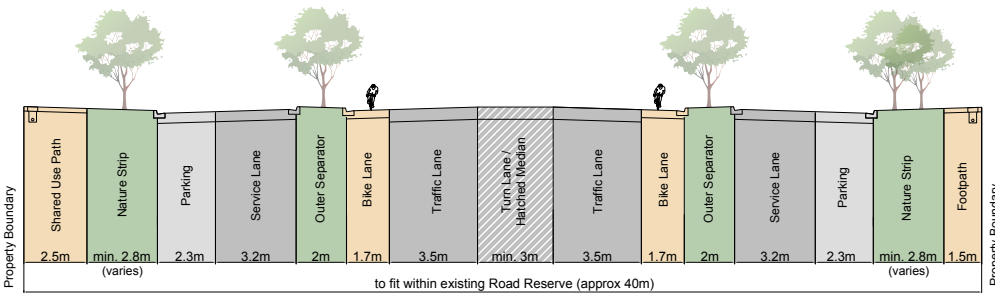
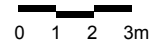
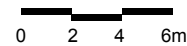


Figure 10: LR3 - Duplicated Link Road with Service Road on both sides



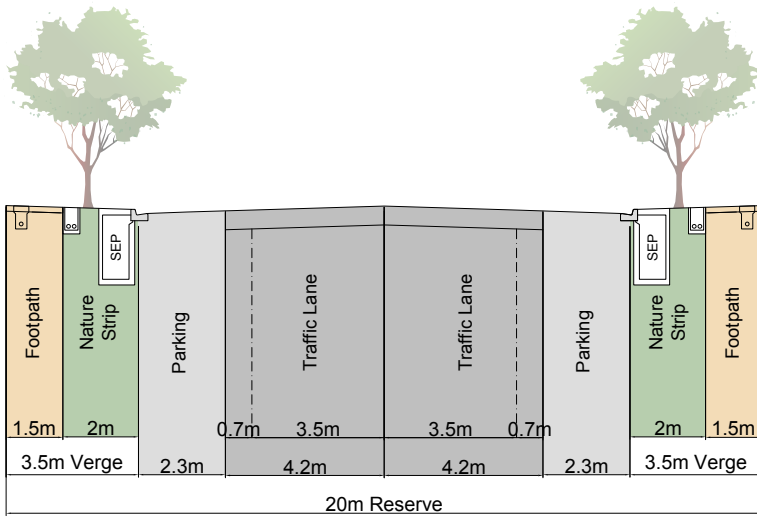


Figure 11: CS1 - Collector Street: Constrained

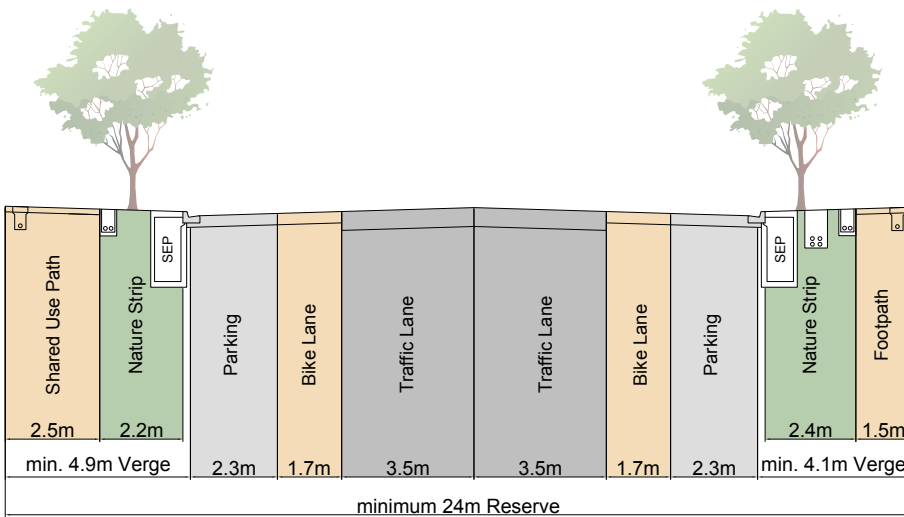
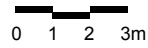
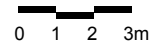


Figure 11: CS2 - Collector Street: Unconstrained



5.10 Utilities and Staging

5.10.1 Utilities and Staging objectives

The utilities and staging objectives are:

- To ensure development occurs in an orderly and sustainable manner, is integrated with existing development and makes best use of existing infrastructure;
- To promote a sequence of development which aligns with the delivery of required infrastructure; and
- To provide all developed lots, to the satisfaction of the Relevant Authority, with:
 - Potable water services;
 - Electricity;
 - Reticulated sewerage;
 - Drainage;
 - Gas; and
 - Telecommunications.

5.10.2 Implementation

The objectives for utilities and staging are met by implementing all of the following:

- Plan 15: Integrated Water Management;
- Plan 20 Water Supply Network;
- Plan 21 Sewerage Network;
- Plan 22 Central Highlands Water Ease of Servicing;
- Plan 23 Natural Gas Network;
- Plan 24 Power Supply;
- Planning and design guidelines set out in Section 5.10.3; and
- Meeting requirements of the relevant service authorities.



5.10.3 Utilities and Staging planning and design guidelines

Development Staging

Staging will be determined by the staging principles (described below), availability of infrastructure services and the development program of developers. Development will generally occur on land abutting or in close proximity to existing development and trunk infrastructure to ensure the timely and efficient provision of roads, services, walking and cycle paths and community services. Short to medium term development will generally proceed outwards from existing development and move towards the MAC, NAC and Industrial / Commercial Precinct.

The following staging principles must be met:

- Development staging must not create circumstances in which new residents are unreasonably isolated from commercial and community facilities or public transport;
- Development must, to the extent practicable, be integrated with adjoining development;
- Development staging must have regard to the availability of services, including the timely provision of connecting roads and walking/cycling paths;
- All relevant service authorities must be consulted to ensure services are provided in a logical and efficient manner;
- Each new lot must be serviced and accessible from a sealed road;
- Staging of lot development and road construction, including any temporary road access, must not cause traffic volumes to exceed the preferred volumes of roads as specified in the road hierarchy; and
- Developers, in meeting the above:
 - May still be out of sequence in terms of infrastructure such as sewer or transport provision. In these circumstances they may be liable for costs associated with extending and/or bringing forward infrastructure or provision of temporary facilities in advance of the sequential roll out of the providers' services; and
 - May still be out of sequence for drainage provision (i.e. may not have a permanent outfall). In these circumstances, developers will be required to negotiate adequate outfall arrangements with affected landowners and Responsible Authority. They may also be liable for costs associated with the construction of any temporary works to achieve adequate outfall.

If the above staging principles are not met, the development proponent will be required to bring forward infrastructure (i.e. fund up front) to the extent necessary to meet the principles outlined above. This may include temporary water, sewer and drainage connections, pump stations and similar infrastructure. Out of sequence developers will be encouraged to support innovative means of delivering permanent drainage infrastructure, in preference to temporary drainage infrastructure, by agreement with the City of Ballarat as drainage authority.

Where development is not in accordance with the staging requirements listed above, developers must demonstrate to the satisfaction of the Responsible Authority and relevant referral authorities how their development achieves orderly planning and will not unreasonably disadvantage residents or prejudice the delivery of infrastructure to be funded by public authorities.

Utilities

The installation of underground utilities and services should be coordinated to maximise the use of common trenching.

Where creek lines are to be used for utilities infrastructure, the easement should avoid heritage sites (e.g Aboriginal artefact scatters) and biodiversity constraints.

