

Pakenham East Precinct Structure Plan

July 2020



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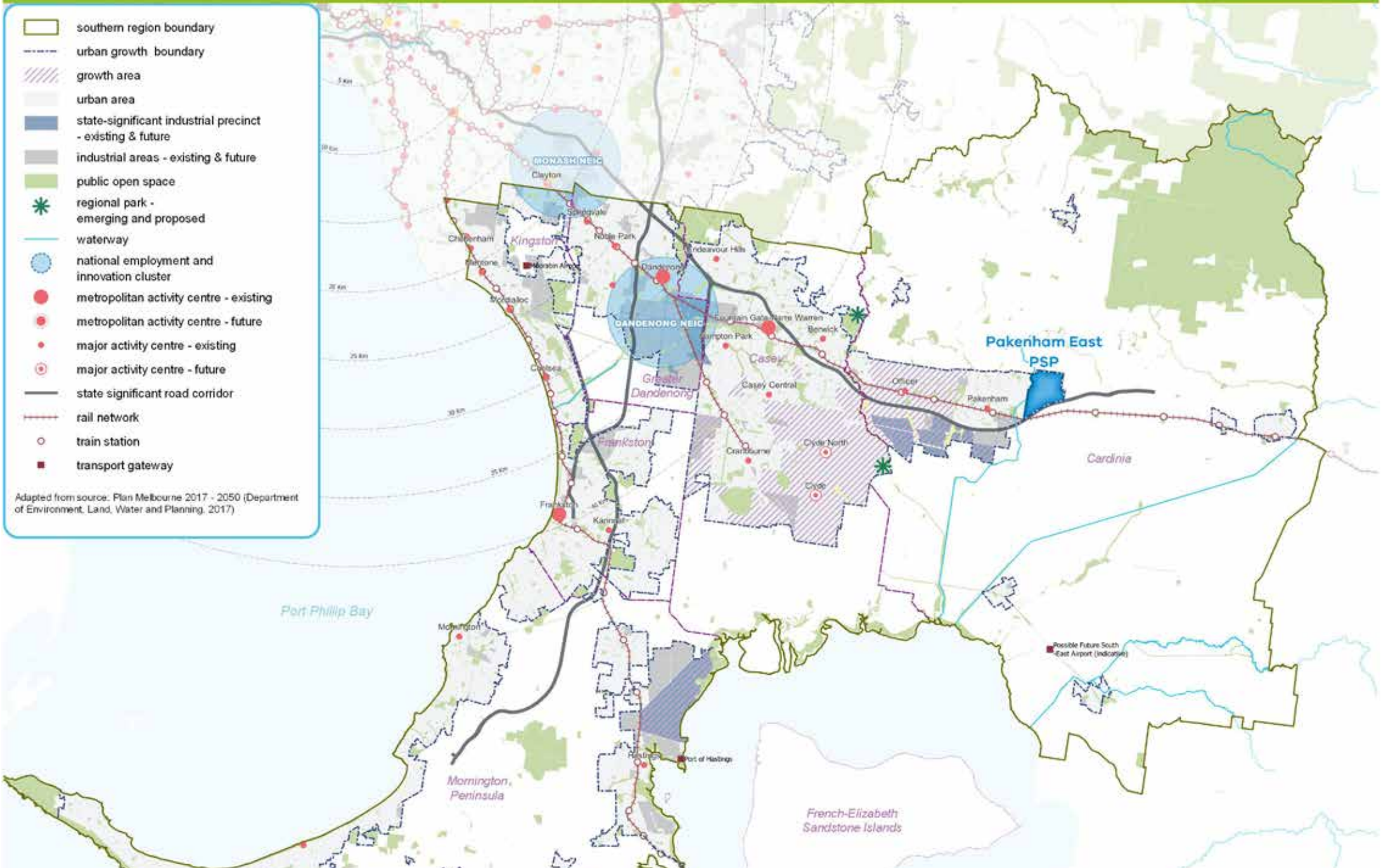
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- southern region boundary
- urban growth boundary
- growth area
- urban area
- state-significant industrial precinct - existing & future
- industrial areas - existing & future
- public open space
- regional park - emerging and proposed
- waterway
- national employment and innovation cluster
- metropolitan activity centre - existing
- metropolitan activity centre - future
- major activity centre - existing
- major activity centre - future
- state significant road corridor
- rail network
- train station
- transport gateway

Adapted from source: Plan Melbourne 2017 - 2050 (Department of Environment, Land, Water and Planning, 2017)



1.0 INTRODUCTION

The Pakenham East Precinct Structure Plan (the PSP) has been prepared by the Victorian Planning Authority (VPA) and Cardinia Shire Council, in collaboration with government agencies, service authorities, major stakeholders and the community.

The PSP is a long term strategic plan to guide urban development. It describes how land is expected to be developed, what natural assets must be protected, and how and where services are planned to support this development.

The PSP guides proposed development within the Pakenham East Precinct.

Generally, the PSP:

- sets out plans to guide the delivery of quality urban environments in accordance with Victorian Government guidelines listed in this section
- enables the transition of non-urban land to urban land
- sets the vision for how land should be developed and desired outcomes to be achieved
- outlines the projects required to ensure that future residents, visitors and workers within the Precinct will be provided with timely access to services, transport, jobs, open space and recreation facilities to support a healthy and affordable lifestyle
- sets out objectives, requirements and guidelines for land use and development
- provides Government agencies, the Council, developers, investors and local communities with greater certainty about future development
- addresses the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999)¹

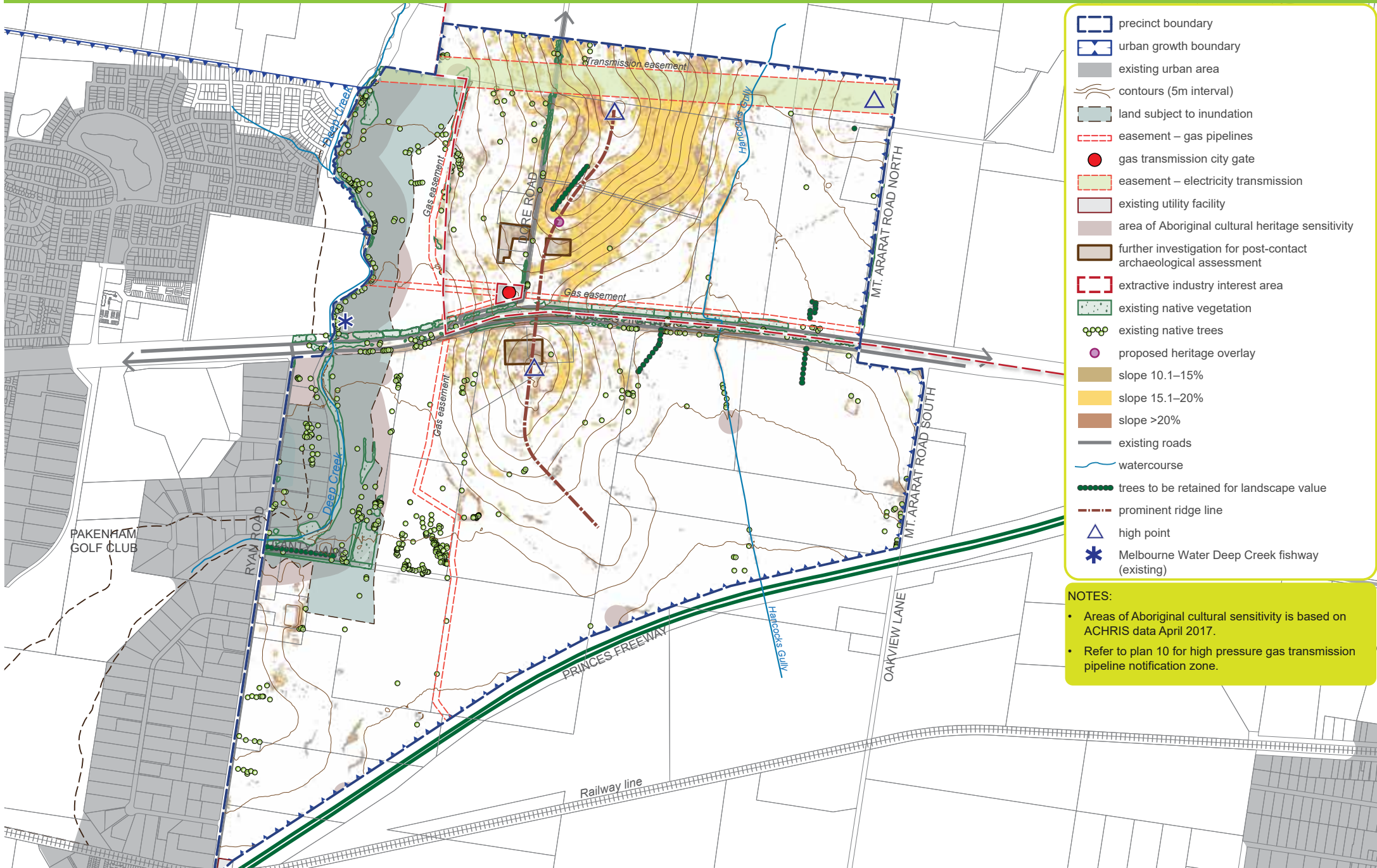
The PSP is informed by:

- the State and Local Planning Policy Framework set out in the Cardinia Planning Scheme
- the *Precinct Structure Planning Guidelines* (Growth Areas Authority, 2009)
- the *Growth Corridor Plans: Managing Melbourne's Growth Areas* (Growth Areas Authority, 2012)
- *Plan Melbourne 2017-2050* (Victorian Government, 2017)
- the State Environment Protection Policy (Waters of Victoria) made under the provisions of the Environment Protection Act 1970

The following documents have been developed in parallel with the PSP to inform and direct the future planning and development of the Precinct:

- *Pakenham East Precinct Structure Plan Background Report* (December 2017).
- *Pakenham East Infrastructure Contributions Plan* (ICP).
- *Pakenham East Native Vegetation Precinct Plan (NVPP)* (October 2018).
- *Guidelines for Slope Management in Subdivisions*, Cardinia Shire Council (Dec 2017)

¹ On 9 January 2018 a referral response was received from the Department of Environment and Energy under Part 7 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). It deemed that Cardinia Amendment C234 (Pakenham East PSP) was not a controlled action, and therefore did not require further assessment and approval under the EPBC Act. This decision relates only to the specific matters protected under Chapter 2 of the EPBC Act. A copy of the document is available at <http://epbcnotices.environment.gov.au/referralslist/> with reference number 2017/8069.



- precinct boundary
- urban growth boundary
- existing urban area
- contours (5m interval)
- land subject to inundation
- easement – gas pipelines
- gas transmission city gate
- easement – electricity transmission
- existing utility facility
- area of Aboriginal cultural heritage sensitivity
- further investigation for post-contact archaeological assessment
- extractive industry interest area
- existing native vegetation
- existing native trees
- proposed heritage overlay
- slope 10.1–15%
- slope 15.1–20%
- slope >20%
- existing roads
- watercourse
- trees to be retained for landscape value
- prominent ridge line
- high point
- Melbourne Water Deep Creek fishway (existing)

NOTES:

- Areas of Aboriginal cultural sensitivity is based on ACHRIS data April 2017.
- Refer to plan 10 for high pressure gas transmission pipeline notification zone.

1.1 How to read this document

The PSP guides land use and development where a planning permit is required under the Urban Growth Zone (UGZ) or another zone where that zone references this PSP.

A planning application and planning permit must implement the outcomes of the PSP. The outcomes are expressed as the **vision and objectives**.

Each element of the PSP contains requirements and guidelines as relevant.

Requirements must be adhered to in developing the land. Where they are not demonstrated in a permit application, requirements will usually be included as a condition on a planning permit whether or not they take the same wording as in this PSP. A requirement may include or reference a plan, table or figure in the PSP.

Guidelines express how discretion will be exercised by the responsible authority in certain matters that require a planning permit. If the responsible authority is satisfied that an application for an alternative to a guideline implements the outcomes, the responsible authority may consider the alternative. A guideline may include or reference a plan, table or figure in the PSP.

Meeting these **Requirements** and **Guidelines** will implement the outcomes of the PSP.

Conditions that must be included in a planning permit are outlined in Schedule 5 to the Urban Growth Zone (UGZ5) in the Cardinia Planning Scheme.

Meeting these requirements, guidelines, and conditions will implement the vision of the PSP.

Development must also comply with other Acts and approvals where relevant, e.g. the *Heritage Act 2017* and the *Aboriginal Heritage Act 2006* in the case of cultural heritage.

Not every aspect of the land's use and development is addressed in this PSP and a responsible authority may manage development and issue permits as relevant under its general discretion.

1.2 Land to which the PSP applies

The PSP covers 629.95 hectares located approximately 56km south east of the Melbourne CBD and applies to PSP1210 (Pakenham East). The precinct is bounded by properties that abut Seymour Road and is traversed by an electricity transmission line easement to the north, Mount Ararat Road to the east, the Princes Freeway to the south and Deep Creek and Ryan Road to the west. The precinct is illustrated on Plan 2 - Precinct Features.

1.3 Background information

The Pakenham East PSP Background Report provides detailed background information relating to the precinct, including its local and metropolitan context, history, landform and topography, biodiversity, drainage, open space, transport infrastructure, employment and community facilities. The report also summarises various background technical studies that have informed the preparation of the PSP.

1.4 Pakenham East Infrastructure Contributions Plan (ICP)

The Pakenham East ICP sets out the requirements for development proponents to contribute towards basic and essential infrastructure required to support development of the precinct. The ICP is a separate document incorporated into the Cardinia Planning Scheme and implemented through Schedule 1 to Clause 45.11 of the Cardinia Planning Scheme. The ICP applies to the same land as the PSP.

Table 8 - Precinct Infrastructure identifies the infrastructure projects that are funded through the ICP, and also those that are funded by the council, or state.

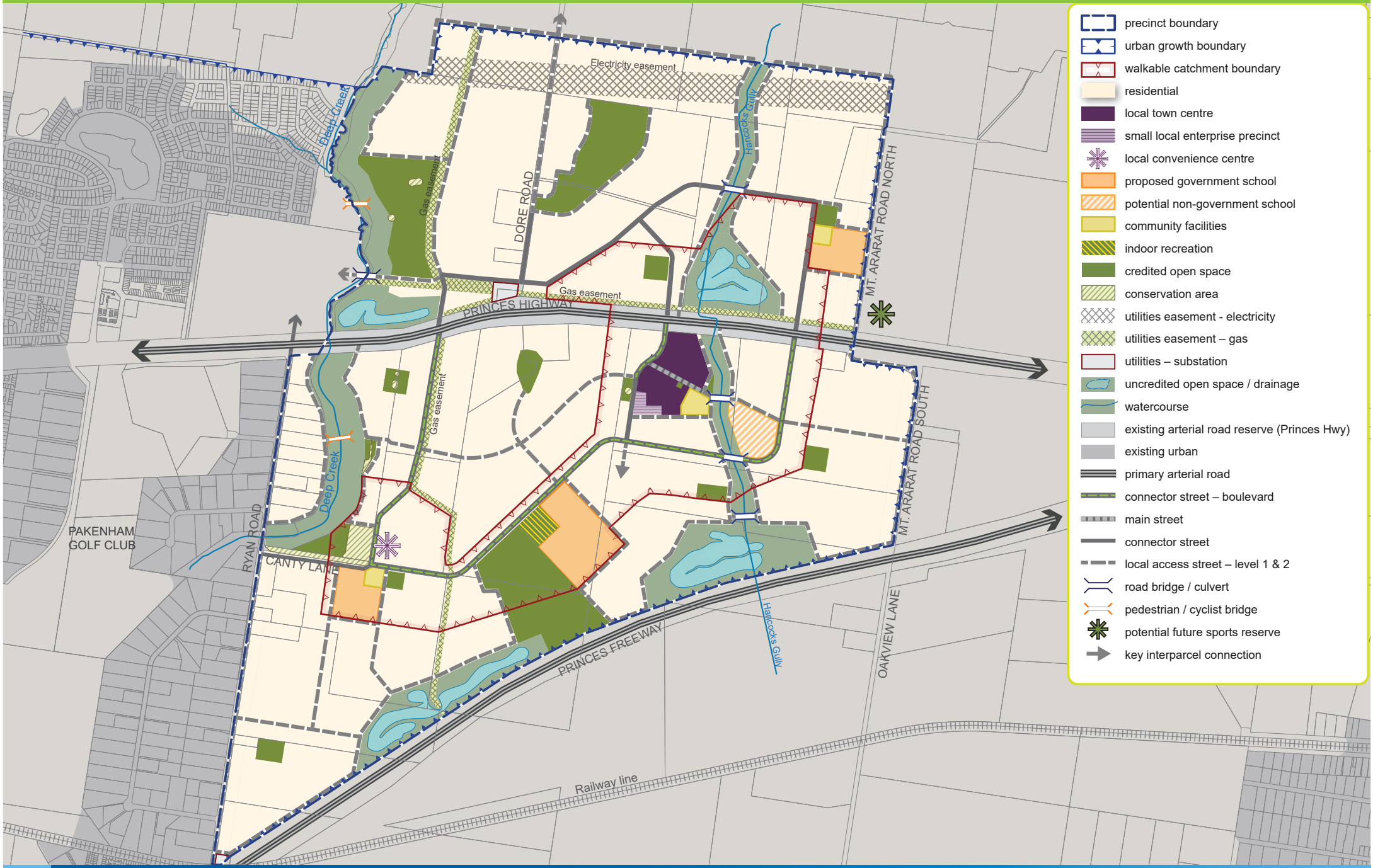
1.5 Native Vegetation Precinct Plan

The Pakenham East Native Vegetation Precinct Plan (NVPP) has been prepared concurrently with the PSP. The NVPP identifies:

- native vegetation to be protected
- native vegetation that can be removed, destroyed or lopped without a planning permit
- the offsets that must be sourced by landowners, as outlined in table 6 of the NVPP, prior to the removal of native vegetation mapped for removal as per the NVPP

The statutory basis for the NVPP is Clause 52.16 of the Cardinia Planning Scheme.

The NVPP will be incorporated into the Cardinia Planning Scheme under Clause 81.01 (Incorporated documents) and is a separate document to the Precinct Structure Plan.



- precinct boundary
- urban growth boundary
- walkable catchment boundary
- residential
- local town centre
- small local enterprise precinct
- local convenience centre
- proposed government school
- potential non-government school
- community facilities
- indoor recreation
- credited open space
- conservation area
- utilities easement - electricity
- utilities easement - gas
- utilities - substation
- uncredited open space / drainage
- watercourse
- existing arterial road reserve (Princes Hwy)
- existing urban
- primary arterial road
- connector street - boulevard
- main street
- connector street
- local access street - level 1 & 2
- road bridge / culvert
- pedestrian / cyclist bridge
- potential future sports reserve
- key interparcel connection

2.0 OUTCOMES

2.1 Vision

The PSP outlines and manages the transition of the Pakenham East Precinct from an historic agricultural area at the foothills of the Dandenong Ranges to a thriving part of Metropolitan Melbourne. The PSP recognises and enhances the local heritage, landscape and environmental values of the area, while delivering a variety of housing options and community and recreational facilities as a logical extension of the Pakenham Township.

The Precinct will offer its community distinct residential neighbourhoods that create a strong sense of place by ensuring development is safe and diverse, provides a high standard of urban design and amenity, while protecting environmentally sensitive areas.

The PSP will embrace the natural landscape and cultural heritage features of the precinct by protecting the ridgelines from inappropriate development, facilitating appropriately scaled and responsive development on steeper land, safeguarding views to and from hilltops, creating habitat corridors along Deep Creek and other waterways, maintaining significant native vegetation and conserving and celebrating places of Aboriginal cultural heritage and post-contact cultural heritage.

The PSP will also plan and respond to the existing built environment and land uses, by providing appropriate infrastructure to both the north and south of the Princes Highway, ensuring appropriate development along the interface to existing residential development to the west of the precinct, the farming land to the north and east, and the Princes Freeway to the south.

Community hubs featuring schools, open space and community services will be developed on both sides of the Princes Highway to ensure that all neighbourhoods within the precinct are provided with integrated local services, facilities and community infrastructure. These will be linked via a strong public transport and path network.

The precinct will offer diverse and affordable housing choices. Along with more traditional detached housing that meet the housing density requirements of the PSP, higher density housing will be delivered within and surrounding the local town centre and in close proximity to key bus routes, community hubs and the local convenience centre.

A diverse mix of retail and commercial jobs within the local town and convenience centres, along with jobs within the community hubs and schools will support the delivery of a range of goods and services to support residents, workers, visitors and businesses. Each centre will have its own distinct character, featuring places for people to gather.

Sport and recreation reserves will attract visitors to the area by providing a range of activity options, all integrated with an extensive path and open space network.

2.2 Objectives

The development of the Pakenham East PSP is guided by the following objectives.

| OBJECTIVES | |
|---|--|
| IMAGE, CHARACTER, TOPOGRAPHY, HOUSING & HERITAGE | |
| 01 | Ensure subdivision design, developments and public spaces are functional, safe, aesthetically pleasing and incorporate environmentally sustainable design. |
| 02 | Ensure the landscape, waterways, topographical features and the historic/cultural characteristics of the precinct are utilised to guide the pattern of development, streets and public spaces. |
| 03 | Preserve view corridors to and from the ridgeline and ensure development does not detract from the visual amenity of the area. |
| 04 | Capitalise on gateways and focal points for future landmarks, site, squares, landscape features and/or public art. |
| 05 | Deliver approximately 7,229 new homes across the precinct and promote increased housing choice, affordability and density within a walkable catchment of high amenity features and public transport. |
| 06 | Support the provision of social and community housing within a walkable catchment of high amenity features and public transport. |
| 07 | Provide a sensitive interface to existing adjoining development, cultural heritage, post contact heritage and conservation areas. |
| 08 | Protect, conserve and celebrate places of Aboriginal cultural heritage and post-contact cultural heritage significance. |
| 09 | Encourage a strong sense of place through the protection, enhancement and interpretation of places of post-contact cultural heritage significance. |
| TOWN CENTRES & EMPLOYMENT | |
| 010 | Strengthen the local economy by creating opportunities for new businesses (in appropriate locations) and a variety of local jobs. |
| 011 | Maximise accessibility for all ages and abilities to employment areas and community facilities, with a particular focus on walking, cycling and public transport. |
| 012 | Deliver highly accessible, functional and vibrant local town and convenience centres of appropriate scale, with high quality architecture, active street frontages, strong urban character and a sense of place that encourages social interaction and community engagement through a diverse mix of uses, including retail, commercial, leisure, entertainment, health, community service activities and accommodation. |
| 013 | Develop the Pakenham East Local Town Centre and Local Convenience Centre with a civic focus and an ability to adapt and evolve with the surrounding residential community and employment areas. |

| OPEN SPACE, COMMUNITY FACILITIES & EDUCATION | |
|--|---|
| 014 | Deliver an accessible network of local parks, sports reserves and neighbourhood community hubs across the precinct that provide access to social, education, recreation, and health services that include flexible, adaptable design to facilitate a variety of uses. |
| 015 | Provide walking, cycling and recreation opportunities by developing an open space network along natural and constructed waterways, the high pressure gas transmission easements, streets, parks and public spaces. |
| 016 | Encourage the retention of native and non-native trees where they are located in the public domain and open space network and provide for planting of canopy trees along streets, pedestrian and cycle networks, open spaces and waterways. |
| 017 | Provide for government and non-government school site(s) to meet the strategically justified need for government and non-government education in the area. |
| 018 | Ensure that the health, safety and wellbeing of residents are protected by delivering a built environment of facilities and amenities that promote healthy lifestyle practices, social interaction, civic engagement, access to services and passive surveillance. |
| BUSHFIRE RESILIENCE, BIODIVERSITY, THREATENED SPECIES & NATIVE VEGETATION RETENTION | |
| 019 | Plan for the long term conservation of significant flora and fauna species through protection of habitat, particularly along Deep Creek, Princes Highway road reservation and within the local conservation reserve. |
| 020 | Ensure development responds to flora species and habitats in accordance with the Pakenham East Native Vegetation Precinct Plan. |
| 021 | Ensure that bushfire hazards are identified and that protection measures are considered in the layout and design of the local street network, subdivisions and buildings and works. |
| TRANSPORT & MOVEMENT | |
| 022 | Provide a high-amenity, low speed and permeable local road network that prioritises community access and safety. |
| 023 | Establish an integrated and permeable transport network to encourage public transport, walking and cycling, reduced car dependency and safety and connectivity for all road users. |
| 024 | Promote public transport movements by providing a bus capable road network that integrates with Pakenham railway station, and services key destinations throughout the precinct, particularly the local town centre. |

| INTEGRATED WATER MANAGEMENT, UTILITIES, ENERGY & SUSTAINABILITY | |
|--|--|
| O25 | Prepare for the impacts of climate change by encouraging resilient, environmentally sustainable design and development across the Precinct. |
| O26 | Ensure sensitive land uses are minimised within the area subject to planning controls responding to the high pressure gas transmission pipeline and that construction is managed to minimise risk of any adverse impacts. |
| O27 | Facilitate the use of renewable energy including the installation of localised systems. |
| O28 | Deliver an integrated and resilient water management system that reduces reliance on reticulated potable water, increases the re-use of alternative water through stormwater harvesting, minimises flood risk, ensures the environmental health of waterways and bays, protects public health, delivers affordable essential water services and contributes towards a sustainable and green urban environment. |
| INFRASTRUCTURE DELIVERY & STAGING | |
| O29 | Deliver cohesive and integrated neighbourhoods by co-ordinating development with the delivery of key local and state infrastructure. |



2.3 Summary land use budget

Table 1- Summary land use budget provides a summary of the land required for transport, community facilities, government education facilities and open space and identifies the total amount of land available for development.

The Net Developable Area (NDA) is established by deducting the land requirements for transport, community facilities, public and private education facilities, open space (sports reserves and local parks), drainage corridors, conservation areas and other encumbered land from the Total Precinct Area.

The total area of the Precinct is 629.95 hectares. The NDA is 414.63 hectares meaning approximately 65.82% of the land within the PSP is available for development. The residential NDA is 413.93 hectares, meaning approximately 65.71% of the land (inclusive of the local town centre and local convenience centre) within the precinct is available for residential development, while 0.70 hectares, or 0.11% of the land is available for dedicated employment uses.

