

PSP2.0

VICTORIA
State
Government

Officer South Employment

PRECINCT STRUCTURE PLAN

BUNURONG COUNTRY

Background Report

December 2023



Victorian Planning Authority

The **Victorian Planning Authority proudly acknowledges** Victoria's Aboriginal community and their rich culture and pays respect to their Elders past and present.

We acknowledge Aboriginal people as Australia's first peoples and as the Traditional Owners and custodians of the land and water on which we rely.

We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life and how this enriches us.

We embrace the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.

The Officer South Employment Precinct is located on the traditional lands of the Bunurong People. The Bunurong People are represented by the Bunurong Land Council Aboriginal Corporation (BLCAC).

We acknowledge the Bunurong People as the Aboriginal Traditional Owners of their unceded Country. We acknowledge their ongoing connection to this land, and we pay our respects to their Elders past and present.

'Cardinia' has been identified as the anglicised interpretation of an eastern Kulin term roughly translated to "looking east from the creek" (BCLAC)

We thank BLCAC for their engagement throughout this project.

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1 INTRODUCTION

The Victorian Planning Authority (VPA) in consultation with Cardinia Shire Council has prepared a precinct structure plan (PSP) for the Officer South Employment precinct. A PSP is a 'big picture' plan that sets the vision for developing new communities and is the primary plan for guiding urban development in the growth areas of Melbourne. It is a long-term plan that will determine how the Officer South Employment precinct's future community will develop over the next 20 to 30 years.

The Officer South Employment precinct is included in the *South East Growth Corridor Plan* (2012) which sets a strategy for long term development of the south eastern corridor of Melbourne.

In summary, the Officer South Employment PSP:

- Sets out plans to guide the delivery of quality urban environments in accordance with the PSP Guidelines.
- Enables the transition of non-urban land to urban land.
- Sets the vision for how the land should be developed and the outcomes to be achieved.
- Outlines the infrastructure projects required to ensure that future residents, visitors, and workers within the area can be provided with timely access to services and transport necessary to support a quality and affordable lifestyle.
- Sets out objectives, requirements and guidelines for land use, development and subdivision.
- Provides government agencies, the council, developers, investors, and local communities with certainty about future development.
- Addresses the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) through Federal approval of the *Biodiversity Conservation Strategy and Sub Regional Species Strategies for Melbourne's Growth Areas* (September 2013).

1.1 Purpose of this report

The background report summarises the key planning assessment and outcomes that have informed the preparation of the Officer South Employment PSP and the infrastructure contributions plan (ICP).

More specifically, this report:

- Summarises the strategic and physical context of the precinct.
- Identifies the land use and development needs for the precinct.
- Identifies the planning assessment and balanced outcomes to key issues impacting the PSP.
- Outlines how the precinct is meeting the PSP Guidelines performance targets.
- Outlines how the technical studies have helped to inform the preparation of the PSP.
- Supports the preparation of the Planning Panel Part A and Part B submissions.

Note: the background report does not provide an assessment of each of the PSP Guidelines features, as they may not be applicable to this precinct.

1.2 PSP Guidelines & PSP 2.0 process

The [*PSP Guidelines: New Communities in Victoria*](#) (the PSP Guidelines) is a Victorian Government initiative to ensure the VPA and other planning authorities prepare plans for places that enable best practice, liveable new communities. The PSP Guidelines ensures a consistent, best-practice approach to the PSP process and outlines the intended performance of new 20-minute neighbourhoods to be articulated by PSPs.

The PSP 2.0 process is established under the PSP Guidelines and sets aspirational targets including co-design of the PSP, streamlining PSP preparation, and optimising the PSP product to embrace innovation, delivering government policy.

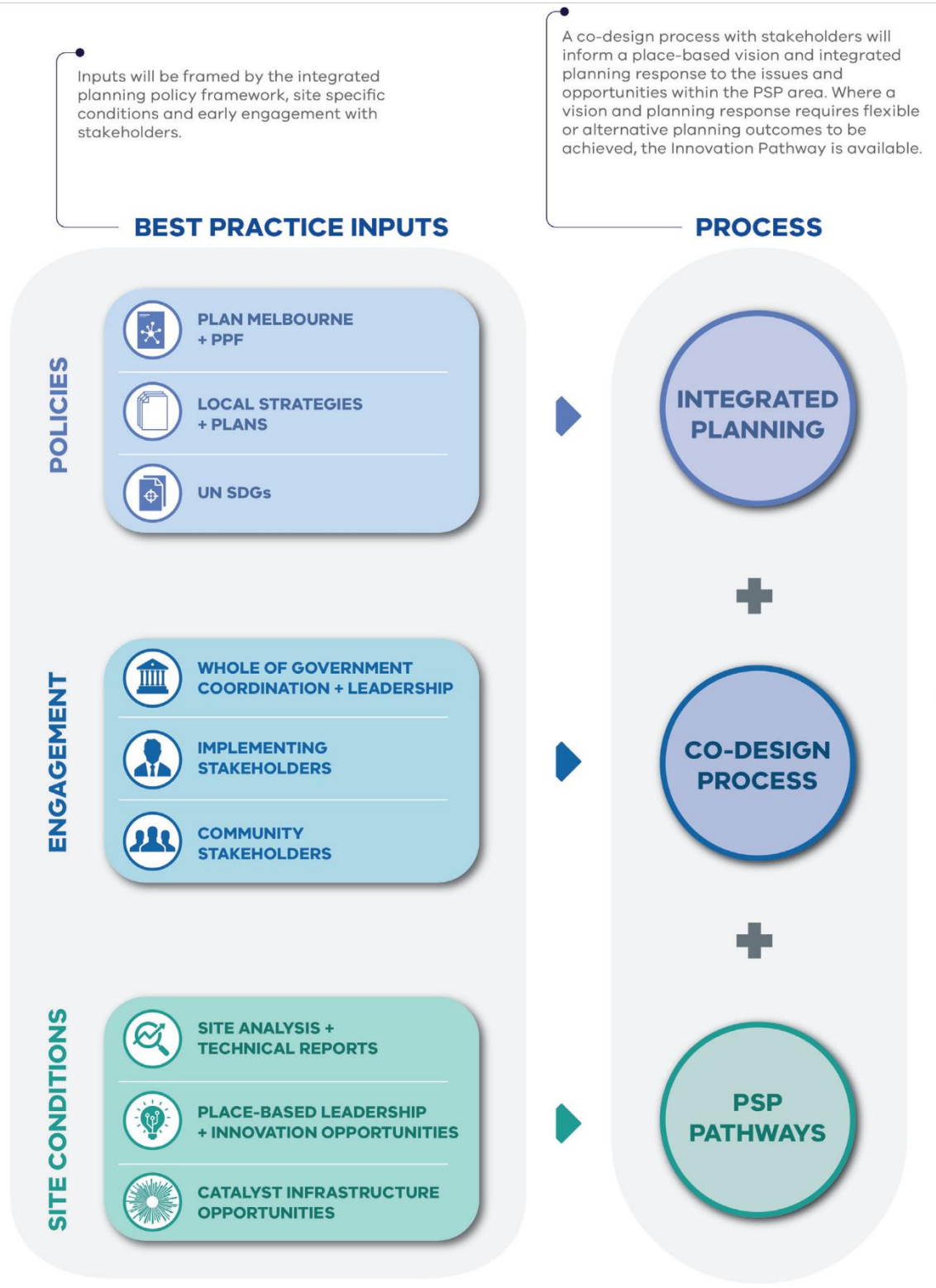
The PSP 2.0 process aims to:

- Achieve up-front, early resolution of issues.
- Gain better and earlier information on infrastructure demands to inform agency planning and budget bids.
- Update guidance on PSP content reflecting new government policy and promoting innovation.
- Provide stronger guidance in PSPs for staging of development.

Further information on the PSP 2.0 process can be found on the [VPA website](#).

Figure 1 illustrates how best practice inputs identified through the PSP process feed into the PSP Guidelines’ Integrated Framework to deliver a PSP.

Figure 1: Framework for delivering PSPs



The PSP Guidelines has a hierarchy of elements to explain what needs to be considered and delivered in a PSP (see Figure 2). Elements are grounded in state policy and strategy or key future directions for greenfield precincts as determined by the VPA through the preparation process.

Figure 2: Hierarchy of elements

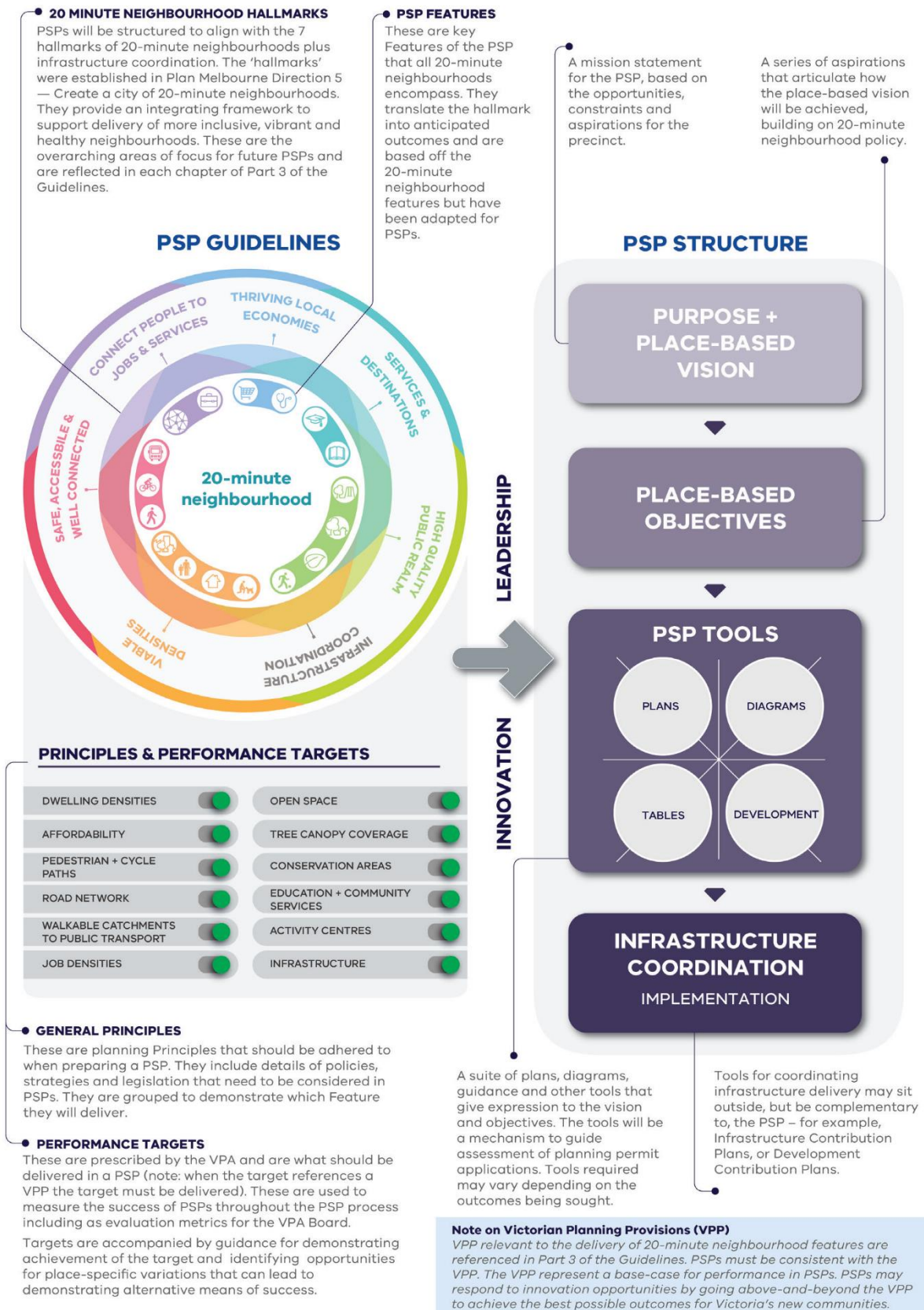


Figure 1 and Figure 2 highlight the framework for delivering PSPs under the PSP Guidelines and the hierarchy of elements under the 20-minute neighbourhood metric. Successful implementation of both the coordination and innovation pathways will require significant stakeholder buy-in, and a greater effort and commitment from stakeholders will be required to pursue the innovation pathway for desired outcomes.

PSPs make use of these (and other tools) to give expression to the vision and objectives, including plans, diagrams, tables, and requirements. Further, PSPs provide a mechanism to prepare and assess planning permit applications for subdivision, use and development.

2 STRATEGIC CONTEXT

2.1 Policy and legislation context

2.1.1 Federal policy & strategies

Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities, and heritage places defined in the EPBC Act as matters of national environmental significance. Areas within the Officer South Employment precinct have been identified for conservation purposes consistent with the *Biodiversity Conservation Strategy* (BCS) under the EPBC Act. The Officer South Employment PSP and the draft amendment provides statutory tools to ensure adequate protection of these conservation areas consistent with EPBC Act.

See more: [Environment Protection and Biodiversity Conservation Act 1999](#)

2.1.2 State policy & strategies

Plan Melbourne 2017–2050

Plan Melbourne 2017–2050 provides high-level strategic guidance for land use and development across the metropolitan area. Within Plan Melbourne, the PSP area is identified as an 'urban area' adjacent to a 'state significant road corridor', the Princes Freeway (see Figure 3).

See more: [Plan Melbourne 2017–2050](#)

Figure 3: Melbourne 2050 Plan



Map 2

Melbourne 2050 Plan

- | | |
|--|--|
| <ul style="list-style-type: none"> Central city National employment and innovation cluster (NEIC) Metropolitan activity centre State-significant industrial precinct State-significant road corridor Rail network Rail improvements Sunbury to Cranbourne / Pakenham (including Metro Tunnel) Western Distributor Transport gateway – major airport Transport gateway – airport Transport gateway – seaport | <ul style="list-style-type: none"> Potential transport infrastructure project ① Outer Metropolitan Ring / E6 reservation ② North East Link (alignment subject to investigation) ③ Airport Rail Link ④ Avalon Rail Link ⑤ Western Port highway upgrade / Rail Link to Hastings Interstate freight terminal (indicative) Transport gateway – possible airport (indicative) Transport gateway – possible seaport (indicative) Water's edge parklands Green wedge land Urban growth boundary Urban area Waterway Waterbody Metropolitan Melbourne region |
|--|--|

Source:
Department of
Environment, Land,
Water and Planning



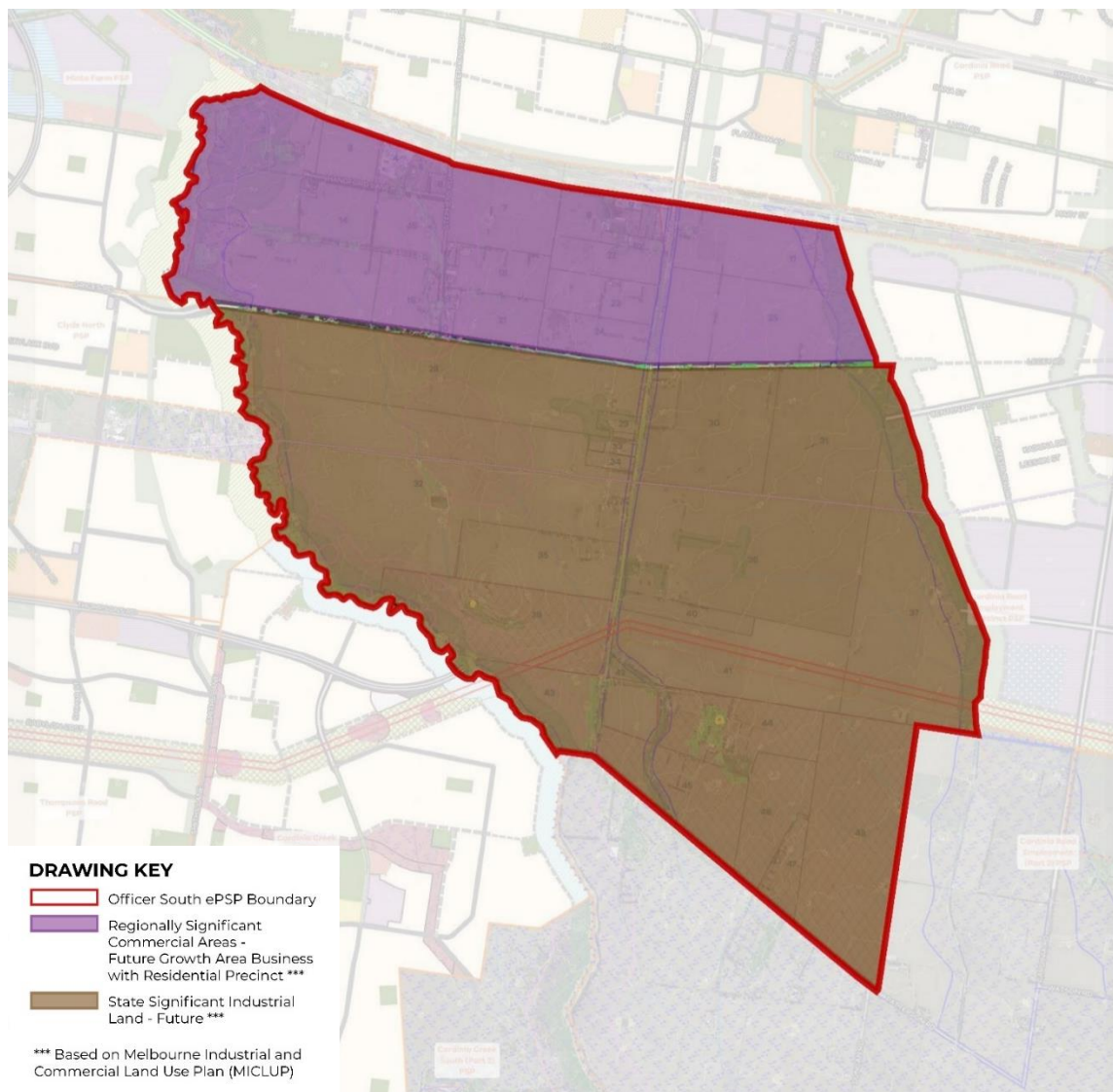
NOTE: POTENTIAL INFRASTRUCTURE PROJECTS AND GATEWAYS ARE SUBJECT TO INFRASTRUCTURE VICTORIA ADVICE AND VICTORIAN GOVERNMENT APPROVAL. THIS FRAMEWORK WILL BE UPDATED AT THE END OF 2017, FOLLOWING THE GOVERNMENT RESPONSE TO INFRASTRUCTURE VICTORIA'S 30 YEAR PLAN.

Melbourne Industrial and Commercial Land Use Plan (MICLUP)

The *Melbourne Industrial and Commercial Land Use Plan* (MICLUP) provides an overview of current and future needs for industrial and commercial land across metropolitan Melbourne. It puts in place a planning framework to support state and local government to plan for future employment and industry needs more effectively, and better inform future strategic directions.

Within the Officer South Employment precinct, MICLUP identifies the land south of Grices/Lecky Road as a State Significant Industrial Precinct (SSIP) and the land north of Grices/Lecky Road as a Regionally Significant Commercial Area (RSCA) (see Figure 4). For the RSCA, no more than 50 per cent of this area is to be zoned for residential uses. For the SSIP, MICLUP states that “... *should reconfiguration of any state-significant industrial land be required there must be no net loss of overall state-significant industrial land provision, maintaining contiguity, and orderly and efficient layout for industrial purposes*” (p.86).

Figure 4: Officer South Employment MICLUP provisions



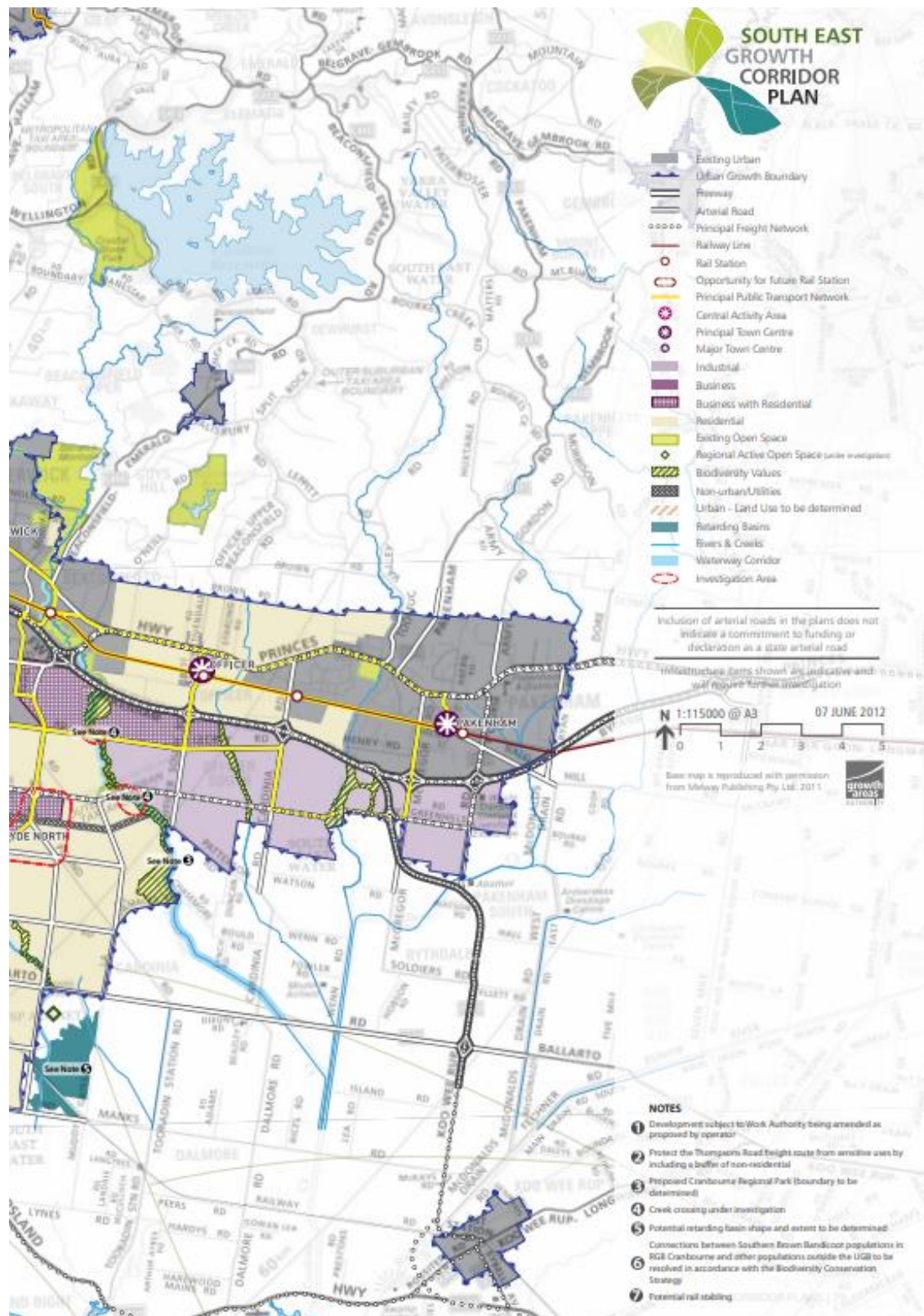
See more : [Melbourne Industrial and Commercial Land Use Plan](#)

South East Growth Corridor Plan, June 2012

The *Growth Corridor Plans* were released by the Minister for Planning in June 2012. The plans seek to accommodate a substantial amount of Melbourne's future housing and employment land supply over the next 30 to 40 years by providing a framework to guide the planning of new communities in each corridor.

Residents in the South East Growth Corridor will continue to rely upon the broader metropolitan south eastern suburbs for employment and services, however over the longer term, the potential exists for the South East Growth Corridor to be re-positioned as central to an emerging sub-regional economic triangle comprising Dandenong, the Casey–Cardinia employment area, and the Port of Hastings. Figure 5 shows Officer South Employment Precinct identified as business with residential to the north of Lecky Road and industrial south of Lecky Road in the *South East Growth Corridor Plan*.

Figure 5: South East Growth Corridor Plan



See more: [Growth Corridor Plans](#)

South East Economic Corridor Strategic Context Report

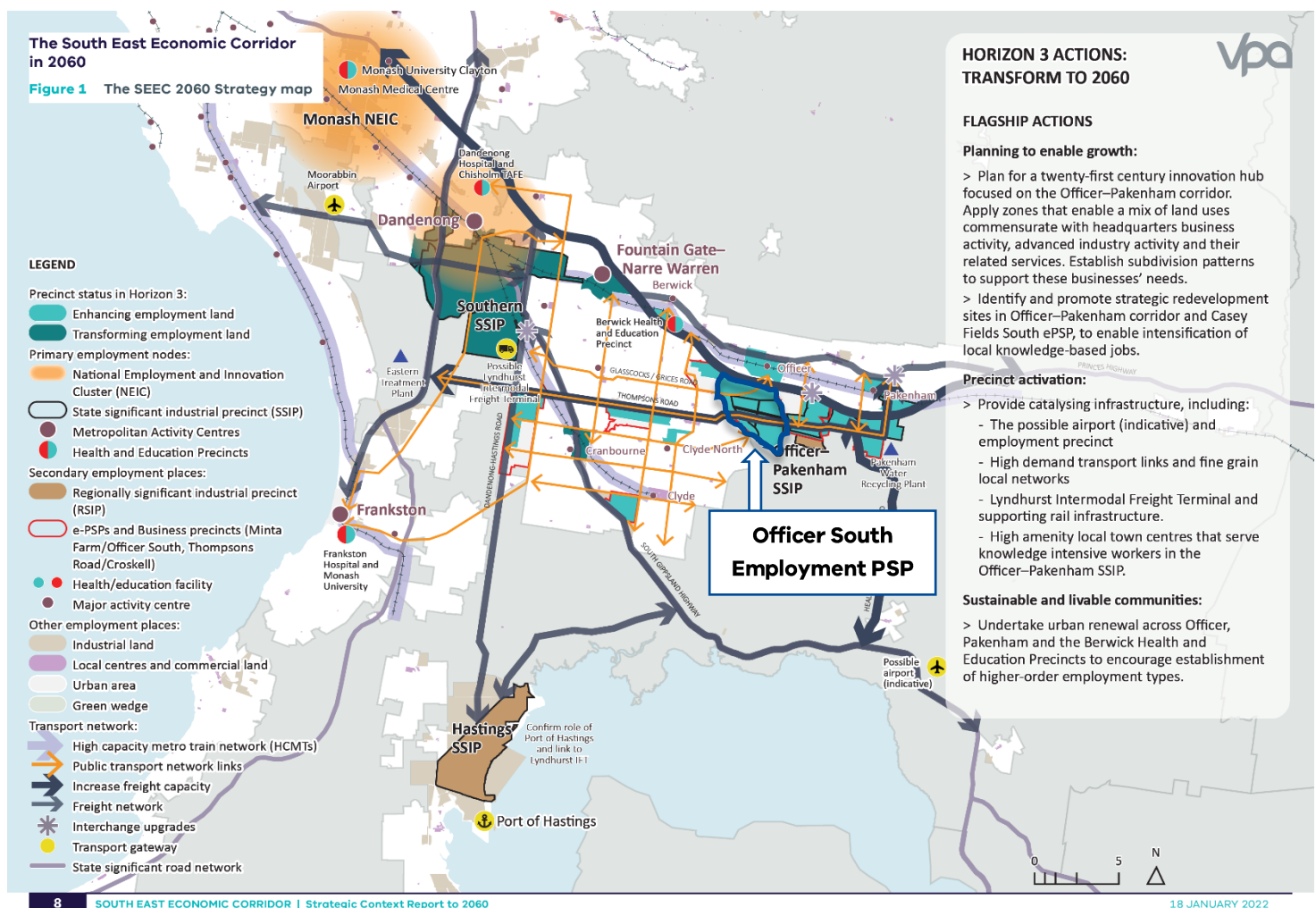
The [South East Economic Corridor Strategic Context Report to 2060](#) (SEEC Report) will support and guide Melbourne's southern metropolitan region to remain one of Australia's most economically significant and diverse regions which offers the economic and social potential to be home to 1 million residents and 500,000 jobs within its boundaries.