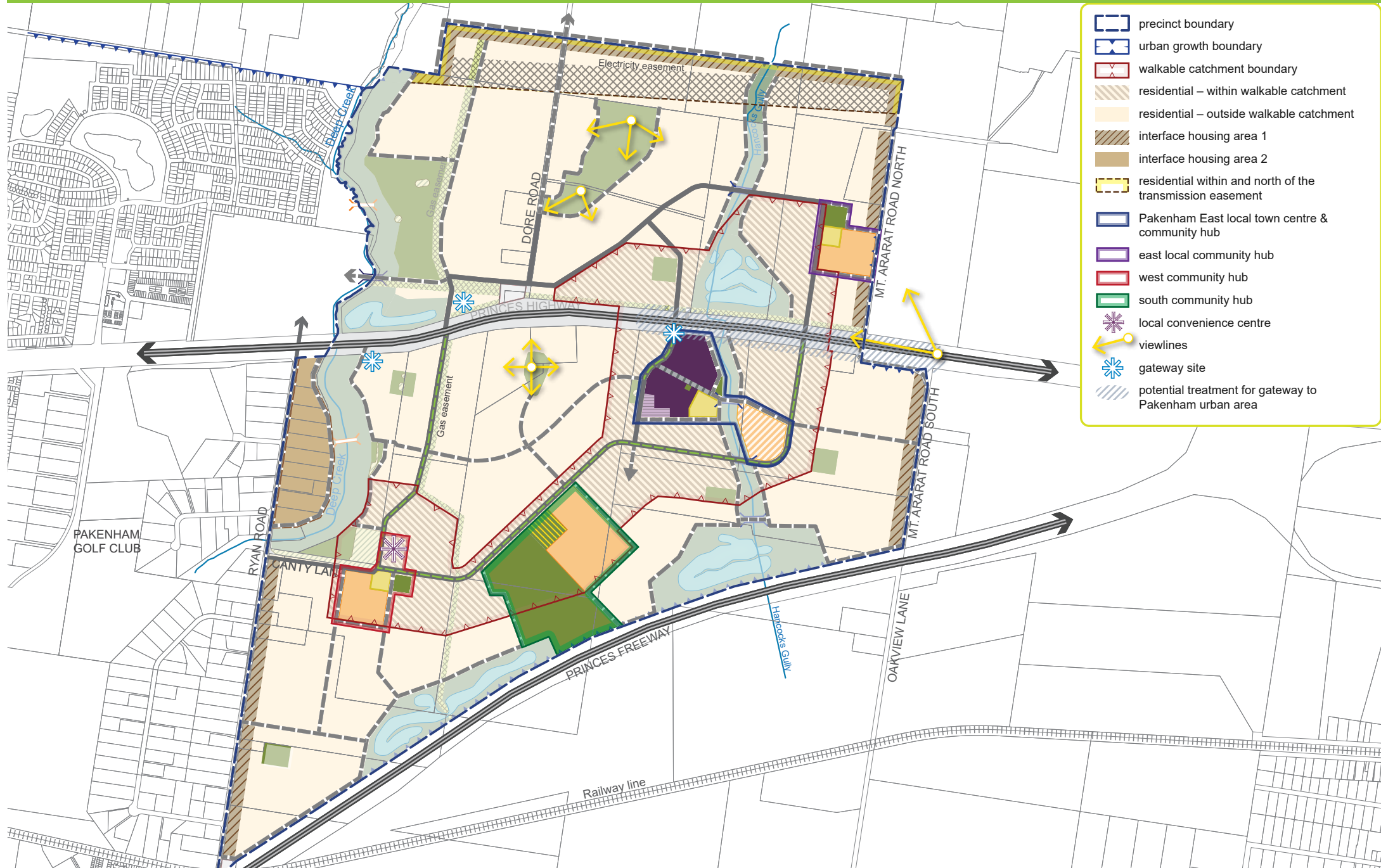
Based on the estimated residential development yield established in Table 3 - Housing Delivery Guide, the Pakenham East PSP will generate approximately 7,229 dwellings to accommodate around 20,200-20,400 new local residents.

Table 1 Summary land use budget

| DESCRIPTION | PSP | | |
|---|---------------|-------------|--------------|
| | HECTARES | % OF TOTAL | % OF NDA |
| TOTAL PRECINCT AREA (ha) | 629.95 | | |
| TRANSPORT | | | |
| Arterial Road - Existing Road Reserve | 21.14 | 3.36% | 5.10% |
| Arterial Road - New / Widening / Intersection Flaring (Public purpose land) | 2.85 | 0.45% | 0.69% |
| Non-Arterial Road - Retained Existing Road Reserve | 7.32 | 1.16% | 1.77% |
| Sub-total Transport | 31.31 | 5.0% | 7.55% |
| COMMUNITY & EDUCATION | | | |
| Government School | 15.40 | 2.44% | 3.71% |
| Potential Non-Government School | 3.50 | 0.56% | 0.84% |
| Local Community Facility (Public purpose land) | 2.20 | 0.35% | 0.53% |
| Local Indoor Recreation (Public purpose land) | 1.50 | 0.24% | 0.36% |
| Sub-total Community & Education | 22.60 | 3.6% | 5.5% |

| DESCRIPTION | PSP | | |
|--|---------------|---------------|---------------|
| | HECTARES | % OF TOTAL | % OF NDA |
| OPEN SPACE | | | |
| Uncredited Open Space | | | |
| Conservation Reserve | 2.98 | 0.47% | 0.72% |
| Waterway and Drainage Reserve | 78.60 | 12.48% | 18.96% |
| Utilities Easements | 11.84 | 1.88% | 2.86% |
| Sub-total Service Open Space | 93.42 | 14.83% | 22.53% |
| Credited Open Space | | | |
| Local Sports Reserve (Public purpose land) | 24.37 | 3.87% | 5.88% |
| Local Network Park (Public purpose land) | 19.92 | 3.16% | 4.81% |
| Sub-total Credited Open Space | 44.29 | 7.03% | 10.68% |
| Total All Open Space | 137.71 | 21.86% | 33.21% |
| OTHER | | | |
| Utilities Sub-stations / facilities (acquired by relevant authority) | 0.89 | 0.14% | 0.21% |
| Electricity Transmission Easement | 22.81 | 3.62% | 5.50% |
| Sub-total | 23.70 | 3.76% | 5.72% |
| TOTAL NET DEVELOPABLE AREA - (NDA) HA | 414.63 | 65.82% | |
| NET DEVELOPABLE AREA - RESIDENTIAL (NDAR) HA | 413.93 | 65.71% | |
| NET DEVELOPABLE AREA - EMPLOYMENT (NDAE) HA | 0.70 | 0.11% | |

| Residential Local Open Space (expressed as % of NDAR) | Hectares | % of NDAR |
|--|-----------------|------------------|
| Local Sports Reserve (Public purpose land) | 24.37 | 5.89% |
| Local Network Park (Public purpose land) | 19.92 | 4.81% |
| Sub-total | 44.29 | 10.70% |
| Employment Local Open Space (expressed as % of NDAE) | Hectares | % of NDAE |
| Local Network Park (Public purpose land) | 0.00 | 0.00% |
| Sub-total | 0.00 | 0.00% |



3.0 IMPLEMENTATION

The following requirements and guidelines will enable future development and works within the PSP to achieve key objectives identified in Section 2.

3.1 Image, character, topography, housing & heritage

3.1.1 Image and character

| REQUIREMENTS | |
|--------------|---|
| R1 | Subdivisions must be designed to maximise the number of lots with direct views to landscape features and public open spaces. |
| R2 | Trees in streets, civic spaces and the open space network must be: <ul style="list-style-type: none"> complementary to the existing native, indigenous and exotic species where appropriate larger species to facilitate continuous canopy cover, wherever space allows planted in modified and improved soil to support tree establishment appropriate in size to nature strips, nearby utilities and built form and suitable for local conditions All public landscaped areas must be planted and designed to the satisfaction of the responsible authority. |
| R3 | Key built form treatments must be provided at gateway sites, as shown on Plan 5 – Image, Character, Housing and Community to: <ul style="list-style-type: none"> establish an attractive and prominent entry to the precinct positively address the Deep Creek corridor, Princes Highway corridor and views to the ridgeline present a strong sense of address to the corner of Princes Highway and the North-South Connector Street to create a high quality entry into the Local Town Centre |
| R4 | All public landscape areas must be consistent with the Cardinia Shire Council Developer Landscape Guidelines, January 2017 (or as amended) and: <ul style="list-style-type: none"> Comprise a mix of native flowering and non-flowering species, both indigenous, native and exotic, and other species as appropriate to the location and design. Edible planting (e.g. fruits, nuts, herbs and bush foods) are encouraged. Be planted in modified and improved soil suitable to the location conditions required to support tree longevity. |
| R5 | If required by the responsible authority, the inclusion of public art and complementary infrastructure for public creative and cultural activities in open space areas in key nodes of district, municipal and regional open space and primary paths and trails must be consistent with Cardinia Shire Council Developer Landscape Guidelines January 2017 (or as amended) and Cardinia Shire Council Public Art Policy 2017 (or as amended). |

| R6 | Street trees must be provided on both sides of all roads (including common property roads) and streets (excluding laneways) at regular intervals appropriate to tree size at maturity and not exceeding the average intervals below unless otherwise agreed by the responsible authority: <table border="1"> <thead> <tr> <th>AVERAGE INTERVAL</th> <th>TREE SIZE</th> </tr> </thead> <tbody> <tr> <td>10 – 12 metres</td> <td>Medium trees (10 – 15 metre canopy)</td> </tr> <tr> <td>12 – 15 metres</td> <td>Large trees (canopy larger than 15 metres)</td> </tr> </tbody> </table> | AVERAGE INTERVAL | TREE SIZE | 10 – 12 metres | Medium trees (10 – 15 metre canopy) | 12 – 15 metres | Large trees (canopy larger than 15 metres) |
|------------------|--|------------------|-----------|----------------|-------------------------------------|----------------|--|
| AVERAGE INTERVAL | TREE SIZE | | | | | | |
| 10 – 12 metres | Medium trees (10 – 15 metre canopy) | | | | | | |
| 12 – 15 metres | Large trees (canopy larger than 15 metres) | | | | | | |
| R7 | Trees to be retained for landscape values, as shown on Plan 2 – Precinct Features, must be incorporated into the subdivision design and within the public realm where practicable, unless otherwise approved by the responsible authority. | | | | | | |
| GUIDELINES | | | | | | | |
| G1 | Street trees should be selected to provide local landmarks and definition to key nodes, local town centre, park frontages and key intersections and entrances. | | | | | | |
| G2 | Streets should be provided directly abutting waterway reserves, open spaces and utilities easements to ensure houses generally face these public spaces. | | | | | | |
| G3 | Appropriate landscape treatments should be provided throughout the precinct to the satisfaction of the responsible authority, particularly in streetscapes and along creek and drainage waterway corridors. | | | | | | |
| G4 | Street networks within subdivisions should be designed to maximise the number of connections and direct views to the open space network, to and from ridgelines, town centres and/or the closest community hub. | | | | | | |
| G5 | Buildings and structures should be designed to protect view lines to and from landscape features, utilise natural materials consistent with the surrounding environment and be screened by vegetation where required. | | | | | | |
| G6 | Subdivision design should incorporate natural and built design elements which respond to topography and local heritage to assist in place making and achieve a “sense of place”. | | | | | | |
| G7 | Built form on corner lots should provide a positive address to both frontages. This can be achieved through the appropriate use of glazing and other architectural treatments. | | | | | | |
| G8 | Built form should add to the precinct character by providing an attractive street address that encourages passive surveillance and visual interest. | | | | | | |
| G9 | Sites in prominent locations, such as the Local Town Centre and major intersections, should be developed to respond to their strategic location and preferably have greater height, density and architectural quality (refer Appendix B- Local Town Centre (LTC) and Local Convenience Centre (LCC) Design Principles). | | | | | | |
| G10 | A consistent suite of street lighting and street furniture should be used across neighbourhoods, appropriate to the type and role of street or public space unless otherwise approved by the responsible authority. | | | | | | |

3.1.2 Topography

| REQUIREMENTS | |
|--------------|---|
| R8 | <p>Any retaining walls in public places and within lots (with the exception of those which are part of a building) must be:</p> <ul style="list-style-type: none"> no more than 1.0 metre in height between a dwelling and a street or where the retaining wall is constructed parallel to a street or public space set back at least 1.0 metre from any building envelope staggered, with a minimum 1.0 metre distance between each stagger to allow for the inclusion of landscaping, where cutting and filling is deeper than 1.0 metre positioned so that associated drainage infrastructure and structural foundations are fully located within the same lot no more than 2.0 metres in overall height for a staggered retaining wall to avoid unreasonable overshadowing of secluded private open space and habitable room windows <p>Unless otherwise approved by the responsible authority as part of a slope management plan.</p> |
| GUIDELINES | |
| G11 | The street network should be designed to respond to the natural land form, avoiding the need for significant cut-and-fill. |
| G12 | <p>Subdivision and dwellings should be designed to respond to the natural topography of the site, avoiding the use of retaining walls and excessive cut-and-fill where possible. This may include:</p> <ul style="list-style-type: none"> split level designs large and wider lot sizes single and double storey components that respond to the slope of the land |
| G13 | Where streets are aligned up/down a slope identified on Plan 2 – Precinct Features as greater than 10%, crossovers should be located on the downhill side of the lot. |
| G14 | Any proposed works on a site, including but not limited to the installation of retaining walls, should be designed to minimise impact on the amenity of adjoining lots and consider the implication on the drainage requirements for all lots. |

3.1.3 Housing

| REQUIREMENTS | |
|--------------|--|
| R9 | <p>Residential subdivision of land within the Precinct boundary shown on Plan 3 - Future Urban Structure, must create lots suitable for the delivery of standard, medium or higher density housing as outlined in Table 2 – Housing type by lot size and Table 3 - Housing Delivery Guide, and:</p> <ul style="list-style-type: none"> Achieve a minimum average density of 22 dwellings per net developable hectare inside the walkable catchment. Achieve an average density of 17 dwellings per net developable hectare outside the walkable catchment (excluding interface housing areas and within and north of the transmission easement shown on Plan 5). <p>Applications for subdivision that can demonstrate how target densities can be achieved over time, to the satisfaction of the responsible authority, shall be considered.</p> |
| R10 | <p>Subdivision applications must include indicative building envelopes for any lots identified for medium density, high density, or integrated housing that suitably demonstrate:</p> <ul style="list-style-type: none"> active interfaces with adjacent streets, open spaces and waterways safe and effective vehicle and pedestrian access and internal circulation, as appropriate servicing arrangements |
| R11 | <p>Lots and dwellings, where possible must front or side:</p> <ul style="list-style-type: none"> drainage channels and waterways open space and utilities reserves arterial roads and connector streets <p>The siting of lots to waterways, open space and primary street frontages must be kept to a minimum.</p> |
| R12 | <p>Subdivision of land within the Interface Housing Area 1 & 2, as identified in Plan 5 – Image, Character, Housing and Community, to minimise amenity impacts on surrounding areas, must:</p> <ul style="list-style-type: none"> be a single dwelling on a lot have a minimum front setback of 8 metres have a minimum side setback of 1 metre for the first 3 metres of the building envelope have no front or side fences greater than 1.2 metres in height within the first 3 metres of the lot provide wider lot frontages |

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| R13 | <p>Subdivision of land in Interface Housing Area 2 as shown in Plan 5 – Image, Character, Housing and Community must provide:</p> <ul style="list-style-type: none"> • a building envelope to maximise the retention of native and non-native vegetation and respond to the environmental sensitivity of the area (Deep Creek and Canty Lane) • nominal vehicle crossings/driveways to access and egress from the site • demonstration that the application will achieve an average minimum lot size of 800m² • fencing that is low scale and facilitates wildlife permeability |
| R14 | <p>Where a street frontage to the open space network (including waterway reserve, open space or utilities easement functioning as open space), is not provided, lots must:</p> <ul style="list-style-type: none"> • directly front the open space and allow for vehicular access via a rear laneway • allow for a primary point of access from the footpath of a minimum width of 1.5 metres along the frontage of the lot <p>Unless otherwise approved as part of a slope management plan by the responsible authority.</p> |
| GUIDELINES | |
| G15 | Residential subdivision should deliver a broad range of lot sizes capable of accommodating a variety of housing types, as described in Table 2 - Housing type by lot size. |
| G16 | <p>Specialised housing forms such as retirement living or aged care facilities should, subject to limitations imposed by utilities</p> <ul style="list-style-type: none"> • be integrated into the wider urban structure • be built with building frontage to the public street network • be located in close proximity to town centres and community hubs • be accessible by public and active transport • not present a barrier to movement from adjoining development to key hubs and destinations or active and public transport routes • be located outside the pipeline notification zone as identified on Plan 10 – Utilities |
| G17 | Residential development should avoid high fences, blank walls and prominent (including separated) garages that face streets and public spaces, and ensure garages are not the dominant front façade element across the width of a lot. |
| G18 | Subdivision of land should maximise north-south orientation of street blocks to facilitate appropriate solar orientation of lots apart from where areas of steep slope prevent north-south orientation. |
| G19 | Different lot arrangements/configuration should be investigated to provide appropriate built form along sensitive interfaces and to allow for tree retention where conventional configurations do not support this, to the satisfaction of the responsible authority. |

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| G20 | Rear loaded lots suitable for town houses and terrace housing should be provided where housing directly fronts open space or where it is considered advantageous to limit vehicle cross overs, to the satisfaction of the responsible authority. |
| G21 | Double storey and rear loaded dwellings should be provided on key streets and boulevards to provide a strong built form presence. |
| G22 | <p>Where rear access lanes are provided, they should:</p> <ul style="list-style-type: none"> • be linear with no T-intersection or bends • ensure garages and rear fences are constructed to the edge of the road reserve of the laneway (with zero setback) • be a maximum paved width of 6 metres |
| G23 | <p>Environmentally Sustainable Development principles should be explored and encouraged in all development, such as the inclusion of, but not limited to:</p> <ul style="list-style-type: none"> • material re-use and recycling • use of materials with reduced embodied energy • electrical self-generation, car charge schemes, smart grids and battery storage • use of tools such as Built Environment Sustainability Scorecard (BESS) Measures that reduce the urban heat island effect • waste management initiatives |
| G24 | Affordable housing, including social and community housing, should be located within a walkable catchment of high amenity features and public transport. Homes specifically designed to accommodate working from home should also be located in such areas. |
| G25 | An existing and/or original dwelling should not be retained on a lot greater than 1000 square metres unless otherwise approved by the responsible authority. |
| G26 | Subdivision of residential land outside the walkable catchment boundary shown on Plan 3 – Future Urban Structure, should achieve the average density outlined in Table 3 – Housing delivery guide. Applications for residential subdivision that can demonstrate how target densities can be achieved over time, to the satisfaction of the responsible authority, will be considered. Lot sizes greater than 0.2ha should be considered on land within and north of the transmission easement as a response to local constraints. |

Table 2 Housing type by lot size

The following table provides an example of the typical range of lot sizes that supports the delivery of a broad range of housing types.

| INDICATIVE HOUSING TYPE | TYPICAL LOT SIZE (M ²) | | |
|--|------------------------------------|--------------------------------|-------------------------------|
| | LESS THAN 300 m ² | BETWEEN 301-600 m ² | MORE THAN >600 m ² |
| Small lot housing including townhouses, terraces and attached, semi-detached and detached houses, including shop-top | ✓ | | |
| Dual occupancies, duplexes | ✓ | ✓ | ✓ |
| Detached houses | | ✓ | ✓ |
| Multi-unit housing sites including terraces, row houses and villas | | ✓ | ✓ |
| Stacked housing including apartments, shop-top living and walk-up flats | | | ✓ |

Note: Lots less than 300m² can be created on a medium density superlot.

Table 3 Housing delivery guide

| RESIDENTIAL TYPE | NDAR (HA) & ELECTRICITY TRANSMISSION EASEMENT | DWELLINGS / NDHA | DWELLINGS |
|--|---|------------------|---------------|
| Residential within walkable catchment | 93.54 | 22.00 | 2058 |
| Residential outside walkable catchment | 274.26 | 17.00 | 4662 |
| Residential outside walkable catchment - Interface housing area 1 (except within and around the transmission easement) | 13.25 | 12.00 | 159 |
| Residential outside walkable catchment - Interface housing area 2 | 11.70 | 9.50 | 111 |
| Residential outside walkable catchment within and north of the electricity transmission easement | 37.27 | 2.80 | 104 |
| Residential within Town Centre | 6.72 | 20.00 | 134 |
| Total | 436.74 | 16.55 | 7,229 |
| Anticipated population @ 2.8 persons per dwelling | | | 20,242 |
| Anticipated population @ 3.1 persons per dwelling | | | 22,411 |

3.1.4 Heritage

| REQUIREMENTS | |
|--------------|--|
| R15 | Any subdivision or development of land adjoining a heritage site identified under the Heritage Overlay in the Cardinia Planning Scheme and/or Aboriginal cultural heritage significance must have regard to the cultural/heritage significance of the site and provide a sensitive interface with appropriate scaled development, proportion and materials, to the satisfaction of the responsible authority. |
| R16 | Historical interpretative signage must be delivered in LP-06 as identified on Plan 6 – Open Space to portray historical information of the historical significance of the precinct, particularly the site that existed at 140 Ryan Rd, Pakenham, informing residents and visitors about the rich history of Cardinia Shire. |
| GUIDELINES | |
| G27 | Development of land subject to the Heritage Overlay in the Cardinia Planning Scheme should ensure that the heritage place is recognised within, and well integrated with, the subdivision. Heritage place(s) should be appropriately secured against damage as a result of works, deterioration, and the effects of weather, trespassing or vandalism. |
| G28 | Proponents undertaking development of land identified on the Victorian Aboriginal Heritage Register, and/or as an area of Aboriginal cultural heritage sensitivity identified on Plan 2 – Precinct Features, should liaise with the designated Registered Aboriginal Party (or Aboriginal Victoria and Traditional Owner Groups in its absence) to ascertain whether heritage interpretation is appropriate in these identified locations, and how the heritage site(s) should be incorporated into the design of the subdivision. |
| G29 | Adaptive reuse of the heritage listed places may be appropriate if it is demonstrated that it will contribute to their long term conservation. |
| G30 | Encourage further investigation of post-contact archaeological artefacts should be undertaken within the areas of assessment as shown on Plan 2 – Precinct Features. |

3.2 Local centres and employment

The local town and convenience centres in Pakenham East will be local destinations that provide retail, services, lifestyle, leisure and commercial needs for the surrounding residential catchment.

The location of the local town centre will maximise the exposure of the site to passing traffic on the Princes Highway, and both centres will be easily accessible from connector and local access streets without compromising the viability of the existing local centres located in Windermere Boulevard, Cardinia Lakes, to the west of the Precinct.

Each centre will have a distinctive character and sense of place by addressing the adjacent landscaped waterway corridor and local road network. The public realm will be a pedestrian priority area with links to surrounding land uses visually and physically.

It is envisaged that shoppers, workers and residents will be able to:

- access the town centre or convenience centre from the connector and local access streets through pedestrian focused environs
- access the town centre from the Hancock’s Gully corridor and the local convenience centre from Canty Lane and the boulevard connector road
- recreate and enjoy the amenity provided by the public realm within the town centre with Hancock’s Gully and the local convenience centre with Canty Lane, conservation reserve and the boulevard connector road
- congregate and linger in the public realm and surrounding open space

The design philosophy of the local town centre and convenience centre will:

- respond to the existing landscape and environmental features
- respond to the pedestrian, bicycle and vehicular movement hierarchy
- create an active, fine grain main street centre
- enhance the public realm by having the local town centre address the Hancock’s Gully waterway corridor and the local convenience centre address Canty Lane and the conversation reserve
- provide a small local enterprise precinct within the Local Town Centre to encourage lower-cost, flexible space for a range of localised enterprises, to ensure these centres have an ability to adapt and evolve over time
- activate the frontages that address the connector boulevard and the Hancock’s Gully waterway corridor and conservation reserve
- demonstrate best practice environmentally sustainable design

The Pakenham East Precinct Structure Plan provides for a local town centre and a local convenience centre shown on Plan 3 - Future Urban Structure and detailed in Table 4 - Town centre hierarchy.

Table 4 Town centre hierarchy

| TOWN CENTRE | SHOP FLOOR SPACE | LOCATION AND ANCILLARY USES |
|--------------------------|----------------------|--|
| Local Town Centre | 11,000m ² | Located in the east of the Precinct. Expected to service the higher order retail and community needs of future residents as well as providing opportunities for entertainment, employment and accommodation. |
| Local Convenience Centre | 3,600 m ² | Located opposite a proposed government primary school in the south west of the precinct to service the convenience needs of the local residents and people visiting the school and sporting reserve. Cafes and small offices encouraged. Residential and office uses are encouraged on upper floors. |

Table 5 Anticipated employment creation in the precinct

| LAND USE | MEASURE | JOBS | QUANTITY IN PSP | ESTIMATED JOBS |
|---------------------------------|-------------------------|--------|-----------------|----------------|
| Community centre | Jobs per centre | 10.00 | 3 | 30 |
| Primary school | Jobs per school | 40.00 | 3 | 120 |
| Secondary school | Jobs per school | 90.00 | 1 | 90 |
| Retail | Jobs per m ² | 0.03 | 14,600 | 438 |
| Commercial/mixed use | Jobs per m ² | 0.05 | 5,600 | 280 |
| Small local enterprise precinct | Jobs per precinct | 117.00 | 1 | 117 |
| Home-based business | Jobs per dwelling | 0.05 | 7,229 | 361 |
| Total | | | | 1,436 |



- anchor retail
- commercial
- mix of commercial uses (residential over)
- small local enterprises
- specialty retail
- community facility
- car parking
- potential non-govt school
- local park
- constructed waterway
- medium density residential
- residential
- prominent site/key built form
- plaza
- high quality public realm treatment
- active frontage
- arterial road (6 lanes)
- connector street
- connector street - boulevard
- feature main street
- local access street
- indicative pedestrian priority location (e.g. pavement treatment)
- loading dock
- signalled intersection
- left-in left-out
- bike route
- car park access
- view line
- trees to be retained

Note:

- This concept plan provides an indicative example of how the local town centre could be developed
- Trees to be retained within private land or road reserve
- Intersection design to the satisfaction of the responsible authority

3.2.1 Local Town Centre

| REQUIREMENTS | |
|--------------|--|
| R17 | <p>Land use and development within the Local Town Centre must respond to:</p> <ul style="list-style-type: none"> • Figure 1 – Pakenham East Local Town Centre (LTC) Concept Plan • the design principles outlined in Appendix B- Local Town Centre (LTC) and Local Convenience Centre (LCC) Design Principles • the <i>Urban Design Guidelines for Victoria, DELWP</i>, unless otherwise approved by the responsible authority |
| R18 | <p>The Local Town Centre must focus on the Main Street and provide active frontages to the public realm.</p> <p>Larger built form core retail developments in the Local Town Centre must:</p> <ul style="list-style-type: none"> • be sleeved behind specialty retail or permissible use built form, as illustrated in Figure 1 – Pakenham East Local Town Centre (LTC) Concept Plan • screen all loading areas, loading docks and all other service areas from public realm areas • minimise views to car parking areas |
| R19 | <p>The built form of sleeving uses, including specialty retail, mixed use and commercial development in the Local Town Centre must:</p> <ul style="list-style-type: none"> • contribute to the development of a traditional town centre urban pattern focused on a main street • be provided to a zero setback from the footpath with a continuous frontage • provide for buildings up to four storeys • promote commercial uses at ground floor level and commercial and/or residential at upper levels • focus pedestrian movement and activity on the main street • locate the principal pedestrian entrances to the main street • provide highly activated frontages with windows and entrances as the predominant elements of the ground floor façade • maximise opportunities to enhance passive surveillance of the public realm • provide a continuous weather protection canopy along the full length of any ground floor façade that interfaces with a street |

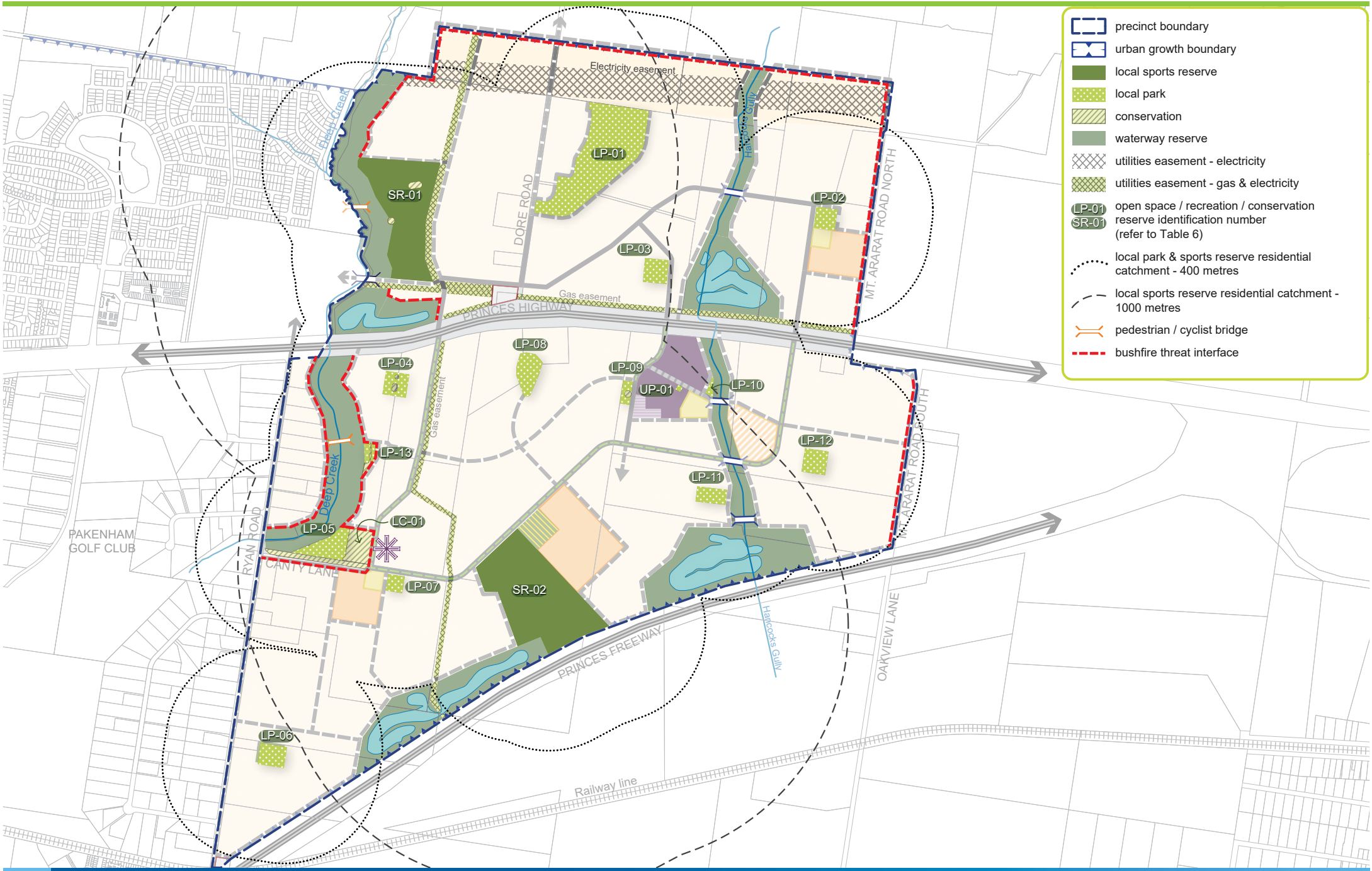
| | |
|------------|--|
| R20 | <p>Higher density residential development must provide a transition between the Local Town Centre and the surrounding residential neighbourhood and:</p> <ul style="list-style-type: none"> • Provide at ground level a maximum front set back of 4 metres with a zero side setback. • Be constructed to a minimum of 2 storeys for the majority of the building envelope. • Provide vehicular access from a rear lane only. • Encourage the inclusion of verandas and balconies to the street frontage. • Provide front facades that maximise passive surveillance opportunities of the public realm and include the dwellings' main entrance. • Provide front fencing to a maximum height of 1.2 metres. • Consider the context for any residential development at ground floor level to have a raised ground floor level of up to 1 metre above natural ground level to partially restrict views into dwellings and allow passive surveillance opportunities from the dwellings. |
| R21 | <p>The built form of community facilities in the Local Town Centre must:</p> <ul style="list-style-type: none"> • provide a primary frontage to the main street • provide a zero setback from the footpath with a continuous frontage • screen views of car parks and service areas from the public realm • contribute to a consistent town centre streetscape • locate pedestrian entrances to the primary street façade or public realm space adjoining the built form • provide active frontages with windows and entrances as the predominant elements of the ground floor façade • provide a continuous weather protection canopy along the full length of the façade |
| R22 | <p>The design of the town square must:</p> <ul style="list-style-type: none"> • provide appropriate street furniture and amenities to comply with the Cardinia Street Furniture Guidelines • provide required circulation space around outdoor dining areas • provide built form interfaces to civic spaces that provide appropriate activation and connectivity <p>Street furniture will need to meet the requirements of Council's urban designers until the Street Furniture Guideline is developed.</p> |

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| R23 | <p>The main street must:</p> <ul style="list-style-type: none"> • prioritise pedestrian and cycle movement • provide pavements of a sufficient width to accommodate street furniture, landscape treatments, weather protection and outdoor dining • maximise continuous built form • minimise vehicle crossovers • protect view corridors and vistas • provide public accessible areas that can accommodate temporary events such as markets, festivals, concerts, etc. |
| R24 | <p>The secondary street network of the town centre must support the functioning of the Main Street and:</p> <ul style="list-style-type: none"> • Support direct access and connectivity between the town centre and surrounding uses. • Be utilised for the main vehicular access to car parking and loading areas. |
| R25 | <p>On-street parking must be:</p> <ul style="list-style-type: none"> • maximised in all town centre streets and is to be provided via indented on-street parallel car parking bays • prioritised for short-stay parking to cater for customers and visitors |
| R26 | <p>Off-street car parking areas must be:</p> <ul style="list-style-type: none"> • responsive to the topography of their site and consider under croft, multi-decked or basement car parking formats • located behind built form that is oriented toward and presents an active frontage towards the public realm and be generally screened from view from the public realm • designed to not disrupt the continuity of the main street • designed to ensure: <ul style="list-style-type: none"> » car parking areas are screened from street frontages through the use of built form, landscaping or facade treatments » safely designed pathways are incorporated to, from and within the car park » appropriate detail has been considered such as landscaping and provision of canopy trees to enhance amenity • passive surveillance can be provided from adjacent development, while not adversely impacting on future development opportunities |

3.2.2 Local Convenience Centre

| REQUIREMENTS | |
|--------------|---|
| R27 | The Local Convenience Centre must be oriented towards the connector street/s and consider the relationship and interface with surrounding uses. |
| R28 | <p>Development proposals within the Local Convenience Centre area must address:</p> <ul style="list-style-type: none"> • The local convenience centre design principles outlined in Appendix B- Local Town Centre (LTC) and Local Convenience Centre (LCC) Design Principles • <i>Urban Design Guidelines for Victoria</i>, DELWP <p>Unless otherwise approved by the responsible authority.</p> |
| R29 | <p>Buildings as part of a local convenience centre must:</p> <ul style="list-style-type: none"> • provide primary access to tenancies from the connector street • provide active and articulated frontages to the adjoining street network • have active frontages and must be designed in a way which contributes to the public domain and • incorporate sensitively designed loading areas which do not impact the surrounding residential area nor detract from the design of the centre |
| R30 | Safe and convenient pedestrian access must be provided to the local convenience centre, including a safe pedestrian street crossing and nearby bus stop locations. |
| GUIDELINES | |
| G31 | Two-storey built form that is well articulated and of high quality design should be considered for the local convenience centre. |
| G32 | <p>The design of the local convenience centre should:</p> <ul style="list-style-type: none"> • feature clear circulation and a high degree of permeability for pedestrians • provide for a mix of tenancies • incorporate a range of uses including retail, offices, medium and higher density residential • locate any servicing infrastructure or car parking to the rear or centre of the allotment in a manner that protects the amenity of the surrounding neighbourhood |



- precinct boundary
- urban growth boundary
- local sports reserve
- local park
- conservation
- waterway reserve
- utilities easement - electricity
- utilities easement - gas & electricity
- open space / recreation / conservation reserve identification number (refer to Table 6)
- reserve identification number (refer to Table 6)
- local park & sports reserve residential catchment - 400 metres
- local sports reserve residential catchment - 1000 metres
- pedestrian / cyclist bridge
- bushfire threat interface

3.3 Open Space, Community Facilities and Education

3.3.1 Open space

| REQUIREMENTS | |
|--------------|---|
| R31 | <p>All parks and sports reserves must be located, designed and developed to the satisfaction of the responsible authority in accordance with:</p> <ul style="list-style-type: none"> Plan 6 - Open Space Table 6 - Open Space Delivery Guide Appendix E: Open Space Delivery Guidelines <p>Take into account the relevant Council policy:</p> <ul style="list-style-type: none"> Cardinia Shire Council Open Space Strategy (or as amended) Cardinia Shire Council developer Landscape Guidelines, January 2017 (or as amended) and Cardinia Shire Council Recreation Reserve Facility Standards Policy 2012 (or as amended). <p>An alternative location for a local park may be considered if it is generally in accordance with Plan 6- Open Space and Table 6 – Open Space Delivery guide, and provided:</p> <ul style="list-style-type: none"> The location does not reduce the walkable access to local parks demonstrated in Plan 6- Open Space. The design does not require the removal of protected trees The design does not diminish the quality or usability of the space for passive recreation. The land area is equal to or more than the local park provision outlined in Table 6 - Open Space Delivery Guide. <p>Where a proposed park is larger than outlined in Table 6 - Open Space Delivery Guide, it may be accepted as long as it does not result in the removal of another park.</p> |
| R32 | <p>Appropriately scaled lighting must be installed along all major pedestrian thoroughfares traversing public open space and along the cycling network as shown on Plan 8 – Public Transport and Path Network as off road shared paths and two-way off-road bicycle paths in accordance with Cardinia Shire Council Developer Landscape Guidelines, January 2017 (or as amended).</p> |
| R33 | <p>For all landscaping proposed within a gas easement, a landscape plan must be submitted to the responsible authority in consultation with the gas pipeline owner/operator demonstrating species, their location and who will be responsible for the ongoing management of landscaping within the easement.</p> |
| R34 | <p>All parks, open space and public landscape areas must be designed and constructed to enable practical maintenance and be planted with species suitable to the local climate and soil conditions, as per Cardinia Shire Council Developer Landscape Guidelines January 2017 (or as amended).</p> |
| R35 | <p>Where a local park spans across multiple properties, the first development proponent to lodge a permit application for land containing the local park must prepare an indicative concept master plan for the entire park, unless otherwise agreed by the responsible authority.</p> |

| R36 | <p>Any fencing of open space where required by the responsible authority must be:</p> <ul style="list-style-type: none"> low scale and visually permeable to facilitate public safety and natural surveillance, except where safety fencing is required for sporting reserves designed to guide appropriate movement and access designed and constructed from materials that complement the open space/ conservation setting and does not impede native fauna movement |
|------------|---|
| R37 | <p>Design of service open space including waterway corridors, utilities easements and any other encumbered open space, must maximise the amenity and biodiversity value of that open space and provide for flexible recreational opportunities, particularly when such land also abuts unencumbered open space.</p> |
| R38 | <p>Trees in parks and open spaces (including pedestrian and cycle paths) must be strategically and frequently located to provide shade, and where space allows larger species should be provided to facilitate continuous canopy cover.</p> |
| R39 | <p>Land designated for local park must be finished and maintained to a suitable standard prior to transfer of land, to the satisfaction of the responsible authority.</p> |
| R40 | <p>Development adjoining the natural Deep Creek waterway must:</p> <ul style="list-style-type: none"> not encroach past the waterway corridor defined in the Precinct Structure Plan, unless otherwise agreed by the responsible authority and Melbourne Water minimise earthworks and impact on the existing landform of the waterway corridor |
| R41 | <p>Development of the hilltop park (LP-01) must respond to Figure 4 - Hilltop Park (LP-01) Concept Plan, and provide appropriate car parking, playground, landscaping and paths to the satisfaction of the responsible authority.</p> |
| GUIDELINES | |
| G33 | <p>The allocation of land for a neighbourhood or district reserve located on a hilltop should consider the provision of parking and access, and include land appropriate for the construction of these facilities, to the satisfaction of the responsible authority.</p> |
| G34 | <p>Local reserves and non-sports field components of sports reserves should cater for a broad range of users by providing a mix of spaces and planting to support both structured and informal recreational activities and play opportunities for all ages and abilities, including infrastructure and spaces appropriate for arts and cultural activity (i.e. festivals, performance and events).</p> |
| G35 | <p>Public open space design and landscaping should complement existing natural systems and contribute to habitat for indigenous fauna species, particularly birds, arboreal species, and ground dwelling mammals.</p> |
| G36 | <p>The design of waterways, wetlands, retarding basins, transmission easements and other encumbered land (service open space) should maximise the potential for the integration of passive and/ or active recreation uses where this does not conflict with the primary function of the land.</p> |
| G37 | <p>The design principles of <i>Urban Design Guidelines for Victoria</i>, DELWP should guide the design and lighting of open spaces, associated facilities and key pedestrian routes to provide a safe and pleasant experience, increase community usage of public space and create more liveable environments.</p> |

Table 6 Open space delivery guide

The following table sets out the open space provisions expected to be delivered for the Precinct area.

| PARK ID | AREA (HA) | TYPE (VPA) | TYPE (CARDINIA SHIRE COUNCIL) | ATTRIBUTES | RESPONSIBILITY |
|---------|-----------|----------------------------|-------------------------------|---|------------------------|
| LP-01 | 10.03 | Local park | District park | Hilltop local park | Cardinia Shire Council |
| LP-02 | 0.80 | Local park | Neighbourhood park | Local park abutting community facility and primary school | Cardinia Shire Council |
| LP-03 | 1.00 | Local park | Neighbourhood park | Local park | Cardinia Shire Council |
| LP-04 | 0.89 | Local park | Neighbourhood park | Local park | Cardinia Shire Council |
| LP-05 | 1.63 | Local park | Neighbourhood park | Local park abutting conservation reserve and Deep Creek Reserve | Cardinia Shire Council |
| LP-06 | 1.00 | Local park | Neighbourhood park | Local park | Cardinia Shire Council |
| LP-07 | 0.50 | Local park | Neighbourhood park | Local park adjacent to community facility and primary school | Cardinia Shire Council |
| LP-08 | 1.39 | Local park | Neighbourhood park | Hilltop local park | Cardinia Shire Council |
| LP-09 | 0.33 | Local park | Neighbourhood park | Local park | Cardinia Shire Council |
| LP-10 | 0.15 | Local park | Pocket park | Local park adjacent to the Local Town Centre | Cardinia Shire Council |
| LP-11 | 0.80 | Local park | Neighbourhood park | Local park abutting drainage reserve | Cardinia Shire Council |
| LP-12 | 1.00 | Local park | Neighbourhood park | Local park | Cardinia Shire Council |
| LP-13 | 0.35 | Local park | Neighbourhood park | Local park | Cardinia Shire Council |
| UP-01 | 0.05 | Local park | Pocket park | Urban plaza in the Local Town Centre | Cardinia Shire Council |
| LC-01 | 1.48 | Local conservation reserve | Local conservation reserve | Native vegetation retention | Cardinia Shire Council |
| SR-01 | 10.08 | Sports reserve | Sports reserve | Local Sports reserve and associated pavilion | Cardinia Shire Council |
| SR-02 | 14.29 | Sports reserve | Sports reserve | Local Sports reserve and associated pavilion | Cardinia Shire Council |





| | |
|--|---|
| | precinct boundary |
| | indicative tree planting |
| | residential |
| | proposed government school |
| | community facility-indoor recreation |
| | local sports reserve |
| | easement |
| | playground |
| | club house |
| | cricket net |
| | uncredited open space/drainage |
| | carpark |
| | parcel |
| | boulevard connector road |
| | freeway |
| | local road |
| | car park entry |
| | indicative community facility indoor recreation footprint |

NOTE:

- This concept plan provides an indicative example of how the sports reserve could be developed.
- Other modified configurations could be suitable.



| | |
|--|------------------------------|
| | precinct boundary |
| | local park |
| | indicative tree planting |
| | residential |
| | easement |
| | playground |
| | carpark |
| | contour (0.5m interval) |
| | local road |
| | shared path |
| | pedestrian path |
| | car park entry |
| | view corridor from ridgeline |
| | ridgeline trail |
| | high point |

Note:

- This concept plan provides an indicative example of how the land could be developed.
- Other modified configurations could be suitable.
- Trees/shrub planting located outside of view corridors.
- Potential for an access way to cross through Hilltop park to be designed and approved to the satisfaction of the responsible authority.

3.3.2 Community facilities and education

| REQUIREMENTS | |
|--------------|--|
| R42 | The design and layout of each community facility must reflect appropriate consideration of the requirements specified for the Local Town Centre and/ or Local Convenience Centre and Appendix B- Local Town Centre (LTC) and Local Convenience Centre (LCC) Design Principles to ensure effective cohesion. |
| R43 | <p>The layout of each community facility must:</p> <ul style="list-style-type: none"> • have regard to the varied needs of people of all ages, genders, cultures and abilities • maximise flexibility in the range of uses which can occur at the site and allow for future adaptability and shared use of spaces • incorporate appropriate opportunities for: <ul style="list-style-type: none"> » urban food production, community gardens and associated infrastructure (garden beds, vertical herb gardens, sheds, water tanks and compost) » spaces for community art making, performance, rehearsals, storage and/ or exhibitions |
| R44 | Community facilities, schools, and sports fields that are co-located are to be designed concurrently to maximise sharing opportunities of car parking and other complementary infrastructure unless otherwise agreed to by the responsible authority. |
| R45 | <p>Where the responsible authority is satisfied that land shown as a non-government school site is unlikely to be used for a non-government school, that land may be used for an alternative purpose which is generally consistent with the surrounding land uses and the provisions of the applied zone.</p> <p>In order to satisfy the responsible authority that a site is unlikely to be used for a school, it is necessary to demonstrate that:</p> <ul style="list-style-type: none"> • The application for an alternative use is not premature having regard to the extent of development in the surrounding residential area. • The school site is no longer strategically justified having regard to the provision of schools in the locality, including land not within the Precinct Structure Plan, as appropriate. • The landowner provides the responsible authority with evidence that: <ul style="list-style-type: none"> » Genuine negotiations have been had with a range of educational providers, including the Lead Agency nominated in the Precinct Structure Plan, regarding the use of the site as a school and the sale of the site to the educational provider/s. » The educational provider/s, including the Lead Agency nominated in the Precinct Structure Plan, do not intend to purchase the site, and use the site as a school. |
| R46 | Schools and community facilities must be designed to front, and be directly accessed from a public street with car parks located away from the main entry. |

| R47 | Any connector road or access street abutting a school must be designed to achieve slow vehicle speeds and provide designated pedestrian crossing points as required by the responsible authority. |
|------------|---|
| R48 | At least two roads abutting the proposed government school sites must have sufficient widths to provide student drop-off zones and on-street indented parking in addition to other street functions. |
| R49 | School sites must be provided with three street frontages where practicable to the satisfaction of the responsible authority. |
| GUIDELINES | |
| G38 | The location of key entries to schools and community facilities should allow for activation of the street, and safe and convenient pedestrian and cyclist access for all ages and abilities. |
| G39 | A private childcare, education, medical or similar facility not shown on Plan 5 – Image, Character, Housing and Community should be located within or proximate to a Local Town Centre, Local Convenience Centre, or community hub, and along higher order roads, as appropriate. |
| G40 | <p>Design of community facilities should:</p> <ul style="list-style-type: none"> • maximise land use efficiency through multi-storey building formats and through shared (and reduced) car parking • encourage the integration of schools, early childhood facilities and other community facilities where they are co-located • include extensive canopy tree planting • be integrated with neighbouring facilities • minimise fencing to encourage out-of-hours use • provide safe and convenient pedestrian and shared paths |

3.4 Bushfire resilience, biodiversity, threatened species and native vegetation retention

3.4.1 Bushfire resilience

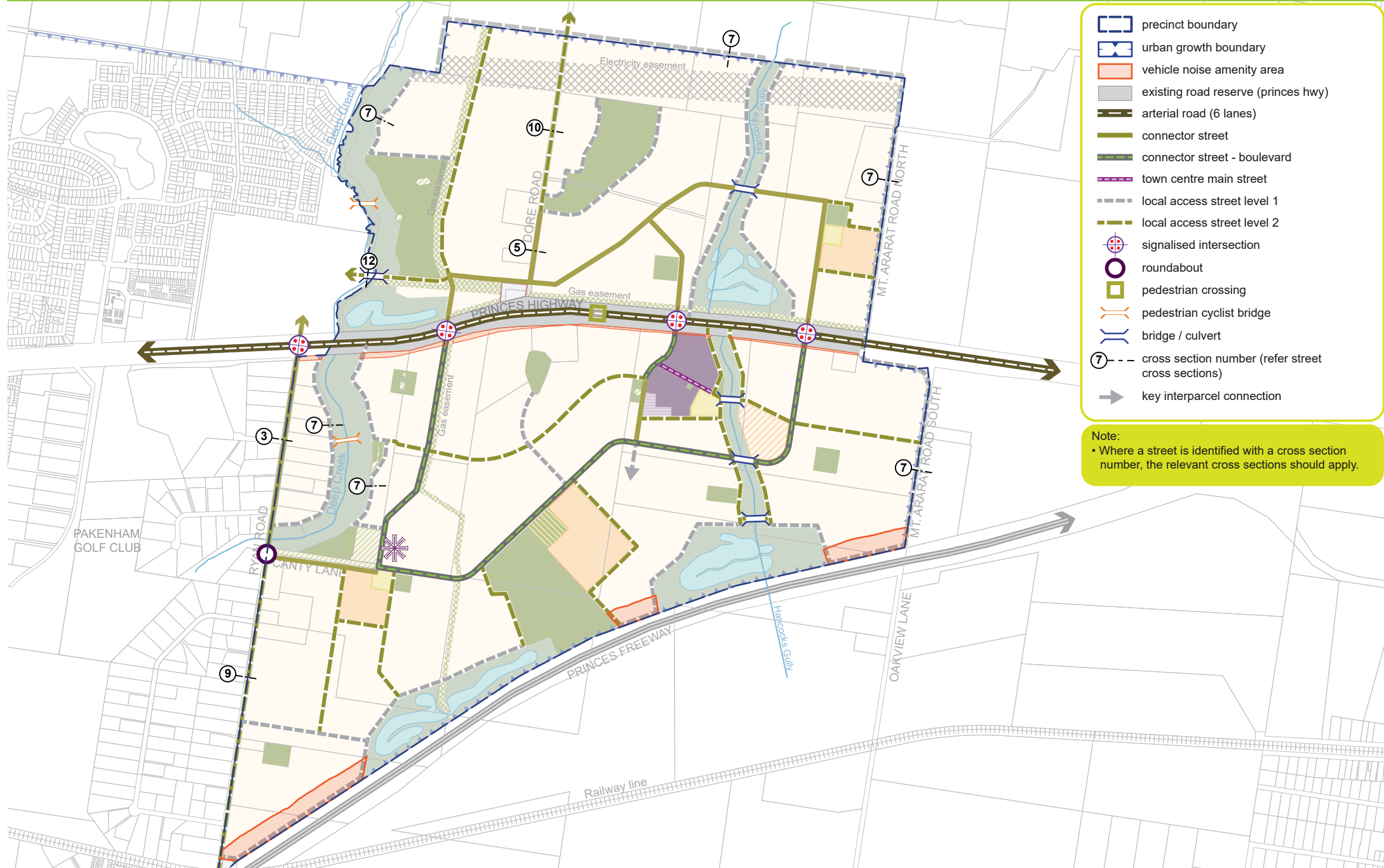
| REQUIREMENTS | |
|--------------|---|
| R50 | A local access street must be provided along the edge of the Urban Growth Boundary and Deep Creek drainage reserve, as shown on Plan 7 – Road Network. |
| | The local access street must be in accordance with cross-section 7 to incorporate the minimum 19m defendable space setback required from classified Grassland in accordance with AS3959-2009, to the satisfaction of the responsible authority. For land within and north of the transmission easement, alternative approaches to achieving the minimum 19m defendable space setback may be considered subject to the approval of the responsible authority and the relevant fire authority. |
| GUIDELINES | |
| G41 | Where residential land adjoins a bushfire threat area as shown on Plan 6 – Open Space, the required separation distances specified in AS3959-2009 should be achieved by: <ul style="list-style-type: none"> widening the identified road cross section in the PSP to provide for larger nature strips and/or incorporating larger front or side setbacks |

3.4.2 Biodiversity, threatened species and native vegetation retention

All development must be in accordance with the incorporated *Pakenham East Native Vegetation Precinct Plan*.