The SEEC Report and Dashboards address two spatial frames: the broader SEEC, and the future employment precinct structure plans (e-PSPs). Officer South Employment is identified as a Future Employment PSP (see Figure 6).

The SEEC Report identifies the strategic role for Officer South Employment which includes:

- SSIP south of Grices/Lecky Road
- RSCA north of Grices/Lecky Road (growth area business precinct with mixed use/residential hub)
- Excellent access to the Principal Freight Network via the Princes Freeway
- Supporting the business park at Minta Farm and strong links to Officer Town Centre.

Figure 6: SEEC 2060 Strategy map, South East Economic Corridor in 2060



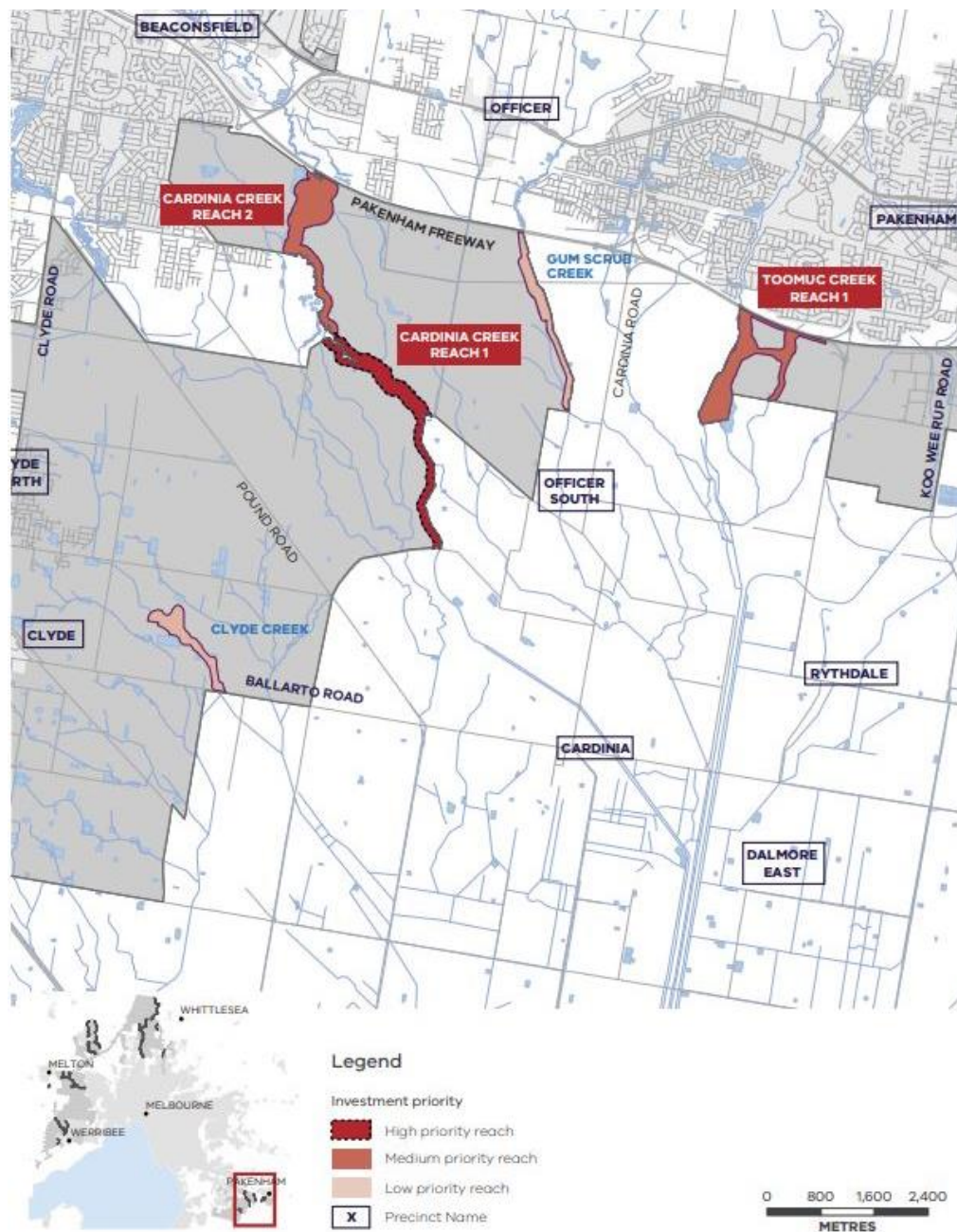
See more: [South East Economic Corridor Strategic Context Report to 2060](#)

Melbourne Strategic Assessment

The *Melbourne Strategic Assessment* (MSA) was undertaken in 2009 in response to the Commonwealth EPBC Act. The MSA focuses on matters of national environmental significance. Four conservation strategies were developed as part of the MSA commitments, including the Biodiversity Conservation Strategy (BCS). The BCS covers the biodiversity offsets required under the EPBC Act.

The Officer South Employment PSP includes BCS conservation areas along the eastern and western boundaries of the precinct (see Figure 7). These areas, identified as Conservation Area 36 (South East Growth Corridor: Growling Grass Frog Corridors), protect the biodiversity values of the Growling Grass Frog, Australian Grayling and Dwarf Galaxias.

Figure 7: Conservation Area 36



Source: Growling Grass Frog Masterplan Melbourne Growth Corridors March 2017.

See more: [Melbourne Strategic Assessment](#)

Ministerial Direction 11 – Strategic Assessment of Amendments

The Officer South Employment PSP will be implemented through an amendment to the *Cardinia Planning Scheme* (C274card) (the draft amendment). The draft amendment has been assessed in accordance with the criteria set out in Ministerial Direction 11 and its implementation of the objectives of planning in Victoria by providing for the fair, orderly, economic, and sustainable use of land identified for urban purposes.

The draft amendment has addressed environmental impacts as the pattern of land use and development was guided by technical studies for the area relating to flora and fauna, flooding, and drainage. The draft amendment has addressed the relevant social and economic effects and is expected to have a positive social and economic effect through the provision of additional housing and community facilities, as well as the creation of local employment opportunities. The draft amendment has considered the relevant social, environmental, and economic effects, and the draft amendment will result in a net community benefit.

See more: [Ministerial Direction 11 – Strategic Assessment of Amendments](#)

Ministerial Direction 12 – Urban Growth Areas

Ministerial Direction 12 applies to the preparation of any planning scheme amendment that provides for the incorporation of a PSP in the scheme or the introduction of, or changes to, provisions in a schedule to the Urban Growth Zone (UGZ). Therefore, the Ministerial Direction applies to the draft amendment. The amendment will rezone the UGZ within Officer South Employment precinct and aligns with the application of the Ministerial Direction.

See more: [Ministerial Direction 12 – Urban Growth Areas](#)

2.1.3 Metropolitan, regional & local policies

Casey Cardinia Region: Economic Development Strategy 2016–17

This economic development strategy has been developed to assist the council in supporting economic development in the Casey Cardinia region.

The strategy's vision is to facilitate the creation of local jobs for local people by supporting the growth of existing businesses and attracting new business to the Casey Cardinia region.

Each of the key principles has been informed by the economic development vision and developed in conjunction with representatives of the business community. The key principles include:

- be investment-ready
- business leadership
- innovation, science, and technology
- advocacy for business and economic growth.

It is envisaged that the actions supporting each of the key principles will assist in bringing about the key objectives of the strategy and bring about new investment and jobs for local people.

See more: [Economic Development Strategy 2016–17](#)

Cardinia Shire Open Space Strategy 2023–2033

The strategy is designed to:

- provide a clear vision and direction regarding the purpose, provision, development priorities, management and use of all recreational open space areas
- provide direction regarding priority actions necessary to achieve the vision over the next 5–10 years.

See more: [Open Space Strategy 2023–2033](#)

Cardinia Shire Social and Affordable Housing Strategy and Action Plan 2018–25

The evidence within this strategy establishes a clear need for action to:

- facilitate an increase in the supply of affordable housing (social/community housing and affordable private rental), for very low and low-income households and people with specialised needs
- increase the diversity of dwelling types to respond to population demographics and needs.

The strategy cements council's commitment to work collectively with key stakeholders to respond to the needs of the community, drive specific actions and support reporting and evaluation.

Emphasis is placed on actions that align to council's roles as leader and advocate, land use planner, social planner, and community developer.

The strategy also provides the evidence base, strategic context and justification to support council to progress negotiations with landowners to seek a reasonable contribution being made towards affordable rental housing as a result of a rezoning and planning permits in accordance with new Victorian Government legislation and policy.

See more: [Social and Affordable Housing Strategy and Action Plan 2018–25](#)

Cardinia Shire Integrated Water Management Plan 2015–25

Cardinia Shire Council's *Integrated Water Management Plan* (IWMP) encompasses the anticipated growth in population and the impact of urbanisation on Cardinia Shire's water cycle and seeks to ensure that the water cycle can support productive land uses, particularly in the context of climate change. The timing of the IWMP also addresses the need to consolidate council's management of water issues under the banner of integrated water management, rather than across reports that focus specifically on potable water use, stormwater, and on-site wastewater issues. The IWMP is intended to reframe council's approach to water management within the context of a more integrated water cycle that considers the role, benefits, issues, and relationships between each element of the water cycle.

The aim of the IWMP is to deliver a framework that guides council towards a more sustainable approach to water management. The plan does this by establishing aspirations, targets, and actions for each aspect of the water cycle:

- 1 Stormwater
- 2 Potable water
- 3 Alternative water sources
- 4 Groundwater
- 5 Wastewater

6 Waterways.

See more: [Integrated water management plan 2015–25](#)

Cardinia Shire Biolink Plan 2023–33

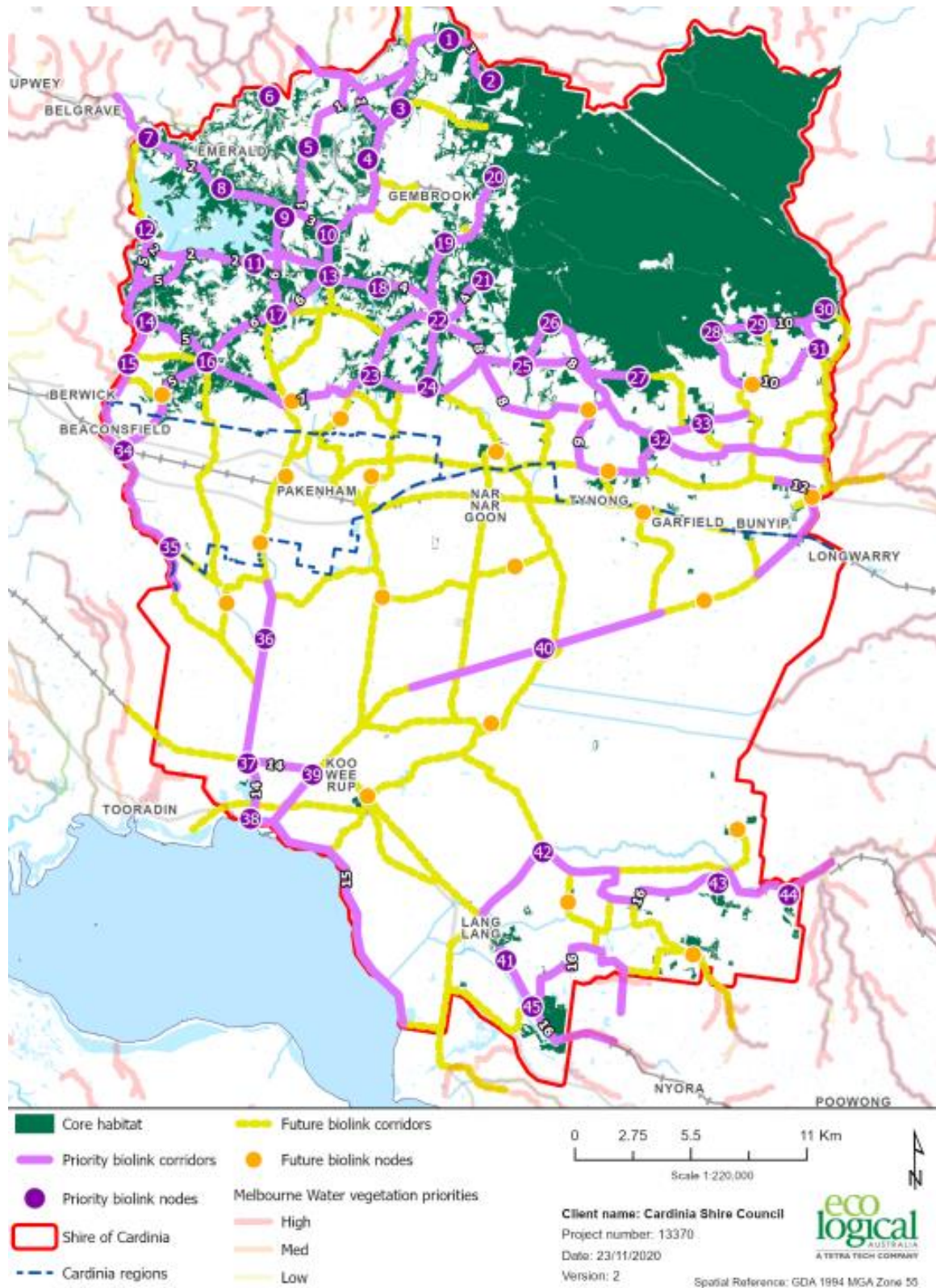
The *Cardinia Shire Biolink Plan 2023–33*'s vision is to retain and enhance biodiversity in Cardinia Shire, and influence the broader region, through the protection and creation of effective biolink corridors that are safe to people and property across the landscape and along its waterways.

The Biolink Plan includes 15 fauna indicator species. Three of these species including the Greater Glider (low mobility), Eastern Yellow Robin (moderate mobility), and Southern Brown Bandicoot (high mobility) were selected as focal species. Habitat connectivity modelling was completed for these three dispersal guilds all of which exhibited significant differences in their responses to the shire's landscape. The connectivity study area encompasses the Cardinia Shire Council municipal boundary.

A set of connectivity priorities has been developed to 'protect and enhance' existing habitat and biolink corridors and connect currently isolated habitats through the creation of new biolink corridors (see Figure 8). Measures to further 'engage and educate' stakeholders based on existing activities and the suite of indicator species have been identified. Regional priorities will be supported through actions identified in the biolink action plan and local priorities for each biolink corridor are provided in the report and are available on the council *Biolink Plan* interactive map.

See more: [Biolink Plan 2023–33](#)

Figure 8: Existing and potential biolink nodes and corridors



Source: Cardinia Shire Biolink Plan 2023–33.

Waste and Resource Recovery Strategy 2017–26

The *Waste and Resource Recovery Strategy 2017–26* replaces council's *Waste Management Strategy 2010–15* and the *Litter Strategy 2012–17*. It is a roadmap for the future direction and actions of council's waste and resource recovery services, waste related education and advocacy activities. It identifies the issues facing the municipality and sets out a plan for how to keep services efficient and effective, minimise waste to landfill and other impacts on the environment, as well as keeping costs low.

The top priorities are:

- increasing resource recovery with a particular focus on hard waste service, food within garbage waste, additional kerbside programs, and e-waste
- achieving long-term secure landfill arrangements by reducing landfill and seeking alternative landfill treatment options
- addressing increasing issues of illegal dumping through improved services and compliance activities
- continuing to drive value for money within services
- assigning appropriate consideration of waste provision within developments including increased higher density development, infill development and new council facilities
- supporting the local community to be responsible and accountable for their waste generation and disposal practices.

See more: [Waste and Resource Recovery Strategy 2017–26](#)

Pedestrian and Bicycle Strategy, August 2017

Cardinia Shire Council's *Pedestrian and Bicycle Strategy* sets out a vision to provide the premier trail network in Victoria, connecting people to their daily destinations and to the spectacular tourism and landscape features of the shire. The aim of the strategy is to provide a guiding framework for council for the incremental development of a comprehensive walking and cycling network throughout the shire. The strategy will link in with council's existing footpath priority list to help guide the development of an integrated path network. As part of this, council will seek to provide a high level of service for all ages, parents and carers with prams, people in wheelchairs and people traveling on mobility scooters.

See more: [Pedestrian and Bicycle Strategy 2017](#)

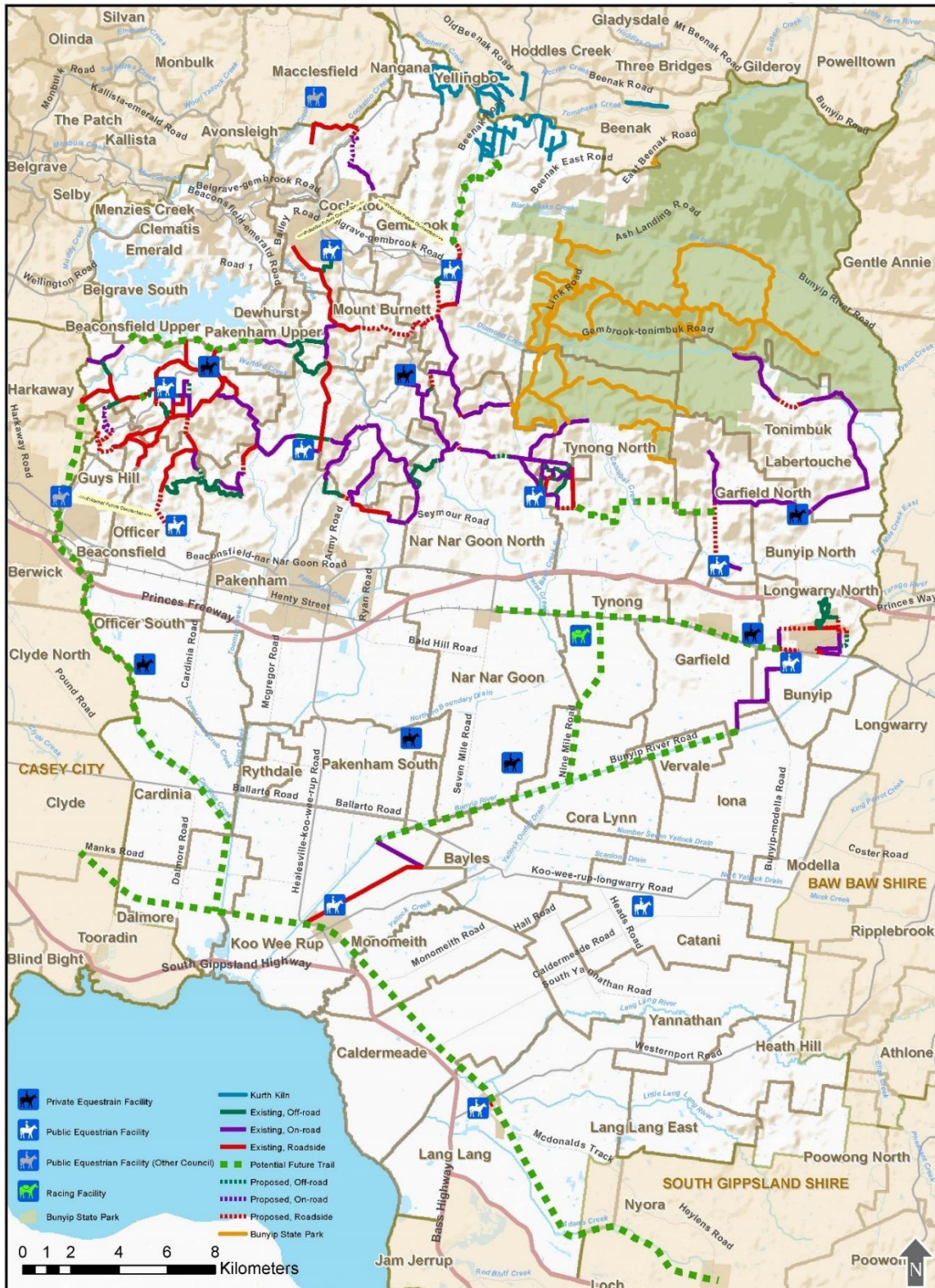
Equestrian Strategy 2014 – Cardinia Shire Council

Cardinia Shire's rural setting, low density developments and unique landscape characteristics allow for a high level of horse ownership and equestrian activity. The location of the shire on the fringe of Melbourne's urban development also makes the municipality a popular destination for agistment and equestrian activity for those living in Melbourne's south-east.

Opportunities for greater access and sharing of facilities were also identified, as well as a review of management and maintenance arrangements to ensure a consistent and equitable approach across the municipality. Recognising the role of private providers and surrounding municipalities was also highlighted for the future provision of a coordinated network of equestrian opportunities across the region. Figure 9 shows the equestrian facilities and trails identified through the *Equestrian Strategy*.

Access to the proposed trails is reliant on the pedestrian bridge at Cardinia Creek being upgraded for equestrian accessibility.

Figure 9: Equestrian facilities & trails



Source: Equestrian Strategy 2014 – Cardinia Shire Council.

See more: [Equestrian Strategy 2014](#)

2.2 Officer South Employment precinct context

2.2.1 Lot size and ownership pattern

The Officer South Employment precinct covers an area of 1,069 hectares, consisting of 41 land parcels ranging in size from 1200 square metres to 68 hectares. Most of these parcels contain single dwellings on farmland. In some areas this provides a slightly fragmented land ownership pattern. The precinct is largely rural and has several existing land uses, including various cattle and sheep farms.

2.2.2 Aboriginal cultural heritage

The Bunurong tribe belonged to the inter-marriage and language group known as the Kulin, which inhabited areas around Melbourne. The Kulin were a confederation of five language groups that shared mutual economic and social relationships. They shared religious beliefs, having common creation legends and dreamtime ancestors. These religious beliefs formed the basis for social organisation and management of land and resources (Aboriginal Cultural Heritage Impact Assessment (ACHIA) 2021).

In the early days of European settlement numerous Aboriginal people were known to reside in the district and were considered to belong to the Bunurong tribe. They are cited camping by the edge of dense vegetation with their activities focused along the major watercourses such as Cardinia and Toomuc Creeks. The women collected freshwater mussels from creeks as well as small animals, and plant foods. Men speared fish, hunted kangaroo, possum, snake and emu, and children played around camps or in shallow sections of creeks (ACHIA 2021). Aboriginal activity was recorded at a large waterhole on Cardinia Creek (northern end of Acoonah Park) where they speared fish and bartered for other food from local settlers such as Robert Henry. Fish were both plentiful and larger than the milk dish in which they were carted by the Aboriginals (ACHIA 2021). The Aboriginal name for this deep waterhole was Ghin Ghin Bean, which was adopted for the extensive pastoral run to the south. There are references to Aboriginal people visiting homesteads to seek tobacco, or to investigate curious objects such as a music box. Canoe trees were known to exist along Cardinia Creek and by the Grasmere Swamp, where stone axes were also collected.

Many local place names and properties have supposedly originated from extracts of the local Aboriginal language. There is little possibility now to challenge the accuracy of these words. However, their existence verifies some level of verbal communication between early European landowners and local Aboriginal people. The Aboriginal word Karr-Din-Yarr (Cardinia) was interpreted to mean "Looking at the Rising Sun" (ACHIA 2021). Another early run Ghin Ghin Bean (Gin Gin Bin) was said to have meant "Deep Dark Waters" and refers in particular to a deep waterhole, one of the best known features of Cardinia Creek. In 1851 extensive fires swept through this area, forcing some residents to shelter in this water hole within Cardinia Creek. The local Aboriginal people who were still residing in the area during the time of these fires are recorded to have commented "that the bright fellow (the sun) had got the blight in his eye" (ACHIA 2021). The deep dark waterhole referred to so often in local histories has long since disappeared through the general deterioration of Cardinia Creek and its margins, though its location is well known (within the area of Acoonah Park).

2.2.3 Post-contact cultural heritage

William Hovell was the first European to explore this region, making two trips, one in an attempt to cross the Koo-Wee-Rup Swamp from Sawtells Creek (Tooradin), and another searching for a route north, which would avoid the swamp (Post-Contact Heritage Assessment (PCHA) 2021), although he found the scrub impassable.

The first squatters in the region arrived from Tasmania in 1836. By 1836 squatting licences were legalised and official sanctioned pastoral leases were issued for any run at a cost of 10 pounds. Under this system, nearly the whole of Victoria was acquired and developed into large pastoral estates. The five Ruffy brothers commenced pastoral licenses of the 'Tomaque' run west of Cranbourne (1836–50), and then the 32,000 acre 'Mayune' run 2 miles east of 'Tomaque' in 1840–1845 (PCHA 2021).

The rapid spread of European colonisation altered Victorian Aboriginal society. The increased presence of settlers resulted in dispossession of Aboriginal people from their traditional land and diminished access to resources. Grazing licences were taken up by Europeans across the Port Phillip District between 1837 and 1841. These factors, combined with population decline from introduced diseases and conflict, transformed Aboriginal society.

Patterson was overseer and manager of several stations in the Wannon and Glenelg districts before becoming a squatter in the Westernport district taking over the run of St. Germain's from James Buchanan in 1848. The original homestead located at 95 McCormacks Road, Clyde North which he built in 1851 was not pulled down until 1893 at which time he built the current house in which he died in 1896 (PCHA 2021).

2.2.4 Topography and waterways

The precinct is relatively flat, with minimal fall from the north-western corner to the south-eastern corner. The land surface gradients are typically very low across the precinct, with surface elevation differences at points located one kilometre or more from streams ranging between 0.5 and 1.0 metres. As low-lying land water sits in this local environment and during rain events it experiences sheet flows. Stream and drain beds are generally incised by up to 2.5 metres below ground level, in the northern section of the precinct, increasing in depth as the precinct progresses south, particularly along Cardinia Creek.

The two major waterways of Cardinia Creek and Lower Gum Scrub Creek both support biodiversity attributes and natural habitats for fauna, with their riparian corridors spanning 100 metres either side of each waterway. These riparian areas are generally consistent with the Conservation Area 36 for the protection of Growling Grass Frog, and provide some opportunities for Dwarf Galaxias. The Cardinia Creek riparian corridors also support the Australian Greyling.