| REQUIREMENTS | |
|--------------|--|
| R51 | Any local conservation reserve shown on Plan 6- Open Space must be delivered to the satisfaction of the responsible authority. |
| R52 | Roads fronting the local conservation reserve and/or conservation area must contain planting and street trees of indigenous species. Where a street intersects the conservation reserve/area, the treatment of the conservation reserve/area should spill out onto the nature strip through appropriate indigenous streetscape planting. Streetscapes must not include plant species that could behave as environmental weeds including non-indigenous tree and shrub species and vigorous rhizomatic grasses. Appropriate application of vehicular exclusion fencing must be provided, to the satisfaction of the responsible authority |
| R53 | Drainage from storm water treatment infrastructure must be designed to minimise impacts on biodiversity values. |

| R54 | Where trees are retained, applications for subdivision and/ or development must apply Tree Protection Zones. |
|------------|---|
| R55 | Development abutting Deep Creek must ensure native vegetation provision and/ or planting of a riparian edge from the Deep Creek waterline to a 30 metre minimum buffer. The provision should reflect a suitable variety of native species appropriate to the riparian transition. |
| R56 | Any development or public infrastructure to be located abutting or adjacent to retained biodiversity must be designed and located in a manner so as to avoid or minimise the potential for future degradation. |
| GUIDELINES | |
| G42 | For land adjacent to a local conservation reserve, the traditional standard nature strip and path should act as a buffer with vehicle exclusion fencing 1 metre from the curb (as opposed to 1 metre offset park edge treatment). |
| G43 | Planting in the open space network including conservation areas, waterways, streets, parks and utilities easements should maximise the use of indigenous species to the satisfaction of the responsible authority and the relevant land manager. |
| G44 | The layout and design of waterways, wetlands and retarding basins (including the design of paths, bridges and boardwalks and the stormwater drainage system) should integrate with biodiversity and natural systems to the satisfaction of the responsible authority and Melbourne Water as relevant. |
| G45 | Where appropriate, parks should be located abutting conservation areas and waterways to provide a buffer. |
| G46 | Where practical, natural or pre development hydrological patterns must be maintained in conservation areas. |



- precinct boundary
- urban growth boundary
- vehicle noise amenity area
- existing road reserve (princes hwy)
- arterial road (6 lanes)
- connector street
- connector street - boulevard
- town centre main street
- local access street level 1
- local access street level 2
- signalised intersection
- roundabout
- pedestrian crossing
- pedestrian cyclist bridge
- bridge / culvert
- cross section number (refer street cross sections)
- key interparcel connection

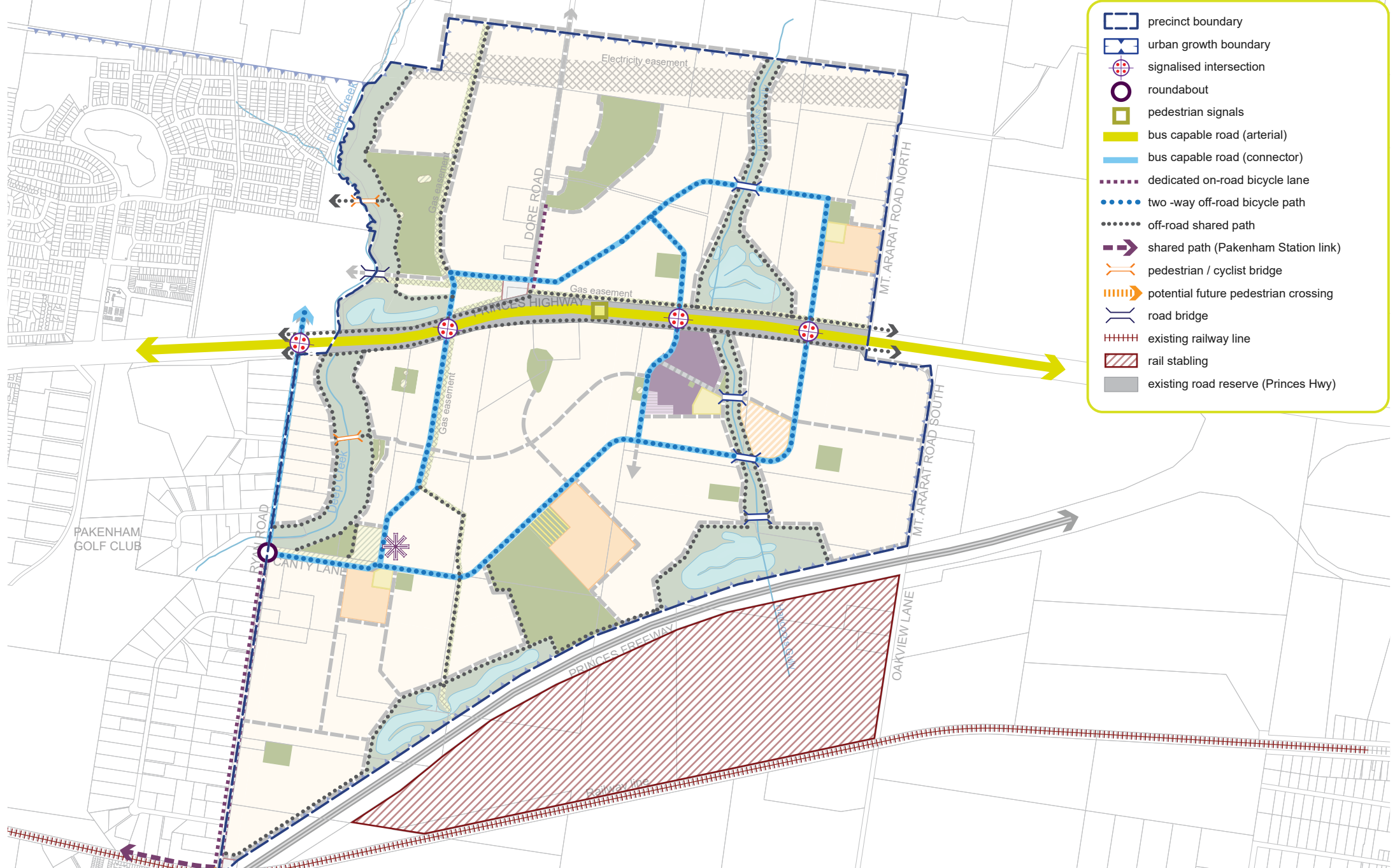
Note:
 • Where a street is identified with a cross section number, the relevant cross sections should apply.

3.5 Transport and movement

3.5.1 Street network

| REQUIREMENTS | |
|--------------|--|
| R57 | Subdivision layouts must provide: <ul style="list-style-type: none"> a permeable safe low speed and direct local street network convenient access to local points of interest and destinations for effective integration with neighbouring properties, parkland and sports reserves |
| R58 | Road networks and street types must be designed and developed to an urban standard generally in accordance with the cross sections in Appendix C: Street cross sections, unless otherwise agreed by the responsible authority. |
| R59 | Vehicle access to lots fronting arterial roads must be provided from a local internal loop road, rear lane, or service road to the satisfaction of the coordinating road authority. |
| R60 | Configuration of vehicle access to lots from a public street must ensure there is sufficient separation between crossovers to allow for a minimum of one on-street car park for every two residential lots. |
| R61 | Where a lot is six metres or less in width, vehicle access must be via rear laneway, unless otherwise approved by the responsible authority. |
| R62 | Development must positively address all waterways through the use of frontage roads or lots with a direct frontage to the satisfaction of Melbourne Water and the responsible authority. |
| R63 | Streets must be constructed to property boundaries where an inter-parcel connection is intended or indicated in the Precinct Structure Plan, by any date or stage of development required or approved by the responsible authority. |
| R64 | Where a connector street crosses a waterway on Plan 9- Integrated Water Management a connector street bridge must be constructed prior to the issue of statement of compliance (unless otherwise included in the Pakenham East Infrastructure Contributions Plan) for the abutting stage of residential subdivision. |
| R65 | Roundabouts must be designed to slow vehicles, provide for pedestrian visibility and safety, and ensure connectivity/ continuity of shared paths and bicycle paths. |
| R66 | Where a local access street is determined to be required to cross a waterway, including where shown on Plan 7, the proponent must construct local access street culverts to the satisfaction of the responsible authority. |
| R67 | If land for roads and intersections is required beyond that established in Plan 4 – Land use budget and Appendix A: Parcel-specific land use budget, it must be to respond to site specific design constraints only. |
| R68 | Deep Creek Road must be closed to public vehicle access once alternate road access is provided, in accordance with the proposed network shown on Plan 7 – Road Network and to the satisfaction of the responsible authority and Melbourne Water. |

| GUIDELINES | |
|------------|--|
| G47 | Street block lengths should not exceed 240 metres to ensure a safe, permeable and low speed environment for pedestrians, cyclists and vehicles is achieved. |
| G48 | Additional access points (temporary and permanent) to the existing or proposed arterial road network will not generally be permitted, but will be assessed on merit in consultation with the coordinating road authority. |
| G49 | Culs-de-sac should not detract from convenient pedestrian, cycle and vehicular connections. |
| G50 | All signalised intersections should be designed in accordance with the VicRoads Guidance for Planning Road Networks in Growth Areas to the satisfaction of the responsible authority and coordinating road authority. |
| G51 | The frequency of vehicular crossovers on widened verges (a verge in excess of six metres) or crossing cycling lanes should be minimised with a combination of: <ul style="list-style-type: none"> rear loaded lots with laneway access vehicular access from the side of a lot combined or grouped crossovers increased lot widths |
| G52 | Slip lanes should be avoided in areas of high pedestrian activity and only be provided at any other intersection between connector roads and arterial roads where they are necessitated by high traffic volumes, to the satisfaction of the coordinating road authority. |
| G53 | Streets should be the primary interface between development and waterways. Public open space and lots with a direct frontage may be provided as a minor component of the waterway interface to the satisfaction of Melbourne Water and the responsible authority. |
| G54 | Where lots with direct frontage to waterways are provided, they should be set back at least 5.0 metres from the waterway corridor to provide pedestrian and service vehicle access to those lots, to the satisfaction of Melbourne Water and the responsible authority. |
| G55 | All road crossings with the gas transmission pipeline easement should run perpendicular to the gas pipeline easements to the satisfaction of the pipeline operator and the responsible authority. |
| G56 | Where there is existing vegetation to be retained, flexibility in the road cross section should be considered to ensure the provision of road side clear zones, footpaths, services and drainage does not compromise the health of the vegetation or trees. |



- precinct boundary
- urban growth boundary
- signalised intersection
- roundabout
- pedestrian signals
- bus capable road (arterial)
- bus capable road (connector)
- dedicated on-road bicycle lane
- two-way off-road bicycle path
- off-road shared path
- shared path (Pakenham Station link)
- pedestrian / cyclist bridge
- potential future pedestrian crossing
- road bridge
- existing railway line
- rail stabling
- existing road reserve (Princes Hwy)

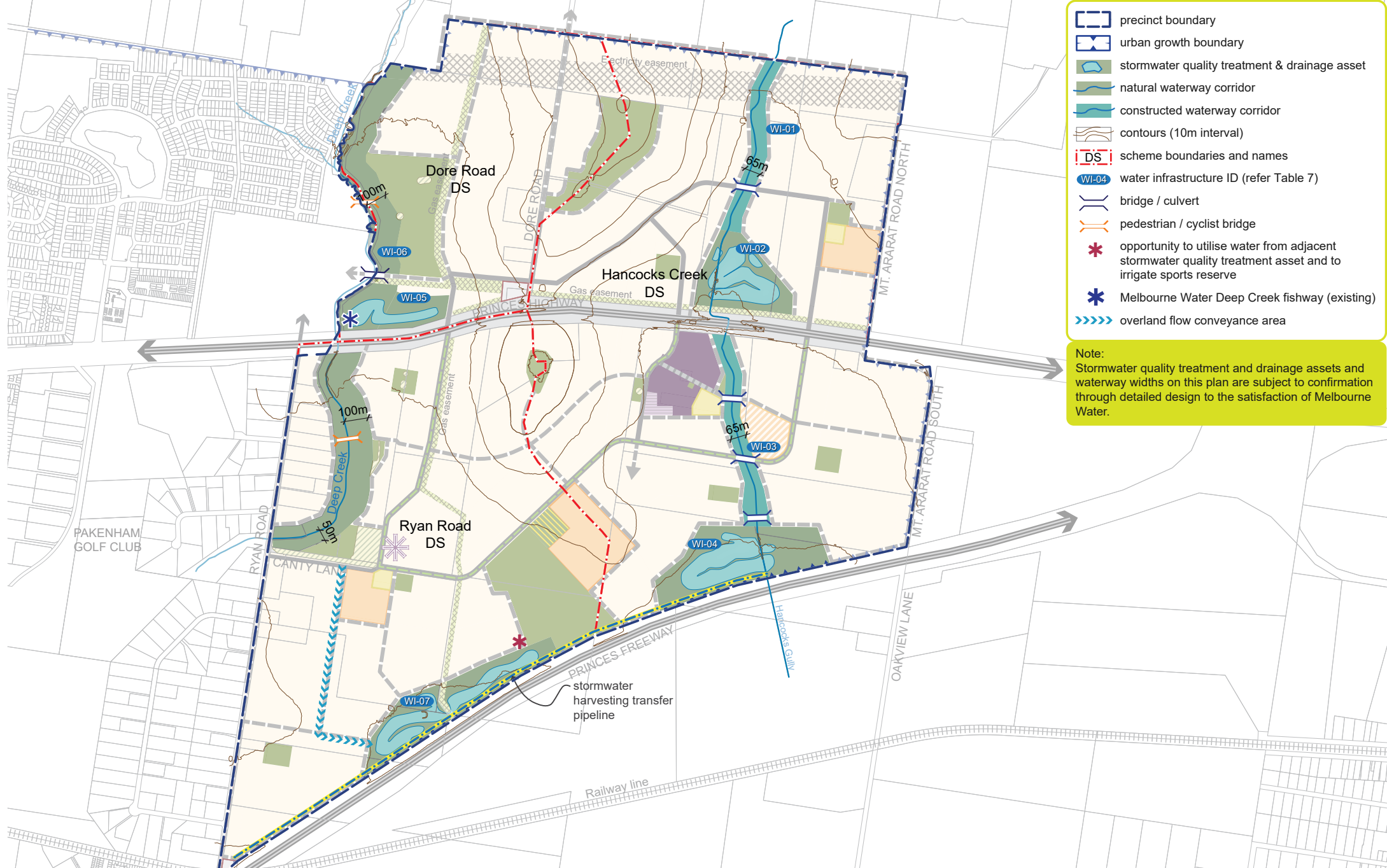
3.5.2 Public transport

| REQUIREMENTS | |
|--------------|---|
| R69 | Roads and intersections identified as bus capable on Plan 8- Public Transport and Path Network must be constructed to accommodate ultra-low floor buses, in accordance with the Public Transport Guidelines for Land Use and Development and to the satisfaction of Transport for Victoria and the responsible authority. |
| R70 | Bus stops and facilities must be designed as an integral part of the town and convenience centres, and other activity generating land uses such as schools, community facilities, sports reserves and employment areas, to the satisfaction of the responsible authority. |
| R71 | Unless otherwise agreed by the Transport for Victoria, prior to the issue of a statement of compliance for any subdivision stage, bus stop hard stands with direct and safe pedestrian access to a pedestrian path must be constructed: <ul style="list-style-type: none"> in accordance with the <i>Public Transport Guidelines for Land Use and Development</i> and compliant with the <i>Disability Discrimination Act – Disability Standards for Accessible Public Transport 2002</i> at locations approved by the Transport for Victoria, at no cost to the Transport for Victoria |
| R72 | The street network must be designed to ensure 95% of all households are located within 400 metres of public transport services or bus capable roads, and all households are able to directly and conveniently walk to public transport services. |

3.5.3 Walking and cycling

| REQUIREMENTS | |
|--------------|---|
| R73 | Design of all subdivisions, streets, and arterial roads must give priority to the requirements of pedestrians and cyclists by providing: <ul style="list-style-type: none"> footpaths of at least 1.5 metres on both sides of all streets and roads unless otherwise specified by the precinct structure plan shared paths or bicycle paths of 3.0 metres as shown on Plan 8 - Public Transport and Path Network or as shown on relevant cross-sections in Appendix C – Street cross sections, or as specified by another requirement in the Precinct Structure Plan safe, accessible and convenient crossing points of connector roads and local streets at all intersections, key desire lines and locations of high amenity (for example town centre and open space) safe pedestrian crossings of arterial roads at all intersections, at key desire lines and at regular intervals appropriate to the function of the road and public transport provision pedestrian priority crossings on all slip lanes safe and convenient transition between on and off-road bicycle networks wayfinding signage and seating at spacing of 400 metres or less along shared paths unless otherwise specified by the precinct structure plan <p>All to the satisfaction of the coordinating road authority and the responsible authority.</p> |

| R74 | Bicycle priority at intersections of local streets and connector roads with dedicated off-road bicycle paths must be achieved through strong and consistent visual and physical cues and supportive directional and associated road signs in accordance with Austroads and VicRoads standards and to the satisfaction of the responsible authority and coordinating road authority. |
|------------|--|
| R75 | Bicycle parking facilities must be provided by development proponents in convenient locations at key destinations such as parks, sporting reserves, schools, community facilities and town centres, to the satisfaction of the responsible authority. |
| R76 | Shared and pedestrian paths along waterways/retarding basins must: <ul style="list-style-type: none"> be delivered by development proponents consistent with the network shown on Plan 8 – Public Transport and Path Network be above 1:10 year flood level with any crossing of the waterway designed to be above the 1:100 year flood level to maintain hydraulic function of the waterway be positioned above 1:100 year flood where direct access is provided to the dwelling from the waterway reserve be constructed to a standard that satisfies the requirements of Melbourne Water and the responsible authority <p>All to the satisfaction of Melbourne Water and the responsible authority.</p> |
| R77 | Subdivision designs must demonstrate how any proposed dedicated cycle paths, pedestrian paths and shared paths in Plan 8 – Public Transport and Path Network will integrate and connect in a safe and convenient manner. |
| GUIDELINES | |
| G57 | The alignment of the off-road bicycle path should be designed for cyclists travelling up to 30 km/hr, to the satisfaction of the responsible authority. |
| G58 | Where practical, public land within the high pressure gas transmission pipeline easement should contain shared paths and landscaping which should occasionally mildly deviate from a direct and straight alignment to create varied view lines and visual interest, with the consent of the gas transmission pipeline owner or operator. |



- precinct boundary
- urban growth boundary
- stormwater quality treatment & drainage asset
- natural waterway corridor
- constructed waterway corridor
- contours (10m interval)
- scheme boundaries and names
- water infrastructure ID (refer Table 7)
- bridge / culvert
- pedestrian / cyclist bridge
- opportunity to utilise water from adjacent stormwater quality treatment asset and to irrigate sports reserve
- Melbourne Water Deep Creek fishway (existing)
- overland flow conveyance area

Note:
Stormwater quality treatment and drainage assets and waterway widths on this plan are subject to confirmation through detailed design to the satisfaction of Melbourne Water.

3.6 Integrated water management, utilities, energy and sustainability

3.6.1 Integrated water management

| REQUIREMENTS | |
|--------------|--|
| R78 | <p>All applications must demonstrate how:</p> <ul style="list-style-type: none"> waterways and integrated water management design enables land to be used for multiple purposes, including recreation (active or passive) and/ or environmental purposes overland flow paths and piping within road reserves will be connected and integrated across property/parcel boundaries Melbourne Water and the responsible authority freeboard requirements for overland flow paths will be adequately contained within the road reserves relevant integrated water management requirements and guidelines of this PSP will be achieved, to the satisfaction of the retail water authority, including the supply of recycled water <p>Melbourne Water drainage assets must be to the satisfaction of Melbourne Water and the responsible authority.</p> |
| R79 | <p>Development must meet best practice stormwater quality treatment standards prior to discharge to receiving waterways as outlined on Plan 9 – Integrated Water Management, unless otherwise approved by Melbourne Water and the responsible authority.</p> |
| R80 | <p>Final design and boundaries of constructed waterways, waterway corridors, retarding basins, stormwater quality treatment infrastructure and associated paths, boardwalks, bridges and planting, must be to the satisfaction of Melbourne Water and the responsible authority.</p> |
| R81 | <p>Development staging must provide for the delivery of ultimate waterway drainage infrastructure, including stormwater quality treatment, listed in Table 7 – Water infrastructure.</p> <p>Where this is not possible, development proposals must demonstrate how any interim solution adequately manages and treats stormwater generated from the development and how this will enable delivery of an ultimate drainage solution, to the satisfaction of Melbourne Water and the responsible authority.</p> |
| R82 | <p>Stormwater conveyance and treatment must be designed in accordance with the relevant Scheme and/or Drainage Strategy, to the satisfaction of Melbourne Water.</p> |
| R83 | <p>Where ultimate drainage design increases the area available for residential development, a proportion of credited open space must be provided, equal to the Public Land Equalisation Rate as specified in the Pakenham East ICP to the satisfaction of the responsible authority.</p> |
| R84 | <p>Waterway corridors/ drainage assets must not be reduced where it would result in residential land being created between the waterway corridor/drainage asset and a sports reserve or local park.</p> |

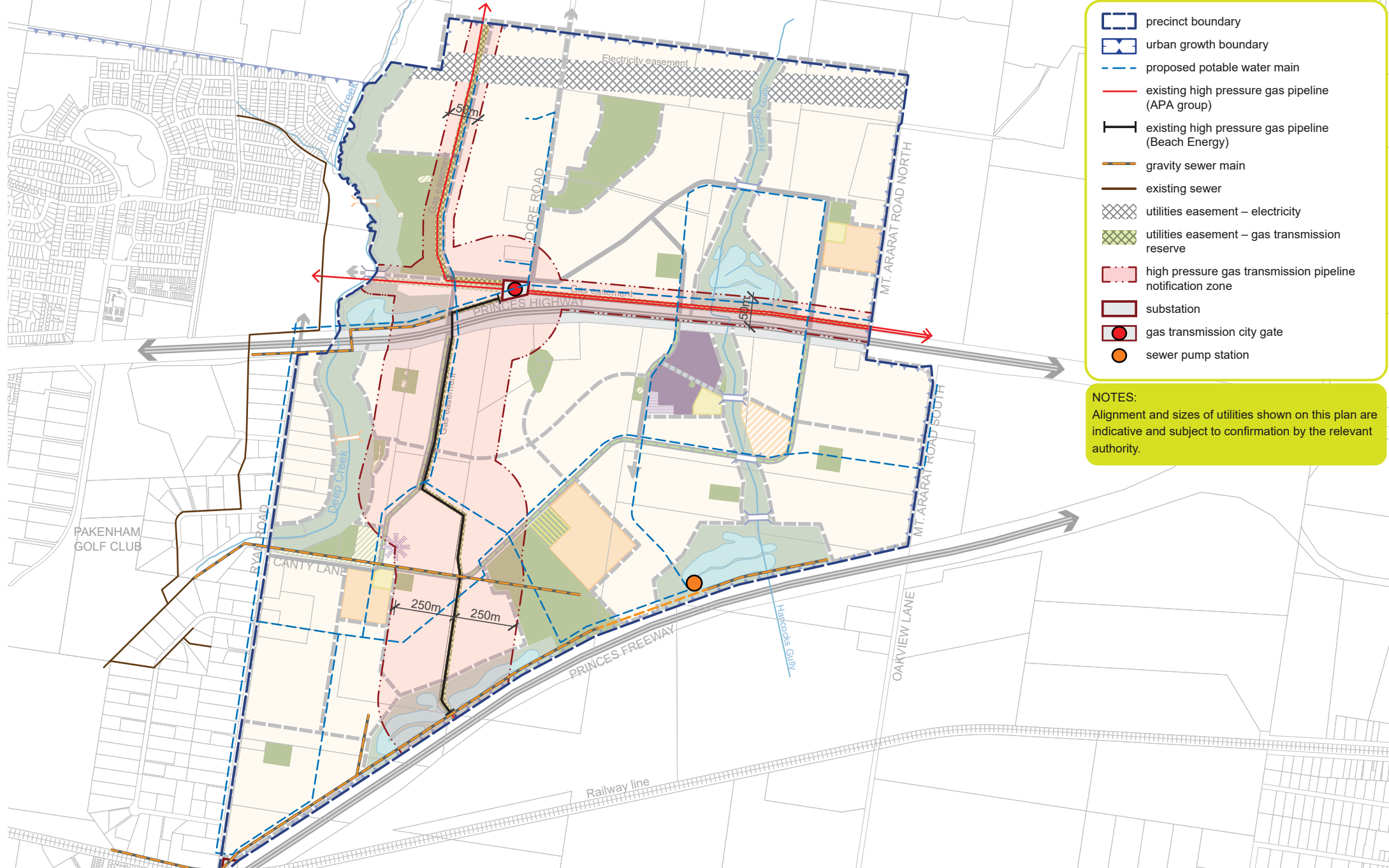
| GUIDELINES | |
|------------|--|
| G59 | <p>The design and layout of roads, road reserves and public open space should optimise water use efficiency and long-term viability of vegetation and public uses through the use of Water Sensitive Urban Design initiatives.</p> |
| G60 | <p>Development should include integrated water management initiatives to diversify water supply, reduce reliance on potable water and increase the utilisation of storm and waste water, contributing to a sustainable and green urban environment where practicable.</p> |
| G61 | <p>Development should have regard to relevant policies and strategies being implemented by the responsible authority, Melbourne Water and South East Water (retail water authority), including any approved Integrated Water Management Plan.</p> |
| G62 | <p>Development should reduce reliance on potable water by increasing the utilisation of fit-for-purpose alternative water sources such as storm water, rain water and recycled water (where required by the relevant water authority).</p> |
| G63 | <p>Where practical, integrated water management systems should be designed to:</p> <ul style="list-style-type: none"> support and enhance habitat values for local flora and fauna species and enable future harvesting and/or treatment and re-use of stormwater, including those options or opportunities outlined in Plan 9 – Integrated Water Management |
| G64 | <p>Any drainage infrastructure running adjacent to or crossing a high pressure gas transmission pipeline should cross at 90 degrees and be engineered to protect the integrity of the asset to the satisfaction of the responsible authority and gas pipeline owner/operator.</p> |

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Table 7 Water infrastructure

| ASSET ID | DESCRIPTION | LOCATION | AREA (HA) | RESPONSIBILITY |
|--------------|---|--|--------------|-----------------|
| WI-01 | Constructed waterway | Hancock's Gully north of Princes Highway | 4.95 | Melbourne Water |
| WI-02 | Stormwater quality treatment & drainage asset | North of the Princes Highway | 9.16 | Melbourne Water |
| WI-03 | Constructed waterway | Hancock's Gully south of Princes Highway | 5.96 | Melbourne Water |
| WI-04 | Stormwater quality treatment & drainage asset | South of Princes Highway | 15.04 | Melbourne Water |
| WI-05 | Stormwater quality treatment & drainage asset | North of Princes Highway | 6.72 | Melbourne Water |
| WI-06 | Natural waterway corridor-Deep Creek reserve | Adjacent to western PSP boundary | 24.51 | Melbourne Water |
| WI-07 | Stormwater quality treatment & drainage asset | South of Princes Highway | 12.26 | Melbourne Water |
| TOTAL | | | 78.60 | |

Note: The areas and corridor widths identified in this table are subject to refinement during detailed design to the satisfaction of Melbourne Water and the responsible authority.



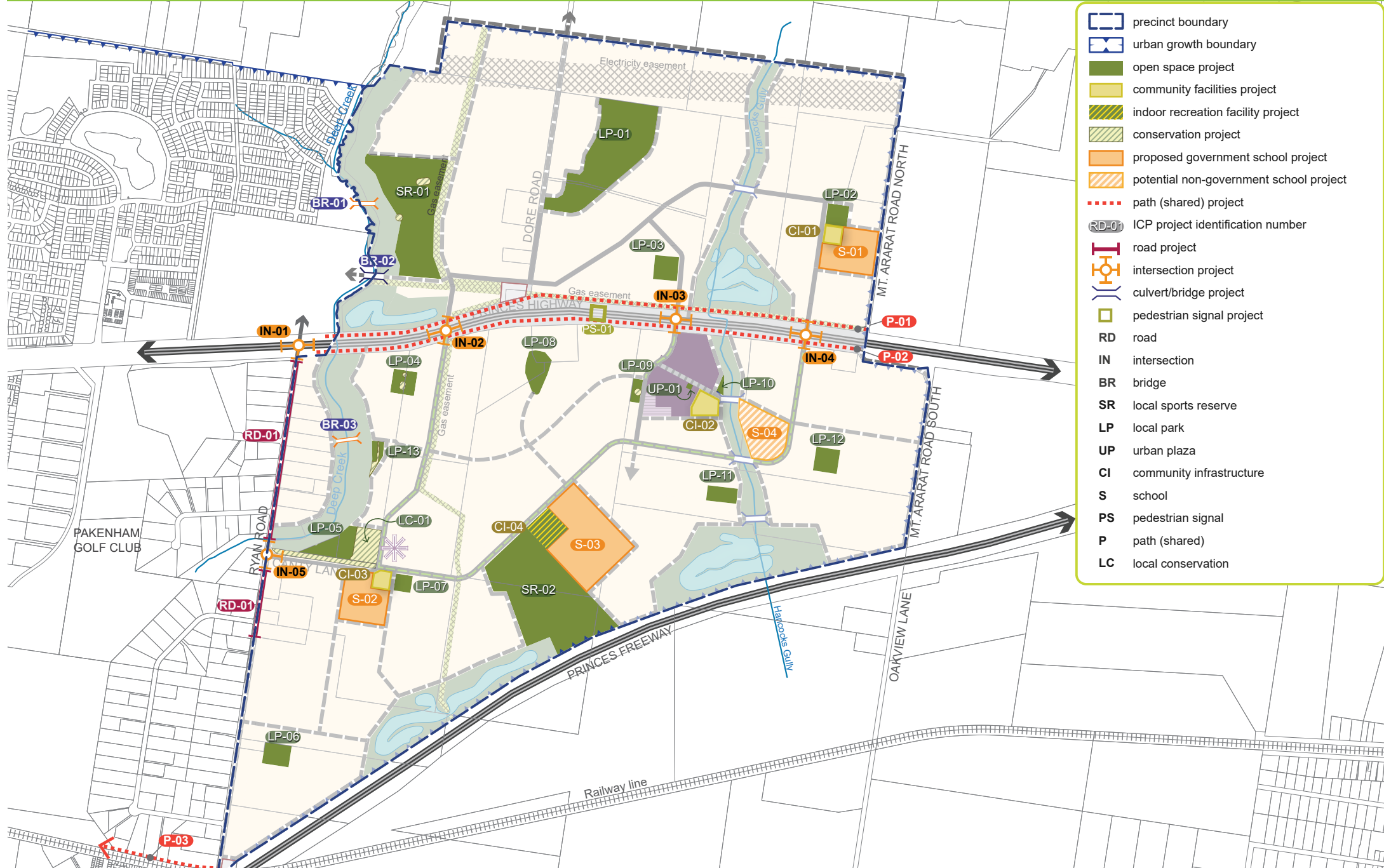
- precinct boundary
- urban growth boundary
- proposed potable water main
- existing high pressure gas pipeline (APA group)
- existing high pressure gas pipeline (Beach Energy)
- gravity sewer main
- existing sewer
- utilities easement – electricity
- utilities easement – gas transmission reserve
- high pressure gas transmission pipeline notification zone
- substation
- gas transmission city gate
- sewer pump station

NOTES:
 Alignment and sizes of utilities shown on this plan are indicative and subject to confirmation by the relevant authority.

3.6.2 Utilities

| REQUIREMENTS | |
|--------------|---|
| R85 | Trunk services must be placed along the general alignments illustrated on Plan 10 - Utilities, subject to any refinements as advised by the relevant service authorities. |
| R86 | Utilities must be placed on the outer edges of conservation areas, waterway corridors or on the outer edges of these corridors in the first instance. Where services cannot avoid crossing or being located within these areas they must be located to avoid disturbance to existing waterway values and native vegetation to the satisfaction of Melbourne Water and the responsible authority. |
| R87 | <p>Before development commences on a property, functional layout plans of the road network must be submitted that show the location of:</p> <ul style="list-style-type: none"> • Underground services • Driveways/ crossovers • Shared, pedestrian and bicycle paths • Street lights and • Street trees. <p>A typical cross section of each street is also to be submitted showing above and below ground placement of services, street lights and trees.</p> <p>The plans and cross sections must demonstrate how services, driveways and street lights will be placed so as to achieve the road reserve width identified in the cross sections at Appendix C: Street cross sections and the minimum level of street tree planting. If required, the plan and cross sections must nominate which services will be placed under footpaths or road pavement. If the required services do not fit within the road reserve, the road reserve width will need to be increased to accommodate the services.</p> <p>The plans and cross sections must be approved by the responsible authority and all relevant service authorities prior to development commencing.</p> |
| R88 | <p>Above ground utilities (such as electricity substations, kiosk and sewer pumps) must be identified at the subdivision design stage to ensure effective integration with the surrounding neighbourhood and to minimise amenity impacts, and be designed to the satisfaction of the relevant authority.</p> <p>Where that infrastructure is intended to be located in public open space, the land required to accommodate that infrastructure will not be counted as a contribution to public open space requirements specified and will be additional to the areas designated in Table 6 - Open space delivery guide.</p> |
| R89 | Subject to South East Water agreeing to do so, the developer must enter into an agreement with South East Water requiring the subdivision to be reticulated with a dual pipe recycled water system to provide for the supply of recycled water from a suitable source or scheme to all allotments and open space reserves within the subdivision. |
| R90 | All new electricity supply infrastructure (excluding substations and cables with voltage 66kv or greater) must be provided underground. |

| R91 | All existing above ground electricity cables (excluding substations and cables with voltage 66kv or greater) must be placed underground as part of the upgrade or subdivision of existing roads. |
|------------|--|
| R92 | Other than perpendicular road crossings of the gas transmission pipeline easement no road or carriageway easements are to be relocated on gas pipeline easements unless to the satisfaction of the pipeline owner and operator. |
| R93 | Landscaping and development adjacent to an existing gas transmission pipeline easement shown on Plan 10 - Utilities must not jeopardise the integrity of the pipeline. |
| R94 | <p>All planning permit applications (including plans for endorsement) within 50 metres of the high pressure gas transmission pipeline easement (PL 244) as shown on Plan 10 – Utilities as ‘Existing High Pressure Gas Pipeline (Beach Energy)’, must identify how services and infrastructure are to be constructed, and protective mechanisms implemented if necessary, so as to demonstrate protection of the gas pipeline from those services and infrastructure including future maintenance and renewal of those services and infrastructure, to the satisfaction of the relevant Gas Pipeline Operator.</p> <p>Where practicable:</p> <ul style="list-style-type: none"> • the extent of road crossings and utilities infrastructure within the easement for that gas pipeline as shown on Plan 10 – Utilities should be minimised; and • road reserves and utilities infrastructure should be co-located so as to minimise crossings of that gas pipeline, <p>to the satisfaction of the relevant Gas Pipeline Operator.</p> |
| GUIDELINES | |
| G65 | Above ground utilities should be located outside of key view lines and should be screened with vegetation as appropriate. |
| G66 | Utility easements to the rear of lots should only be provided where there is no practical alternative. |
| G67 | Street and other public lighting should utilise cut-off fittings to minimise light spill beyond the required illuminated area. |
| G68 | Design and location of underground services should be guided by Appendix D: Service Placement Guidelines. |
| G69 | Any utility infrastructure running adjacent to or crossing a high pressure gas transmission pipeline should cross at 90 degrees and be engineered to protect the integrity of the asset to the satisfaction of the responsible authority and gas pipeline owner/operator. |
| G70 | Vegetation should not be planted within 3 metres of an existing gas transmission pipeline, as shown on Plan 10 – Utilities where practical. Where vegetation is proposed to be planted within 3 metres of the pipeline alignment, it must be shallow rooted and must not exceed 1.5 metres in height once mature. Line of sight must be maintained between high pressure gas pipeline awareness markers. |



- precinct boundary
- urban growth boundary
- open space project
- community facilities project
- indoor recreation facility project
- conservation project
- proposed government school project
- potential non-government school project
- path (shared) project
- ICP project identification number
- road project
- intersection project
- culvert/bridge project
- pedestrian signal project
- RD** road
- IN** intersection
- BR** bridge
- SR** local sports reserve
- LP** local park
- UP** urban plaza
- CI** community infrastructure
- S** school
- PS** pedestrian signal
- P** path (shared)
- LC** local conservation

3.6.3 Energy and sustainability

| GUIDELINES | |
|------------|---|
| G71 | <p>Development should facilitate the reduction of environmental impacts and resource use through:</p> <ul style="list-style-type: none"> • Public realm design and connectivity. • Facilitation of alternative energy generation systems. • Access to public and integrated active transport networks. |

3.7 Infrastructure Delivery and Staging

Infrastructure within the precinct will be delivered via the following mechanisms:

- Subdivision construction works by developers
- Agreements under S173 of the *Planning and Environment Act 1987*
- Utility service provider requirements, including any development services (drainage) scheme/strategy or equivalent managed by the relevant drainage authority
- Pakenham East Infrastructure Contributions Plan (ICP)
- Relevant development/infrastructure contributions from adjoining areas
- Capital works projects by Council, State government agencies and non-government organisations
- The Growth Area Infrastructure Contributions (GAIC) and GAIC Works in Kind projects and
- Works-in-kind (WIK) projects undertaken by developers on behalf of Council or State government agencies.

3.7.1 Subdivision works by developers

| REQUIREMENTS | |
|--------------|---|
| R95 | <p>Subdivision of land within the precinct must provide and meet the total cost of delivering the following infrastructure:</p> <ul style="list-style-type: none"> • Connector roads and local streets (including internal loop roads and service roads that abut arterial roads). • Local bus stop infrastructure (where locations have been agreed in writing by Public Transport Victoria). • Landscaping of all existing and future roads and local streets. • Intersection works and traffic management measures along arterial roads, connector streets, and local streets (except those included in the ICP). • Council approved fencing and landscaping (where required) along arterial roads. • Local shared, pedestrian and bicycle paths along local arterial roads, connector roads, utilities easements, local streets, waterways and within local parks including bridges, intersections, and barrier crossing points (except where otherwise included in the ICP). • Bicycle parking facilities as required in this document. • Appropriately scaled lighting along all roads, major shared and pedestrian paths, and traversing public open space. • Basic improvements to local reserves and open space (refer open space delivery below). • Local drainage system. • Local street or pedestrian path crossings of waterways and the electricity transmission line easement unless included in the ICP or outlined as the responsibility of another agency in the Precinct Infrastructure Plan. • Infrastructure as required by utility service providers including water, sewerage, drainage (except where the item is funded through a Development Services Scheme), electricity, gas, and telecommunications. • Provision of water tapping, potable and recycled water connection points for any potential open space. |

| | |
|------------|--|
| R96 | <p>All public open space (where not otherwise provided via an Infrastructure Contributions Plan) must be finished to a standard (<i>Cardinia Shire Council Developer Landscape Guidelines and Cardinia Shire Council Recreation Reserve Facility Standards Policy 2012</i> (or as amended)) that satisfies the requirements of the responsible authority prior to the transfer of the public open space, including but not limited to:</p> <ul style="list-style-type: none"> • Removal of all existing and disused structures, foundations, pipelines and stockpiles. • Clearing of rubbish and environmental weeds and rocks, levelled, topsoiled and grassed with warm climate grass. • Provision of water tapping, potable and/or recycled water connection points. • Identification of sewer, gas and electricity connection points for land proposed as sports reserves, district reserves, neighbourhood reserves or local reserves. • Trees and other plantings. • Vehicular exclusion devices (landscape treatments, fences, bollards or other suitable methods) and maintenance access points, to the satisfaction of the responsible authority. • Installation of park furniture including barbecues, shelters, tables, local scale play grounds and other local scale play equipment elements such as half basketball courts, rubbish bins and appropriate paving to support these facilities consistent with the type of public open space listed in Appendix E: Open Space Delivery Guidelines. |
| R97 | <p>Local sports reserves identified in Table 8 – Precinct Infrastructure must be vested in the relevant authority in the following condition:</p> <ul style="list-style-type: none"> • Free from surface and/or protruding rocks and structures and contaminated soil. • Reasonably graded and/or top soiled to create a safe and regular surface with a maximum 1:6 gradient. • Seeded and top-dressed with drought-resistant grass in bare, patchy and newly-graded areas. <p>Consistent with the Pakenham East ICP, where these works are not considered to be temporary, works are eligible for a works-in-kind credit against an ICP obligation. Works associated with adjacent road construction, such as earthworks for a road embankment, are not eligible for works-in-kind credit.</p> |
| R98 | <p>Any development in proximity to the freeway that triggers the VicRoads <i>Requirements of Developers – Noise Sensitive Uses</i> document must respond to its requirements to the satisfaction of the responsible authority.</p> |

| | |
|-------------|---|
| R99 | <p>Any heritage site / reserve or conservation area to be vested in the relevant authority must be done so in a standard that satisfies the requirements of that authority. Works required prior to the transfer include, but may not be limited to:</p> <ul style="list-style-type: none"> • Clearing of rubbish, weeds and contaminated soils • Essential repairs to and stabilisation of any structures • Any fencing required to ensure the safety of the public <p>Any works carried out must be consistent with any relevant Cultural Heritage Management Plan and Conservation Management Plan.</p> |
| R100 | <p>Convenient and direct access to the connector road network must be provided through neighbouring properties where a property does not otherwise have access to the connector network or signalised access to the arterial road network, as appropriate.</p> |
| R101 | <p>Where a street has already been constructed or approved for construction to a property boundary, subsequent development must connect with that street to adopt a consistent cross-section until a suitable transition can be made.</p> |

3.7.2 Development staging

| REQUIREMENTS | |
|--------------|---|
| R102 | <p>Development staging must provide for the timely provision and delivery of:</p> <ul style="list-style-type: none"> • Intersections of connector streets and arterial roads • Connector streets, bridges and pedestrian bridges • Street links between properties, constructed to the property boundary and • Connection of the on and off road pedestrian and bicycle network. |
| GUIDELINES | |
| G72 | <p>Development staging will be largely determined by the development proposals on land within the Precinct and the availability of infrastructure services.</p> <p>Development applications should demonstrate:</p> <ul style="list-style-type: none"> • How the development, to the extent practicable, will be integrated with adjoining developments, through the timely provision of connecting roads and walking/cycling paths • How local open space will be provided in the early stages of the development to prove new residents with amenity • How sealed road access will be provided to each new allotment and • How any necessary trunk service extensions will be delivered, including confirmation of the agreed approach and timing by the relevant infrastructure or service provider. |
| G73 | <p>Where practical, delivery of sports fields, community facilities, local and neighbourhood reserves and playgrounds, pedestrian and cycle path connections (as relevant) should commence in the early stages of development.</p> |

3.8 Precinct Infrastructure

Plan 11 Precinct Infrastructure Plan and Table 8 – Precinct Infrastructure list the items of the Pakenham East ICP and other infrastructure to be delivered by the Local Council or State Government to meet the needs of the proposed development within the precinct. Project delivery timing outlined in Table 8 is indicative and subject to periodic review by the relevant responsible authority.

Table 8 Precinct infrastructure

| PROJECT CATEGORY | PROJECT NUMBER | TITLE | PROJECT DESCRIPTION | LEAD AGENCY | COMPONENT INCLUDED IN ICP | | | TIMING |
|------------------------------|----------------|---|---|------------------------|---------------------------|----------------------|-----------------------|--------|
| | | | | | ULTIMATE LAND | INTERIM CONSTRUCTION | ULTIMATE CONSTRUCTION | |
| ROAD PROJECTS | | | | | | | | |
| Road | RD-01 | Ryan Road Connector Road: Princes Highway (IN-01) to the southern edge of property number 45. | Construction of a two lane 2-way carriageway, excluding intersections (ultimate treatment) within the existing Ryan Road reserve | Cardinia Shire Council | Yes | No | Yes | M-L |
| INTERSECTION PROJECTS | | | | | | | | |
| Intersection | IN-01 | Intersection – Princes Highway / Ryan Road connector road | Provision of land (ultimate treatment) and construction of primary arterial to connector road T signalised intersection (interim treatment) | Cardinia Shire Council | Yes | Yes | No | M-L |
| Intersection | IN-02 | Intersection – Princes Highway / north south connector road | Provision of land (ultimate treatment) and construction of primary arterial to connector road 4-way signalised intersection (interim treatment) | Cardinia Shire Council | Yes | Yes | No | S |
| Intersection | IN-03 | Intersection – Princes Highway / north south connector road | Provision of land (ultimate treatment) and construction of primary arterial to connector road 4-way signalised intersection (interim treatment) | Cardinia Shire Council | Yes | Yes | No | M |
| Intersection | IN-04 | Intersection – Princes Highway / north south connector road | Provision of land (ultimate treatment) and construction of primary arterial to connector road 4-way signalised intersection (interim treatment) | Cardinia Shire Council | Yes | Yes | No | M |
| Intersection | IN-05 | Roundabout – Ryan Road/ Cauty Lane connector road | Provision of land (ultimate treatment) and construction of connector to connector road 3-way roundabout (ultimate treatment) inclusive of culverts. | Cardinia Shire Council | Yes | N/A | Yes | M |

| PROJECT CATEGORY | PROJECT NUMBER | TITLE | PROJECT DESCRIPTION | LEAD AGENCY | COMPONENT INCLUDED IN ICP | | | TIMING |
|-------------------------------------|----------------|--|--|------------------------|---------------------------|----------------------|-----------------------|--------|
| | | | | | ULTIMATE LAND | INTERIM CONSTRUCTION | ULTIMATE CONSTRUCTION | |
| BRIDGE AND CULVERT PROJECTS | | | | | | | | |
| Bridge | BR-01 | Pedestrian and cyclist bridge | Construction of pedestrian and cycle bridge across Deep Creek, north of the Princes Highway | Cardinia Shire Council | No | No | Yes | L |
| Bridge | BR-02 | Local access street bridge across Deep Creek | Construction of road bridge across Deep Creek | Cardinia Shire Council | No | No | Yes | L |
| Bridge | BR-03 | Pedestrian and cyclist bridge | Construction of pedestrian and cycle bridge across Deep Creek, south of the Princes Highway | Cardinia Shire Council | No | No | Yes | L |
| PUBLIC TRANSPORT PROJECTS | | | | | | | | |
| Bus | - | Bus services | Delivery of bus services. | PTV | No | No | No | S-L |
| PEDESTRIAN CROSSING PROJECTS | | | | | | | | |
| Signals | PS-01 | Pedestrian signals | Construction of pedestrian signals on Princes Highway | Cardinia Shire Council | N/A | No | Yes | S-M |
| COMMUNITY FACILITY PROJECTS | | | | | | | | |
| Community | CI-01 | Northern Community Centre | Construction of a Level 1 community building (child services) | Cardinia Shire Council | Yes | N/A | Yes | L |
| | | | Provision of land for a Level 1 community building (child services) | | | | | |
| Community | CI-02 | Local Town Centre Community Centre | Construction of a Level 2 community building (community use with potential for child services) | Cardinia Shire Council | Yes | N/A | Yes | M |
| | | | Provision of land for a Level 2 community building (community use with potential for child services) | | | | | |
| Community | CI-03 | Southern Community Centre | Construction of a Level 1 community building (child services) Provision of land for a Level 1 community building (child services) | Cardinia Shire Council | Yes | N/A | Yes | S |
| Community | CI-04 | Indoor recreation centre | Provision of land for an indoor recreation facility (potential joint use facility with government school). | Cardinia Shire Council | Yes | No | No | M |

| PROJECT CATEGORY | PROJECT NUMBER | TITLE | PROJECT DESCRIPTION | LEAD AGENCY | COMPONENT INCLUDED IN ICP | | | TIMING |
|----------------------------|----------------|-------------------------------|---|--------------------------------------|---------------------------|----------------------|-----------------------|--------|
| | | | | | ULTIMATE LAND | INTERIM CONSTRUCTION | ULTIMATE CONSTRUCTION | |
| EDUCATION PROJECTS | | | | | | | | |
| School | S-01 | Hancock's Gully Proposed P-6 | Land and construction of government primary school in the Northern Community Hub | Department of Education and Training | No | No | No | L |
| School | S-02 | Deep Creek Proposed P-6 | Land and construction of government primary school in the Southern Community Hub | Department of Education and Training | No | No | No | M |
| School | S-03 | Pakenham East Proposed 7-12 | Land and construction of government secondary school | Department of Education and Training | No | No | No | L |
| School | S-04 | Non-Government primary school | Land and construction of a potential non-government primary school adjacent to the drainage reserve. | Non-government school provider | No | No | No | M |
| OPEN SPACE PROJECTS | | | | | | | | |
| Open space | SR-01 | Northern Sports Reserve | Provision of land for a sports reserve and pavilion(s). | Cardinia Shire Council | Yes | N/A | Yes | M-L |
| | | | Construction of a sports reserve incorporating playing surfaces, car parks, landscaping and related infrastructure. | | | | | |
| | | | Construction of pavilion/s to serve the sports reserve, including all building works, landscaping and related infrastructure. | | | | | |
| Open space | SR-02 | Southern Sports Reserve | Provision of land for a sports reserve and pavilion(s). | Cardinia Shire Council | Yes | N/A | Yes | M-L |
| | | | Construction of a sports reserve incorporating playing surfaces, car parks, landscaping and related infrastructure. | | | | | |
| | | | Construction of pavilion/s to serve the sports reserve, including all building works, landscaping and related infrastructure. | | | | | |
| Open space | LP-01 | Local Park | Provision of land for a Hilltop Local Park (property 8 & 9) | Cardinia Shire Council | Yes | No | No | L |
| Open space | LP-02 | Local Park | Provision of land for a Local park abutting community facility and primary school (property 6) | Cardinia Shire Council | Yes | No | No | L |

| PROJECT CATEGORY | PROJECT NUMBER | TITLE | PROJECT DESCRIPTION | LEAD AGENCY | COMPONENT INCLUDED IN ICP | | | TIMING |
|------------------|----------------|------------|--|------------------------|---------------------------|----------------------|-----------------------|--------|
| | | | | | ULTIMATE LAND | INTERIM CONSTRUCTION | ULTIMATE CONSTRUCTION | |
| Open space | LP-03 | Local Park | Provision of land for a Local park (property 8) | Cardinia Shire Council | Yes | No | No | L |
| Open space | LP-04 | Local Park | Provision of land for a Local park (property 29 and property 31) | Cardinia Shire Council | Yes | No | No | S |
| Open space | LP-05 | Local Park | Provision of land for a Local park abutting conservation reserve and Deep Creek Reserve (property 28 & 29) | Cardinia Shire Council | Yes | No | No | M |
| Open space | LP-06 | Local Park | Provision of land for a Local park (property 49) | Cardinia Shire Council | Yes | No | No | M |
| Open space | LP-07 | Local Park | Provision of land for a Local park adjacent to community facility and primary school (property 42) | Cardinia Shire Council | Yes | No | No | M |
| Open space | LP-08 | Local Park | Provision of land for a Hilltop Local Park (property 32,33 & 34) | Cardinia Shire Council | Yes | No | No | M |
| Open space | LP-09 | Local Park | Provision of land for a Local park (property 35-R) | Cardinia Shire Council | Yes | No | No | M-L |
| Open space | LP-10 | Local Park | Provision of land for a Local park (property 35-R) beside the Local Town Centre | Cardinia Shire Council | Yes | No | No | M-L |
| Open space | LP-11 | Local Park | Provision of land for a Local park abutting the drainage reserve (property 38) | Cardinia Shire Council | Yes | No | No | M-L |
| Open space | LP-12 | Local Park | Provision of land for a Local park (property 36) | Cardinia Shire Council | Yes | No | No | M-L |
| Open space | LP-13 | Local Park | Provision of land for a Local park (Property 29) | Cardinia Shire Council | Yes | No | No | M-L |
| Open space | UP-01 | Local Park | Provision of land for a Local park (Urban Plaza) within the local town centre (Property 35 –R) | Cardinia Shire Council | Yes | No | No | M-L |

| PROJECT CATEGORY | PROJECT NUMBER | TITLE | PROJECT DESCRIPTION | LEAD AGENCY | COMPONENT INCLUDED IN ICP | | | TIMING |
|------------------------------|----------------|---|---|------------------------|---------------------------|----------------------|-----------------------|--------|
| | | | | | ULTIMATE LAND | INTERIM CONSTRUCTION | ULTIMATE CONSTRUCTION | |
| PATH PROJECTS | | | | | | | | |
| Local path | P-01 | Shared path on Princes Highway alignment (north of the highway) | Construction of shared path within the high pressure gas transmission easement and the Princes Highway road reserve, north of the highway carriageway | Cardinia Shire Council | No | N/A | Yes | L |
| Local path | P-02 | Shared path on Princes Highway alignment (south of the highway) | Construction of shared path within the Princes Highway road reserve, south of the highway carriageway | Cardinia Shire Council | No | N/A | Yes | M |
| Local path | P-03 | Shared path – Ryan road to Racecourse Road | Construction of shared path within the Vic track rail reserve- Ryan road- Racecourse road | Cardinia Shire Council | No | N/A | Yes | L |
| CONSERVATION PROJECTS | | | | | | | | |
| Conservation | LC-01 | Local conservation | Nature conservation area | Cardinia Shire Council | No | No | No | M |
| OTHER INFRASTRUCTURE | | | | | | | | |
| Drainage | - | Drainage infrastructure | Land and construction of precinct drainage infrastructure | Melbourne Water | No | No | No | S-L |

S = Short (0-5 years)

M = Medium (5-10 years)

L = Long (10 years and beyond)