Land required for drainage purposes across the precinct is expected to focus on water treatment to ensure water is adequately treated and water quality is maintained to Melbourne Water standards prior to entry into Cardinia Creek and Lower Gum Scrub Creek. General retardation is not expected as maintaining water flows to the Koo Wee Rup Water Supply Protection Area (WSPA) and Western Port Bay is a priority. These parameters are subject to a detailed drainage report.

2.3 Officer South Employment local context

2.3.1 Surrounding land use

The development framework of surrounding PSPs provides key connection points to Officer South Employment and logical extensions of key east–west and north–south connector arterial roads into the precinct. Similarly, adjoining linear open space corridors associated with creeks and streams pose viable extension and connectivity through the Officer South Employment PSP.

2.3.2 Existing transport network

Officer Train Station

Officer Train Station is located approximately 1.2 km north of the Officer South Employment PSP and serves as a terminus for the Pakenham rail line. The Pakenham rail line transports many commuters into the CBD with services running approximately every 15 minutes during peak periods. Officer Train Station is still undergoing several extensions and nearby level crossings removals are occurring at Brunt Road, Beaconsfield and Station Street, Officer.

Officer South Road

Officer South Road provides a critical north–south arterial road connection from Officer South Employment to Officer. It has recently undergone reconstruction to support the Arcadia Estate development in Officer. Officer South Road will also provide a crucial connection to the Princes Freeway.

Bus routes

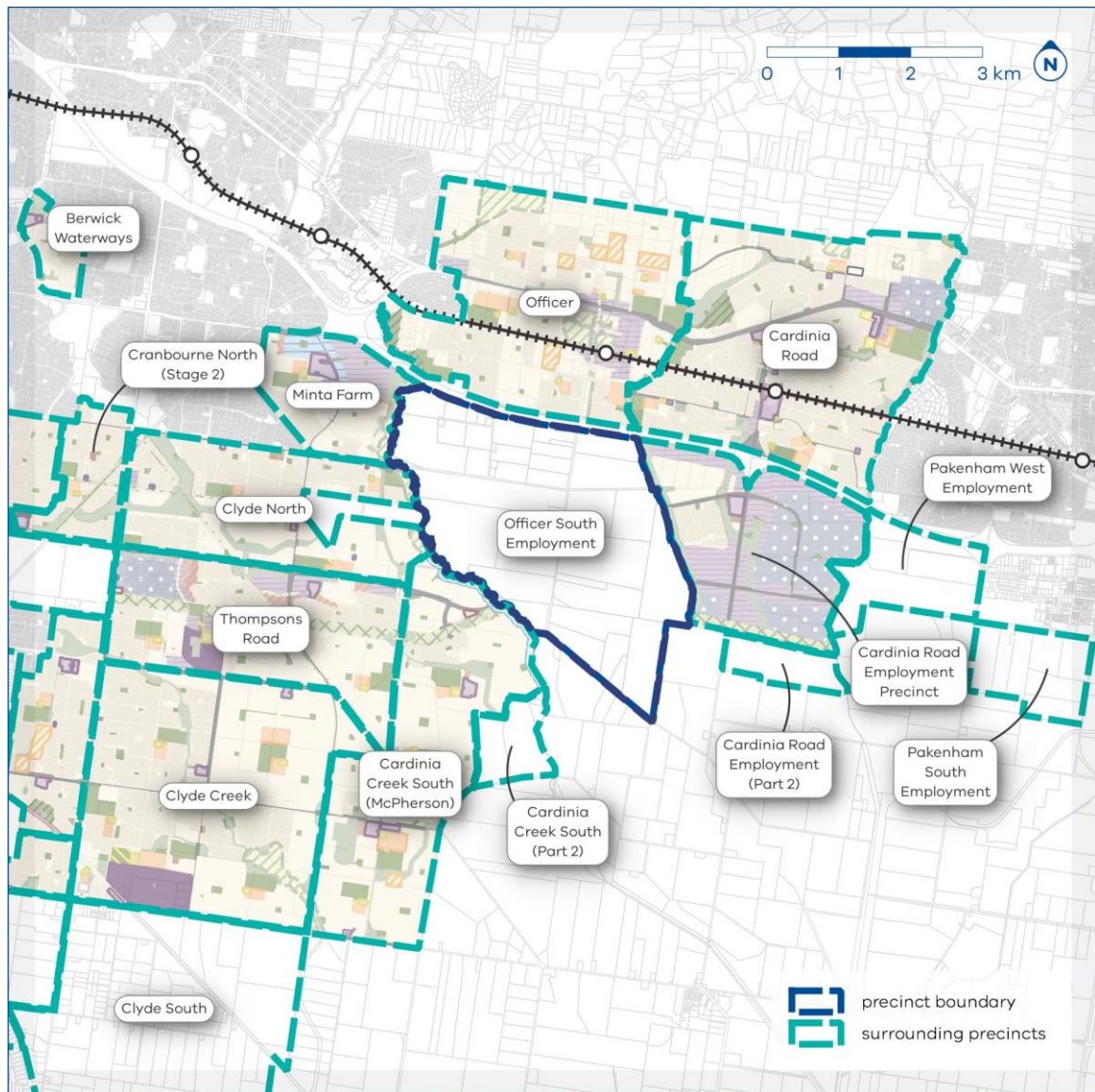
There is an existing bus route which starts in Berwick, travels to Pakenham, and stops at the Officer Secondary College, which is approximately 1 km away from the proposed residential community in Officer South Employment.

Walking and cycling

Cardinia Creek along the precinct's western boundary provides for a regionally integrated walking and cycling opportunity that connects Emerald to Dalmore. Lower Gum Scrub Creek on the eastern boundary provides for a walking network that joins Pakenham to Dalmore. There is a strategic cycling corridor identified within the precinct in a west to east direction close to Lecky Road. Officer PSP provides for cycling corridors along roads which link Officer South Road within the Officer PSP to the Officer Train Station.

2.3.3 Surrounding PSPs

Figure 10: Surrounding PSPs in relation to Officer South Employment



Cardinia Road Precinct Structure Plan

The Cardinia Road precinct lies to the north-east of the Officer South Employment precinct and covers approximately 1,051 hectares. The PSP was completed in 2008 and provides for approximately 9,838 dwellings to accommodate a population of approximately 27,546 persons at full build out.

Cardinia Road Employment Precinct (Part 1) Structure Plan

The Cardinia Road Employment Precinct (CREP) lies to the east of the Officer South Employment PSP. CREP covers approximately 590 hectares and will primarily have commercial and industrial land uses, with a limited area of residential land to the west of Cardinia Road. Residential development has commenced in the PSP area, with the development of employment land yet to commence.

At full development, CREP is anticipated to accommodate approximately 18,700 jobs with approximately 13,500 jobs expected to be commercial in nature. The PSP area is planned to accommodate approximately 2,030 residential dwellings and a population of approximately 6,300

residents. A local town centre comprising retail and anchored by a full-line supermarket is planned to serve the convenience retail needs of residents and workers.

Officer Precinct Structure Plan & major town centre

The Officer precinct is located to the north of the Officer South Employment precinct. The PSP covers approximately 1,021 hectares, which includes a major town centre, identified in key strategic planning documents including *Plan Melbourne*. The major town centre includes new council offices, a civic centre, a train station, and an adjoining government secondary school, but to date minimal private investment has occurred.

The Officer PSP is planned to accommodate a population of approximately 34,700 in 11,400 dwellings and provide for 5,805 jobs upon completion.

Minta Farm Precinct Structure Plan

The Minta Farm precinct is west of the Officer South Employment PSP. The Minta Farm PSP covers approximately 285 hectares and will include a mix of residential and employment land.

The Minta Farm PSP will facilitate the development of approximately 3,030 dwellings and a regionally significant employment hub that will support approximately 11,000 local jobs and a population of 8,500 residents. The new local town centre is expected to support a mix of commercial, office and knowledge-based and technology businesses.

Clyde North Precinct Structure Plan

The Clyde North precinct is situated to the west of the Officer South Employment PSP. The Clyde North PSP covers a total area of 612 hectares and will provide for approximately three local town centres, 6,605 dwellings, 1,800 jobs and a local population of approximately 20,475 residents.

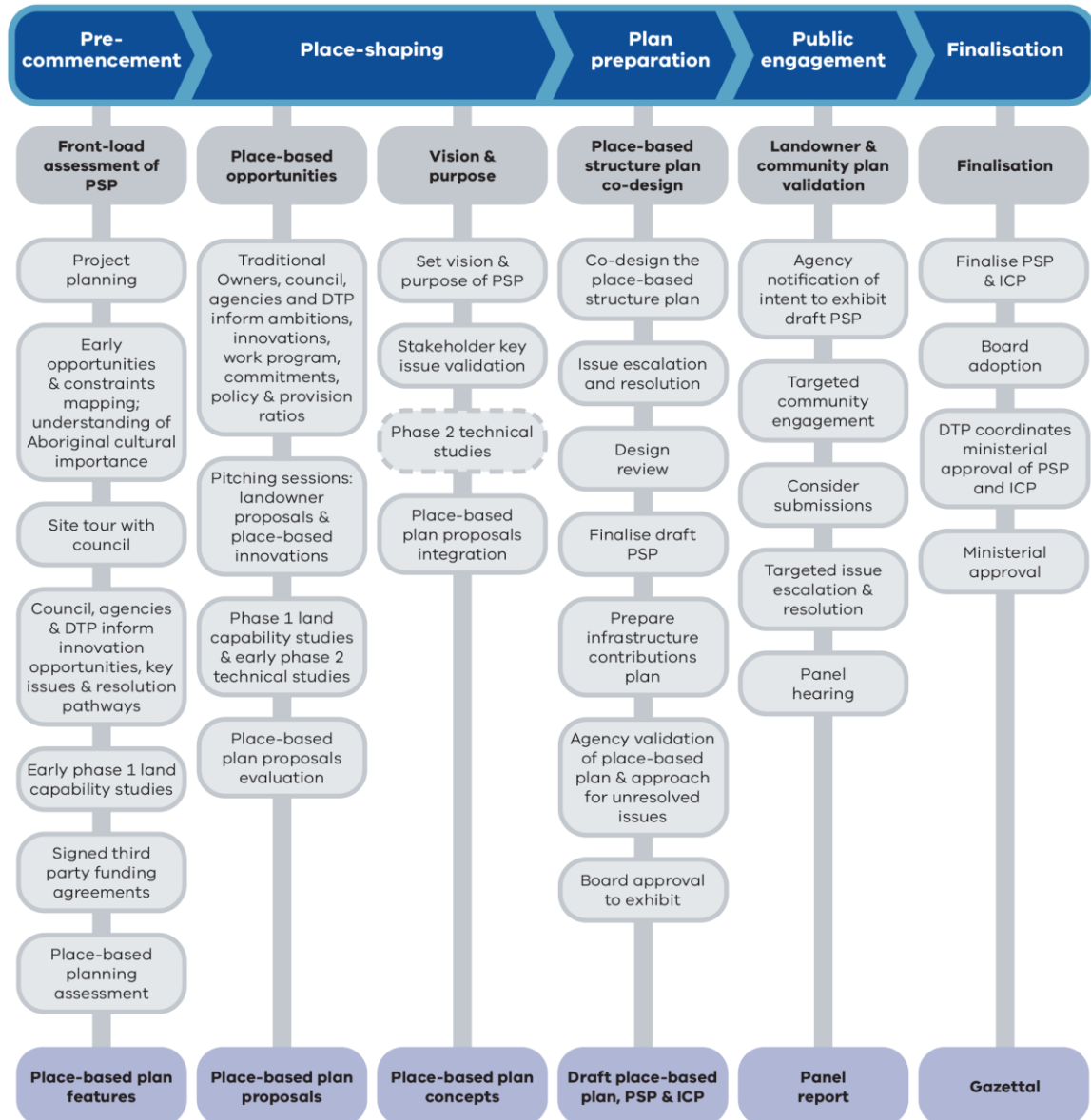
Cardinia Creek South (McPherson) Precinct Structure Plan

The Cardinia Creek South (formerly McPherson) Precinct is situated to the south-west of the Officer South Employment PSP. The Cardinia Creek South PSP encompasses a total area of 848 hectares and will provide for approximately 10,303 dwellings, 1,615 jobs and a local population of approximately 28,100 residents.

3 OFFICER SOUTH EMPLOYMENT PSP PREPARATION

This section provides an overview of the PSP process for preparation of the Officer South Employment PSP, including details of the background reports undertaken to inform the PSP. Officer South Employment PSP was prepared in line with the PSP 2.0 process shown at Figure 11.

Figure 11: PSP 2.0 process



3.1 Vision & purpose for Officer South Employment PSP

PSP Vision

The Officer South Employment PSP Vision has evolved through preparation of the PSP. An initial Vision was established during the Pitching, and Vision and Purpose phases and this was refined through the Co-design process.

A summary of the Officer South Employment Vision included in the PSP is:

- Officer South Employment will become an innovative and sustainable employment precinct that will deliver a high amenity regionally-significant commercial and state-significant industrial area, combined with a modern and diverse urban living hub to form a unique working and living environment.
- The urban structure promotes large and intensive industrial land uses in the precinct's core, making Officer South Employment the prime location for heavy industries to thrive in the south-east region.
- Excellent connectivity on north-south and east-west axes connect Officer South Employment to major infrastructure.
- Employment-focused land integrates with a compact connected and integrated neighbourhood forming part of an expanded Cardinia Road community.
- Officer South Employment will protect conservation areas along the high valued waterways to ensure the protection of habitat for matters of national environmental significance.
- A beacon for sustainability and innovation, integrating approximately 672 hectares of employment and community amenity and a significant active transport network, Officer South Employment is the new template for employment precincts of the future.

PSP Purpose

A Vision and Purpose webinar was held on 28 July 2020, with the objective to validate the key themes, opportunities and issues that were raised at the pitching sessions and to confirm the vision and purpose for the precinct. The output of the sessions provided validation for the below themes as the purpose of the PSP.

Theme 1 – Providing for employment and industries of the future.

Theme 2 – Value-add to existing communities.

Theme 3 – Releasing key transport/economic links.

Theme 4 – Integrating complementary community and open space assets.

Theme 5 – Understand sustainable environmental and drainage needs.

3.2 Co-design workshop

The VPA in collaboration with Cardinia Shire Council held co-design workshops in November and December 2020 to inform the preparation of the Officer South Employment PSP, as part of the [PSP 2.0 process](#).

These workshops involved collaboration and input from various stakeholders including landowners, State Government agencies, Cardinia Shire Council and the VPA, and provided a clear direction for the development of the PSP, highlighting the alignments, key issues and opportunities to be addressed for the precinct.

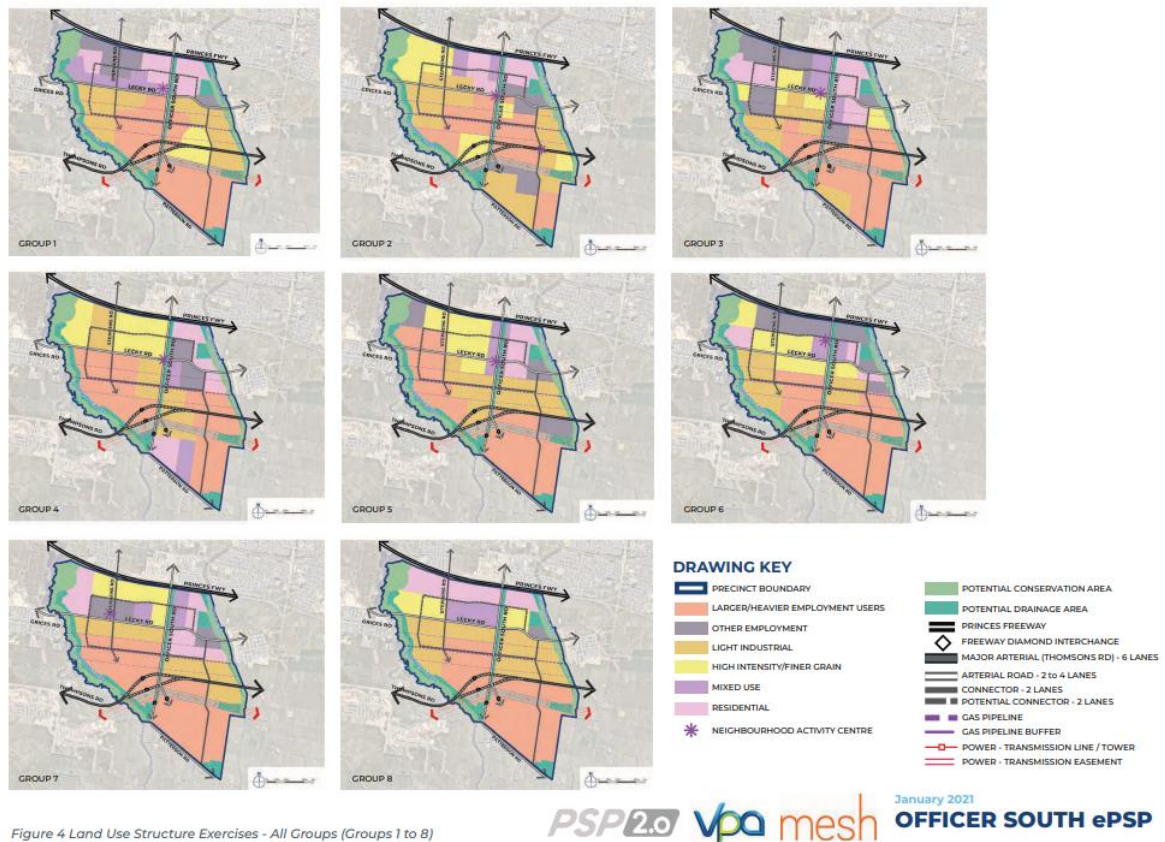
The purpose of the co-design workshop was to:

- Update key stakeholders and landowners on the status of the project
- Provide additional information and outputs from background and technical studies
- Collaboratively develop and prepare a conceptual draft place-based plan for the precinct
- Provide an opportunity for key stakeholders and landowners to visually map out key land uses, transport connections, open spaces and other infrastructure, and provide any commentary on their considerations

- Encourage and capture innovative ideas in shaping the future urban structure for the Officer South Employment precinct and to inform the scope of further technical studies
- Provide a clear, transparent, and inclusive consultation program and provide stakeholders with a summary of the information captured through the workshops
- Outline the next steps for the Officer South Employment PSP 2.0 process.

The workshop summary diagram (see Figure 12) provides a summary of the potential land use structures and outcomes participants raised at the co-design workshops.

Figure 12: Co-Design Workshop land use structure exercises – all groups (Groups 1 to 8)



3.3 Plan preparation and agency validation

Agencies and council are integral participants and essential to validate and support the opportunities presented through the PSP. Following the co-design workshop, a working draft Place-based Plan, PSP, supplementary infrastructure contributions plan, and planning ordinances were prepared by the VPA for consultation with key agencies and stakeholders.

The VPA commenced the agency validation process with the draft amendment package in July 2022. During this phase, the VPA held regular discussions with council and key agencies, including the Department of Transport and Planning (DTP), Melbourne Water, and the Department of Energy, Environment and Climate Action (DEECA) MSA to resolve key issues and policy positions to refine the draft amendment package for public consultation.

3.4 Background reports and technical studies

The background reports and technical studies listed below provide specific detail on the key elements outlined in this background report. A summary of the reports is at Appendix 1 and the full reports are available on the [Officer South Employment PSP website](#).

Table 1: Officer South Employment PSP technical reports

| Technical report | Consultant | Status |
|---|-------------------------------|---|
| Preliminary tree assessment | Homeward | Completed 2020 |
| Integrated water management (IWM) issues and opportunities | Spiire | Completed 2023 |
| Aboriginal cultural heritage impact assessment | Archaeology at Tardis | Completed 2021 |
| Cultural values assessment | Archaeology at Tardis | Completed 2022 |
| Post contact heritage assessment | Benchmark Heritage Management | Completed 2021 |
| Land capability assessment | Aurecon | Completed 2020 |
| Situational analysis report | GHD | Completed 2020 |
| Sodic and dispersive soil and acid sulfate soil investigation | WSP | Completed 2021 |
| Bushfire development report | Terramatrix | Completed 2022 |
| Integrated transport assessment | Ratio | Completed 2023 |
| Transport modelling assessment | GHD | Completed 2022 |
| Safety management study | Delphi Risk | Completed 2022 |
| Infrastructure Design | Stantec | Completed 2023 |
| High level servicing assessment | GHD | Completed 2022 |
| Economic assessment | SGS economics | Completed 2022 |
| Community infrastructure assessment | ASR Research | Completed 2022 |
| Transport assessment (urban design) – Thompsons Road alignment | Frank Hanson Urban Design | Completed 2021. Internal advice to inform our mapping for options presented at co-design. |
| Drainage services scheme | Melbourne Water | Draft DSS will be included in the Place-based Plan and be refined through consultation for the PSP. |

4 PSP CHALLENGES AND VPA POSITION

This section reflects how the VPA has provided a place-based response to the features and performance targets within the Officer South Employment PSP.

4.1 Thriving local economies

4.1.1 Employment outcomes

Planning assessment

As discussed in Section 2.1.2, MICLUP highlights that Officer South Employment is an employment PSP with a gross total area of 1,069 hectares broken down into 321.1 hectares of RSCA land and 747.8 hectares of SSIP land. The MICLUP sets clear expectations for the Officer South Employment precinct in identifying the southern portion as a future State Significant Industrial Precinct (SSIP) and the northern portion as future Regionally Significant Commercial Area (RSCA). MICLUP (page 86) states that the PSP process can explore reconfiguration of the SSIP to support stronger interface outcomes for the adjoining Cardinia Road Employment precinct (CREP) and notes that, should reconfiguration of any state-significant industrial land be required, there must be no net loss of overall state-significant industrial land provision.

The Officer South Employment [Economic Assessment](#) undertaken by SGS determined a forecast demand (to 2061) for the precinct of:

- Approximately 540 hectares NDA of industrial land based on both the land consumption and employment forecasting analysis.
- Approximately 160 hectares NDA of commercial land outside the SSIP area.

The VPA worked within the MICLUP guidance to consider various land use configuration options for the precinct through the Co-Design and Agency Validation process. The VPA discussed the configuration outcomes with key state government agencies to resolve planning policy issues.

The land use options were evaluated through a first principles assessment based on the PSP Guidelines and performance targets based on planning for 20-minute neighbourhoods, see Figure 13 for further detail. The land use options were then refined based on outcomes of the economic and community infrastructure analysis, to achieve good economic outcomes and ensure community infrastructure can be provided for the new community.

Figure 13: First principles assessment breakdown of five options

| | OPTION 1 | | OPTION 2 | | OPTION 3 | | OPTION 4 | | OPTION 5 | |
|-----------------------------|---|----------------|--|----------------|--|----------------|--|----------------|---|----------------|
| | Amenity-Based Density | Binary Density | Amenity-Based Density | Binary Density | Amenity-Based Density | Binary Density | Amenity-Based Density | Binary Density | Amenity-Based Density | Binary Density |
| Performance (Old Targets) | Acceptable | | Poor | | Highest | | Poor | Acceptable | Poorest | Poor |
| Overall PSP Density (dw/ha) | 20 | 30 | 20 | 20 | 20 | 28 | 20 | 26 | 20 | 20 |
| Estimated yield (dwellings) | 1,615 | 2,336 | 1,875 | 1,895 | 1,801 | 2,472 | 1,721 | 2,207 | 1,751 | 1,751 |
| Implementation | <ul style="list-style-type: none"> •Straight forward implementation and complies with most policies | | <ul style="list-style-type: none"> •Most impacted by potential limitations with noise buffers or barriers to Princes Freeway | | <ul style="list-style-type: none"> •Not in accordance with MICLUP as residential development proposed south of Lecky Road •Requires additional action and advocacy for innovation and flexibility in policies. | | <ul style="list-style-type: none"> •Although strategically located to Minto Farm PSP, Cardinia Creek presents significant access issues. •Stephens Road bridge is not a confirmed connection | | <ul style="list-style-type: none"> •Will result in two isolated and poorly serviced residential areas •Both residential areas will have interfaces with employment/ industrial land uses and will be impacted with noise buffers or barriers to Princes Freeway | |
| Further Remarks | <ul style="list-style-type: none"> •Acceptable performance across the performance targets. •North-South Arterial road disrupt connection of neighbourhoods and access to services | | <ul style="list-style-type: none"> •Spatial arrangement of land uses, and services that are disconnected and sparse from each other | | <ul style="list-style-type: none"> •Performance with the most success for all hallmarks of the 20-minute neighbourhood. Result with the highest estimated yield. | | <ul style="list-style-type: none"> •Moderate performance across the hallmarks with an underperforming rate of dwellings living within 800m of town centre. | | <ul style="list-style-type: none"> •Although the two residential areas will provide creek frontages for increased amenity, spatial arrangement of land uses, and services are disconnected and sparse from each other. | |

Balanced outcome

The land use configuration provides for approximately 126 hectares NDA of commercial land and approximately 503 hectares NDA of industrial land. The SSIP will be preserved and will provide for freight, logistics and manufacturing investment. The RSCA will provide for and support access to a wide range of goods and services, including office and retail development, and provide for a wide range of employment opportunities.

In accordance with advice provided by DTP, the residential area is contained within the north-east corner of the precinct (north of the realigned Lecky Road) and provides for approximately 1600 dwellings and 5000 people and will support stronger interface outcomes with the CREP community. This configuration ensures the protection of the SSIP and land for commercial uses as part of the RSCA, whilst providing for a complete compact integrated and connected neighbourhood.

Table 2 indicates the estimated job numbers within the residential, commercial, and industrial area for Officer South employment precinct.

Table 2: Estimated jobs within the residential, commercial, and industrial areas

| LAND USE | TOTAL QUANTITY IN PSP | ESTIMATED JOBS |
|--|---|----------------|
| Residential | | |
| Council community facility | 1 | 10 |
| (Proposed) government primary school | 1 | 40 |
| (Potential) non-government primary school | 1 | 30 |
| Local town centre | 1 (1.5 ha) | 60 |
| Home based business | 1,617 dwellings (28.7 ha) | 81 |
| Mixed use | 13.7 ha | 548 |
| Subtotal | 44 ha | 769 |
| LAND USE | TOTAL ESTIMATED LAND DEMAND IN PSP (HA) | ESTIMATED JOBS |
| Regionally Significant Commercial Area (RSCA) | | |
| Office | 13 | 3,096 |
| Local services | 50 | 3,585 |
| Institutional anchors | 38 | 1,848 |
| Retail | 12 | 1,931 |
| Bulky goods retail | 11 | 523 |
| Light industrial | 1 | 16 |
| Freight and logistics | 1 | 10 |
| Subtotal | 126 ha | 11,008 |
| State Significant Industrial Precinct (SSIP) | | |
| Office | 5 | 911 |
| Local services | 15 | 1,047 |
| Institutional anchors | 28 | 1,166 |
| Retail | 4 | 583 |
| Bulky goods retail | 4 | 174 |
| Light industrial | 70 | 1,757 |
| Freight and logistics | 295 | 3,169 |
| Heavy industrial | 82 | 1,430 |
| Subtotal | 503 ha | 10,236 |
| TOTAL | 672 ha | 22,013 |

Note: Minor discrepancies in numbers due to rounding.