4.0 APPENDICES

4.1 Appendix A: Parcel-specific land use budget

Table 9 Parcel-specific land use budget

| PSP PARCEL ID | TOTAL AREA (HECTARES) | TRANSPORT | | | COMMUNITY & EDUCATION | | | | OPEN SPACE | | | | | OTHER | | TOTAL NET DEVELOPABLE AREA (HECTARES) | NET DEVELOPABLE AREA % OF PROPERTY |
|---------------|-----------------------|---------------------------------------|---|--|-----------------------|---------------------------------|--|---|-----------------------|-------------------------------|---------------------|--|--|--|-----------------------------------|---------------------------------------|------------------------------------|
| | | ARTERIAL ROAD | | OTHER TRANSPORT | GOVERNMENT SCHOOL | POTENTIAL NON-GOVERNMENT SCHOOL | LOCAL COMMUNITY FACILITY (PUBLIC PURPOSE LAND) | LOCAL INDOOR RECREATION (PUBLIC PURPOSE LAND) | UNCREDITED OPEN SPACE | | | CREDITED OPEN SPACE | | UTILITIES SUB-STATIONS / FACILITIES (ACQUIRED BY RELEVANT AUTHORITY) | ELECTRICITY TRANSMISSION EASEMENT | | |
| | | ARTERIAL ROAD - EXISTING ROAD RESERVE | ARTERIAL ROAD - NEW / WIDENING / INTERSECTION FLARING (PUBLIC PURPOSE LAND) | NON-ARTERIAL ROAD - RETAINED EXISTING ROAD RESERVE | | | | | CONSERVATION RESERVE | WATERWAY AND DRAINAGE RESERVE | UTILITIES EASEMENTS | LOCAL SPORTS RESERVE (PUBLIC PURPOSE LAND) | LOCAL NETWORK PARK (PUBLIC PURPOSE LAND) | | | | |
| 1 | 11.00 | - | - | - | - | - | - | - | - | - | 0.60 | - | - | - | 4.66 | 5.74 | 52.17% |
| 2 | 12.67 | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.49 | 6.18 | 48.76% |
| 3 | 11.53 | - | - | - | - | - | - | - | - | 1.70 | - | - | - | - | 4.85 | 4.98 | 43.17% |
| 4 | 8.35 | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.27 | 3.09 | 36.93% |
| 5 | 4.27 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.27 | 100.00% |
| 6 | 30.76 | - | 0.22 | - | 3.50 | - | 0.60 | - | - | 1.00 | 0.85 | - | 0.80 | - | - | 23.79 | 77.33% |
| 7 | 26.60 | - | - | - | - | - | - | - | - | 11.40 | 0.73 | - | 0.17 | - | - | 14.29 | 53.74% |
| 8 | 30.24 | - | 0.23 | - | - | - | - | - | - | - | 1.50 | - | 2.83 | - | - | 25.68 | 84.92% |
| 9 | 26.03 | - | - | - | - | - | - | - | - | - | - | - | 8.03 | - | - | 18.00 | 69.16% |
| 10 | 2.00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2.00 | 100.00% |
| 11 | 0.66 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.66 | 100.00% |
| 12 | 0.39 | - | - | - | - | - | - | - | - | - | - | - | - | 0.39 | - | 0.00 | 0.00% |
| 13 | 0.31 | - | - | - | - | - | - | - | - | - | - | - | - | 0.31 | - | 0.00 | 0.00% |
| 14 | 70.47 | - | 0.35 | - | - | - | - | - | 0.23 | 14.42 | 4.66 | 10.08 | - | - | 1.53 | 39.20 | 55.62% |
| 15 | 1.11 | - | - | - | - | - | - | - | - | 1.09 | 0.02 | - | - | - | - | 0.00 | 0.00% |

| PSP PARCEL ID | TOTAL AREA (HECTARES) | TRANSPORT | | | COMMUNITY & EDUCATION | | | | OPEN SPACE | | | | | OTHER | | TOTAL NET DEVELOPABLE AREA (HECTARES) | NET DEVELOPABLE AREA % OF PROPERTY |
|---------------|-----------------------|---------------------------------------|---|--|-----------------------|---------------------------------|--|---|-----------------------|-------------------------------|---------------------|--|--|--|-----------------------------------|---------------------------------------|------------------------------------|
| | | ARTERIAL ROAD | | OTHER TRANSPORT | GOVERNMENT SCHOOL | POTENTIAL NON-GOVERNMENT SCHOOL | LOCAL COMMUNITY FACILITY (PUBLIC PURPOSE LAND) | LOCAL INDOOR RECREATION (PUBLIC PURPOSE LAND) | UNCREDITED OPEN SPACE | | | CREDITED OPEN SPACE | | UTILITIES SUB-STATIONS / FACILITIES (ACQUIRED BY RELEVANT AUTHORITY) | ELECTRICITY TRANSMISSION EASEMENT | | |
| | | ARTERIAL ROAD - EXISTING ROAD RESERVE | ARTERIAL ROAD - NEW / WIDENING / INTERSECTION FLARING (PUBLIC PURPOSE LAND) | NON-ARTERIAL ROAD - RETAINED EXISTING ROAD RESERVE | | | | | CONSERVATION RESERVE | WATERWAY AND DRAINAGE RESERVE | UTILITIES EASEMENTS | LOCAL SPORTS RESERVE (PUBLIC PURPOSE LAND) | LOCAL NETWORK PARK (PUBLIC PURPOSE LAND) | | | | |
| 16 | 1.18 | - | 0.01 | - | - | - | - | - | - | 0.13 | - | - | - | - | - | 1.05 | 88.54% |
| 17 | 1.00 | - | - | - | - | - | - | - | - | 0.09 | - | - | - | - | - | 0.92 | 91.13% |
| 18 | 1.00 | - | - | - | - | - | - | - | - | 0.01 | - | - | - | - | - | 0.99 | 98.77% |
| 19 | 1.09 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.09 | 100.00% |
| 20 | 1.18 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.18 | 100.00% |
| 21 | 1.25 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.25 | 100.00% |
| 22 | 1.26 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.26 | 100.00% |
| 23 | 0.79 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.79 | 100.00% |
| 24 | 0.52 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.52 | 100.00% |
| 25 | 1.45 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.45 | 100.00% |
| 26 | 1.20 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.20 | 100.00% |
| 27 | 0.72 | - | - | - | - | - | - | - | - | 0.72 | - | - | - | - | - | 0.00 | 0.00% |
| 28 | 0.77 | - | - | - | - | - | - | - | - | 0.00 | - | - | 0.77 | - | - | 0.00 | 0.00% |
| 29 | 24.70 | - | 0.01 | - | - | - | - | - | 1.71 | 12.73 | - | - | 1.66 | - | - | 8.58 | 34.74% |
| 30 | 14.67 | - | - | - | - | - | - | - | - | - | 0.66 | - | - | - | - | 14.01 | 95.53% |
| 31 | 15.71 | - | 0.85 | - | - | - | - | - | 0.02 | - | 0.98 | - | 0.44 | - | - | 13.42 | 85.39% |
| 32 | 6.07 | - | - | - | - | - | - | - | - | - | - | - | 0.60 | - | - | 5.47 | 90.14% |
| 33 | 2.89 | - | - | - | - | - | - | - | - | - | - | - | 0.29 | - | - | 2.60 | 89.94% |
| 34 | 59.65 | - | - | - | 7.15 | - | - | 1.50 | - | - | 0.53 | 5.95 | 0.50 | - | - | 44.02 | 73.80% |

| PSP PARCEL ID | TOTAL AREA (HECTARES) | TRANSPORT | | | COMMUNITY & EDUCATION | | | | OPEN SPACE | | | | | OTHER | | TOTAL NET DEVELOPABLE AREA (HECTARES) | NET DEVELOPABLE AREA % OF PROPERTY |
|------------------|-----------------------|---------------------------------------|---|--|-----------------------|---------------------------------|--|---|-----------------------|-------------------------------|---------------------|--|--|--|-----------------------------------|---------------------------------------|------------------------------------|
| | | ARTERIAL ROAD | | OTHER TRANSPORT | GOVERNMENT SCHOOL | POTENTIAL NON-GOVERNMENT SCHOOL | LOCAL COMMUNITY FACILITY (PUBLIC PURPOSE LAND) | LOCAL INDOOR RECREATION (PUBLIC PURPOSE LAND) | UNCREDITED OPEN SPACE | | | CREDITED OPEN SPACE | | UTILITIES SUB-STATIONS / FACILITIES (ACQUIRED BY RELEVANT AUTHORITY) | ELECTRICITY TRANSMISSION EASEMENT | | |
| | | ARTERIAL ROAD - EXISTING ROAD RESERVE | ARTERIAL ROAD - NEW / WIDENING / INTERSECTION FLARING (PUBLIC PURPOSE LAND) | NON-ARTERIAL ROAD - RETAINED EXISTING ROAD RESERVE | | | | | CONSERVATION RESERVE | WATERWAY AND DRAINAGE RESERVE | UTILITIES EASEMENTS | LOCAL SPORTS RESERVE (PUBLIC PURPOSE LAND) | LOCAL NETWORK PARK (PUBLIC PURPOSE LAND) | | | | |
| 35-E | 0.70 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.70 | 100.00% |
| 35-R | 24.76 | - | 0.37 | - | - | 0.26 | 1.00 | - | 0.07 | 3.30 | - | - | 0.53 | - | - | 19.23 | 77.67% |
| 36 | 38.93 | - | 0.63 | - | - | 3.24 | - | - | - | 0.57 | - | - | 1.00 | - | - | 33.49 | 86.02% |
| 37 | 0.80 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.80 | 100.00% |
| 38 | 28.52 | - | - | - | - | - | - | - | - | 3.36 | - | - | 0.80 | - | - | 24.37 | 85.43% |
| 39 | 29.28 | - | - | - | 1.25 | - | - | - | - | 13.78 | - | 0.71 | - | - | - | 13.53 | 46.21% |
| 40 | 23.85 | - | - | - | - | - | - | - | - | 6.03 | 1.19 | 7.62 | - | - | - | 9.00 | 37.74% |
| 41 | 0.10 | - | - | - | - | - | - | - | - | 0.06 | 0.04 | - | - | - | - | 0.00 | 0.00% |
| 42 | 29.89 | - | - | - | 3.50 | - | 0.60 | - | 0.03 | 1.24 | - | - | 0.50 | - | - | 24.01 | 80.35% |
| 43 | 1.22 | - | 0.18 | - | - | - | - | - | 0.003 | - | - | - | - | - | - | 1.04 | 85.21% |
| 44 | 2.23 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2.23 | 100.00% |
| 45 | 0.42 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.42 | 100.00% |
| 46 | 1.26 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.26 | 100.00% |
| 47 | 25.31 | - | - | - | - | - | - | - | - | 4.47 | - | - | - | - | - | 20.84 | 82.34% |
| 48 | 0.40 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.40 | 100.00% |
| 49 | 12.85 | - | - | - | - | - | - | - | - | 0.45 | - | - | 1.00 | - | - | 11.39 | 88.68% |
| 50 | 4.25 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.25 | 100.00% |
| 51 | 0.19 | - | - | - | - | - | - | - | - | - | - | - | - | 0.19 | - | 0.00 | 0.00% |
| SUB-TOTAL | 598.47 | 0.00 | 2.85 | 0.00 | 15.40 | 3.50 | 2.20 | 1.50 | 2.07 | 76.56 | 11.77 | 24.37 | 19.92 | 0.89 | 22.81 | 414.63 | 69.28% |

| PSP PARCEL ID | TOTAL AREA (HECTARES) | TRANSPORT | | | COMMUNITY & EDUCATION | | | | OPEN SPACE | | | | | OTHER | | TOTAL NET DEVELOPABLE AREA (HECTARES) | NET DEVELOPABLE AREA % OF PROPERTY |
|---------------------------------|-----------------------|---------------------------------------|---|--|-----------------------|---------------------------------|--|---|-----------------------|-------------------------------|---------------------|--|--|--|-----------------------------------|---------------------------------------|------------------------------------|
| | | ARTERIAL ROAD | | OTHER TRANSPORT | GOVERNMENT SCHOOL | POTENTIAL NON-GOVERNMENT SCHOOL | LOCAL COMMUNITY FACILITY (PUBLIC PURPOSE LAND) | LOCAL INDOOR RECREATION (PUBLIC PURPOSE LAND) | UNCREDITED OPEN SPACE | | | CREDITED OPEN SPACE | | OTHER | | | |
| | | ARTERIAL ROAD - EXISTING ROAD RESERVE | ARTERIAL ROAD - NEW / WIDENING / INTERSECTION FLARING (PUBLIC PURPOSE LAND) | NON-ARTERIAL ROAD - RETAINED EXISTING ROAD RESERVE | | | | | CONSERVATION RESERVE | WATERWAY AND DRAINAGE RESERVE | UTILITIES EASEMENTS | LOCAL SPORTS RESERVE (PUBLIC PURPOSE LAND) | LOCAL NETWORK PARK (PUBLIC PURPOSE LAND) | UTILITIES SUB-STATIONS / FACILITIES (ACQUIRED BY RELEVANT AUTHORITY) | ELECTRICITY TRANSMISSION EASEMENT | | |
| ROAD RESERVE | | | | | | | | | | | | | | | | | |
| R1 (Deep Creek Road) | 2.06 | - | - | - | - | - | - | - | - | 2.04 | 0.019 | - | - | - | - | 0.00 | 0.00% |
| R2 (Dore Road) | 2.24 | - | - | 2.19 | - | - | - | - | - | - | 0.05 | - | - | - | - | 0.00 | 0.00% |
| R3 (Mt. Ararat Nth Road) | 0.91 | - | - | 0.91 | - | - | - | - | - | - | - | - | - | - | - | 0.00 | 0.00% |
| R4 (Princes Hwy) | 21.14 | 21.14 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.00 | 0.00% |
| R5 (Ryan Road) | 2.55 | - | - | 2.55 | - | - | - | - | - | - | - | - | - | - | - | 0.00 | 0.00% |
| R6 (Canty La) | 1.32 | - | - | 0.41 | - | - | - | - | 0.91 | - | - | - | - | - | - | 0.00 | 0.05% |
| R7 (Unnamed) | 0.34 | - | - | 0.33 | - | - | - | - | 0.00 | - | - | - | - | - | - | 0.00 | 0.00% |
| R8 (Mt. Ararat Sth Road) | 0.92 | - | - | 0.92 | - | - | - | - | - | - | - | - | - | - | - | 0.00 | 0.00% |
| SUB-TOTAL | 31.48 | 21.14 | 0.00 | 7.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.91 | 2.04 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00% |
| TOTALS PSP PAKENHAM EAST | 629.95 | 21.14 | 2.85 | 7.32 | 15.40 | 3.50 | 2.20 | 1.50 | 2.98 | 78.60 | 11.84 | 24.37 | 19.92 | 0.89 | 22.81 | 414.63 | 65.82% |

4.2 Appendix B: Local Town Centre (LTC) and Local Convenience Centre (LCC) Design Principles

| PRINCIPLES | APPLICATION |
|---|--|
| ATTRACTING INVESTMENT AND SUPPORTING THE COMMUNITY | |
| <p>Principle 1 Provide a full range of local community and other facilities, including a supermarket, shops, medical and recreation uses.</p> | <ul style="list-style-type: none"> • Uses and development within the LTC should respond to the LTC Concept Plan (Figure 1). • The design of the LTC and LCC and adjacent land uses should facilitate a high degree of community interaction and provide a vibrant mix of retail, recreation and community facilities. • The LTC should encourage smaller scale individual tenancies, particularly along Main Street, to attract investment and encourage greater diversity and opportunities for local business investment. • The LTC should be anchored by a full-line supermarket and supported by speciality stores and peripheral commercial uses. • Active building frontages should address the Boulevard Connector Street, Main Street and Hancock's Gully landscaped waterway corridor. • Medical centres and peripheral commercial uses should be located at the edge of the LTC to contribute to the activity of the centre. • Car parking areas should be located centrally to the site and to the side of street based retail frontages. • Car parking areas should be designed to accommodate shared use/functionality. • Mixed use buildings should provide retail and/or commercial at ground level and office and residential above ground level. • Public toilets should be provided in locations which are safe and accessible and within the managed area of the property. • Shopfronts should have varying widths and floor space areas to promote a diversity of trading opportunities throughout the LTC. • Site servicing areas of development must not front the main street/s and must be located to the rear and/or side street and sleeved or screened. • Local Convenience Centre should be planned for neighbourhoods that contain less than 8,000 people and are located more than 1km away from a local town centre or higher order town centre. |
| FOSTERING EMPLOYMENT | |
| <p>Principle 2 Integrate local employment and service opportunities in a business friendly environment</p> | <ul style="list-style-type: none"> • A variety of employment and business opportunities should be provided through the provision of a broad mix of land uses and commercial activities. • A range of options and locations for office based businesses should be provided within the LTC and LCC • Services and facilities to support home based and smaller businesses are encouraged within the LTC and LCC • Appropriate locations for small office/home office (SOHO) housing options which maximises the access and exposure of activity occurring in the LTC should be considered as part of the housing design process • The medium density residential area adjoining Hancock's Gully should be designed with a flexible floor height, to allow conversion of residential to commercial uses if required over time. |
| DELIVERING HOUSING OPTIONS | |
| <p>Principle 3 Include a range of medium and high density housing and other forms of residential uses within and surrounding the LTC and LCC</p> | <ul style="list-style-type: none"> • The Future Urban Structure identifies the location and extent of medium density housing required surrounding the LTC and CC in areas of high amenity and accessibility with strong pedestrian and cycle links. Provide a range of housing types for a cross section of the community in and around the LTC and LCC. • Refer to the Small Lot Housing Code and Practice Note for further information about housing requirements for small lots around the LTC and CC. |

| CONNECTING THE REGION | |
|---|---|
| <p>Principle 4 Locate the LTC and LCC in an attractive setting so that most people live within a walkable catchment of both centres and relate to the centre as the focus of the neighbourhood</p> | <ul style="list-style-type: none"> • Should be located to maximise the number of dwellings living within a walkable catchment. • The LTC and LCC should have a distinctive character and sense of place by addressing Hancock's Gully (proposed landscaped waterway corridor) and Canty Lane. • The design of LTC and LCC should respect exiting views and vistas to and from each centre. |
| <p>Principle 5 Design the LTC and LCC to be pedestrian friendly and accessible by all modes including public transport, while enabling private vehicle access</p> | <ul style="list-style-type: none"> • The LTC and LCC should be easily, directly and safely accessible for pedestrians, cyclists, public transport users, private vehicles, service and delivery vehicles with priority given to pedestrian movement, safety, convenience and amenity. • The LTC should provide a permeable network of streets, walkways and public spaces that provides linkages throughout the centre and designated pedestrian crossing points. • Any streets should be designed to comply with relevant street cross sections provided in this Precinct Structure Plan. • A speed environment of 40km/hr or less should be designed for the street network surrounding the LTC and LCC. • Public transport facilities should be located in convenient locations within and/or near to the LTC to the satisfaction of the Department of Transport. • Bus stops should be provided in accordance with the Public Transport Victoria's Public Transport Guidelines for Land Use and Development to the satisfaction of Department of Public Transport. • Bicycle parking should be provided within the street network and public spaces in highly visible locations close to pedestrian desire lines and key destinations. • Buildings should be located to encourage pedestrian movement along the length of the street through public spaces. • The design of buildings within the LTC and LCC should have a positive relationship with and interface to the street network. • Car parking areas should be designed to ensure passive surveillance and public safety through positioning in relation to buildings and streets and adequate lighting. • Car parking areas should be designed to provide dedicated pedestrian routes and areas of landscaping. • Car parking entry and exit crossovers should be limited. • Car parking entry and exit and car parking areas accommodating heavy vehicle movements should be designed to limit pedestrian/vehicle conflict. • Heavy vehicle loading and unloading should be located to the rear of street based retail frontages. • Street, public spaces and car parks should be well lit to Australian standards and with pedestrian friendly light. Lighting should be designed to avoid unnecessary spill to the side or above. • All public space should respond appropriately to the design for mobility access principles. |
| <p>Principle 6 Promote Public Transport use</p> | <ul style="list-style-type: none"> • Facilitate safe and efficient operation of bus services. • Encourage use of public transport by locating bus stops in locations which are accessible, safe and convenient. |
| <p>Principle 7 Locate the LTC on a connector street intersection with access to an arterial road and transit stop.</p> | <ul style="list-style-type: none"> • The LTC should be located on a connector/arterial level intersection that is central to the residential catchment it services while optimising opportunities for passing trade. • The LTC and LCC should be serviced by a bus route. The LTC will be designed to maximise accessibility to the town centre from the proposed bus stop locations. |

CREATING VALUED DESTINATIONS

Principle 8

Create a sense of place with high quality engaging urban design

- Development should complement and enhance the character of the surrounding area by responding appropriately to key visual cues associated with the topography of the LTC and LCC location and its surrounds.
- The design of each building should contribute to a cohesive and legible character for the LTC and LCC as a whole.
- Sites in prominent location (such as intersections, adjacent to open space) should be identified as significant buildings or landmark structure
- The design of building frontages should incorporate the use of a consistent covered walkway to provide for weather protection
- Street facades should be well articulated and be finished in suitable materials and colours that contribute to the character of the LTC and LCC.
- The design of each centre must consider the *Urban Design Guidelines for Victoria* to ensure public spaces increase community usage, are more liveable and enhance safety.
- Corner sites where the main streets intersect should:
 - » Be designed to provide a built form that anchors the main street to the intersecting road. This can be achieved through increased building height, scale and articulated frontages
 - » Incorporate either 2 storey buildings or two storey parapet design elements and not be single storey.
 - » Be developed to have a ground floor active frontage and active floor space component to the main street frontage
- Materials and design elements should be compatible with the environment and landscape character of the precinct.
- The supermarket should be sleeved by retail uses and have entry directly from the street so that the use integrates with and promotes activity on the street.
- Supermarkets or retail uses with a frontage directly to the Main Street and use clear glazing to allow for view lines into the store from the street. (Planning permits for buildings and works should condition against the use of white washed windows, excessive advertising that prevents view lines and obtrusive internal shelving or 'false walls' offset from the glazing).
- Secondary access from car parking can be considered where it does not diminish from the role of the primary access from the main street or plaza.
- Retail and commercial buildings should generally be built to the property line
- Public spaces should be oriented to capture the north sun and protect from prevailing winds and weather.
- Landscaping of all interface areas should be of a high standard to complement the built form design.
- Street furniture should be located in areas that are highly visible and close to or adjoin pedestrian desire lines and gathering spaces.
- Wrapping of car parking edges with built form to improve street interface should be maximised.
- Car parking areas should provide for appropriate landscaping with planting of canopy trees and dedicated pedestrian thoroughfares.
- Screening of centralised waste collection points should minimise amenity impacts with adjoining areas and users of the centre.
- Where service areas are accessible from car parks, they should present a well-designed and secure façade.

Principle 9

Focus on a public space as the centre of community life

- A public space that acts as a central meeting place within the LTC must be provided. This should be a minimum of 400m² in size and may take the form of a town square, town park, public plaza space or similar locally responsive option. Smaller public spaces which are integrated, surrounded by active frontages and facilitate pedestrian movement are encouraged.
- The public space should address Hancock's Gully and the street based retail frontages.
- The public space should be designed to function as an identifiable 'centre' to the LTC, with a distinctive local character that responds to the surrounding environment.
- The public space should be flexibly designed to allow a range of uses to occur at any one time, for example shopping and accessing businesses and providing a space where social interaction, celebrations or temporary uses can occur.
- The public space should be well integrated with the pedestrian and cycle links and act as a gateway to the LTC from these links.
- Bicycle parking should be provided at entry points in highly visible locations in key destinations. Weather protection, passive surveillance and lighting should be provided.
- Footpath widths in and around the public space and along street based retail frontages should be sufficient to provide for pedestrian and mobility access, and provide space for outdoor dining and public gatherings.

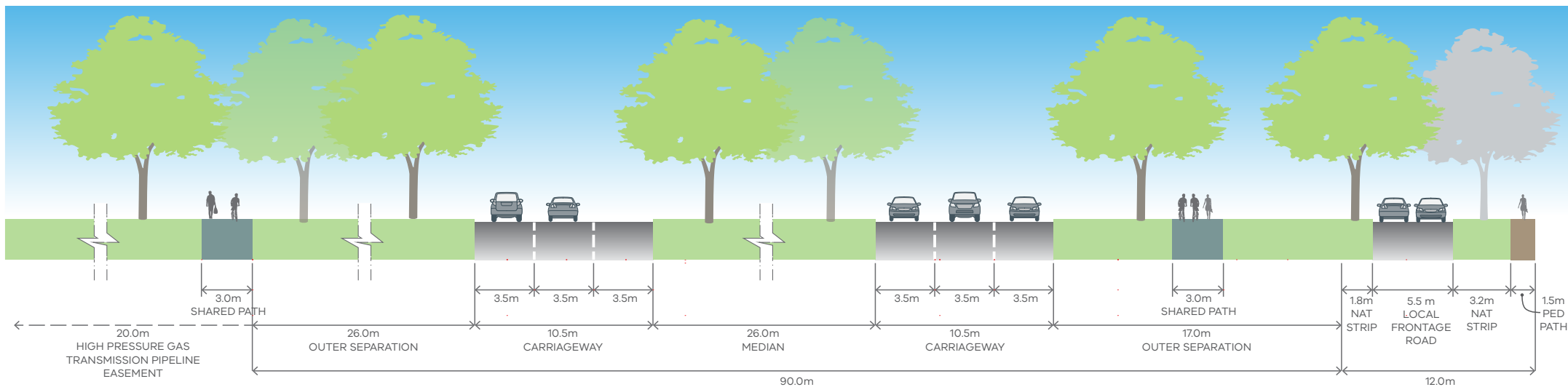
PROMOTE SUSTAINABILITY AND ADAPTABILITY

Principle 10

Promote localisation, sustainability and adaptability

- The LTC and LCC should be designed to be sympathetic to its natural surrounds by:
- Investigating the use of energy efficient design and construction methods for all buildings
- Implementing Water Sensitive Urban Design principles such as integrated stormwater retention and reuse (toilet flushing and landscape irrigation)
- Promoting safe and direct accessibility and mobility within and to and from the LTC and LCC
- Including options for shade and shelter through a combination of landscape and built form treatments
- Ensuring buildings are naturally ventilated to reduce the reliance on plant equipment for heating and cooling
- Promoting passive solar orientation in the configuration and distribution of built form and public spaces
- Grouping waste collection points to maximise opportunities for recycling and reuse
- Investigating other opportunities for the built form to reduce greenhouse gas emissions associated with the occupation and the ongoing use of buildings
- Encourage building design which can be adapted to accommodate a variety of uses over time.
- Ensure the LTC has capacity for growth and change to enable adaption and the intensification of uses as the community grows.

4.3 Appendix C: Street cross sections

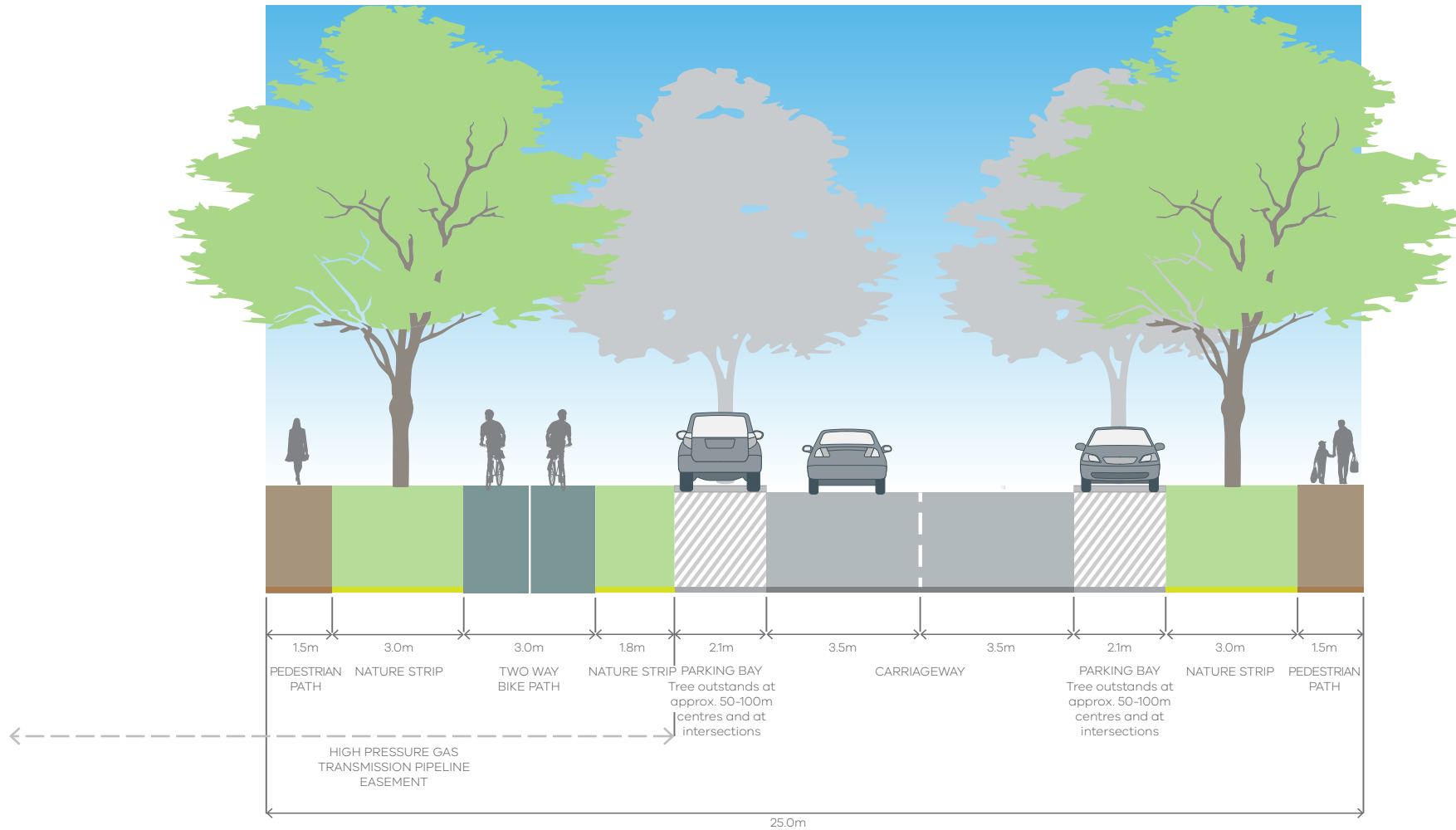


NOTES:

- Includes typical residential interface both sides
- Where road abuts a gas transmission pipeline easement, cross section to be delivered within the easement as indicated.
- Any footpaths or cycling paths within the easement for gas pipeline are not to be encumbered with a road (R1) or carriageway easement status.

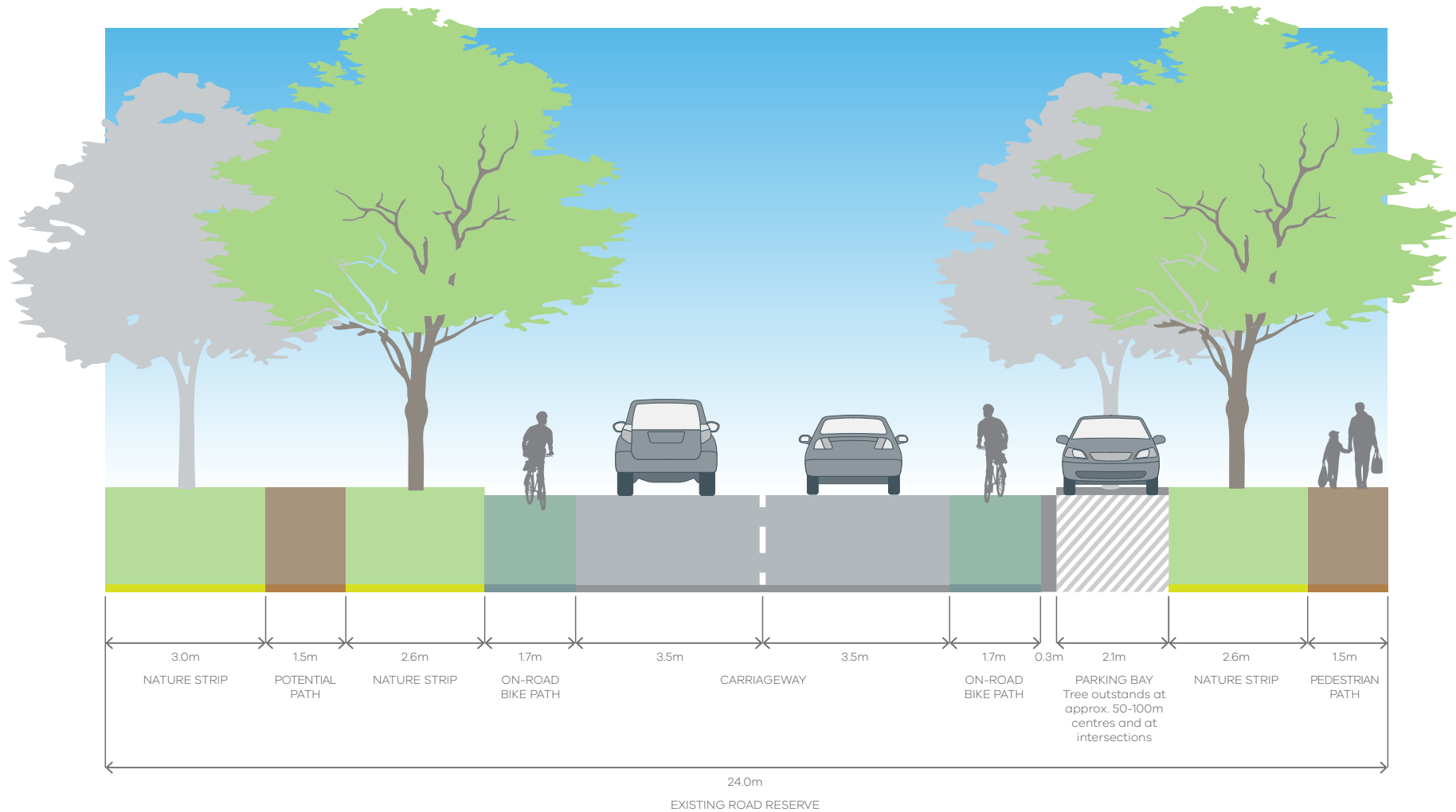
As relevant:

- Mature street tree size & low level planting must be in accordance with Cardinia Shire Council's Developer Landscape Guidelines, Jan 2017 (or as amended)
- Kerbs for arterial carriageways are to be SM2 Semi-Mountable Kerb, and local frontage roads are to be B2 Barrier Kerb (refer Engineering Design and Construction Manual for Subdivision in Growth Areas, April 2011)
- See VicRoads Tree Planting Policy. Large trees within the road reserve to be protected by safety barriers, else small tree <100mm \varnothing trunk at double spacing)



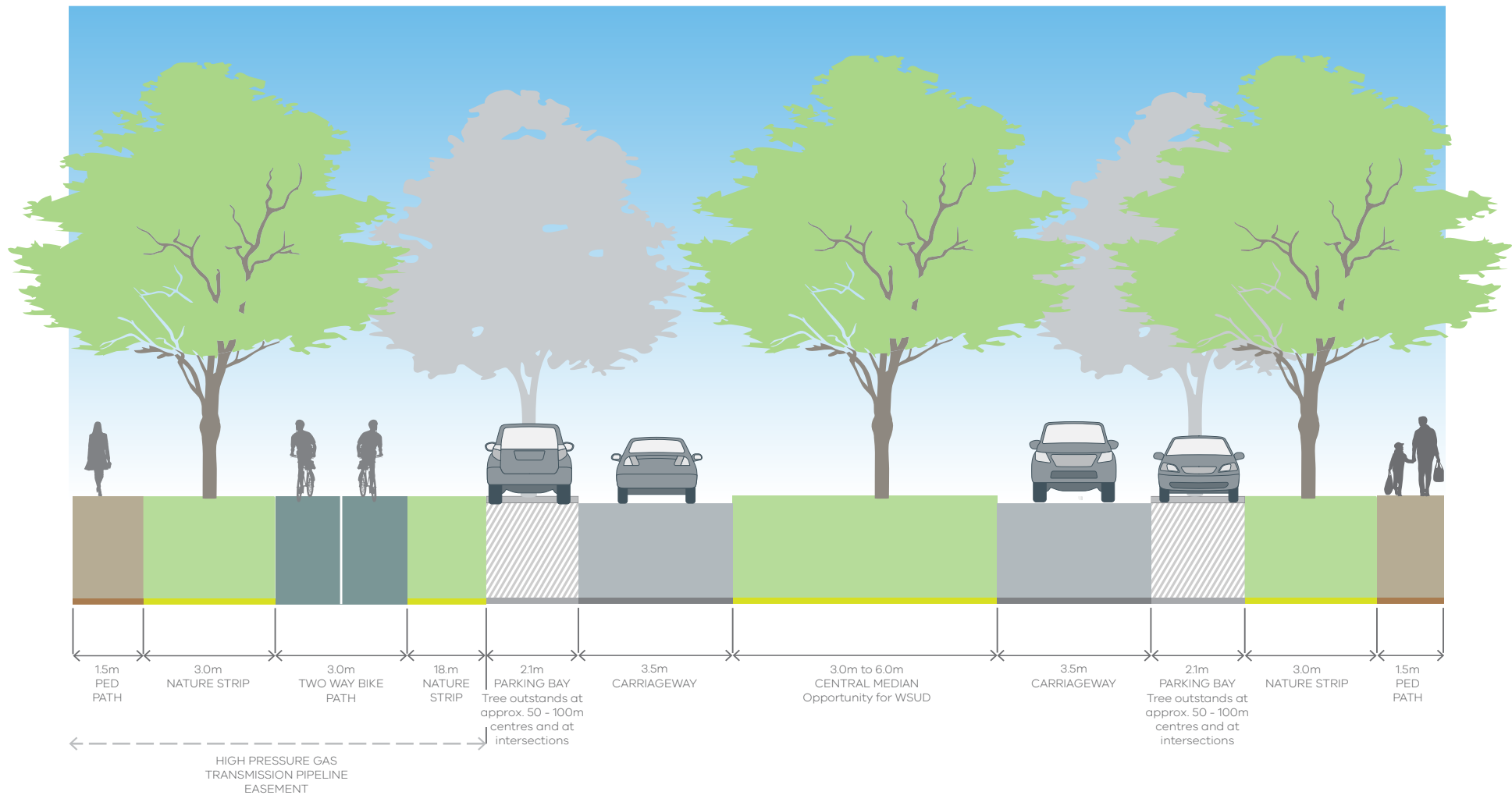
NOTES:

- Street tree planting should be the largest size practicable that is appropriate for the width & function of the street in accordance with Cardinia Shire Council's Developer Landscape Guidelines, Jan 2017 (or as amended)
- All kerbs are to be B2 Barrier Kerb.
- Where roads abut school drop-off zones and thoroughfares, grassed nature strip should be replaced with pavement. Canopy tree planting must be incorporated into any additional pavement.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.
- Variations to indicative cross-section may include water sensitive urban design (WSUD) outcome. These could include but are not limited to bioretention tree planter systems and/or median bioretention swales. Such variations must be to the satisfaction of the responsible authority.
- Where road abuts a gas transmission pipeline easement, cross section to be delivered within the easement as indicated.
- Any footpaths or cycling paths within the easement for gas pipeline are not to be encumbered with a road (R1) or carriageway easement status.



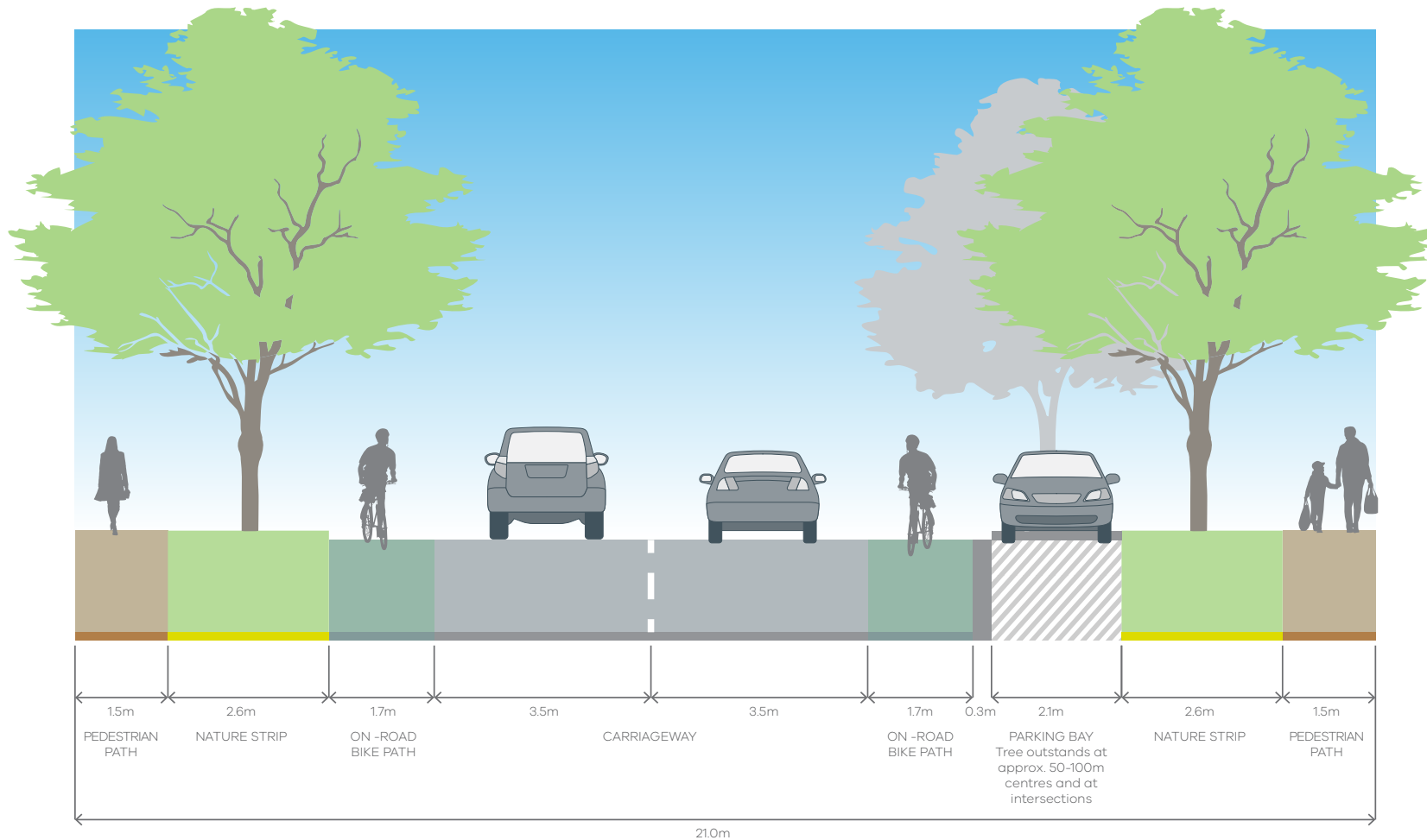
NOTES:

- Street tree planting should be the largest size practicable that is appropriate for the width & function of the street in accordance with Cardinia Shire Council's Developer Landscape Guidelines, Jan 2017 (or as amended)
- All kerbs are to be B2 Barrier Kerb.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.
- Variations to indicative cross-section may include water sensitive urban design (WSUD) outcome. These could include but are not limited to bioretention tree planter systems and/or median bioretention swales. Such variations must be to the satisfaction of the responsible authority.



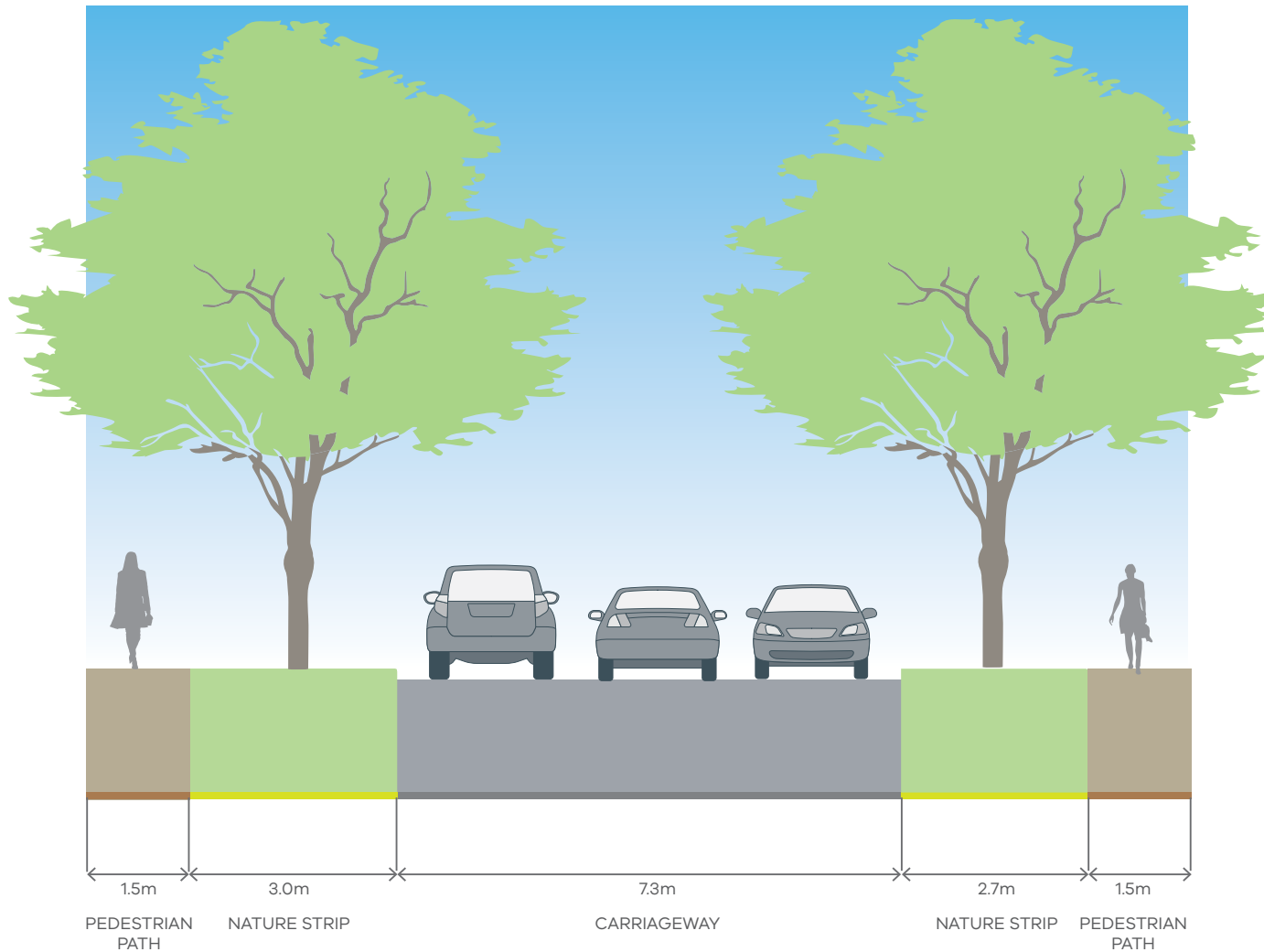
NOTES:

- Include a central median with large canopy trees to create a boulevard effect. Trees are to be centrally planted in median.
- Topsoil used in central medians is to be sandy loam, with a minimum depth of 200mm. The surface of medians is to be free-draining with a minimum cross fall of 2%, and is to be planted with warm season grasses.
- Where road abuts a gas transmission pipeline easement, cross section to be delivered within the easement as indicated unless otherwise agreed to by the gas pipeline authority.
- Any footpaths or cycling paths within the easement for gas pipeline are not to be encumbered with a road (R1) or carriageway easement status.
- In areas where high pedestrian volumes are expected (e.g. around schools and town centres), central medians should be paved with harder wearing surfaces such as granitic sand or other pavements.
- Any garden beds in central medians are to be offset 1.5m from back of kerb.
- Kerb to central median is to be SM2 Semi-mountable kerb.
- Depending on the location of breaks in the median, provide intermediate pedestrian crossing points to accommodate mid-block crossings.
- An alternative boulevard treatment can be achieved through a wider verge on one side capable of accommodating a double row of canopy trees.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.
- Variations to indicative cross-section may include water sensitive urban design (WSUD) outcome. These could include but are not limited to bioretention tree planter systems and/or median bioretention swales. Such variations must be to the satisfaction of the responsible authority.



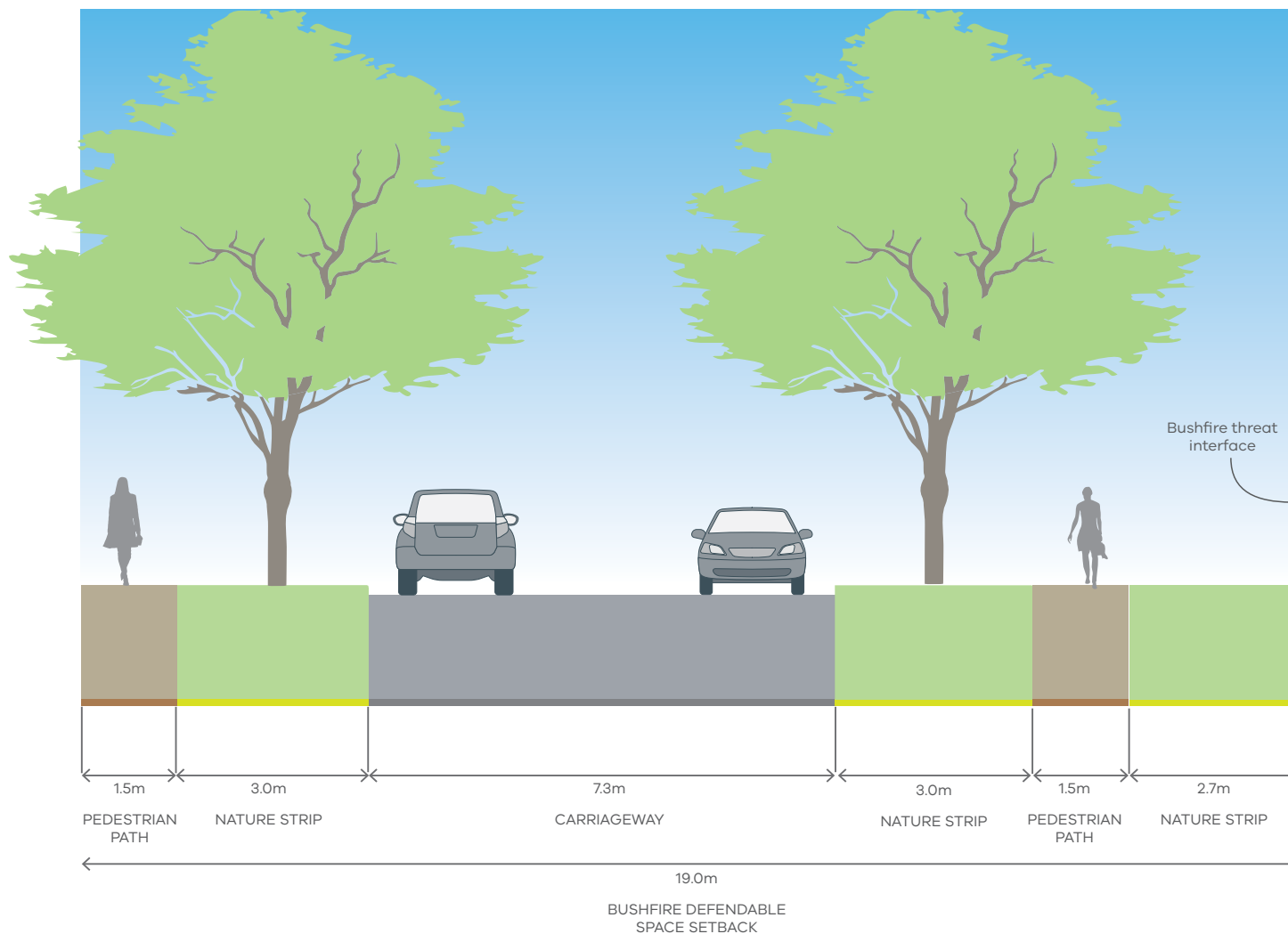
NOTES:

- Street tree planting should be the largest size practicable that is appropriate for the width & function of the street in accordance with Cardinia Shire Council's Developer Landscape Guidelines, Jan 2017 (or as amended)
- Kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority



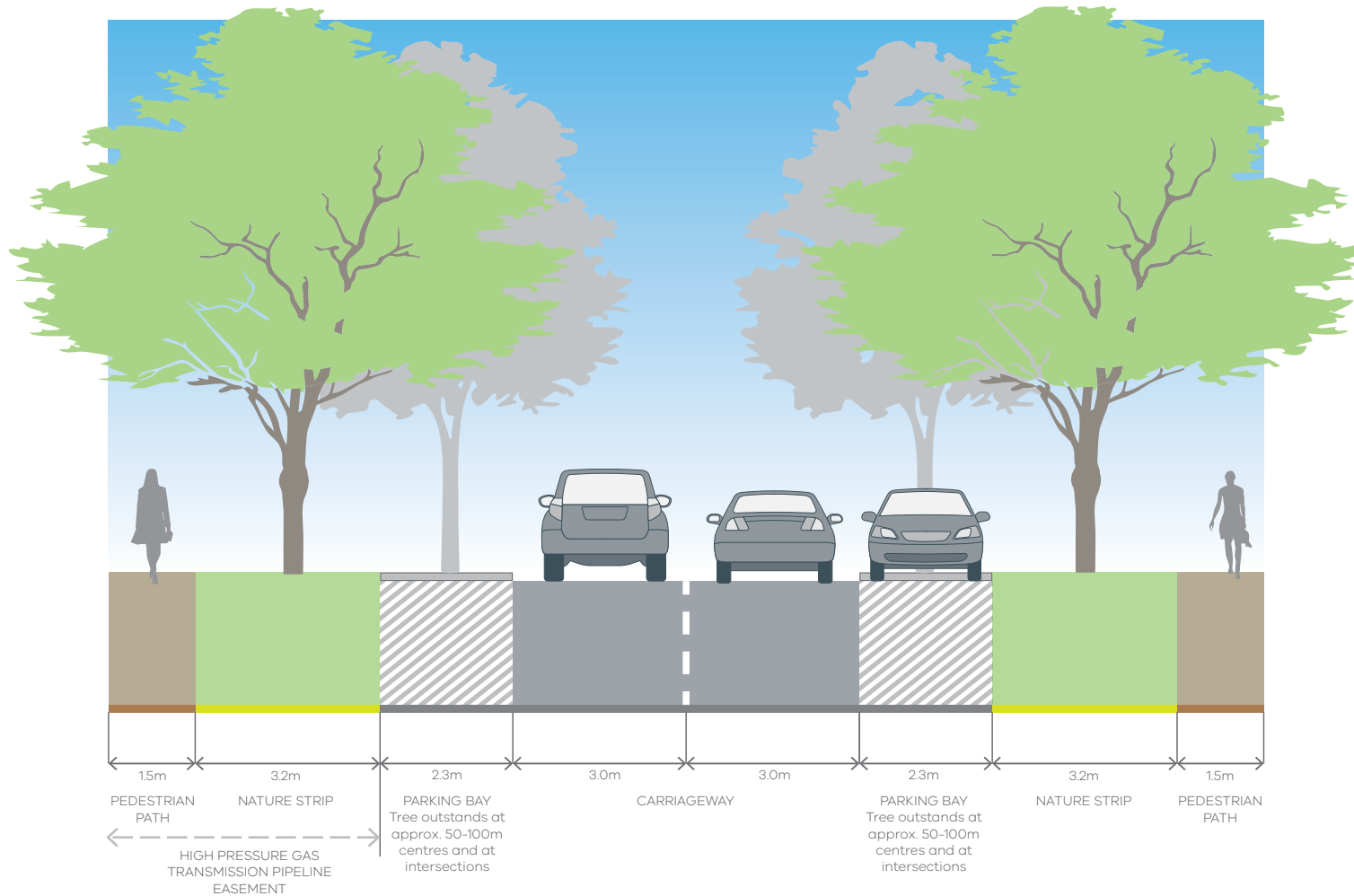
NOTES:

- Street tree planting should be the largest size practicable that is appropriate for the width & function of the street in accordance with Cardinia Shire Council's Developer Landscape Guidelines, Jan 2017 (or as amended)
- All kerbs are to be B2 Barrier Kerb
- Where there is an edge road adjacent to the Princes Freeway, a variation to the carriageway to a width of 5.5 metres and the requirement for one pedestrian path can be considered.