4.1.2 Activity centres

Activity centres that can accommodate the range of jobs, services, amenities, activities, and housing that support their role and function, and meet the changing economic, climate and social needs of a place.

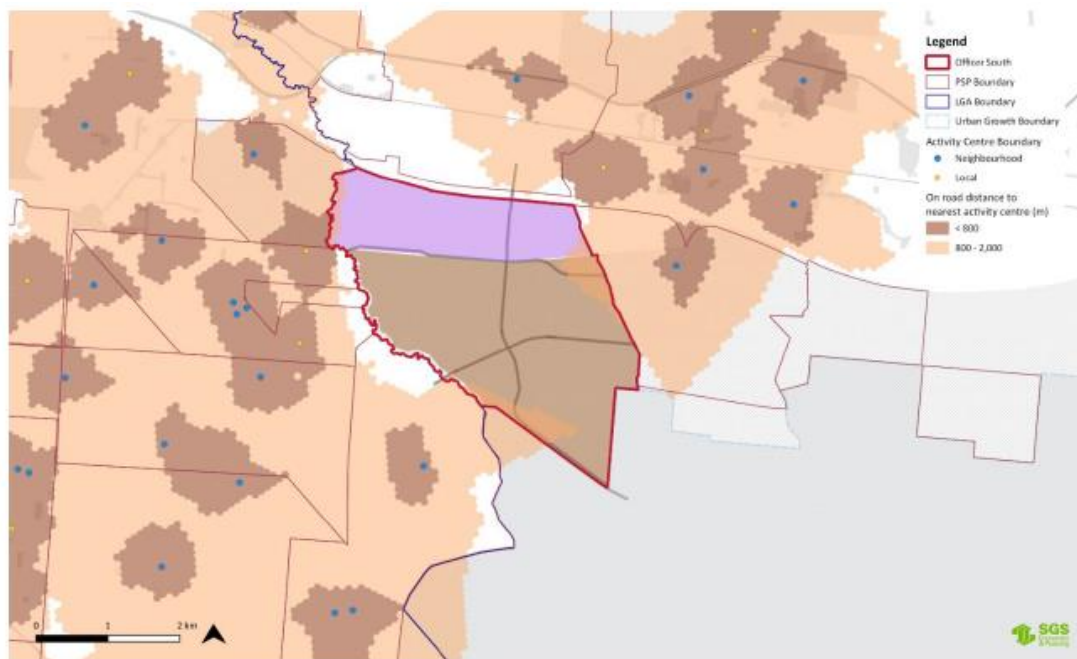
PSP Performance Target

T19 80–90% of dwellings should be located within 800 m of an activity centre.

Planning assessment

The Officer South Employment residential precinct would require a local town centre, as the existing activity centre catchments would not support this residential community (see Figure 14).

Figure 14: Local and neighbourhood centre catchments



According to the Officer South Employment [Economic Assessment](#) undertaken by SGS the analysis identifies a local town centre of between 1.5 to 6 hectares, depending on the population size within the residential component, see Table 3.

Table 3: Local centre requirements – small centre assumptions

| Population size | Retail/ Hospitality (sqm) | Local commercial services (sqm) | Total centre floorspace (sqm) | Total centre land area (Ha) |
|-----------------|------------------------------|------------------------------------|----------------------------------|--------------------------------|
| 5,000 | 2,300 | 1,600 | 3,900 | 1.5 |
| 10,000 | 4,400 | 3,200 | 7,600 | 3 |
| 15,000 | 6,700 | 4,800 | 11,500 | 4.5 |
| 20,000 | 9,000 | 6,400 | 15,400 | 6 |

Source: SGS 2022

The location of the local town centre is prioritised to ensure that the whole residential area is located within 800 m of the centre; is in proximity to an arterial road; is located along a connector road and is near a school and active open space reserve.

Balanced outcome

The VPA determined that the local town centre will be 1.5 hectares in size to support the estimated population of approximately 5,000 residents within Officer South Employment. The PSP achieves the PSP target with 100% of dwellings located within 800 m of an activity centre.

4.2 Connect people to jobs and higher order services

Facilitate access to quality public transport that connects people to jobs and higher order services.

4.2.1 Local employment opportunities

Local economic activity and employment opportunities that provide jobs and services close to where people live.

PSP Performance Target

T10 Land provided for local employment and economic activity should be capable of accommodating the minimum job density target of one job per dwelling located within the wider growth corridor.

Planning assessment

The VPA commissioned SGS Economics and Planning to undertake an [economic assessment](#) for the Officer South Employment PSP. The economic assessment provides an employment forecast breakdown for the precinct and illustrates two options including base case and a 'policy on' scenario. The 'policy on' scenario is described as a refined Officer South Employment forecast based on local policy aspirations and precinct features. The 'policy on' scenario estimates 11,300 jobs within the RSCA and 10,300 jobs within the SSIP.

Since the economic assessment was undertaken, the Place-based Plan and employment NDA was refined in response to Agency Validation feedback. The economic assessment was updated in December 2022 based on the revised Place-based Plan, concluding that similar levels of economic activity could still occur by end state.

Balanced outcome

The PSP indicates the total estimated jobs for the Officer South Employment PSP being 21,244 for employment opportunities and an additional 769 jobs within the residential area involving proposed schools, community facilities, local town centre and working from home (see Table 2). These estimated job numbers will help to significantly support the wider growth corridor and achieve the performance target.

4.3 Safe, accessible, and well connected

4.3.1 Walkability and safe cycling networks

A high amenity, safe, accessible, direct, and comfortable walking and cycling environment.

PSP Performance Targets

- T6** Off-road bicycle paths should be provided on all connector streets and arterial roads, connecting where possible with the Principal Bicycle Network and Strategic Cycling Corridors.
- T7** All streets should have footpaths on both sides of the reservation.
- T8** Pedestrian and cyclist crossings should be provided every 400-800 m, where appropriate, along arterial roads, rail lines, waterways, and any other accessibility barriers.

Planning assessment

The VPA undertook a Movement and Place Assessment in consultation with DTP which helped to determine the desired multi-modal connections to ensure efficient travel and permeability to key places. It established each road's primary, secondary and tertiary function and provided crucial evidence that fed into the street cross sections prepared to ensure each street could perform at its essential functionality.

Bespoke cross sections were designed for particular roads in Officer South Employment to respond to site constraints, key amenity, and biodiversity, and for future utility requirements for advanced technology services within the road reserves. Public transport and off-road cycle networks were identified to ensure direct access to jobs from local and wider catchments.

To ensure safe cycling and pedestrian activity, all effort has been made to provide crossings less than 800 m apart where appropriate along roads, streets, waterways, and so forth. The Officer South Employment precinct has separated cycling paths from walking paths where possible. This in turn will promote micro-mobility access to jobs in the future.

Balanced outcome

The regular spacing (under 800 m) of signalised connector road intersections along the precinct's arterial roads will provide safe crossing opportunities for pedestrians and future public transport (bus) users. Officer South Employment includes off-road bicycle paths on all arterial and connector road cross sections. All the road cross sections have footpaths on both sides of the road and in some instances, these transfer to shared paths where applicable so that cyclists are off road where possible. The dual provision for shared paths and off-road cycle paths within the precinct allows for flexibility for commuting cyclists to travel separately without impacting recreational cyclists and pedestrians.

4.3.2 Movement and place

A transport network that balances the role of the movement of goods, people, and places, and that is safe, accessible, and well connected for pedestrians and cyclists to optimise active transport

PSP Performance Target

- T5** The arterial road network should provide a 1.6 km road grid with safe and efficient connections, adjusted where necessary to reflect local context.

Planning assessment

The VPA completed a Movement and Place Assessment to understand and validate the road hierarchy and connectivity, public transport, pedestrian and cycling network for the Officer South Employment precinct. The assessment also helped inform discussions with DTP.

The relatively flat terrain and existing minimal road network enabled a simple efficient grid road layout to facilitate an accessible and well-connected precinct. The VPA considered existing strategic cycling and equestrian paths external to the precinct and integrated these through Officer South Employment and will continue to refine all networks to ensure no negative impact to the viability of the future urban structure and drainage requirements in consultation with DTP, Melbourne Water and Cardinia Shire Council. The VPA has continued to engage with DTP regarding the road network due to significant site constraints and commissioned an integrated transport assessment and transport modelling to inform the final layout and design.

Balanced outcome

The VPA has ensured that the road network provides for safe and efficient connections. The PSP provides an outcome that responds to the current movement networks of the surrounding context and integrates a future network based on equitable and efficient access to key destinations both within and outside the precinct boundaries. The primary arterial network has been designed to facilitate precinct access, support through traffic movements, and connect to the freeway network. The movement and place analysis provides clear understanding of how future planned freight and potential public transport networks, critical to the success of a thriving employment precinct can be integrated. Furthermore, DTP has endorsed the road network.

4.3.3 Local public transport

A public transport network that is supported by high intensity uses and connectivity between key destinations and major trip generating facilities.

PSP Performance Target

- T9** 95% of dwellings should be located within either of the following walking distances:
- 800 m to a train station
 - 600 m to a tram stop or
 - 400 m to a future bus route or bus capable road.

Planning assessment

The PSP compact residential area is located approximately 1.2 kilometres away from the Officer Train Station. The Officer Train Station provides a service every 20 minutes into the Melbourne CBD. The residential area has a boulevard connector road running through the precinct which will be bus capable, to ensure all residents have access to public transport.

Balanced outcome

The PSP achieves 100% of dwellings being within 400 m of a bus capable road.

4.3.4 Thompsons Road – 41 m road reserve

Planning assessment

The Place-based Plan identifies a 41 m road reserve for the Thompsons Road primary arterial cross section. The VPA notes DTP identified further land take potentially needed beyond the 41 m for flood mitigation measures. In consultation with the transport arm of DTP, the VPA investigated options for including an additional 29 m into the PSP to accommodate potential flood mitigation measures. It is noted that Melbourne Water has since provided revised flood data as part of their *Drainage Service Scheme* (DSS) which will inform future design and ultimate land take for Thompsons Road.

Balanced outcome

The VPA in consultation with DTP has included a Public Acquisition Overlay (PAO) for the additional 29 m land take for Thompsons Road to safeguard the need to accommodate potential flood mitigation measures.

Note: the ICP will only fund the 41 m road reserve as demonstrated within the Ministerial Direction on the preparation and content of ICP and ministerial reporting requirements for ICP.

4.3.5 Thompsons Road alignment

Planning assessment

Thompsons Road is an existing arterial road that currently terminates to the west of the Officer South Employment precinct at Smiths Lane in Clyde North.

Thompsons Road is being planned as a major east-west route through the south-eastern growth corridor that will ultimately connect Carrum in the west through to Koo-Wee-Rup Road in Pakenham.

This section of the planned Thompsons Road extension traverses Officer South Employment and therefore the precinct's land use planning activities have been coordinated with arterial route planning to ensure that precinct development will allow for the ongoing improvement and development of the state transport system.

Thompsons Road alignment options were evaluated by the VPA in preparing the PSP, including through the Co-design process to test the relative impacts on adjacent land use arrangements, impact on heritage uses and high importance trees (see Table). VPA consulted with key stakeholders including DTP, Cardinia Shire Council, Melbourne Water and AusNet, to inform the analysis and key considerations.

Table 4: Thompsons Road alignment analysis (VPA)

| Assessment | | |
|---|---|--|
| Land use perspective | Heritage impacts | High importance trees |
| Places the main road away from the easement in the east of the site which would reduce the potential visual impact from many users in that portion of the site. It also presents the opportunity to develop a local road to run alongside the easement to assist with bushfire requirements. A local road adjacent to the easement will also assist with lighting of the shared path along the easement and assist increasing safety of pedestrians and so forth. | The alignment does not impact the heritage place. | The alignment does not require the removal of high importance trees. |

Balanced outcome

The proposed Thompsons Road alignment does not impact on the heritage place, does not require the removal of high importance trees, and offers the greatest opportunity to develop regularly shaped larger lots.

Overall, the proposed alignment presents a clear beneficial outcome for urban design, transport network planning, lot size and configuration arrangement for the Officer South Employment PSP.

4.3.6 Electricity transmission easement – proposed land use

Planning assessment

The VPA commissioned an urban design assessment of the alignment of Thompsons Road to determine the most appropriate uses within the electricity transmission easement. The VPA assessed two possibilities for the proposed land uses: private uses and public uses. The assessment included input and review from Cardinia Shire Council, Melbourne Water and AusNet. The assessment analysed urban design, biolink and heritage considerations.

Balanced outcome

The VPA discussed the possibility of including private uses within the electricity transmission easement, however it was determined that the private urban uses would impact the shared path and biolink outcomes within the easement and potentially prevent an active corridor being established. The proposed open space within the transmission easement aligns with the outcomes identified in Cardinia Creek South and Cardinia Road Employment PSPs, where each PSP demonstrated the benefit of open space within the transmission easement creating a connected open space corridor.

Further, the proposed open space will allow for a new east-west connecting and protected biolink node that can activate species within the easement. This open space network also provides a connection for the equestrian trail as identified within the *Equestrian Strategy* developed by Casey City Council in partnership with Cardinia Shire Council and neighbouring municipalities.

4.3.7 Officer South Road alignment

Planning assessment

The VPA assessed the alignment of Officer South Road with consideration of the below requirements and constraints:

- Melbourne Water DSS alignment (as shown in the Place-based Plan)
- The location of the existing and planned Officer South Road/ Princes Freeway interchange and underpass extension north of Officer PSP
- The APA east–west high-pressure gas main and City Gate Facility located centrally in the precinct
- The APA gas main extending north–south along Officer South Road and connecting to an east–west main that is located along the existing Lecky Road, supplying gas to CREP
- Future utilities and services to be located within the ultimate road reserve.

Balanced outcome

The Officer South Road alignment is crucial in providing a key north–south connection in the Officer South Employment PSP. In consultation with DTP (Transport), the VPA has concluded that the current proposed alignment of Officer South Road ultimate reserve, as shown in the Place-based Plan, is accurate given the information currently available and takes into consideration all known constraints and requirements.

4.3.8 Patterson Road cross section

Planning assessment

The VPA has identified Patterson Road as a future industrial connector street situated along the southern boundary of the precinct, connecting it to the agricultural land/businesses to the south. The existing road reserve is situated partly outside the precinct boundary and includes a proposed biolink identified by the Biolink Strategy prepared by Cardinia Shire Council. It is also the lowest point of the precinct, accommodating a large MW DSS asset, drainage waterway and the proposed South East Water trunk sewer main and pump, directly adjacent to the road reserve.

Considerable consultation with council and Melbourne Water was undertaken to understand the specific requirements necessary to maintain the biolink, which included the protection of trees in the Patterson Road reserve. Cardinia Shire Council provided tree data to help determine the preferred trees for protection and locate the biolink within the PSP. The biolink is considered of critical importance to the protection of biodiversity, and to the rural interface of the southern boundary of the PSP.

Balanced outcome

The VPA in consultation with council and Melbourne Water developed two cross sections for Patterson Road to protect the very high value trees and the biolink along this corridor and provide

for utilities and drainage assets within the cross section (see Appendix 7 in the PSP). The key objectives were:

- To minimise the potential impacts of the road reserve on the developable area of this state significant employment land, with the standard 26 m cross section width maintained inside the PSP boundary at a maximum.
- To provide sufficient access for South East Water to maintain their proposed southern sewer pump station.
- To provide adequate space for the proposed embankment to the Melbourne Water DSS retarding basin.
- To simplify the procurement of the road reserve given it straddles the PSP boundary, and ensure the alignment married with the existing road alignment outside the PSP within the growth corridor.
- To provide for the necessary DSS drainage 1,500 mm outfall pipe to the southeast corner of the precinct, in the last 100 m of the road reserve.
- To allocate an adequate landscape corridor width within the road reserve for the future planned biolink that protects the longevity of the existing trees and allows new planting for fauna and flora to thrive.

4.3.9 Equestrian trails along Cardinia Creek

Planning assessment

Both Cardinia Shire Council and the City of Casey requested an equestrian trail along Cardinia Creek to connect with the trails proposed within the *Casey City Equestrian Strategy*. The VPA undertook an analysis to determine the most appropriate location for a horse trail and its integration with the open space in the precinct. The proposed trail is subject to the ability to construct underpass crossings at the Thompsons Road and Grices Road bridges, reliant on available clearances at these locations. The ability to construct underpass requirements will not be known until detailed designs are undertaken for the bridge crossings by the responsible authority at a future date.

Balanced outcome

The PSP has a proposed equestrian trail along Cardinia Creek avoiding areas of drainage reserve and is mostly adjacent to the BCS conservation area and through the transmission easement. We note that we are unable to determine if the trail will be feasible under the Cardinia Creek road bridges as identified within the PSP, prior to detailed designs being undertaken for the bridge crossings by the responsible authority at a future date. The Officer South Employment PSP has identified equestrian trails within the Plan 5: Public Transport and Active Path Networks as consistent with this strategy and has included an additional potential future trail through the electricity easement.

4.4 High quality public realm

4.4.1 Passive open space – residential and employment land

Networks of open space and facilities that optimise the use of available land and provide equitable access to sport and recreation, leisure, environmental benefits, cultural benefits, and visual amenity.

PSP Performance Targets

- T11 Within employment and residential areas (including activity centres):**
- **2% of the net developable area for local parks within dedicated employment and/or economic activity areas**
 - **3–5% of net developable area set aside for local parks in the residential precinct.**
** which contributes to a minimum of 10% of residential net developable area for credited open space when combined with sports field provision.*
- T12 Open space and sports reserves should be located to meet the following distribution targets:**
- **A sports reserve or open space larger than one hectare within an 800 m safe walkable distance of each dwelling**
 - **A local park within a 400 m safe walkable distance of each dwelling.**

Planning assessment

The VPA commissioned a [community infrastructure assessment](#) to determine the amount of net developable area to be set aside for the sports field reserves and the local parks for the residential and employment areas. The assessment was based on a combined study area that included CREP (the secondary total study area), as it was identified that Officer South Employment could cater for its shortfall in community infrastructure provision within the residential component of the PSP.

The assessment identified that 14.46 hectares should be set aside for passive local parks based on the projected net developable area at the time of the report, including a 4% target of residential NDA and 2% target on employment NDA.

As the place-based plan developed, the VPA reassessed the revised NDA and determine that:

- Based on the new NDA of 672 hectares approximately 14.9 hectares was to be provided to meet the requirement for 3–5% local residential and 2% employment parks within an approximate 400 metres walking distance from residential or employment premises.
- 311 hectares of uncredited open space (i.e. conservation, waterways and easements) may also be used for passive opportunities within the residential and employment areas.
- The location of parks could also be determined where and if high to very high retention valued trees, identified by council and the VPA arborist report, could be accommodated within the local park network.

Our geospatial information system team mapped the open space network accurately within Officer South Employment PSP from live spatial data.

Balanced outcome

Officer South Employment will achieve:

- 5.12% of net developable area within the residential component of the precinct for local passive parks (credited open space)
- 2.01% of the net developable area in the commercial/industrial precinct for local parks (credited open space)
- When combined, this will result in 2.22% (14.91 hectares) of the net developable area of the entire precinct being set aside for local passive parks (credited open space).

All uncredited open space includes walking and cycling networks to promote its passive recreational use.

4.4.2 Active open space

PSP Performance Target

- T11 Within residential areas (including activity centres):**
- **5–7% of net developable area set aside for sports field reserves.**
*** which contributes to a minimum of 10% of residential net developable area for credited open space when combined with the sports field provision.**

Planning assessment

According to council's *Draft Recreation Strategy 2019–2031* the south east growth corridor has a significant gap in provision of active and passive open space and facilities. In addition to the existing gap in open space in the growth corridor, council is seeking for Officer South Employment PSP to help address a 5.2 hectares of open space shortfall within CREP.

The Officer South Employment [Community Infrastructure Assessment](#) determined that according to the NDA at the time, Officer South Employment PSP would need to generate 8.5 hectares of active open space for sports field reserves, when considering a combined study area of Officer South Employment and CREP (the secondary total study area) and based on the application of a 6% target to meet the 5–7% requirement of the PSP Guidelines.

The VPA continued consultation with council on the final area of the sports field reserve, as council advised a preference for 9.75 hectares of active local recreation to facilitate two Australian Rules Football/cricket ovals, four soccer pitches and four netball courts.

The final community infrastructure report provides a list of different combinations of sports that can be catered for within the 8.5 hectares active open space reserve and illustrates that it will be ultimately up to council to determine what sports could be facilitated within this area. The VPA provided an example sports reserve plan to council to illustrate what could be achieved on the proposed site.

Given the constraints of the DSS and limited residential developable area available, the VPA assessed the best location and available space for the sports field reserve which determined the hectares that would be provided within the PSP.

Alongside further development of the DSS, the Place-based Plan net developable area was reduced and the VPA needed to assess the most appropriate area available for the sports field without losing critical residential NDA for dwellings.

Balanced outcome

Within the residential area of the precinct (including the local town centre), Officer South Employment will achieve 18% of net developable area for a sports field reserve due to catering for the identified CREP shortfall in active open space.

The draft Place-based Plan includes an 8.11 hectares active open space reserve. This allocation satisfies both the requirements of the Officer South Employment precinct (3.28 hectares) and for as much of the shortfall in the Cardinia Road Employment PSP as possible (4.83 of the 5.2 hectares recommended by the community infrastructure assessment). The VPA presented to council a

draft Sports Reserve Plan to help illustrate what can be accommodated within the reserve based on council's list of inclusions.

The VPA has determined that an 8.11 hectare reserve provides 4.83 hectares over the Officer South Employment requirement, to cater for the shortfall for the CREP community (5.6% CREP target) and therefore meets the secondary study area demand demonstrated within the Community Infrastructure assessment.

Combined with the 5.12% of passive local parks provision as outlined in 4.4.1, a total of 23% of net developable area within the residential component of the precinct will be set aside for local parks and sports field reserves (credited open space).

4.4.3 Green streets and spaces

Treatment of the public realm (including public infrastructure) that creates a safe, comfortable, high amenity and resilient environment.

PSP Performance Targets

- T13 Potential canopy tree coverage within the public realm and open space should be a minimum of 30% (excluding areas dedicated to biodiversity or native vegetation conservation).**
- T14 All streets containing canopy trees should use stormwater to service their watering needs.**
- T15 Design of the street network should be capable of supporting at least 70% of lots with a good solar orientation.**

Planning assessment

The PSP Guidelines stipulates a 30% canopy coverage across all PSPs and allows this coverage to include trees located in passive open space as well as road reserves. As Officer South Employment includes various drainage and utilities constraints, the VPA commissioned a high level servicing (HLS) assessment prepared by GHD in November 2022 to clarify planned future services and therefore assist their coordinated future locations. Cross sections, potential services easements and future planned substations were highlighted, allowing the VPA to assess the capacity for the PSP to cater for the 30% canopy coverage. The HLS report stipulates a six metre nature strip either side or a collector level 1 to allow for location of services and tree growth.

Balanced outcome

The guidelines and requirements within the PSP are tailored to promote good solar orientation, passive irrigation, and to ensure that applications to subdivide land are accompanied by a landscape plan illustrating a tree canopy coverage of an average of 30%. The PSP also includes cross sections that identify protected trees within central medians and nature strips, and local parks are located where possible to include existing large trees.

4.4.4 Environmental and biodiversity value

Protected and enhanced areas of significant environmental and biodiversity value, such as native vegetation, waterway corridors and grasslands.

PSP Performance Target/ General Principle

- T16 All conservation areas identified in relevant Commonwealth, state and local government strategies should be retained in accordance with relevant legislation.**

Planning assessment

Approximately 25 hectares of the site constitutes conservation area that includes native vegetation of biodiversity value protected by the MSA. Over 470 native trees are identified and as mentioned in section 4.4.7 the VPA has taken measures to protect as many as possible without impacting the integrity of the employment land use. The majority of the high value vegetation is located along the Cardinia and Lower Gum Scrub Creek corridors. These hold significant habitat corridors for the Growling Grass Frog, and endangered vegetation and fish species.

As well as conserving these areas for biodiversity, the VPA considered all conservation areas as part of the placemaking opportunities for the Place-based Plan.

Balanced outcome

The PSP shows all the BCS conservation areas within the Place-based Plan. It connects these with a network of cycle and pedestrian paths to promote awareness and use these spaces for high quality amenity value.

4.4.5 Sustainable water/integrated water management

Sustainable water, drainage and wastewater systems that enhance catchment resilience and maintain or enhance the safety, health and wellbeing of people and property now and in the future.

PSP Performance Target/ General Principle

- T17 IWM solutions should meaningfully contribute towards the actions and targets from the relevant Catchment Scale Public Realm & Water Plans and any relevant water-related strategies, plan, or guideline (including the Healthy Waterways Strategy 2018–2028).**

Planning assessment

The VPA completed an [Integrated Water Management Assessment](#) that provided recommendations that could be undertaken within the Officer South Employment PSP. The assessment provided two scenarios: good practice IWM and leading edge IWM. See Figure and Figure for further information on the exact opportunities that can be achieved.

Figure 15: Concept good practice IWM opportunities

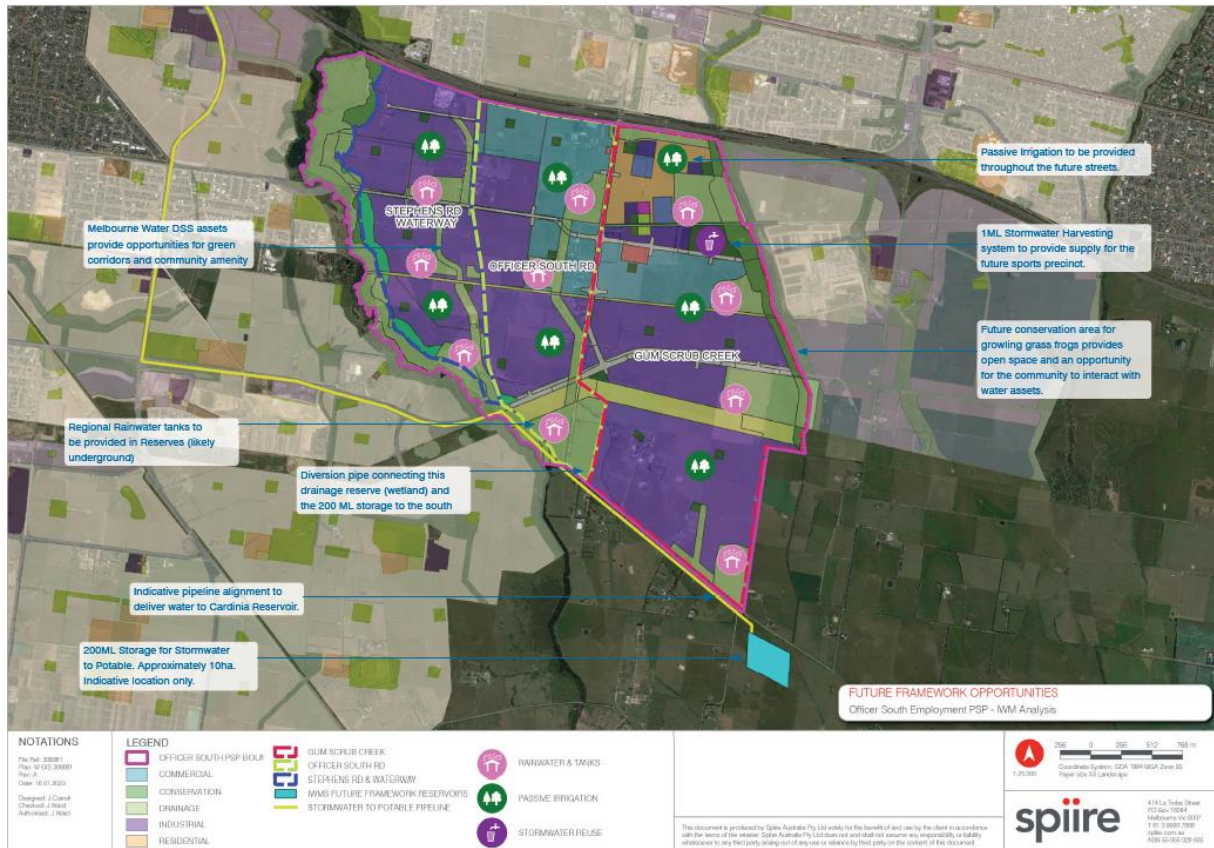


Figure 16: Concept leading edge IWM opportunities



Balanced outcome

The IWM assessment provided opportunities to establish passive irrigation, rainwater tanks on lots, local stormwater harvesting within the good practice scenario and establishing regional rainwater tanks, stormwater to potable and closed loop system within the leading-edge scenario. The responsibilities to agencies for delivery of these IWM initiatives will need to be worked out further post-PSP. The PSP includes an IWM plan that identifies opportunities that can contribute to the seven strategic outcomes in the Western Port IWM Forum Strategic Directions Statement and notes the key stakeholders to progress each initiative. Further to the IWM plan there are specific requirements and guidelines that identify what is expected in development of the precinct.