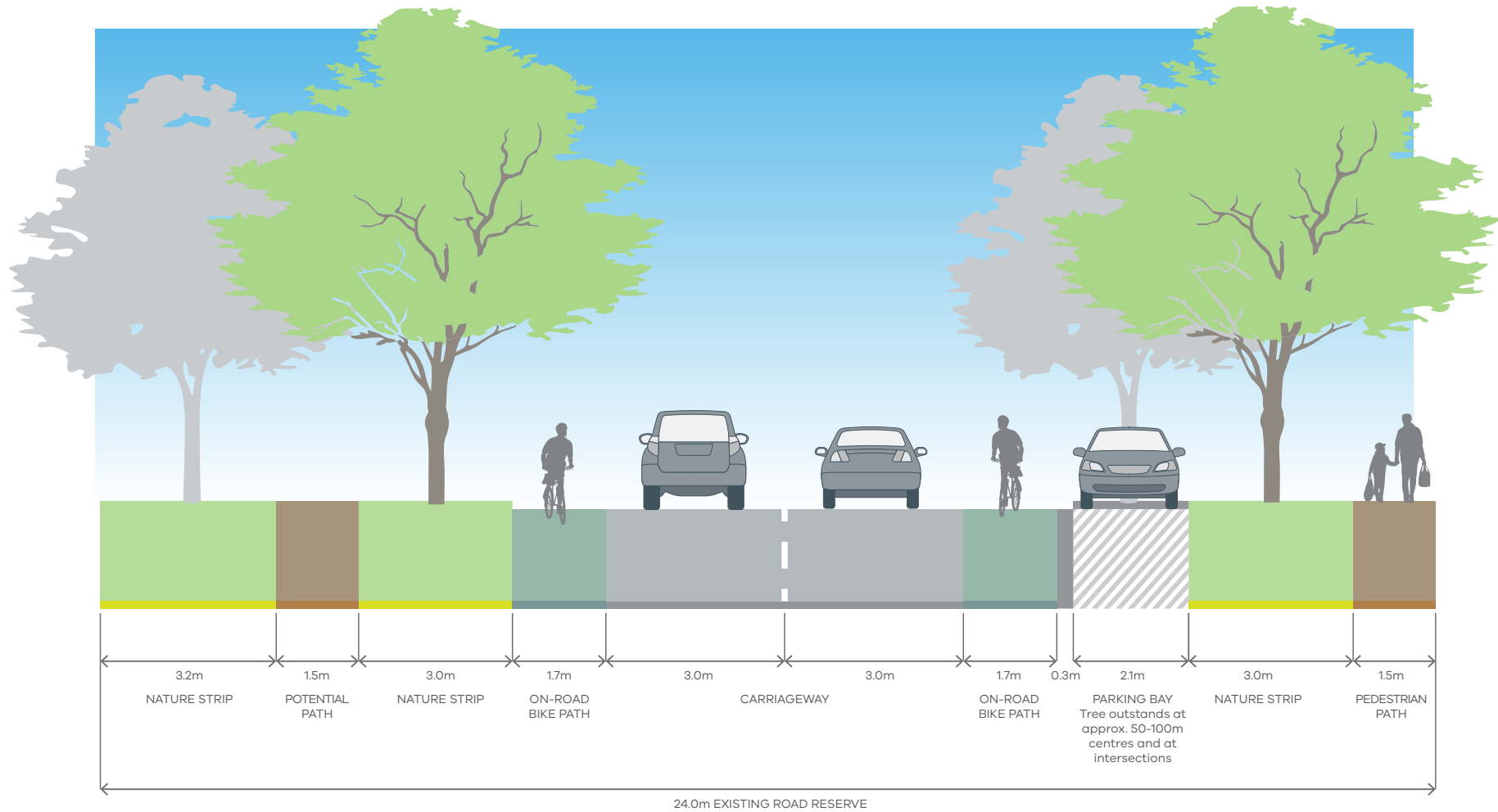
NOTES:

- Street tree planting should be the largest size practicable that is appropriate for the width & function of the street in accordance with Cardinia Shire Council's Developer Landscape Guidelines, Jan 2017 (or as amended)
- All kerbs are to be B2 Barrier Kerb
- BAL 12.5 requirement 19m bushfire defendable space setback achieved through 19m cross section
- Where there is an edge road adjacent to the Urban Growth Boundary, the requirement for one pedestrian path can be considered.



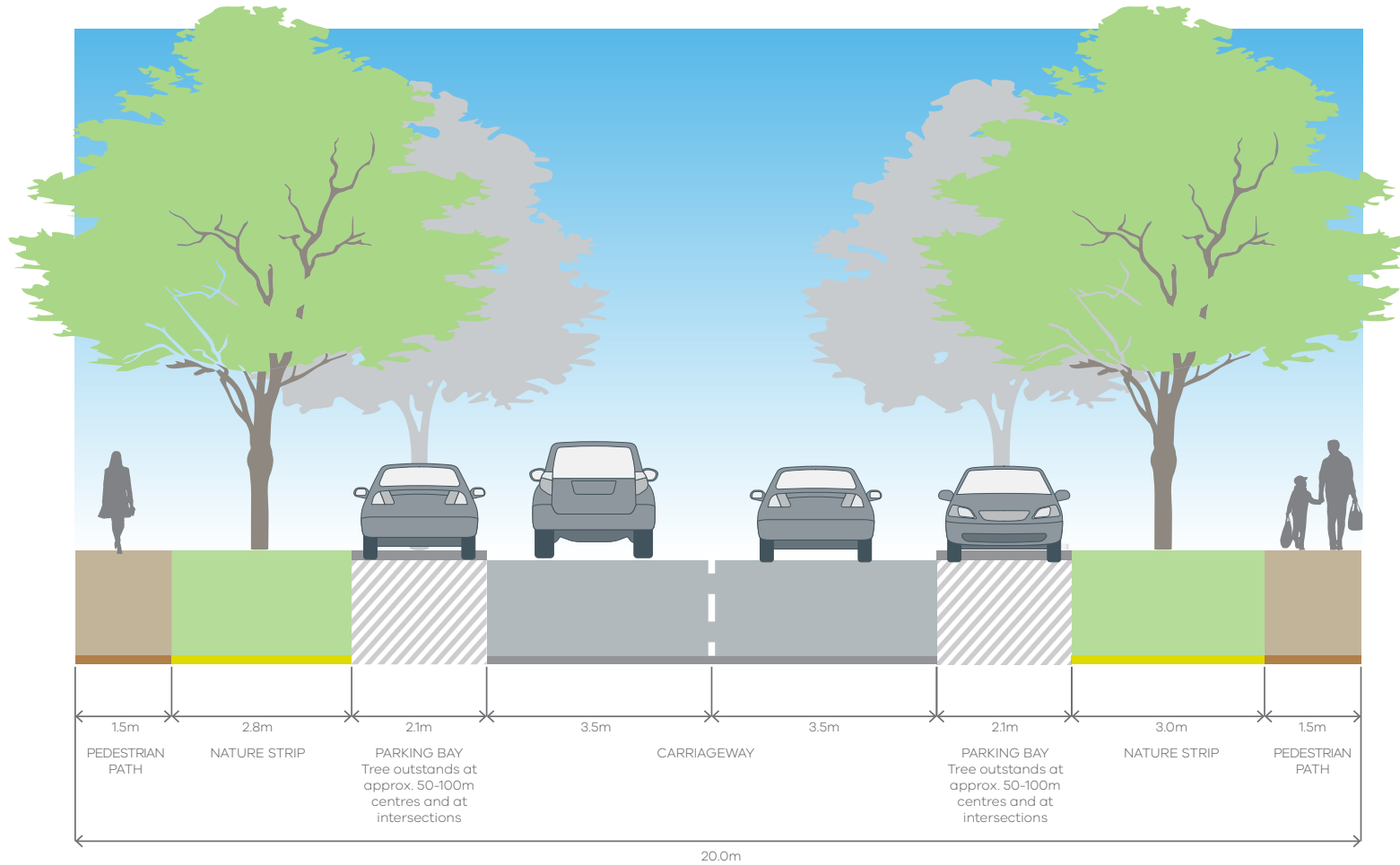
NOTES:

- Street tree planting should be the largest size practicable that is appropriate for the width & function of the street in accordance with Cardinia Shire Council's Developer Landscape Guidelines, Jan 2017 (or as amended)
- Kerbs are to be B2 Barrier Kerb
- Where roads abut school drop-off zones and thoroughfares, grassed nature strip should be replaced with pavement. Canopy tree planting must be incorporated into any additional pavement
- Local access streets abutting schools are to be local access street level 2 (20m) type roads
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority
- Where road abuts a gas transmission pipeline easement, cross section to be delivered within the easement as indicated
- Any footpaths or cycling paths within the easement for gas pipeline are not to be encumbered with a road (R1) or carriage way easement status.



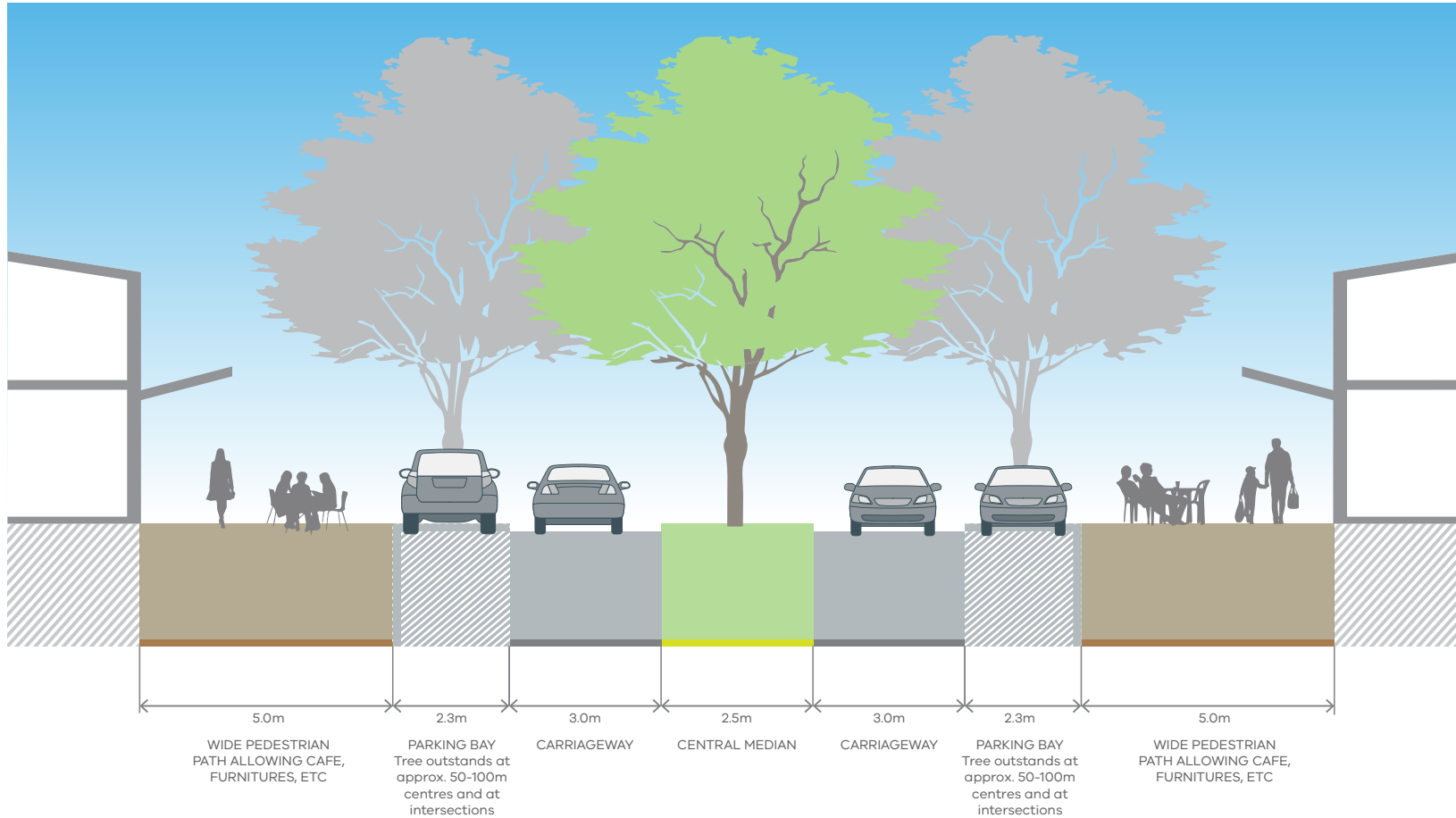
NOTES:

- Street tree planting should be the largest size practicable that is appropriate for the width & function of the street in accordance with Cardinia Shire Council's Developer Landscape Guidelines, Jan 2017 (or as amended)
- All kerbs are to be B2 Barrier Kerb.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.
- Variations to indicative cross-section may include water sensitive urban design (WSUD) outcome. These could include but are not limited to bioretention tree planter systems and/or median bioretention swales. Such variations must be to the satisfaction of the responsible authority.



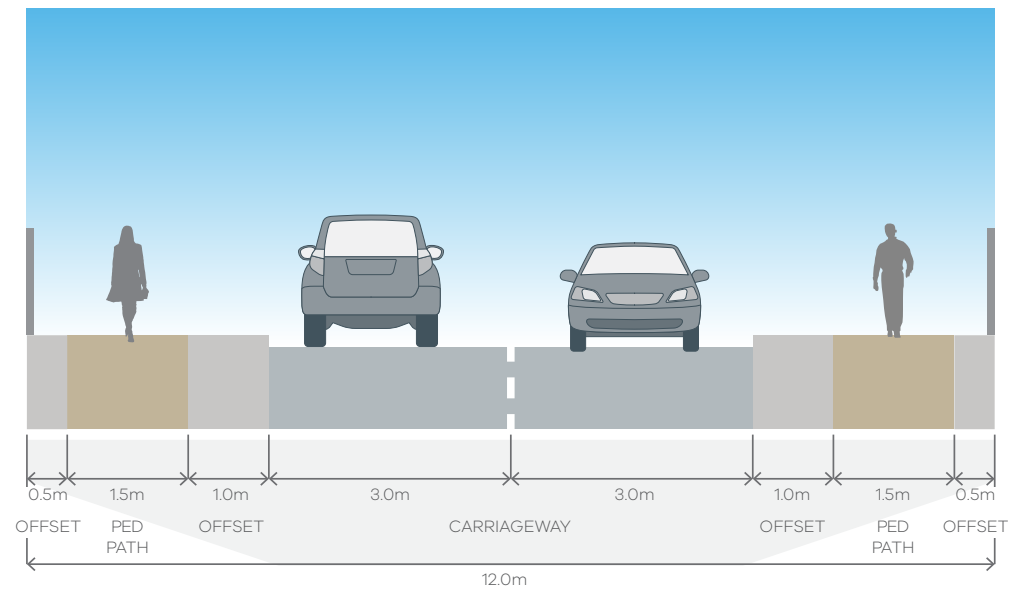
NOTES:

- Street tree planting should be the largest size practicable that is appropriate for the width & function of the street in accordance with Cardinia Shire Council's Developer Landscape Guidelines, Jan 2017 (or as amended)
- Kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority



NOTES:

- Street tree planting should be the largest size practicable that is appropriate for the width & function of the street in accordance with Cardinia Shire Council's Developer Landscape Guidelines, Jan 2017 (or as amended)
- Kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority
- All kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority
- Road to be designed with traffic calming devices, including raised pedestrian crossings and roundabouts to achieve a speed limit of 30km/h to allow safe on road cycling
- Tree outstands must meet a maximum interval of 100m.



Section 12
Local Access Street Level 2 (12.0m) - Bridge Crossing

4.4 Appendix D: Service placement guidelines

The *Engineering Design and Construction Manual for Subdivision in Growth Areas* (April 2011) outline placement of services for a typical residential street environment. This approach is appropriate for the majority of the 'standard' road cross sections outlined in Appendix C: Street cross sections, containing grassed nature strips, footpaths and road pavements.

NON-STANDARD CROSS SECTIONS

To achieve greater diversity of streetscape outcomes in Melbourne's growth areas, which enhances character and amenity of these new urban areas, non-standard road cross sections are required. Non-standard road cross sections will also be necessary to address local needs, such as fully sealed verges for high pedestrian traffic areas in town centres and opposite schools. This PSP contains suggested non-standard 'variation' road cross sections, however other non-standard outcomes are encouraged.

For non-standard road cross sections where service placement guidance outlined in Figure 003 and 004 in is not applicable, the following service placement guidelines will apply.

GENERAL PRINCIPLES FOR SERVICE PLACEMENT

- Place gas and water on one side of road, electricity on the opposite side.
- Place water supply on the high side of road.
- Place services that need connection to adjacent properties closer to these properties.
- Place trunk services further away from adjacent properties.
- Place services that relate to the road carriageway (e.g. drainage, street light electricity supply) closer to the road carriageway.
- Maintain appropriate services clearances and overlap these clearances wherever possible.

Table 10 Servicing guidelines

| | UNDER PEDESTRIAN PAVEMENT | UNDER NATURE STRIPS | DIRECTLY UNDER TREES ¹ | UNDER KERB | UNDER ROAD PAVEMENT ² | WITHIN ALLOTMENTS | NOTES |
|-----------------|---------------------------|---------------------|-----------------------------------|------------|----------------------------------|-----------------------|--|
| SEWER | Possible | Preferred | Possible | No | Possible | Possible ³ | |
| POTABLE WATER | Possible ⁴ | Preferred | Possible | No | Possible | No | Can be placed in combined trench with gas |
| RECYCLED WATER | Possible ⁴ | Preferred | Preferred | No | Possible | No | |
| RETICULATED GAS | Possible ⁴ | Preferred | Preferred | No | No | No | Can be placed in combined trench with potable water |
| ELECTRICITY | Preferred ⁴ | Possible | Possible | No | No | No | Pits to be placed either fully in footpath or nature strip |
| FTTH/TELCO | Preferred ⁴ | Possible | Possible | No | No | No | Pits to be placed either fully in footpath or nature strip |
| DRAINAGE | Possible | Possible | Possible | Preferred | Preferred | Possible ³ | |
| TRUNK SERVICES | Possible | Possible | Possible | Possible | Preferred | No | |

NOTES

1. Trees are not to be placed directly over property service connections
2. Placement of services under road pavement is to be considered when service cannot be accommodated elsewhere in road reserve.
3. Placement of services beneath edge of road pavement/parking bays is preferable to within traffic lanes.
4. Where allotment size/frontage width allows adequate room to access and work on a pipe where connections to properties are within a pit in the pedestrian pavement/footpath.

4.5 Appendix E: Open space delivery guidelines

PARK HIERARCHY

The open space network is made up of a diverse range of spaces which will vary in sizes, shape and function. The hierarchy outlined below provides information and guidance on the key open space categories listed in Table 6 – Open Space Delivery Guide, of this PSP and what role and function they generally have in the network. Parks within the PSP will generally fall into one of the following categories:

POCKET PARKS (<0.2HA)

These parks are small more intimate spaces that can provide incidental and spontaneous recreation and relaxation such as sitting, resting and eating lunch within a short safe walking distance of residents and workers. In built up or planned urban renewal areas, they increasingly incorporate significant hard and / or high standard soft landscaping to accommodate more intensive use.

Pocket parks will also complement the role of neighbourhood parks and may sometimes be designed to have a neighbourhood park role (including a play space), again often when associated with built up areas.

Metrics Guidance:

- Size = <0.2ha
- Catchment = 200-400m safe walking distance / 2-5 minute walk
- Stay length = <0.5hr.

NEIGHBOURHOOD PARKS (0.2-1HA)

Defined as Local Parks and Pocket Parks in the Cardinia Shire Council's Recreation Open Space Strategy.

Neighbourhood parks are typically small to medium in size and primarily provide opportunities for informal and opportunistic recreation, relaxation or play to local residents within short safe walking distance. Such reserves typically include basic facilities such as seats, walking paths and a small playground and may also incorporate natural and heritage features.

In built up areas, the role, function and importance of these spaces may increase and they may include more intensive infrastructure to support greater use. In this way, neighbourhood parks can complement the role of pocket parks.

Metrics Guidance:

- Size = 0.2-1ha
- Catchment = 400m safe walking distance / 5 minute walk (potentially closer in high density areas)
- Stay length = 0-1hr.

COMMUNITY PARKS (1-5HA)

Defined as Neighbourhood Parks in the Cardinia Shire Council's Recreation Open Space Strategy

Medium parks, often with more diverse facilities and landscape characteristics that supports a range of informal recreation, relaxation or play opportunities for short to medium time periods. Facilities for organised recreation may also be provided for. These parks service residents within a short to medium safe walking catchment and may also incorporate natural and heritage features.

In built up areas, the role, function of importance of these spaces may increase and they may carry more intensive infrastructure to support greater use.

Community parks are also the neighbourhood park for local residents.

Metrics Guidance:

- Size = 1-5ha
- Catchment = 800m safe walking distance / 10 minute walk
- Stay length = 0.5-2hrs.

DISTRICT PARKS (5-15HA)

Defined as District Parks in the Cardinia Shire Council's Recreation Open Space Strategy

Medium to large parks that serve a medium suburb scale catchment accessible via longer walks, short cycle rides and short vehicle trips. These park types may include natural and heritage features but will often mainly be designed to provide for organised sports or informal recreation and longer stay social gatherings, or a combination of both. Infrastructure may also support staging of community events.

District parks are also the neighbourhood park for local residents.

Metrics Guidance:

- Size = 5-15ha
- Catchment = 1.2km safe walking distance / 15-20 minute walk / 5 minute bike ride
- Stay length = 1-4+ hours.

REGIONAL OPEN SPACE

MUNICIPAL PARKS (15-50HA)

Defined as Municipal Parks in the Cardinia Shire Council's Recreation Open Space Strategy

Large to very large Council owned and / or managed parks that can accommodate high visitation from a broad municipal or greater catchment. Will often integrate a wide range of formal and informal functions and include facilities (such as car-parking, toilets, shelters and picnic facilities, walking trails and larger playgrounds) to support longer stays, multiple social gatherings and staging of large scale community events. Higher order organised sporting infrastructure is typically a dominant feature of such reserves, however significant natural features such as waterways or native vegetation may also form a significant component.

Municipal parks are also be the neighbourhood park for nearby residents.

Metrics Guidance:

- Size: 15-50ha+
- Catchment: - +-5km / 15-20 minute bike ride / 5-10 minute drive
- Stay length: 1-5+ hours

METROPOLITAN PARKS (50HA+)

Defined as Regional Park in the Cardinia Shire Council Council's Recreation Open Space Strategy

Large to very large State owned and / or managed parks (usually via Parks Victoria) that accommodate and promote high visitation from a broad regional and / or metropolitan catchment. Metropolitan parks generally provide facilities for informal and nature based recreation in natural and / or semi natural settings and will often be associated with significant waterways and extensive areas of native, and / or historically important exotic vegetation. Infrastructure in these parks will usually include car-parking, toilets, shelters and picnic facilities, walking trails and larger playgrounds and even cafes to support longer stays, multiple social gatherings and staging of large scale community events. Organised sporting infrastructure may sometimes be strategically incorporated with these parks.

Metropolitan Parks are also the neighbourhood park for nearby residents.

Metrics Guidance:

- Size: 50ha+
- Catchment: - =>15km / 20 minute drive / 45-60 minute bike ride
- Stay length: 2-5+ hours

LINEAR PARKS

Linear Parks are parks that are developed and used for pedestrian and cyclist access, both recreational and commuter, between residential areas and key community destinations such as recreational facilities, schools and other community facilities, public transport and places of work. Linear Reserves are generally linear in nature and follow existing corridors such as water courses and roads. They usually contain paths or tracks (either formal or informal) that form part of the wider path/track network. While the primary function of Linear Reserve is pedestrian and cyclist access, these parks may serve additional purpose such as storm water conveyance, fauna movement and ecological/biodiversity protection.

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