Since the IWM assessment was completed, South East Water confirmed recycled water will be provided for the residential area, and could be assessed if requested on a case-by-case basis for the commercial and industrial uses throughout the precinct.

4.4.6 Drainage Services Scheme outcomes

Planning assessment

The *Stormy Water Solutions* (SWS) report was prepared for the regional drainage scheme assets within Officer South in 2020. The SWS report details objectives to achieve including:

- major flood retention
- minor flood retardation
- flood conveyance, and
- stormwater treatment and numerous constraints such as
 - a high-pressure gas main
 - Thompsons Road extension
 - electrical transmission easement
 - groundwater, and
 - salinity issues.

Melbourne Water has now prepared a draft *Drainage Services Scheme* (DSS) for Officer South Employment, as shown in the Place-based Plan. There are three current drainage catchments being considered in preparation of the DSS including Cardinia Creek, Lower Gum Scrub Creek and Officer South Drain.

A significant issue that Melbourne Water is resolving for the Officer South Employment DSS is the Koo-Wee-Rup and Longwarry Flood Protection District to the south of the precinct, and the management of flows to this area.

It's noted the draft DSS includes increased drainage assets compared to the previous SWS report in 2020. The VPA consulted closely with Melbourne Water to coordinate the Place-based Plan outcomes and alleviate any clashes between various infrastructure items such as roads and major utilities. VPA has included MW's proposed DSS drainage outfall works and locations within the Officer South Employment PSP and IWM Plan as the DSS outfall infrastructure is critical to servicing the proposed implementation of MW's DSS. Requirements have been included within the PSP regarding the outfall works to be implemented in accordance with the DSS.

As part of the Place-based Plan development, the VPA investigated the realignment of the Lower Gum Scrub Creek Floodway Overlay to optimise the outcomes for the residential and employment precinct, acknowledging that the creek will be undergoing reconstruction as part of the DSS process.

Furthermore, consultation between the VPA, Melbourne Water and the landowner at 90 Handford Lane will inform the potential realignment of the Cardinia Creek corridor conservation area boundary to optimise the function and protection of this area, and the buildability of its adjoining land uses (refer Section 4.4.12).

Melbourne Water will continue to refine the DSS through the public consultation process and the Place-based Plan will be updated as required to address drainage outcomes and requirements.

Balanced outcome

The Place-based Plan considers the various impacts of the DSS, avoiding where possible negative impacts to infrastructure, and recognises the DSS as an important addition to the open space values for the precinct, understanding that it will also contribute to lowering the employment precinct's heat island effect.

Noting that there may be changes to the DSS following public consultation, the final DSS will be included in the Place-based Plan for gazettal.

4.4.7 Sewer pump station separation area

Planning assessment

The Officer South sewage pump station, at the northern boundary of the precinct to the west of Officer South Road, is South East Water's (SEW) largest sewage pump station and transfers sewage from the suburbs of Officer and Pakenham to the Eastern Treatment Plant. SEW requested a buffer to the Officer South sewer pump station to limit sensitive uses.

The VPA sought input from the Environment Protection Authority (EPA) in relation to SEW's request for a Buffer Area Overlay (BAO), to which the EPA requested further information from SEW to confirm the application of a BAO. In response, SEW prepared a Risk Assessment (Recommended Buffer Zone for Officer South Pumping Station, March 2022) for consideration by the EPA and the VPA. SEW consequently advised the VPA that a 180m buffer was considered reasonable, subject to the level of restrictions posed.

In the absence of formal support by the EPA for the application of a BAO, and after considerable internal analysis, the VPA considered a 'separation area' was a more suitable application as a BAO must be applied to the full extent of the buffer. In this instance, the BAO would extend beyond the northern boundary of the SEW pumping station site and outside of the PSP. The VPA has no mandate within the area outside of the precinct and cannot apply the buffer beyond the extent of the PSP boundary.

The PSP indicates a proposed 'separation area' for the SEW sewer pump station, as required under Ministerial Direction No.19 '*Ministerial Direction on the Preparation and Content of Amendments*' that may significantly impact the environment, amenity, and human health.

Balanced outcome

The PSP includes a 180 m 'separation area' on the Place-based Plan and associated planning controls for this area in Schedule 7 to the Urban Growth Zone (UGZ7). The ordinance provisions require an amenity impact assessment to be undertaken prior to any development within this

area. In addition, the UGZ7 will make certain uses section 2 (permit required) and section 3 (prohibited) to further control appropriate development within the 'separation area'.

As the proposed Place-based Plan identifies commercial zoning within the separation area the impact to sensitive uses within this area is expected to be minimal.

4.4.8 Proposed sewer pump station

Planning assessment

SEW has requested a two-hectare site for a proposed sewer pump station in the south of the precinct, to service the Officer South Employment PSP catchment. A pump station is a necessary piece of infrastructure on SEW's sewerage network. The facility is required to collect wastewater from low-lying areas and transfer (pump) to higher locations within the network.

Balanced outcome

The VPA has included a two-hectare site for the proposed sewer pump station within the Place-based Plan. The proposed sewer pump station does not contribute to the net developable area of the precinct and will be constructed once development occurs in the precinct.

4.4.9 Environment Protection Authority (EPA) – noise and air impacts

Planning assessment

The EPA raised the need for consideration of noise impacts at the strategic planning phases for greenfield precincts to comply with the new environmental laws that came into effect on 1 July 2021, which reference the *Environmental Reference Standards* (ERS) as guiding benchmark for noise mitigation. Upon this request, the VPA commissioned the preparation of a noise trigger assessment tool to determine an assumed risk area for road noise mitigation measures in accordance with the existing regulatory environment. The aim was for this tool to assist in identifying areas which may need to undertake an acoustic assessment and implement design treatments to achieve the ERS.

The tool highlighted that the theoretical assessment is challenging and highly variable in the absence of confirmed uses, development construction levels and an evolving existing road network points source. As such, the VPA's approach through the PSP will rely on identifying the potential risk areas and how the current regulatory environment may provide for mitigation measures.

Currently, the *Victorian Planning Provisions* require subdivisions to include an assessment of noise and in doing so calls up the relevant guidelines listed in the *Planning Policy Framework* under clause 13.05. In addition, applications for industrial and commercial uses must also include noise assessments and provide mitigation measures for consideration.

The EPA also raised the need for an air impact assessment at this strategic planning phase. As with a noise assessment, the absence of confirmed uses and road traffic volumes for example make an air assessment challenging at this stage of planning. Therefore, the VPA is not proposing to undertake an air assessment at this strategic phase. It is noted that the current implementation of this policy is part of the subdivision and building permit stages in accordance with existing requirements to address achievement of desired standards.

Balanced outcome

The Officer South Employment PSP is planned to achieve critical population and dwelling outcomes that have resulted in residential development abutting the Princes Freeway. The high-level noise trigger assessment tool, referencing the ERS benchmark levels, determined that the entire residential precinct would likely be subject to a site-specific noise assessment, to be completed at the time of subdivision application. However, given the absence of a built-up environment that will eventually impact noise, the PSP can only include high-level precinct guidance for suitable outcomes for areas within proximity of the Princes Freeway, arterial roads, and industrial noise impacts.

Application requirements and decision guidelines are also included in the UGZ7 to manage any impact to amenity associated with noise at the planning permit stage. These requirements and decision guidelines in the UGZ7 have been agreed to with the EPA. Closer analysis of noise impacts at planning permit application may be required as identified in the UGZ7.

4.4.10 Cultural values assessment – proposed conservation area

Planning assessment

Through the [Aboriginal Cultural Values Assessment](#), prepared by Tardis and in consultation with registered Aboriginal party (Bunurong Land Council Aboriginal Corporation (BLCAC)), a 200 m conservation area extending from Cardinia Creek along the western boundary of the Officer South Employment precinct has been identified as requiring protection of intangible cultural heritage values.

The 200 m cultural values area adjoins the existing MSA biodiversity conservation area and aligns with the area of cultural heritage sensitivity prescribed by the *Aboriginal Heritage Regulations 2018*. A mandatory *Cultural Heritage Management Plan* (CHMP) is triggered for any high impact activity within the area of cultural heritage sensitivity.

Any cultural conservation designation would need to consider its ownership and ongoing land management. The VPA therefore engaged with BLCAC and key agencies, including DTP on potential zoning, acquisition, and maintenance options for the proposed conservation area. There is no specific Victoria Planning Provision tool to identify, protect and manage land identified as having intangible Aboriginal cultural heritage values or registered on the *Victorian Aboriginal Heritage Register* as an Aboriginal place.

Balanced outcome

The VPA's approach to protecting intangible cultural heritage values identified by BLCAC along Cardinia Creek is by applying the Rural Conservation Zone 200 m along the creek corridor within the PSP area. the RCZ has been chosen to protect the intangible cultural heritage values of the area and has been applied in accordance with Planning Practice Note 42 which notes a purpose of the RCA is '*to conserve and enhance the cultural significance and character of open rural and scenic non-urban landscapes.*'

In addition, the PSP identifies the proposed cultural values conservation area on the Place-based Plan as a 'cultural value investigation area'. To support this, the PSP includes objectives and requirements regarding the acknowledgement and protection of Traditional Owner values and requirements for development impacting the investigation area to occur in consultation with BLCAC.

The VPA will continue to engage with BLCAC and DTP to understand how designation, acquisition and maintenance of the area can be confirmed through further investigations by the State Government and potential for a future self-determination process.

4.4.11 HO91 and HO92 – reduced heritage curtilage

Planning assessment

The VPA commissioned a [Post Contact Heritage Assessment](#) for Officer South Employment precinct. The assessment provided a recommendation that the current curtilage protecting Heritage Overlay HO91 and HO92 are recommended to be reduced to only include:

- The homestead, outbuildings and associated indicated mature trees
- An appropriate curtilage of land to the north, east, south, and west of the house and trees
- It is recommended that roads be only constructed along the boundaries
- If roads are constructed along the northern, western, and eastern boundaries, tree planting should be undertaken to provide a barrier between the road and house.

Balanced outcome

The VPA has included the recommended reduced heritage curtilage for HO91 and HO92 within the Place-based Plan of the PSP. The VPA has included requirements and guidelines in the PSP to reflect the further recommendations for conservation and protection of HO91 and HO92.

4.4.12 Heritage Victoria inventory site

Planning assessment

The VPA commissioned a [Post Contact Heritage Assessment](#) for Officer South Employment to investigate historic archaeological sites, buildings, and trees for the precinct.

The Murray Homestead site complex at 90 Handford Lane comprises a potential homestead site, a domed well and associated features. This site has been identified to have 'archaeological interest'. No surface evidence of the original Murray Homestead remains; however, there is potential for subsurface material relating to the former house to remain in situ. The site has potential to yield information about the occupation of the site, the establishment of small farm complexes and the development of pastoral activity in the area.

The report included the following actions and recommendations:

- The place was registered on the Victorian Heritage Inventory as H7921-0129 (90 Handford Lane Site)
- If works are planned that may disturb H7921-0129 (90 Handford Lane Site), contact Heritage Victoria's Archaeology team
- Heritage Victoria may require an archaeological investigation. Consents for archaeological investigations are only issued to qualified historical archaeologists. An application must be submitted to, and approved by, the Executive Director of Heritage Victoria prior to any disturbance of a historical archaeological site. The application below can be used for Consents under the *Heritage Act 2017*. An application must be completed in accordance with the *Guidelines for Investigating Historical Archaeological Artefacts and Sites*
- Following the archaeological investigation, a Consent to Damage or Disturb will be required to impact H7921-0129 (90 Handford Lane Site)

Balanced outcome

The VPA has identified the heritage inventory site on the Place-based Plan, as per the Heritage Victoria listing. Development would require a Consent for archaeological investigations, it would likely be given to authorise works at the site with conditions requiring a program of site investigation, recording, reporting and artefact management. For further information see the [Guidelines for investigating historical archaeological artefacts and sites by Heritage Victoria](#).

4.4.13 Electricity transmission easement – proposed land use zoning

Planning assessment

The VPA undertook an assessment to determine what the most appropriate land use zone would be for the electricity transmission easement based on the preferred use being open space. The VPA investigated different options including rezoning the land to standard zoning options such as the Industrial 1 Zone, applying a standard zone through the schedule to the Urban Growth Zone and rezoning the land to a special purpose zone such as the Special Use Zone (SUZ). Following this analysis, the VPA determined the application of the Special Use Zone to the transmission easement to be the most appropriate zoning option.

The constrained nature of the transmission easement, the specific land use outcomes sought for this land (open space) and the need to implement the requirements of the PSP to this land is such that the VPA considers standard zoning options (either directly or via the UGZ schedule) to be inappropriate in this context and hence, the Special Use Zone has been applied to the transmission easement as guided by *Planning Practice Note 03* (Applying the Special Use Zone).

Balanced outcome

The VPA has determined to apply the SUZ to the electricity transmission easement to be consistent with several gazetted PSP areas including the *Cardinia Road Employment PSP*, *Mt Atkinson and Tarneit Plans PSP*, *Thompsons Road PSP*, *Cardinia Creek South PSP*, *Plumpton and Kororoit PSP*, and *Craigieburn North PSP*.

4.4.14 Revegetation of creek line – bushfire management

Planning assessment

The revegetation of the creek lines is important for the future biodiversity and flooding implications. It is difficult to understand what the planting regimen would be in twenty years' time regarding revegetation, without clear guidance from the authority managing the creek line. This unknown factor raises bushfire management implications for the creek lines. The VPA commissioned Terramatrix to prepare a bushfire assessment to determine what the likely indicative setbacks were from current and assumed vegetation along the creek lines. This report details key assumptions for vegetation and why setback distances are required for the certain types of vegetation.

Balanced outcome

The VPA included a bushfire interface plan in the PSP informed by the Terramatrix report which shows indicative setbacks from the current vegetation. Certain assumptions are used to indicate what the likely future vegetation could include within Cardinia Creek and Lower Gum Scrub Creek. The bushfire risk posed by the existing and assumed proposed vegetation along the creek lines is addressed through the PSP.

4.4.15 DSS serviceability line

Planning assessment

The DSS serviceability line accounts for asset and flood protection considerations, including existing flood extents/levels, locations of existing assets, natural topography and existing overlays/zoning associated with flooding.

Through preparation of their DSS, Melbourne Water identified anomalies between the proposed serviceability line along Cardinia Creek and the existing flood extents. There are a small number of locations where development is proposed within the existing flood extents associated with Cardinia Creek and in very close proximity to the steep topography adjacent to the flood plain.

Melbourne Water is continuing to review and refine the DSS and will look to refine the serviceability line to maximise the potential development area where possible to achieve sustainable and safe development.

The objectives of the serviceability line are to ensure that:

- Any development can be safely serviced for drainage
- Development does not have detrimental impact on the objectives of the waterway corridor and on Melbourne Water's obligations under the *Healthy Waterways Strategy*
- The developer will need to demonstrate to Melbourne Water and council that the area can be drained and developed if proposing to build inside the serviceability line.

Balanced outcome

The VPA has identified the DSS serviceability line on the precinct features plan within the PSP. The land between the conservation area and the serviceability line will be Industrial 1 Zoned. The precinct features plan includes a note that the developer must demonstrate that development in this area can be drained and developed with no impacts to the associated waterway corridor.

4.4.16 Native vs non-native vegetation

Planning assessment

The precinct sits within the *Melbourne Strategic Assessment* (MSA) and all native vegetation is conserved via the BCS which sets out all the conservation measures required for Matters of National Environmental Significance and State significance to satisfy Federal and State biodiversity and native vegetation requirements. There is currently no federal or state policy regarding the retention of non-native vegetation with high amenity or habitat value.

The VPA commissioned a [Preliminary Tree Assessment](#) by Homewood Consulting to assess and report on trees located within defined areas in the Officer South Employment precinct. In total 10,430 trees were assessed as part of this proposal, with a further 53 inaccessible trees noted as potentially 'High' retention value.

Additionally, council commissioned an arborist report for native and non-native high retention value trees within the Patterson Road reserve to justify the retention of significant trees along this alignment for the planned future biolink at this location, in accordance with the *Cardinia Shire Biolink Plan 2023–33*. Council's arborist identified 27 significant trees along this corridor.

All 'very high' or 'high' retention value trees, and council's 'potential high valued' trees as identified in Plan 7 of the PSP where possible should be retained in the landscape/public realm of

the precinct. A design analysis was carried out by the VPA to assist the protection of significant trees within the public realm and local parks. The VPA developed bespoke cross sections to assist with this.

Balanced outcome

Although the VPA understands current policy does not mandate the retention of non-native species, the VPA aims to retain a significant number of native and non-native trees within areas of significant amenity and character value to preserve and enhance the landscape and character of the precinct. In accordance with the VPA's commissioned preliminary tree assessment, a total of 16 'Very High' retention value trees and 699 'High' retention value trees have been recorded and are highlighted in the Precinct Features Plan to be retained where possible. In addition, council's 27 recommended high value trees are classified 'Potential high value trees' and are shown on Plan 2 for retention where practical.

4.4.17 Bushfire interfaces

Planning assessment

The VPA commissioned a [Bushfire Development Report](#) for the Officer South Employment PSP. The report assesses the bushfire risk to the Officer South Employment precinct and identifies how the PSP and future development within the precinct can respond to the risk and comply with the applicable planning and building controls that relate to bushfire. The report recommended that the PSP includes appropriate setbacks from identified vegetation to ensure sufficient separation from the bushfire risk.

Balanced outcome

The VPA developed a Bushfire Hazard Areas Plan for the PSP that highlights the setbacks required for development to occur. The PSP includes a table that shows the bushfire hazard vegetation management and setback requirements. The VPA has developed a set of requirements and guidelines, informed by the bushfire assessment to ensure development can occur safely in the precinct.

4.4.18 Sodic and dispersive soils

Planning assessment

The VPA commissioned a [Land Capability Assessment](#) to assess the existing environmental conditions of the precinct. The assessment determined that further investigation was required to understand the risk of dispersive soils, acid sulfate soils and general ground conditions present within the precinct. The VPA then commissioned a [Sodic and Dispersive Soil and Acid Sulfate Soil Investigation](#) to understand the presence and extent of sodic/dispersive and acid sulfate soils within the precinct to inform the PSP and provide options for their management in a property development context.

The investigations found that:

- It should be assumed that all soils within the precinct are potentially dispersive and strongly to very strongly sodic, unless testing at a higher sampling density is undertaken to prove otherwise.
- There was no evidence that acid sulfate soils were present, it is considered that the likelihood of encountering acid sulfate soils at the precinct is low.

Balanced outcome

The VPA has included requirements addressing the risk of dispersive and sodic soils within the PSP. It was determined that the presence of sodic soils will have implications for the infrastructure design and costings and therefore a 25% contingency has been adopted for sodic soil impacts for the updated costings taken to the public consultation stage.

4.4.19 Contaminated land

Planning assessment

The VPA commissioned a [land capability assessment](#) to assess the existing environmental conditions of the precinct and identify areas where issues and constraints may affect the viability of developing land within the precinct. The findings of this assessment did not identify significant high-risk areas for potentially contaminated land and groundwater, except for inferences made for the existing truck stop service station at 94 Princes Freeway. The inferences include given that the BP service station is less than 10 years old, it is likely that it has been built with fuel infrastructure that meets modern environmental and engineering standards, with adequate monitoring systems.

Balanced outcome

Consistent with Ministerial Direction 1 and Ministerial Direction 19, the amendment proposes to apply the Environmental Audit Overlay to the BP truck stop service station at 94 Princes Freeway given this site has been identified as having high risk for contamination. Whilst it is not anticipated that the service station will cease operations soon, the overlay is proposed to manage any contamination that may be present on the site if the site is transitioned to a sensitive use. All remaining sites have been identified as having low risk for contamination.

4.5 Viable densities

To deliver housing/population at densities that make local services and transport viable.

PSP Performance Targets

- T1 The PSP should facilitate increased densities with an average of 30 dwellings or more per Net Developable Hectare (NDHA) within:**
 - 400 m walkable catchment of an activity centre or train station
 - 50 m of open space, (both credited and encumbered open space), boulevards and major public transport routes, including but not limited to the Principal Public Transport Network (PPTN) (or similar).
- T2 The PSP should facilitate increased densities with an average of 20 dwellings or more per NDHA across the entire PSP area.**

Planning assessment

The VPA undertook an assessment to determine the population threshold required within Officer South Employment to meet community infrastructure requirements, including that required to facilitate the shortfall of community infrastructure items for CREP (refer to the [Community Infrastructure Assessment](#) for further details). The VPA estimated that approximately 1,600 dwellings are required to ensure that the provision ratios were met for the community infrastructure items to be delivered to service both communities.

The residential net developable area of Officer South Employment is 43.9 hectares. To meet the minimum 1,600 dwellings required this would require average residential densities of at least 36 dwellings per hectare.

The VPA determined that the best way to guide a high quality, medium to high density outcome in a compact residential precinct is to allow flexibility so that future design teams can deliver bespoke solutions. A performance-based assessment tool was created to provide council a separate guidance framework for the area.

The residential area is designated an Urban Design Performance Area (UDPA) which mandates the delivery of a high-level concept masterplan to guide a wholistic urban design approach and ultimate outcome. The UDPA outlines key urban design minimum performance outcomes for the built environment, and example benchmark design outcomes to help measure proposed development. The UDPA performance criteria is to be read in conjunction with the supporting PSP requirements and guidelines to ensure the residential precinct meets the expectations of the council for appropriate, high-quality development.

Balanced outcome

The PSP has facilitated the following balanced outcomes:

- An average of 40 dwellings per net developable hectare (dw/NDHA) within the walkable catchment and open space, boulevards, and major public transport routes.
- An average of 37 dw/NDHA across the entire residential area, with a minimum of 32 dw/NDHA.
- Mandates a master plan approach to set the vision and base framework via minimum design outcomes for the residential precinct.
- Delivers community infrastructure to service the Officer South Employment community and provide for the shortfall for the adjoining CREP community.

The table below illustrates how the total 1600 dwellings were calculated across the UDPA. The areas have been carefully considered to provide varying densities and typologies within the compact area. Each area is illustrated in Plan 10 Housing in the PSP.

The density per area is as follows:

- Amenity Area: 36 dw/ha
- Town Centre: 40 dw/ha
- Mixed Use: 40 dw/ha
- Balance Area: 32 dw/ha

Figure 17: Dwelling density analysis

| | Dwelling Estimate (Amenity Model) | % of Dwellings | Area (hecatres) | % of Area (ha) |
|--------------|--------------------------------------|----------------|-----------------|----------------|
| Amenity Area | 797 | 49% | 22.1 | 50% |
| Town Centre | 60 | 4% | 1.5 | 3% |
| Mixed Use | 548 | 34% | 13.7 | 31% |
| Balance Area | 211 | 13% | 6.6 | 15% |
| Grand Total | 1,617 | 100% | 44.0 | 100% |

4.5.1 Housing diversity

Diversity of housing, including lot size and built form, to meet community needs, increased housing densities and integrated housing located close to existing and/or proposed services, transport, and jobs.

PSP Performance Target

- T3 The PSP should facilitate increased housing diversity, with at least three distinct housing typologies to be included in higher density areas (defined by T1).**

Planning assessment

Critical to the support of council for the heightened density target for the residential precinct, the VPA conducted an assessment of the suitability of average densities of 36–40 dw/NDHA. The analysis included the study of precedented scenarios in similar suburban development and reviewing the current market shift to medium density in high amenity areas within middle–outer communities.

The PSP includes *Table 5 Housing Density and Diversity* in the UDPA which specifies the target typologies that are expected within the development areas.

Retirement villages, residential aged care facilities, disability and special needs housing could be potentially included within the Officer South Employment future land uses via private development.

Balanced outcome

The PSP will help to facilitate the delivery of at least three different housing typologies within each of the residential development areas of the precinct to promote housing diversity and density. The guiding performance criteria sets a benchmark for the standard of development in the UDPA with flexibility for development to reflect current markets and allow for variation within the built environment.

4.5.2 Affordable housing options

Affordable housing options – including social housing – that provide choices for very low, low, and moderate-income households.

PSP Performance Target

- T4 Set a minimum target for provision of affordable housing in accordance with affordable housing policy, evidence, and guidance.**

Planning assessment

The VPA has not conducted a site-specific affordable housing analysis to determine the specific need within Officer South Employment precinct. Cardinia Shire Council has prepared a *Social and Affordable Housing Strategy and Action Plan 2018–25* across the municipality.

Within the strategy and action plan it sets out key strategies including:

Explicitly facilitating the provision of affordable rental housing on all developments or subdivisions where the expected total yield will be over 100 lots through seeking a minimum contribution of two per cent affordable housing (rising to 8 per cent by 2025) in the form of gifted built form to be provided to a registered housing agency.

Balanced outcome

The VPA has set a guideline within the PSP to achieve an eight per cent target for affordable, social and community housing within Officer South Employment, in line with Cardinia Shire Council's current strategy and action plan.

4.5.3 Safe streets and spaces

Be safe, accessible, and well connected for pedestrians and cyclists to optimise active transport.

Planning assessment

The VPA reviewed and consulted extensively with council to determine a suitable approach to the medium–high density development planned throughout the residential precinct. A variety of densities and typologies within a well-integrated, amenity rich environment, that considered alternative transport modes and carparking considerations was a critical factor to gaining council support for the UDPA approach and density outcomes.

The PSP outlines performance measures for the urban structure of the residential precinct and local town centre, and its movement and place requirements, to guide safe, permeable, and pedestrian-focused outcomes.

In addition, the VPA conducted a Movement and Place analysis to determine the hierarchy of roads and paths within the entire precinct and consulted internally and externally regarding the network and cross sections for Officer South Employment. All modes of transportation lead to points of destination and the Place-based Plan protects existing high value trees within the public realm and street cross sections, to create a safe, efficient, and inviting environment, counteracting the impact of high density and industrial development.

The VPA analysed benchmark arterial, connector and local access road cross sections for suitability, and completed an analysis of the draft road network via transport modelling and integrated traffic assessments. Consideration was given to the permeability and function of the street network to ensure direct access for residents and workers to the local town centre and other facilities.

Guidance for safe streets and spaces are provided by the requirements and guidelines stipulated in the PSP, including but not limited to Table 6: UDPA performance measures.

Balanced outcome

Officer South Employment will provide a permeable road network for both car and truck vehicular access throughout, and a safe network for alternative modes of transport including cycling,

walking, and future electric cycling/scooter transportation. Bus capable networks, cycle and shared paths are provided throughout the precinct.

The PSP includes a road network and set of cross sections endorsed and validated by agencies.

4.6 Services and destinations

4.6.1 Local schools

Education and community infrastructure and facilities that are located to equitably and efficiently maximise their accessibility and shared use.

PSP Performance Target

T18 The location of dwellings should achieve the following accessibility targets in relation to education and community facilities:

- **70% of dwellings located within 800 m of a government primary school**
- **100% of dwellings located within 3,200 m of a government secondary school.**

Planning assessment

A [community infrastructure needs assessment](#) for Officer South Employment was completed demonstrating quantitative estimates of the community infrastructure demand generated by primary, secondary and tertiary study areas. These areas are defined as:

- Officer South Employment precinct (primary study area)
- Combined Officer South Employment precinct and CREP (secondary study area)

The tertiary study area includes:

- Officer PSP to the north
- Cardinia Road PSP to the north-east
- Minta Farm PSP and Clyde North PSP to the west
- Thompson Road PSP to the south-west
- Cardinia Creek South (McPherson) PSP to the south
- Pakenham West PSP to the east.

Government primary school

The community infrastructure needs assessment demonstrated a significant shortfall in government primary school facilities within the secondary and tertiary study areas. The shortfall calculated for the total demand estimates for the secondary study area is 625 to 881 additional government primary school enrolments, equivalent of 1.1 to 1.2 government primary schools.

The above demand estimates demonstrates that Officer South Employment precinct would need to cater for a government primary school.

Government secondary school

The demand estimate generated by the primary and secondary study area demonstrated a total of approximately 376 to 529 additional government secondary school enrolments or 0.3 to 0.4 government secondary schools.

It is highlighted that there is currently one government secondary school within 1.5 kilometres of the proposed core residential area of the Officer South Employment PSP. The Pakenham Henry Road Secondary School is located a short distance northeast of CREP and would cater for the future population within Cardinia Road Employment. The demand estimates illustrate that Officer South Employment PSP does not need to cater for a government secondary school.

Non-government primary school

The Catholic Diocese of Sale conducted a high-level analysis of the underlying enrolment demand and the combined long-term enrolment at a Parish level, which demonstrated the strategic justification for the provision of a non-government primary school in Officer South Employment to accommodate for long-term, future demand within this region.

Therefore, it is essential to set aside land for a non-government primary school site of three hectares within the Officer South Employment residential precinct.

TAFE and University

The demand estimated generated by the total secondary study areas is approximately 260 TAFE enrolments and approximately 400 university enrolments. Proximate to Officer South Employment PSP are Federation University and Chisholm TAFE located in the Berwick Health and Education Precinct, which sufficiently cater for this estimated demand.

PSP Guidelines Target

The PSP Guidelines metric test was completed to ensure that the performance targets were achieved for school provisions within the precinct. The residential component of Officer South Employment meets all the local school performance targets, as seen in Figure and Figure .

Figure 18: Primary school catchment analysis (showing an 800 metre catchment)

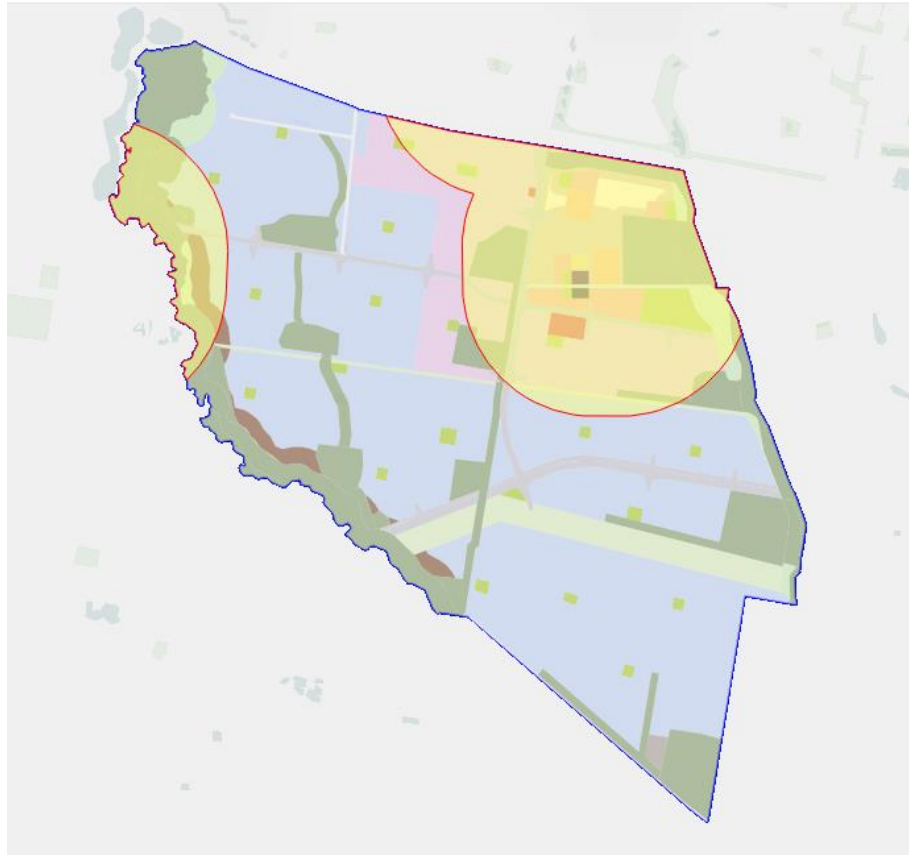
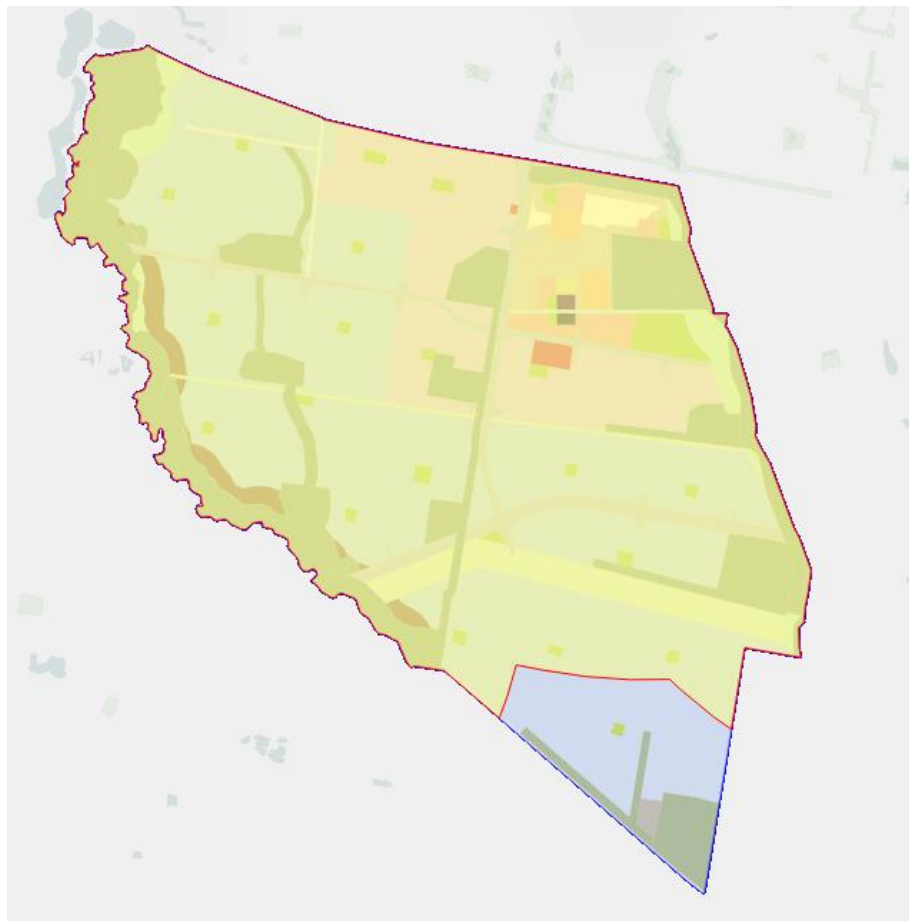


Figure 19: Secondary school catchment analysis (showing a 3.2 kilometre catchment)



Balanced outcome

All Officer South Employment dwellings achieve the following accessibility targets in relation to education and community facilities:

- 100% of dwellings located within 800 m of a government primary school
- 100% of dwellings located within 3,200 m of a government secondary school.

The VPA has included one government primary school and one non-government primary school within the Officer South Employment Place-based Plan. The non-government school has been located close to the freeway interchange as requested by the Catholic Diocese of Sale to provide efficient access from the surrounding communities seeking this additional facility.

The strategic assessment of the location of the government primary school is supported by the 'Victorian Government School Site Selection Criteria – Toolbox' and the Department of Education. The necessary requirements from the selection criteria have been included in the PSP.

4.6.2 Community infrastructure

PSP Performance Target

T18 The location of dwellings should achieve the following accessibility targets in relation to education and community facilities:

- **80% of dwellings located within 800 m of a community facility**
- **80% of dwellings located within 800 m of a health facility.**

Note: A health facility may include areas where a general practitioner would be capable of operating (for example, commercial or mixed-use zone).

Planning assessment

The [community infrastructure needs assessment](#) determined the level of community facility required for the demand generated from the primary and secondary study areas. The assessment demonstrated that a level 2 community facility (1,500 square metres building footprint and one hectare of land) was required to support the essential services required for Officer South Employment and CREP.

The VPA analysed the precinct to determine the most suitable location for the community facility, in consultation with Cardinia Shire Council.

Balanced outcome

The Officer South residential precinct achieves the following accessibility targets in relation to education and community facilities:

- 100% of dwellings located within 800 m of a community facility.

The future urban structure situates the level 2 community facility within easy access to residential development and closely situated to the two schools via the key connector boulevard, providing public transport access to the local and wider community. It is directly located with the local town centre to allow integration of complementary facilities and promote a vibrant core.

The [Precinct Structure Planning Guidelines: New Communities in Victoria](#) requires that targets should be delivered in a PSP, however some targets address development at a level of detail best

delivered at the planning permit stage. In these circumstances it is appropriate that a PSP safeguards the future achievement of the target, rather than meet it in the PSP.

As the Residential Growth Zone is an area where a general practitioner would be capable of operating (without a planning permit if the land used for the facility does not exceed 250 square metres), the remaining dwellings in this PSP are within an area which meets the target as specified in the PSP Guidelines.

4.6.3 Kindergarten provisions

Planning assessment

In June 2022, the State Government announced its \$9 billion (AUD) package over the next decade for four-year-old kinder to be recast as 'pre-prep', with every Victorian four-year-old entitled to a free, 30-hour-per-week program, up from the current 15 hours.

As part of the new policy setting, the demand estimates support the need for up to seven kindergarten rooms across the study area to cater for both three and four year old sessional kindergarten programs.

Note: The demand estimates under the current policy setting would equate to needing five kindergarten rooms.

The community infrastructure assessment recommends that four kindergarten rooms should ideally be incorporated into a Level 2 multipurpose community centre proposed for the Officer South Employment PSP, with the remaining sessional kindergarten demand (up to three rooms) preferably met by integrating kindergarten facilities within either the proposed government primary school and / or potential non-government primary school. This recommendation requires further consultation and confirmation with the Department of Education and the Diocese of Sale Catholic Education.

Balanced outcome

The community infrastructure assessment identifies the current and potential future policy setting for the '3 & 4 Year Old Sessional Kindergarten' provisions. Based on the assessment, the VPA has planned to accommodate the demand that is expected in the Officer South Employment PSP.

4.6.4 Proposed State Government facility

Planning assessment

The Officer South Employment PSP and the surrounding Cardinia Shire region will continue to grow significantly in the next 20 years. Population modelling indicates that between 2016 and 2041, the population for Cardinia Shire is forecast to increase by 102,629 persons (105.14% growth), at an average annual change of 2.92%. Specifically, the Officer precinct population will grow from 4,062 to 35,074 persons at an annual change rate of over nine per cent, one of the highest growth rates in the region.

Given the significant growth in the region, government will need to be proactive in planning for the delivery of future health services to meet the needs of the community in 20 years. The Victorian Government is already delivering new community hospitals in Cranbourne and Pakenham in addition to the expansion of the Casey Hospital emergency department.

Early contributions to precinct structure planning in Officer South Employment will also relieve future pressures on existing health infrastructure in the region and ensure access to health services through better connectivity to public transport and care closer to home. The government will continue to plan for the delivery of future services, including the delivery of appropriate healthcare, to ensure community needs are met alongside growing demand in the south-east region.

The VPA consulted the Department of Health through the agency validation process to assess the need for land to provide for a health facility within Officer South Employment precinct.

Balanced outcome

The community infrastructure assessment and the Department of Health determined that a proposed state government facility is required within Officer South Employment to cater for the broader community. The Place-based Plan identifies a three hectare parcel of land located to the south of the residential precinct to accommodate a potential future acute, sub-acute, or mental health facility.

4.7 Infrastructure co-ordination

4.7.1 Staging and location of development

Directing the staging and location of development within a PSP to:

- use available capacity in existing infrastructure
- support the orderly and economic extension or augmentation of existing infrastructure
- match the timely provision of new infrastructure.

This will include directing the location and timing of development and identifying trigger points for the provision of required infrastructure.

PSP Performance Target

- T20 Identify all basic and essential infrastructure with spatial requirements on the future place-based structure plan (e.g., open space, schools, community centres, integrated water management, etc.).**

Planning assessment

The VPA tested each infrastructure item to ensure the principles of the ICP system and the Ministerial Direction on the 'Preparation and Content of Infrastructure Contribution Plans' (February 2021) were met. Due to Officer South Employment having only one point of access available (at Princes Freeway), to ensure that critical state infrastructure is aligned with the timing of urban development, the VPA have accompanied the PSP and Supplementary ICP with a development staging plan linked to a Specific Controls Overlay (SCO). The SCO has been applied to coordinate the sequencing of development with the funding and delivery of essential infrastructure across the draft amendment area. The SCO will ensure that the development of land within the precinct does not outpace the delivery of key transport infrastructure. It is expected that once these state infrastructure items are delivered that an administrative amendment will reduce the extent of the SCO as it applies to the precinct.

To inform the development staging plan and the SCO, the VPA used the following assumptions:

- traffic volumes forecasted for the precinct to inform the delineation of the staged areas
- proximity to new or existing arterial or connector road infrastructure

- existing and future servicing infrastructure
- proximity to existing or proposed development fronts or serviced land
- proximity to significant public transport infrastructure or public transport services
- proximity to existing or committed community infrastructure such as schools
- the developing sequence of the DSS.

Balanced outcome

The VPA has produced a precinct infrastructure plan that identifies infrastructure required to support the future community. The PSP includes an infrastructure and development staging plan linked with a SCO to show the anticipated staging of development within the precinct. The SCO is applied to stages 2 to 4 only, to minimise complex planning permit processes at stage 1. It notes the state infrastructure that is required to be built preceding any development in the upcoming stage. Once these state infrastructure items are delivered an administrative amendment will reduce the extent of the SCO as it applies to the precinct.

4.7.2 Existing and future utilities infrastructure

Planning assessment

The VPA commissioned a [Situational Analysis](#) and a [High-Level Servicing Assessment](#) for the precinct. The purpose of these assessments is to determine the key constraints and opportunities relating to existing and future utility infrastructure within and servicing the Officer South Employment precinct. Utility infrastructure has the potential to contribute significant costs and delays if constraints are not identified and addressed early in the development process.

Balanced outcome

The VPA has included all known existing and future utilities from the assessments within the utilities plan in the PSP. The PSP has included applicable requirements and guidelines relating to all types of utilities infrastructure.

4.7.3 Infrastructure contributions plan (ICP) – infrastructure items

Planning assessment

The VPA has undertaken an extensive assessment to determine what infrastructure items should be proposed within the ICP. The VPA assessed all items under the ICP guidelines criteria and the Ministerial Direction. A Precinct Infrastructure Plan was then produced to demonstrate all the infrastructure items that are necessary for the development of Officer South Employment precinct. The timing of these infrastructure projects was discussed with DTP and council.

Balanced outcome

The VPA determined transport infrastructure and community infrastructure items that will be proposed within the Officer South Employment Supplementary ICP based on the requirements of the ICP guidelines and the Ministerial Direction. See Plan 11: Precinct Infrastructure Plan in the PSP for the detail and location of these items.

4.7.4 Supplementary ICP

Planning assessment

The VPA prepared draft cost estimates for each of the proposed infrastructure items to be included in the ICP. These cost estimates were informed by the information available to the VPA, including the *Benchmark Infrastructure Report – April 2019* and previous PSP infrastructure estimates. This process determined that there would not be enough funding from the standard levy to deliver the basic and essential infrastructure a community needs. Therefore, the ICP would include a supplementary levy to fund the additional costs where allowed for by the relevant ICP guidelines and Ministerial Direction on the '*Preparation and Content of Infrastructure Contribution Plans*' (February 2021).

Balanced outcome

The VPA has developed a supplementary ICP which is available for consultation with the Officer South Employment PSP. The ICP includes the draft cost estimates for which development will provide a contribution towards. The draft cost estimates may be revised subject to iterative design and costing work currently being undertaken. If required, any impacted landowners will be advised of updates to the design and cost estimates in the ICP as a result of this process.

4.7.5 State infrastructure items

Planning assessment

The VPA undertook an analysis to determine what items within Officer South Employment would be considered state infrastructure and therefore not to be included within the ICP. The VPA discussed and validated these items with council and DTP (Transport).

Balanced outcome

The VPA has included all basic and essential items within the infrastructure contributions plan (ICP).

5 APPENDICES

5.1 Background report summaries

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Topic

ARBORICULTURAL ASSESSMENT

Technical report

Preliminary Tree Assessment, Assessment of trees within the proposed Officer South Employment Precinct, Homewood Consulting Pty Ltd, 24 September 2020

What was the purpose of the report?

- To identify trees worthy of retention within defined areas in the Officer South Employment precinct.
- To provide an assessment of the identified trees regarding their health, structure, and retention value in the landscape.
- To provide preliminary recommendations for tree protection that should be incorporated in the design and construction process.

What do we know so far?

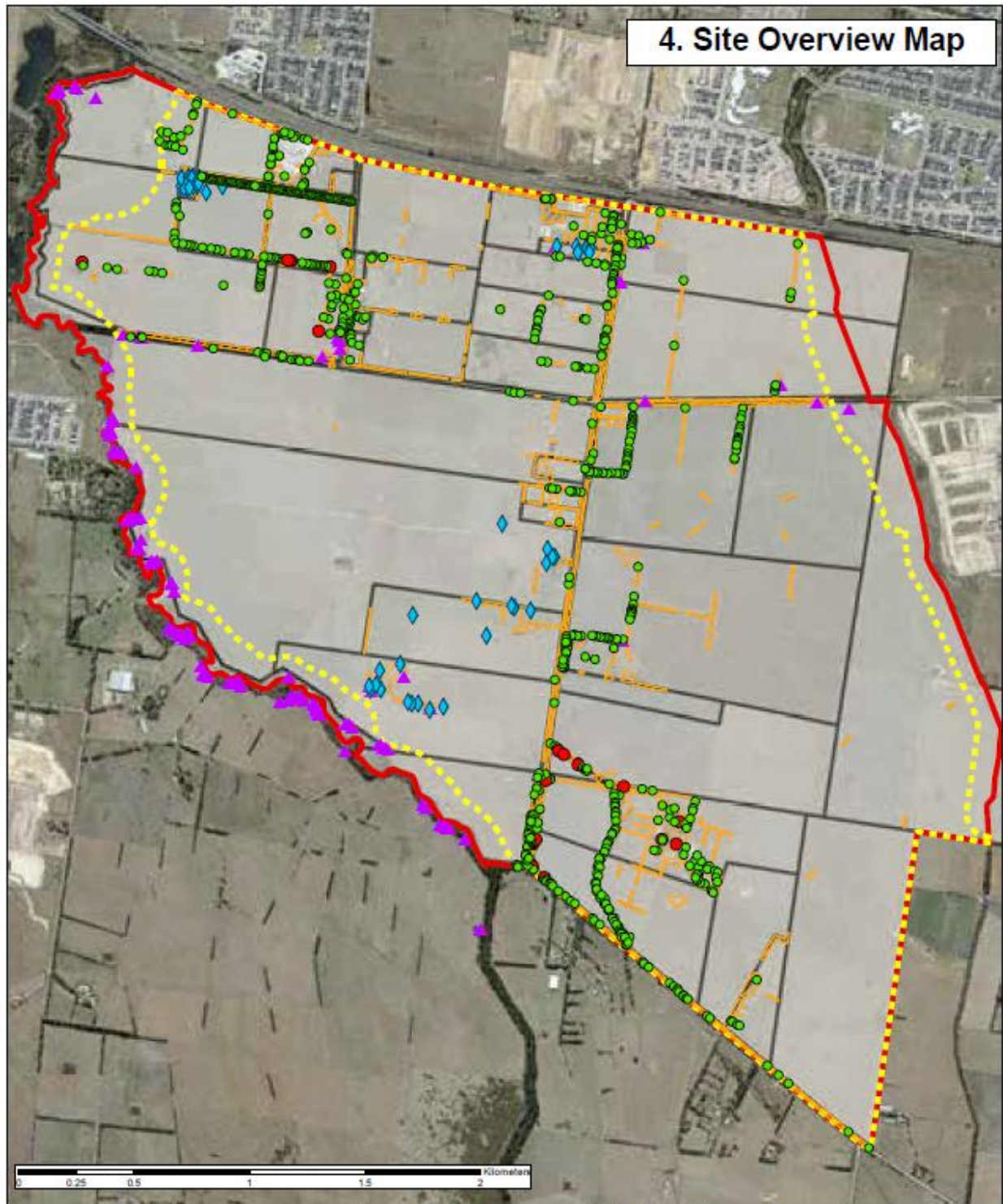
- A total of 10,430 trees were assessed as part of this proposal, with a further 53 inaccessible trees noted as potentially 'High' retention value.
- A 'Visual Tree Assessment' (VTA) was conducted for each tree and was conducted from ground level with no instruments used other than a diameter tape to measure trunk diameter. Any assessments of decay are qualitative only.
- Much of the land consists of open paddocks containing few trees. Most trees within the assessment area have been planted for windbreaks/shelter belts, around residences for amenity and screening purposes, or are located along roadside verges.
- The arboricultural retention values for assessed trees are shown in Table 1 below (table extracted from report).

Table 1 Retention values for assessed trees

| Retention Category | No of Trees |
|--------------------|-------------|
| Very High | 16 |
| High | 699 |
| Medium | 3993 |
| Low | 5722 |
| Total | 10430 |

- 16 'Very High' retention value trees and 699 'High' retention value trees are to be retained and incorporated any new development/design where practical.
- Low retention value trees are not considered a constraint for this site and can be removed.
- Scattered trees as defined by DEECA have also been detailed as high retention value.

Figure 20: Assessment of trees site overview map



Assessment of Trees within the South Officer Employment Precinct

Legend

- High Retention Value Trees
- Very High Retention Value Trees
- Assessment Area Boundary
- ▭ Precinct Boundary
- ▭ Land Parcels
- ▲ MSA Scattered Trees
- ◆ Potential High Retention Trees
- ▨ Low & Medium Retention Tree Groups

Base information supplied by:
Victorian Planning Authority
Plotted: JMB
Coordinate System:
GDA 1994 MGA Zone 55
Date: 24/09/2020



What does this mean for the Officer South Employment PSP?

- The precinct structure plan (PSP) will identify the high value and very high value trees within the precinct features plan.
- The Place-based Plan will consider the location of high valued trees when determining locations for local park, road reserves and other assets which may allow for trees to be retained.
- The PSP may include guidance for subdivision stage for how existing high value trees should be incorporated into development.

Potential future considerations and opportunities

- Consider how the open space network and other assets/public realm can maximise the retention of existing high value trees.
- Consider and plan for roads to be aligned to ensure high retention value trees can be retained, to help contribute to the 30% of tree retention throughout the precinct. If a protected tree is located on a private lot, consider how this tree can bring value to the amenity and public appeal of the development planned for that site.
- Keeping as many trees as possible, and planting more in the precinct, will help offset the environmental impacts of an industrial precinct, will add to property values by means of increased liveability and attractive living and working environment, attracting both future business and residents to the precinct.
- Existing tree windbreaks spell the heritage and farming history of the land, and development should take the opportunity to use their shade and windbreak qualities in future development proposals. This could be by way of tree-lined drives and streets, or screening service areas and large car parking spaces.
- Row-planted tree formations are also a good wayfinding device signifying certain locations in the precinct from a distance and there is opportunity for these to be embraced on view corridors.

Topic

ABORIGINAL CULTURAL HERITAGE IMPACT ASSESSMENT

Technical report

Aboriginal Cultural Heritage Impact Assessment, prepared to develop a broader understanding of the Officer South Employment Precinct (Activity Area) that is present, Archaeology at Tardis Pty Ltd, 07 May 2021

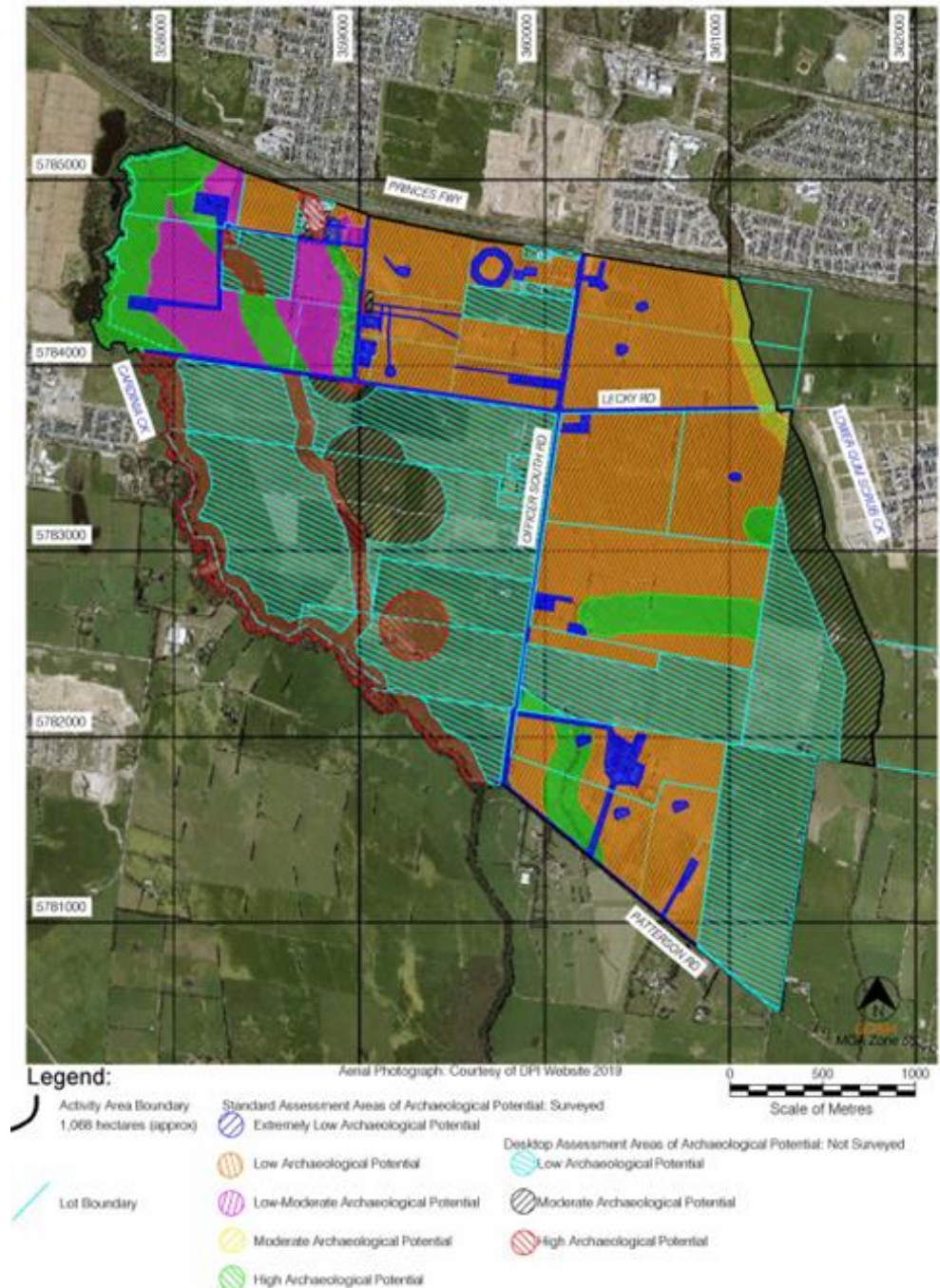
What was the purpose of the report?

- To investigate the known and potential Aboriginal cultural heritage within the activity area.
- To provide preliminary recommendations and advice in terms of statutory obligations, further work, and conservation and management of cultural heritage within the activity area.

What do we know so far?

- There are 14 previously recorded Aboriginal cultural heritage places located within the activity area. There are nine further recorded Aboriginal places within 50 metres of the activity area.
- The highest likelihood of subsurface and surface artefact scatters, shell middens, are in Cardinia Creek (including anabranches). Artefacts are also likely to be located within prominent sandy rises located around waterways. Most recorded places are within, or adjacent to, Cardinia Creek.
- The three recorded places in the activity area, but well outside of Cardinia Creek, are artefact scatters.
- Lower Gum Scrub Creek was subject to redevelopment in the last century and the current alignment is artificial, and therefore there is lower potential for archaeological deposits along this alignment.
- Cardinia Creek was likely the major route for movement travelling north and south between Dandenong Ranges and Koo Wee Rup, with major campsites likely to be adjacent to permanent waterholes.
- The small rise within the south-west of the activity area provided a good vantage point over the immediate area but this location is unlikely to contain a permanent campsite due to the better locations closer to the Cardinia Creek.
- A field survey and Cultural Values Assessment was undertaken with representatives from BLCAC (see below for Aboriginal Cultural Values Assessment technical report).
- Mandatory Cultural Heritage Management Plans will be required within the following locations:
 - Land within 200 metres of Cardinia Creek
 - Land within 200 metres of an unnamed lake and unnamed swam/wetland area, and
 - Land within 50 metres of registered Aboriginal places.
- The assessment concluded that significant ground disturbance has not occurred within these areas.
- The assessment recommended that a 100 metre conservation zone be created from Cardinia Creek that would provide an opportunity to enhance the cultural landscape by revegetation of the area with Indigenous species.

Figure 21: Areas of archaeological potential



What does this mean for Officer South Employment PSP?

- Passive recreation is preferred use within 100 metres of Cardinia Creek while protecting the Aboriginal cultural heritage present in these areas, with other uses to be located outside of this buffer.
- The north-western area of the precinct presents as the potential location for high cultural sensitivity and could be preferred location for open space.

Potential future considerations and opportunities

- Cardinia Creek presents as the key conservation corridor for cultural heritage protection and storytelling within the landscape.
- Cardinia Creek is historically the key movement corridor for the Bunurong people, with a connection to the waterway, this element should be reinforced through the place-based plan and future signage.
- Opportunity for public open space co-located with significant cultural features, such as the historical meeting place on high ground in the southern portion of the precinct, should be considered and celebrated through opportunities for future community awareness activities.

Topic

**ABORIGINAL CULTURAL VALUES
ASSESSMENT**

Technical Report

Aboriginal Cultural Values Assessment, Officer South Employment Precinct, Archaeology at Tardis Pty Ltd, June 2022

What was the purpose of the report?

- To record the Aboriginal cultural values of the Bunurong people in relation to the Officer South Employment PSP project area.

What do we know so far?

- Cultural values can be broadly categorised into the themes of people, place and country.
- The concept of place plays a significant role in understanding Australian Indigenous cultural values and their relationship to Country. Cardinia Creek is a key place within Officer South Employment PSP as it is a prominent feature of cultural significance. Uncle Shane noted that the path of the creek has likely varied significantly at various points throughout time. Uncle Mik and Uncle Shane both identified that the creek was used as an important travel route, for spiritual and ceremonial trade purposes, between Western Port and the Dandenong Ranges.
- Uncle Mik has determined that various Bunurong families and communities would have used and inhabited the activity area over time. While some longer-term campsites/workshop areas were observed (high points in the landscape), the area was likely a communal visitation area primarily used to facilitate movement through the Koo-Wee-Rup Swamp.
- The concept of country was broken down into four sections including, fire, water, vegetation, and significance.
- The Bunurong people used fire and water in several practical outcomes. The concept of vegetation was a crucial aspect to everyday life for the Bunurong people. Officer South Employment PSP has high cultural significance for Bunurong as being an integral travel route and having water sources.

What does this mean for the Officer South Employment PSP?

- BLCAC has suggested that voluntary *Cultural Heritage Management Plans* (CHMPs) should be undertaken at all locations where mandatory CHMPs are not required if a high impact activity, as listed in Division 5 of the *Aboriginal Heritage Regulations 2018*, is undertaken.
- BLCAC has requested that they be consulted during several stages of the development of the PSP. The Bunurong Elders noted that they would like to be consulted regarding the naming of areas and places (roads, estates and so forth) and signage within the PSP.
- BLCAC has requested a 200 metre conservation zone extending from Cardinia Creek, in line with the statutory areas of sensitivity.

Potential future considerations and opportunities

- *Voluntary Cultural Heritage Management Plans* are advised for the whole precinct however there are opportunities to consider how cultural heritage values could be encouraged, strongly represented, and reflect the importance of "journey" throughout this land.

- BLCAC should be consulted throughout the development of the PSP to help inform naming opportunities and informing signage within the public realm and along active networks.
- How the requested 200 metre conservation zone extending from the Cardinia Creek line be implemented in the PSP is still being considered with respect to the protection of intangible values.

Topic**Technical Report****HISTORICAL HERITAGE ASSESSMENT**

Post-Contact Heritage Assessment: Officer South Employment Precinct, prepared to develop a detailed understanding of the places of heritage significance within the Officer South Employment Precinct, Benchmark Heritage Management, 20 September 2020

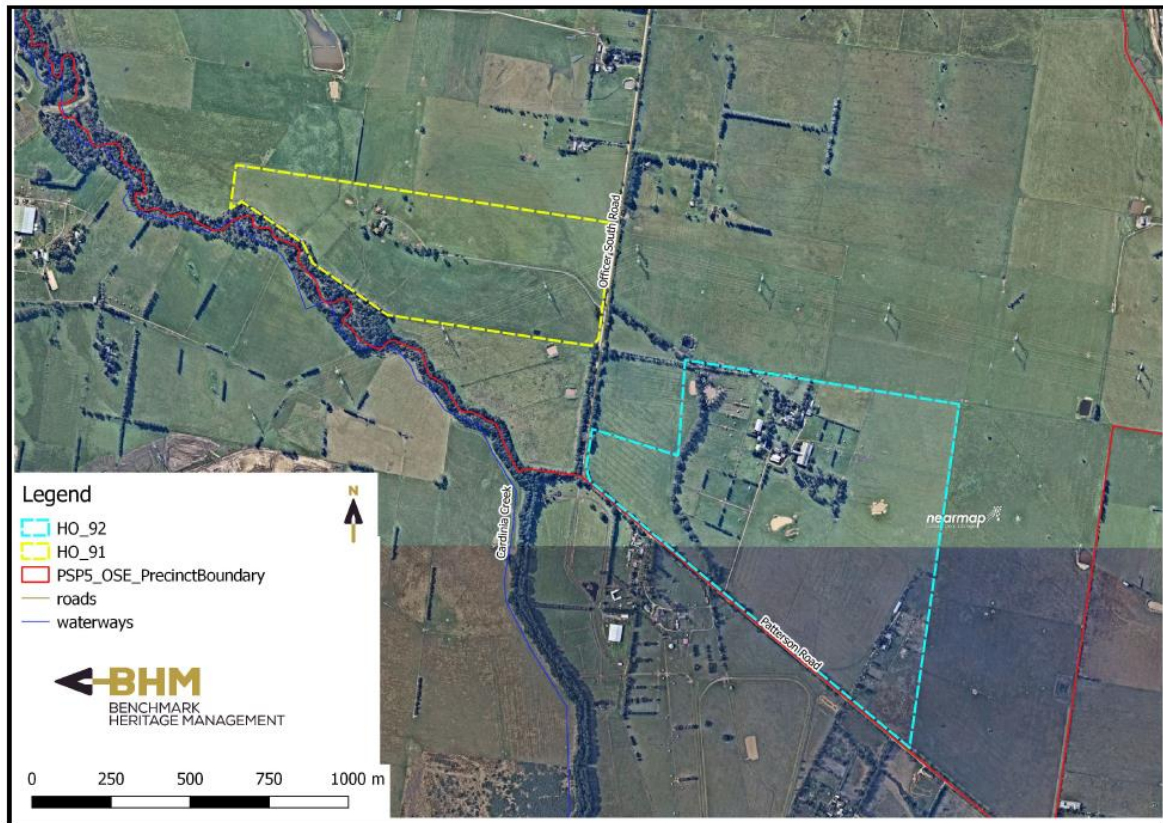
What was the purpose of the report?

- To review existing heritage listings and develop a list of known heritage places.
- To provide a local historical account of the precinct.
- To survey, assess and document places of potential heritage significance that are not protected under statutory measures.
- To review and document known heritage places and features of both local and state significance.

What do we know so far?

- Additional three potential heritage places have been recently recorded from the site survey and further investigation on these places and whether any heritage protection is warranted is being reviewed.
- The precinct contains two existing heritage overlays which are listed as follows:
 - Heritage Overlay (Schedule 91) (HO91) – Cardinia Park, Former Gin Gin Bean Pre-Emptive Right Site and 410 Officer South Road, Officer
 - Heritage Overlay (Schedule 92) (HO92) – Jesmond Dene House, Trees.
- The precinct does not contain any evidence of early (pre-1850) significant historical cultural heritage features or buildings.
- In the unlikely chance that there are any early sites within the precinct, they are likely to be in a highly disturbed state and therefore assessed as being of lower scientific and cultural significance.
- There may be unknown/unregistered sites within the original subdivision allotments, which may comprise of residential and farming activities.
- The Gin Gin Bean Pre-emptive Right site (HO91) is significant to Cardinia Shire as an early house connected with the pioneering pastoral period, as well as being closely related to early farming activities on the property. It is also considered to be the oldest in the Shire.
- Jesmond Dene House (HO92) still has Edwardian origins but has been extensively altered. The picketed gate along Patterson Road is notable and mostly original and considered to be significant to the Cardinia Shire. The house is of local interest only due to its altered state.
- 90 Handford Lane has been added to the Victorian Heritage Inventory as site H7921-0129, as it contains historical archaeological remains including artefact scatters, exotic plantings and building remains. It is known that the land was purchased by James Murray in c.1860s, and the site is likely to contain some archaeological remains dating from this time.

Figure 22: Existing Heritage Overlays



Map 3: Locations of HO91 and HO92

Figure 23: Proposed HO91 curtilage

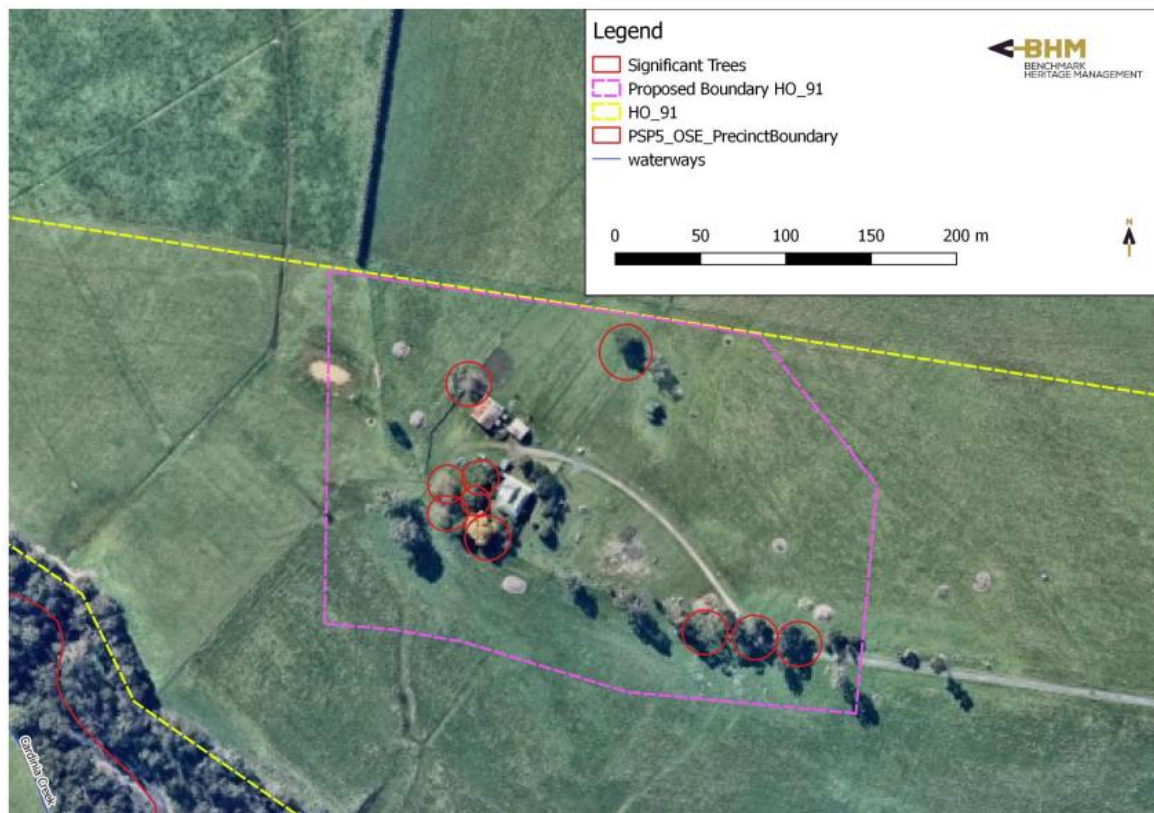


Figure 24: Proposed HO92 curtilage



What does this mean for Officer South Employment PSP?

- The two Heritage Overlay sites situated within the study area will have a reduced curtilage.
- 185 Officer South Road and 345 Officer South Road are not recommended for inclusion into the Heritage Overlay within the Cardinia Shire Planning Scheme.
- 185 Officer South Employment Road prior to demolition should record in detail the contents of the dairy.
- If works are planned that may disturb H7921-0129 (90 Handford Lane Site), contact Heritage Victoria's Archaeology team. Following the archaeological investigation, a Consent to Damage or Disturb will be required to impact the site.

Potential future considerations and opportunities

- There is an opportunity to adapt the Jesmond Dene picketed gates (along Patterson Road) into the public realm, streetscape, or open space to ensure the history of the precinct is publicly valued.
- Future industrial development should provide for adaptive re-use of the Gin Gin Bean Pre-Emptive Right Site and embrace the historical elements as part of that business' public expression. There is an opportunity for the spaces to contribute/form a business public appeal by nature of showroom or exhibition spaces.
- Opportunity exists for treelined carriageways to leverage the significant trees within these properties.

Topic

LAND CAPABILITY ASSESSMENT

Technical Report

Land Capability Assessment: Officer South Employment Precinct Structure Plan, prepared to develop an understanding of the environmental conditions and constraints within the Officer South Employment Precinct, Aurecon, 02 October 2020

Revised assessment to consider updated Environment Protection Authority (EPA) regulations:

- Land Capability Assessment: Officer South Employment Precinct Structure Plan, Aurecon, 14 June 2022

What was the purpose of the report?

- To assess the existing environmental conditions of the precinct.
- To identify areas where issues and constraints may affect the viability of development land in the future.

What do we know so far?

- Localised soft areas within alluvial deposits are likely to exist throughout the precinct and may result in higher construction and maintenance costs for foundations and pavements.
- There is a medium possibility of acid sulfate or dispersive soils, sodic soils present across a large majority of the precinct, and further soil testing was recommended (see Soils Assessment technical report below for testing results).
- Should the presence of dispersive soils or acid sulfate soils be found through further testing, appropriate controls may be required within the PSP and Urban Growth Zone (UGZ) to manage the issue, such as requiring more detailed testing and management plans at development stage.
- The precinct features two significant waterways, a major overland flow path and additional water treatment assets related to water management within the locality.
- The conversion of rural land to urban provides an opportunity to rehabilitate the land and assist the natural water balance to support sustainable development and to integrate water into the precinct's future urban structure in a manner that will facilitate amenity, connectivity, and liveability.
- The Cardinia Creek – Conservation Area 36 is a planned area for the protection of the Growling Grass Frog. Dwarf Galaxia and Australian Grayling are also protected within this waterway (as highlighted in Section 2.1.2).
- Generally, there is a low to medium level of potential contamination of land, with potential contamination arising from historical agricultural activities. The BP service station on Princes Freeway presents a higher risk of general contamination, common for such uses. However, given that this service station is less than ten years old, it is likely that both have been built with fuel infrastructure that meets the modern environmental and engineering standards.

[illegible]

- The findings of this report inform land capability and development generally.
- Presence of sodic soils may result in additional works during construction stages which can increase the cost of development, including the cost of infrastructure.
- Further assessments are likely needed to be undertaken to assess the low potential contamination sites and the surrounding uses.

- Significant waterways and DSS assets within the precinct provide opportunity for valuable amenity throughout the precinct to help offset the environmental impacts of the industries moving into the precinct.
- The location of drainage assets on the transmission easement are no longer supported by AusNet and Council due to management issues.
- The need to determine the presence of dispersive soils on each subject site and the impact this can have on development and infrastructure is critical to the success of future development and to understand cost impacts to standard building practice.

- If the BP Service Station at 94 Princes Freeway were to be redeveloped, it is likely that an environmental audit and environmental audit overlay would be required to ensure that the contamination status of the property does not pose a risk to human health and the environment for the identified future land uses.
- Development and crossings over and near Growling Grass Frog habitat will need to comply with BCS requirements.
- Significant flooding within the precinct will require due consideration of development levels and freeboard levels at concept design stage to ensure a safe future-built environment.
- With residential development earmarked for a portion of the precinct, noise impacts from the freeway and forecasted industry will need to be considered early in the planning phase to maintain a liveable environment for future residents.

Topic

SOILS ASSESSMENT

Technical Report

Officer South Employment PSP – Sodic and Dispersive Soil and Acid Sulfate Soil Investigation (WSP) September 2021

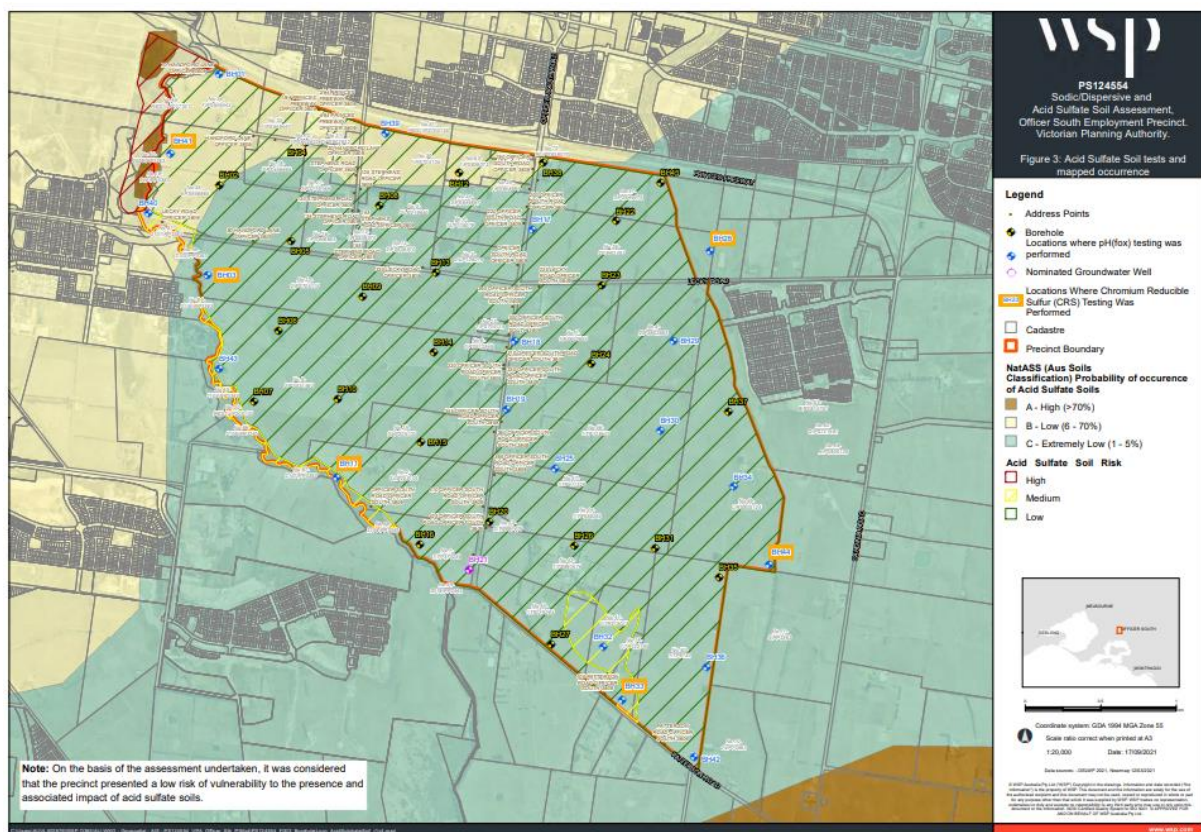
What was the purpose of the report?

- To understand the presence and extent of sodic/dispersive and acid sulfate soils within the precinct to inform the precinct structure planning being undertaken and provide options for their management in a property development context.

What do we know so far?

- It should be assumed that all soils within the precinct are potentially dispersive and strongly to very strongly sodic, unless testing at a higher sampling density is undertaken to prove otherwise.
- As the assessment did not report evidence that acid sulfate soils were present it is considered that the likelihood of encountering acid sulfate soils at the precinct is low.

Figure 26: Acid sulfate soil tests and mapped occurrence



What does this mean for the Officer South Employment PSP?

- The presence of sodic soils means a construction management plan will be required when development occurs.

- In areas where the proposed development is susceptible to dispersion (for example, steep batter slopes), soils may need to be treated using chemical amelioration.
- Areas of potentially dispersive soil which are designed to be in-cut should be designed with surface protection to create separation and protection of the underlying soils from surface and rainwater.
- Any trenching that is required for services should be designed to avoid long runs down slope which could increase the chances of tunnel erosion occurring.
- The transport design and costings investigations will need to consider the impact sodic/dispersive soils has on the proposed infrastructure.

Potential future considerations and opportunities

- It should be noted that the presence and severity of dispersive soils can vary over short distances and so the testing represents the information at the sampling location and depth only.
- Development proposals should consider further localised testing to ensure adequate design and construction measurements are implemented.

Topic

UTILITY AND SERVICE
INFRASTRUCTURE

Technical Report

Officer South Employment PSP Utility Assessment Situational Analysis
Report, GHD, October 2020 (Part 1)

What was the purpose of the Part 1 report?

- To identify any utility services that may have implications for precinct planning.
- To determine key opportunities and constraints relating to the existing utility infrastructure within and servicing the precinct.
- To provide an assessment of stormwater, water, sewerage, electricity, gas, and telecommunications infrastructure to assist the preparation of the Officer South Employment PSP.
- To identify Environmentally Sustainable Design (ESD) opportunities.

What do we know so far?

As part of this assessment, GHD consulted with the following authorities:

- **Electricity** – AusNet Electricity and AusNet Transmission (AusNet)
- **Gas** – APA Group Networks and APA Group Transmission (APA)
- **Sewer** – South East Water (SEW)
- **Stormwater Drainage** – Cardinia Shire Council (CSC) and Melbourne Water Corporation (MW)
- **Telecommunications** – NBN Co, Optus / Uecomm, Opticomm and Telstra
- **Water** – South East Water (SEW)

Stormwater drainage infrastructure and flooding

- There are two development services schemes (DSS) for the precinct – Officer South DSS and Lower Gum Scrub Creek DSS. These DSSs are under development by MW to be completed in parallel with the PSP. A historic draft plan has been prepared by MW, which can inform structure plan options in the early stages and will be revised by MW over the course of developing the PSP.
- MW is responsible for a short length of 1800 mm diameter pipe crossing Lecky Road at the Lecky Road and Officer South Road intersection, and a short length of 1200 mm diameter pipe on Lecky Road on the eastern perimeter of the precinct.
- Council drainage infrastructure within the precinct is predominantly above ground drainage channels (swales) and short stormwater pipes connecting the swales. The council advised appropriate outfall is needed for effective stormwater servicing for future development.
- It is likely that a majority of the precinct is currently subject to shallow sheet flooding, and areas have been mapped as land subject to inundation overlay and flooding overlay. Updated flood modelling from MW will occur through the development of the DSS and the DSS will address any existing areas of flooding within the precinct.
- Flooding impacts on nearby areas outside of the precinct especially south of the precinct will need to be considered by MW.

- The potential retarding and treatment basin in the north-east of the precinct and its implications will need to be considered throughout development of the precinct.
- There is an unmapped tributary in the western portion of the precinct that would have an associated flood extent.
- Opportunity for integrated water management (IWM) and a closed loop, carbon neutral integrated water network, is complementary investment and is supported.

Water

- South East Water (SEW) is the water retailer responsible for the distribution and reticulation infrastructure within the Precinct.
- There are currently limited potable water reticulation assets within the precinct.
- SEW indicated that as part of the current capital works program it is currently not proposed to provide recycled water supply to the industrial and commercial areas of the precinct and there are currently no recycled water assets within the precinct. If recycled water is required, it will be supplied from the future Cranbourne–Clyde–Officer recycled water 80 m zone.
- Raw water is supplied by Pakenham Water Recycling Plant.

Sewerage

- SEW is the authority responsible for the distribution and reticulation sewerage network in the precinct.
- Existing sewer assets are located predominantly along the northern boundary of the precinct and comprises of both gravity pipelines and pressured rising main pipelines parallel to the Princes Freeway.
- The Officer South Road sewer pump station is in the north of the Precinct, to the west of Officer South Road.
- A proposed sewer pump station (to the south), rising main and storage tank are proposed to service the precinct. The preferred design for the major rising main alignment is to be connected to the Ballarto pump station.

Electrical

- The entirety of the Victorian electricity transmission network is owned and operated by AusNet Services.
- Three AusNet overhead transmission lines (two overhead 500 kV lines and an underground 220 kV line) run east–west in the southern portion of the precinct. These transmission assets are located within a 146.30 m wide easement which restricts development and construction.
- The servicing strategy for the precinct is dependent on the available capacity of the existing network and proposed load requirements of the precinct.
- There is limited capacity to support the precinct via the surrounding 22 kV distribution feeders and therefore AusNet indicated two possible scenarios to service the precinct:
 - distribution feeders from the existing Officer Zone Substation (OFR) and/or Clyde Zone Substation (CLN). This scenario involves a second 22 kV switchboard in the OFR zone substation that requires a 3-year lead time.

- a new zone substation requiring approximately 10 000 square metres of land take and a capital expenditure of approximately \$25 million (AUD). This scenario involves new 66 kV double circuit lines along Officer South Road that are generally installed above ground.

Gas

- APA Group owns the gas transmission network and APT O&M services (APA) operates and manages the natural gas reticulation network within the precinct on behalf of Australian Gas Networks.
- There is a 450 mm diameter high pressure transmission gas pipeline that has an associated 20.1m wide easement. There is a measurement length of 240 m either side of the gas pipeline restricting sensitive land uses (this has been superseded by the safety management study).
- A safety management study is required when the land use classification changes within the measurement length.
- There are limited gas distribution assets within the precinct.
- The existing distribution assets will require a 2.0 m clearance from title boundaries and a 3.0 m clearance from building facades, inclusive of verandas and canopies.
- There are development constraints and costs associated with crossing the gas pipeline, such as for the drainage scheme, road crossings, and other assets.
- There are no upgrade plans currently, but it will depend on the commercial and residential growth basis.

Telecommunications

- The precinct is serviced by three telecommunication service providers: Telstra, NBN and Optus. There is a lack of fixed line infrastructure throughout the precinct.
- Telstra assets throughout the precinct currently comprise of pit and pipe infrastructure in Handford Lane, Officer South Road and Stephens Road reserves.
- Optus cables are present on Officer South Road, the west of Lecky Road and along Stephens Road and always requires clear access to its critical fibre asset.
- Telstra may require land for one more mobile phone tower within the precinct, to be assessed during the development phase on a case-by-case basis.
- The telecommunications upgrade plans depend on case-by-case assessment, and the developers will provide pit and pipe upon Telstra request.
- NBN advised that there is no NBN pit and pipe infrastructure in the area available for connection.
- NBN advised that existing trunk within infrastructure within the proposed development at Officer South Employment precinct may require more GSM (Global System for Mobile communication) sites which is a cell tower that provides the 4G and 3G services.

Environmentally sustainable development (ESD)

- Environmentally sustainable development potential options for Employment precincts include:
 - Distributed and renewable energy generation
 - Energy efficient buildings
 - Smart separation and disposal

- Encouraging electric vehicle use
- Integrated water management and WSUD
- Gas free energy servicing.

What does this mean for Officer South Employment PSP?

- The initial part 1 technical investigation proposes a utility servicing strategy, which will help to support and inform the desired future urban structure.
- There are issues associated to the gas and electricity transmission pipeline and there may need to be restrictions on the number of road crossings.
- After the future structure of development has been set out and the development assumptions are known, utility providers will map out the potential placement of utility services to respond to the future redeveloped Officer South Employment precinct.

Potential future considerations and opportunities

- The high-pressure gas and high voltage electricity easements provide an opportunity for direct east–west connectivity through the precinct that can be used for efficient pedestrian movement and commuting.
- The two utility easements connected by the central north–south axis of Officer South Road could be used to create a waste route throughout the precinct for efficient removal of recyclable waste and other precinct-wide sustainability initiatives.
- The high voltage electricity could promote sustainable energy options for employment/business ESD and innovation purposes.
- The easements provide an opportunity for high amenity and exercise corridors for workers and residents.
- The abundance of MW assets throughout makes it an amenity rich employment precinct providing an edge over nearby employment areas, which may be leveraged by future businesses.
- Restrictions on planning for and delivering road and movement crossings over the gas and electrical easements will need to be at the forefront of all development considerations.
- Development must consider the spatial impacts from the APA Gas Pipeline measurement length in terms of the future uses identified under the PSP.
- The DSS provides large volumes of water movement and storage capacity and affords the consideration of next level integrated water management and WSUD outcomes for the precinct.
- Opportunities to co-locate existing and future servicing assets, particularly where buffer requirements are needed and where road crossing should be minimised such as over the gas pipeline should be considered at the onset.
- Opportunity exists for utility services such as fibre to be leveraged to attract future employment uses.

Technical Report

Officer South Employment PSP Utility Servicing Assessment Report, GHD,
June 2022 (Part 2)

What will the Part 2 (Utility Servicing Assessment) report do?

- After the future structure of development has been set out and the development assumptions are known, utility providers will map out the potential placement of utility services to respond to the future redeveloped precinct.
- The PSP will include a utility plan that details the proposed utility servicing provisions and locations that have been set out by the utility providers. This plan is conceptual in form and will evolve throughout the precinct's development stages.

What do we know so far?**Stormwater drainage and flooding**

- Melbourne Water Corporation (MW) is still working on preliminary drainage strategy.
- MW is investigating the existing infrastructure services that might impact the stormwater services.
- MW is investigating the downstream outfall and how the urbanisation upstream outfall will impact the downstream capacity.
- At the time of this study, council advised that no stormwater or flood management/mitigation studies had been undertaken since the previous Situational Analysis Report (Part 1).
- Council advised appropriate outfall is needed for effective stormwater servicing for future development.

Potable water

- SEW advised that an extension of trunk infrastructure into the precinct will be required to service Officer South Employment precinct.

Recycled water

- Recycled water is supplied by Pakenham Water Recycling Plant.
- Officer South Employment precinct is not mandated for recycled water supply and planning does not trigger the requirement for the supply of recycled water to the precinct.
- The proposed plan includes two recycled water storage tanks located outside of the southern boundary of precinct and the size of the outlet pipeline of these tanks are DN750.

Sewer

- SEW has an existing sewer pump station within the precinct (near the Officer Road/Princes Freeway interchange) and associated reticulation to Officer South.
- A proposed 900mm pipeline gravity sewer will transfer flows from Officer North area to the pumping station in the southern area of the precinct.
- The preferred design for the major rising main alignment is to be connected to the Ballarto pump station.

Electrical

- AusNet may need to install a new zone substation, which is a critical piece of infrastructure that converts power from transmission voltage down to distribution voltage before distributing to the wider development.

Gas

- Gas assets are usually located within an easement 7–35 m wide to allow for future pipeline opportunity and maintenance.
- APA Distribution is advised the inclusion of a DN450 TP main within the precinct area that was not cited in the Part 1 report.
- There are no upgrade plans currently, but it will depend on the commercial and residential growth basis.

Telecommunications

- The Officer South Employment area is within the Wireless & Satellite footprint of the NBN network. Currently no NBN fixed line network exists in the identified area. The area currently does not support FTTP or any other form of fixed line technology.
- Telstra has infrastructure on the northern border of the development along the highway which is likely to be impacted.
- The location is a rural area with limited Telstra infrastructure and will currently not support the significant indicative forecast growth.

What does this mean for Officer South Employment PSP?

- The findings of this report will help to address the key challenges that could impact on the effective utility service delivery or the planning for the land use configuration within the precinct.
- The PSP will include a utility plan that details the proposed utility servicing provisions and locations that have been set out by the utility providers.

Potential future considerations and opportunities

- Consideration for how the PSP and/or other implementation mechanisms together can reach higher sustainability targets, such as a closed loop water re-use and a carbon neutral precinct, is recommended and that discussions with relevant agencies occur early in the developments design phase.
- Surveying and detailed analysis of the high-pressure gas mains prior to any development works is critical to the success of planned development.
- Recycled water is planned only for the residential areas of the precinct; therefore businesses and industry would need to contact SEW direct to facilitate further reticulation of this service which is considered possible by SEW.

Topic**COMMUNITY INFRASTRUCTURE
ASSESSMENT****Technical Report**

Officer South Employment Precinct Structure Plan Community Infrastructure Assessment, Prepared by ASR Research, 13 December 2022

What was the purpose of the report?

- To assist with the process of assessing existing and planned community infrastructure provision and determining what the future community need would be.
- To assess how the preparation of the Officer South Employment PSP may help to address any documented community infrastructure shortfalls in the Cardinia Road Employment Precinct (CREP).
- To review and assess the implications of existing PSP Guidelines, State and Local Government policies, strategies and plans on community infrastructure requirements in the Officer South Employment PSP and CREP.
- To document the supply and proximity of existing and planned community infrastructure within both the Primary, Secondary and Tertiary Study Areas.
- To calculate the likely community infrastructure demands generated by all Study Areas using various service provision and demand benchmarks.
- To engage with Local and State Government agencies and other relevant service providers to confirm provision needs and measures associated with the preparation of the Officer South Employment PSP.
- To provide a preliminary list of community infrastructure items that should be identified by the Officer South Employment PSP.

What do we know so far?

- Officer South Employment will require the following community infrastructure items, as identified within the report:
 - Level 2 community facility
 - One government primary school
 - One non-government primary school
 - One state government health facility
- Officer South Employment will generate a need to service its own demands for unencumbered passive open space and active open space as well as offset shortfalls of active open space from the Cardinia Road Employment Precinct.

What does this mean for the Officer South Employment PSP?

- Officer South Employment will incorporate the above community infrastructure items within the precinct infrastructure plan and as required the place-based plan.
- The above items may need to be included within the Officer South Employment Infrastructure Contributions Plan.

- Officer South Employment will help to cater for numerous shortfalls identified in CREP.

Potential future considerations and opportunities

- There is an opportunity for residential aged care facilities, university or TAFE provider to be located within the precinct given its overall density and proximity to employment.
- There is potential for Cardinia Shire Council to encourage the Department of Transport and Planning to include a one or two court indoor stadium to be within the government school grounds.

Topic**ECONOMIC ASSESSMENT****Technical Report**

Officer South Employment PSP Economic Assessment, SGS Economics, 21 December 2022

What was the purpose of the report?

- To undertake economic forecasts for the region and precinct to understand the mix of employment generating land uses that could be expected to locate within the PSP area.
- To undertake a suitability assessment for the land itself, measuring its relative strengths and weaknesses for a range of industry types.
- To integrate these uses within a land use configuration plan, with a focus for ensuring that business formation and employment generating opportunities are maximised in the precinct.

What do we know so far?

- The Officer South Employment PSP comprises 37 land parcels, with an average parcel size of 28 hectares.
- The Officer South Employment PSP is split between land designated as Regionally Significant Commercial Area (RSCA) and State Significant Industrial Precinct (SSIP).
- 16 land suitability criteria were mapped across the precinct to identify developable land and the preferred locations of five land use types.
- The employment and land demand assessment identified a potential for approximately 21,500 jobs by full development in 2061.
- There is a forecast demand for around 540 hectares NDA of industrial land based on both the land consumption and employment forecasting analysis.
- Industrial land use requirements were split between light (75 hectares NDA), freight and logistics (318 hectares NDA), heavy (88 hectares NDA), office (five hectares NDA), local services (17 hectares NDA), institutional anchors (30 hectares NDA), retail (four hectares NDA) and bulky goods retail (four hectares). In addition, analysis of other heavy industrial precincts identified that these heavy industry functions were typically dispersed with other lighter industrial uses. This suggested up to three times the required land was needed to address this (264 hectares NDA).
- There is a forecast demand for around 160 hectares NDA of commercial land outside the SSIP area. This includes offices, local service needs, institutions (that is hospitals) and land associated with a town centre.
- The activity centre needs assessment identified a need for a local town centre of between 1.5 and six hectares depending on the size and population of the residential component.

What does this mean for the Officer South Employment PSP?

- The place-based plan must try to provide for the industrial and commercial land forecasted consumption rates.
- Provide appropriate land use zones to ensure that preferred uses are allowable and align with the Melbourne Industrial Commercial Land Use Plan.

- Preserve larger lots for key industrial precincts to support long term growth potential.
- The Place-based Plan must provide for a local town centre that meets the proposed size and population of the Officer South Employment residential area.

Potential future considerations and opportunities

- There is opportunity to advocate and promote attraction for major tertiary institution to help catalyst employment and advanced industries outcomes and development.
- Advocate for delivery of future potential south-east airport to provide greater opportunity and access to national/global markets.
- Advocate for potential early delivery of Thompsons Road extension to provide strong connection to Southern SSIP.

Topic**SAFETY MANAGEMENT STUDY****Technical Report**

Officer South Employment PSP, AS 2885.6 Safety Management Study Workshop & Report, Delphi Risk Management Consulting, 6 July 2022

What was the purpose of the report?

- To focus on eliminating threats to pipeline integrity from location-specific and non-location-specific activities, present and future, and conditions foreseeable, including likely land use, during the pipeline operational phase.
- Where failures are assessed as possible after the application of control measures, risk assessment is undertaken for the relevant threat, and it must be demonstrated that the risks are 'as low as reasonably practicable'.

What do we know so far?

- The Transmission Pipeline Gas, Pipeline License 50, would be considered a "no rupture" pipeline. It was found to have a credible consequence distance (4.7kW/m² radiation contour) of 50m from an ignited leak.
- The proposed development land use within the pipeline Measurement Length (ML, 240 m) includes both industrial and business land use but no proposed "Sensitive" land uses, therefore, under Australian Standard 2885 a Secondary Location Class of "Industrial" will be added to the existing Location Classes applied to the affected pipeline in the PSP.
- Due to the pipeline being "no rupture" and the land use being mostly industrial with some business use, there were no Intermediate risks identified and thus no need for any further *As Low As Reasonably Practicable* (ALARP) assessments.
- The assessment considered 48 threats within the project boundary.

What does this mean for the Officer South Employment PSP?

- The safety management study (SMS) concluded seventeen actions to be closed out by VPA, APA, APA Networks, MW, Cardinia Shire Council and developers.
- The VPA will incorporate SMS requirements and guidelines into the PSP and associated planning ordinances.
- VPA will update the Place-based Plan and associate plans to show the area of consequence for the high-pressure gas transmission pipeline.

Potential future considerations and opportunities

- Continued liaison between Cardinia Shire Council, APA and APA Networks should ensure that the construction and post construction activities pose no significant increase in the operational and maintenance risk to the transmission pipeline and associated facilities effected by the PSP.
- There is opportunity for the gas easement to establish a key east-west green corridor can be utilised by workers and residents as daily exercise route by installing exercise equipment along its length. Other routes throughout the precinct such as the creek corridors and the electricity easement could contribute to a round route experience.

- There could be opportunity within the existing 20.1 m easement to implement council's ambition for sustainability via solar panelled sections to generate energy to service public realm lighting and other associated use.

Topic**BUSHFIRE ASSESSMENT****Technical Report**

Bushfire Development Report for Officer South Employment Precinct, Terramatrix, June 2022

What was the purpose of the report?

- To assess the bushfire risk to the precinct and its suitability for development.
- To identify mechanisms to mitigate the bushfire risk to an acceptable level.

What do we know so far?

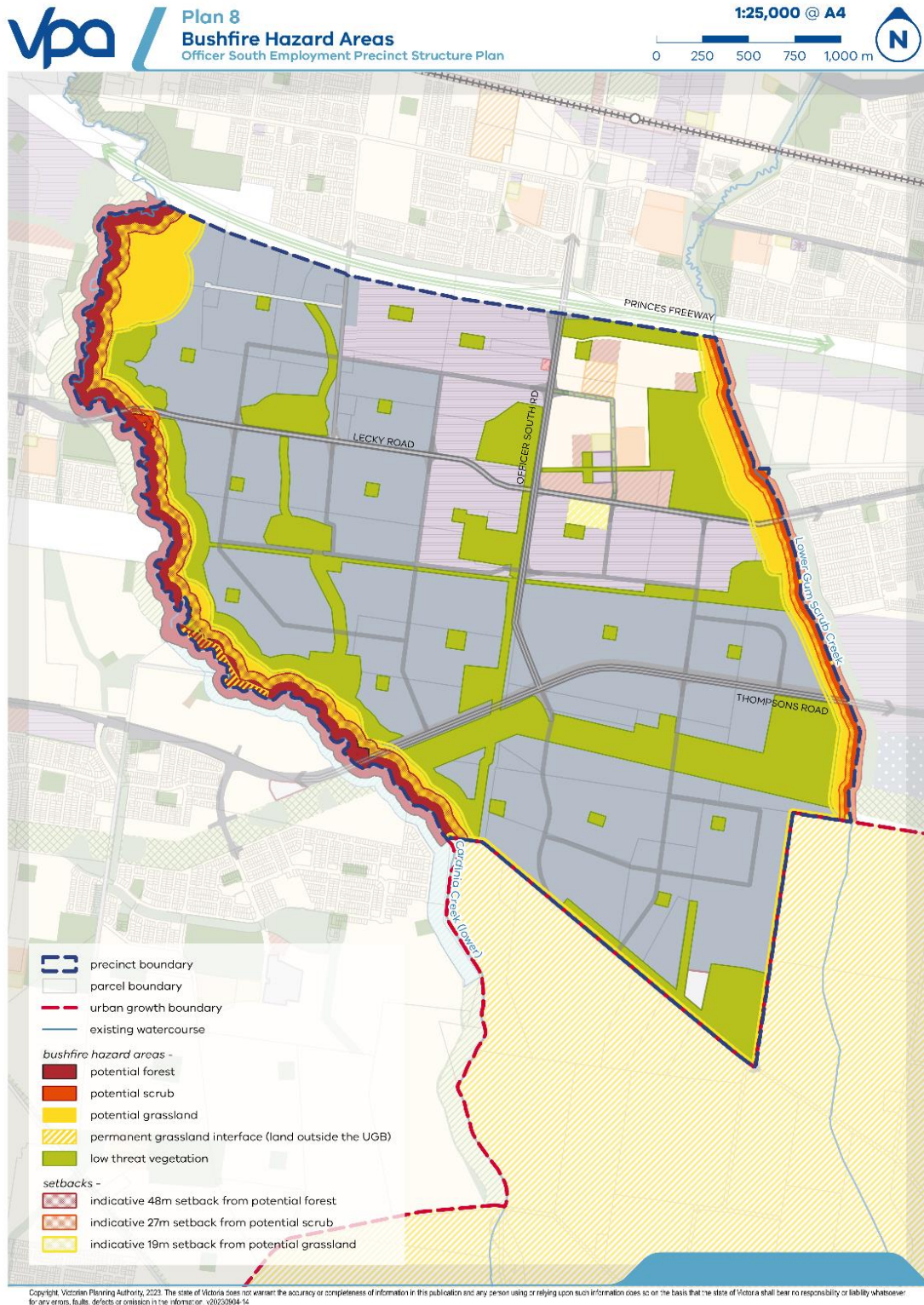
- Officer South Employment precinct area is in a relatively low bushfire risk landscape.
- The surrounding landscape is dominated by flat or almost flat land that will not exacerbate fire behaviour.
- No part of the study area or the land for over two kilometres around it is affected by the Bushfire Management Overlay (BMO).
- Once developed with reliably low threat and non-vegetated areas, most of the precinct will meet the criteria for future excision from the Bushfire Prone Area (BPA), creating a large area safe from bushfire attack for existing and future residents.
- In most cases, the proposed conservation reserves will provide enough separation distance to ensure development is not exposed to Radiant Heat Flux (RHF) above 12.5 kW/m²; this assumes, however, that a minimum 19 m perimeter road is provided between the conservation reserves and development, to ensure separation from any Grassland hazard in the reserves and, in places, supplement the higher hazard Forest or Scrub setback distances.
- There are no apparent biodiversity impacts associated with the findings of this bushfire assessment.

What does this mean for the Officer South Employment PSP?

- Interface areas where development setbacks will be required include:
 - between unmanaged vegetation in the conservation areas alongside the Cardinia and Lower Gum Scrub Creeks and the development adjacent to them
 - the Urban Growth Boundary along the southern and south-eastern edge of the precinct, which interfaces with the permanent grassland hazard; and
 - development abutting potentially hazardous drainage reserves and Water Sensitive Urban Design features.
- Layout and subdivision design that implements the setbacks will ensure that no BAL construction standard will result that is higher than the maximum BAL-12.5 outcome stipulated in the settlement planning strategies of Clause 13.02-1S. Note that the only land use areas anticipated to contain buildings of a class that would require a BAL, are those designated residential, and the two areas identified for potential schools.

- Service lanes or roads separating the Princes Freeway and development within the precinct should also be considered, as vegetation within the freeway reserve may pose a hazard which could be ignited by accident or other ignition source and threaten any abutting development.

Figure 27: Bushfire indicative development setbacks



Potential future considerations and opportunities

- It is important for future development within proximity of the current buffers to consider the proposed plant species within proposed plans to ensure no impacts to the current buffers.
- There are opportunities for future developments to achieve acceptable bushfire safety, if the measures identified in this report are implemented.

Topic**INTEGRATED WATER MANAGEMENT****Technical Report**

Officer South Employment Precinct – Integrated Water Management Strategy – Spiire – March 2023

What was the purpose of the report?

- To understand the existing conditions at the site and the broader context of the region.
- To identify and consult with stakeholders in the region to understand the local needs of the community and environment.
- To identify a shared vision and objectives for integrated water management (IWM) in the precinct.
- To identify meaningful IWM initiatives that meet this vision for inclusion into the PSP in collaboration with stakeholders.
- To undertake modelling and analysis to validate the feasibility of identified IWM initiatives such that the range of options can be narrowed down by the stakeholders to two main options.
- To prepare an estimate of cost on which each of the IWM options can be compared.
- To develop an integrated water management strategy based on the selected options.

What do we know so far?

- There are three identified catchments within the Officer South Employment PSP.
- Cardinia Creek is a priority reach under MW's *Healthy Waterways Strategy 2018*.
- The VPA need to cater for a range of current and future conditions, it became evident that the options fell into two scenarios: Good Practice IWM and Leading Edge IWM.
- The Good Practice IWM scenario includes three options: passive irrigation and infiltration, rainwater tanks and stormwater harvesting.
- The Leading Edge IWM scenario includes three options: regional rainwater tanks, stormwater to potable and closed loop system.
- The Good Practice option does not effectively meet the Healthy Waterway Strategy targets and is quite expensive. However, combined with the Leading Edge scenario, the cost against benefit illustrates the options are feasible.

What does this mean for the Officer South Employment PSP?

- The VPA will consider how to best include the IWM two scenarios (Good Practice IWM and Leading Edge IWM) within the PSP or planning ordinances.
- The IWM assessment will help to develop and refine IWM objectives, requirements, and guidelines within the PSP.

Potential future considerations and opportunities

- There are opportunities for cost sharing and governance arrangements between all stakeholders.

- Further investigation or feasibility studies to understand in better detail the full range of benefits and costs of other leading IWM scenarios would be beneficial, such as the viability of the marine outfall disposal option via the eastern treatment plant.

Topic**INTEGRATED TRANSPORT ASSESSMENT****Technical Report**

Officer South Employment Precinct Structure Plan Integrated Transport Assessment, Ratio, 20 December 2022

What was the purpose of the report?

- To assess the proposed walking, cycling, public transport and road networks that have been identified in the Officer South Employment PSP.

What do we know so far?

- Officer South Road is envisaged to connect to the Princes Freeway via a fully directional diamond interchange. Officer South Road and Thompsons Road are envisioned to ultimately be 6 lane arterial roads whilst Grices Road/Lecky Road is envisioned to be ultimately a 4 lane arterial road.
- The precinct includes the provision for a series of on and off road bike paths, bus capable roads, and crossing opportunities for pedestrians at signalised intersections and pedestrian bridges. Footpaths will also be provided on both sides.
- Benchmark road cross sections are applied to PSPs in greenfield areas.
- The road network has been developed pursuant to the Victoria Planning Provisions and in accordance with Department of Transport and Planning and Growth Area planning principles.
- A suite of signalised designs for the arterial intersections will be used within the PSP process.
- A first principles traffic generation review was completed to inform the appropriateness of the PSP road network and associated ICP items.

What does this mean for the Officer South Employment PSP?

- The walking, cycling, public transport routes will be shown on the necessary plans.
- Four intersections were assessed to determine if departures from the ICP Benchmark and VicRoads Intersection design was required. It was determined that one out of the four intersections would need departure from the Benchmark Infrastructure Costings and VicRoads' intersection design. These designs will be provided to the VPA's transport costings and design consultant to use in their assessment.

Potential future considerations and opportunities

- As development occurs over time, there is the chance of current assumptions changing due to the evolving nature of land development and standards. It will be necessary in future to assess intersections to ensure they do not depart from the Benchmark ICP and VicRoads Intersection Layouts as per current provisions, and if any connector roads within the Officer South Employment PSP should be removed or added to.
- Currently all connector and arterial roads are bus capable to provide a dedicated bus route within the precinct, connecting to the Officer Train Station. As this is delivered by the state and may include long timeframes, opportunity exists for the implementation of an automated interim private shuttle service that connects with the well-integrated cycling and active transport modes available in the precinct as an efficient alternative.

Topic**TRANSPORT MODELLING****Technical Report**

Officer South Employment PSP – Transport Modelling Assessment Final Report, GHD, 07 November 2022

What was the purpose of the report?

- Establish a base line of existing traffic conditions in the Officer South Employment Precinct and surrounding South East growth corridor precincts.
- Develop a model to test traffic conditions in the Officer South Employment Precinct based on the forecasted future surrounding context and population and employment assumptions at full development of the precinct.
- Generate traffic forecast outputs that can be used to inform transport infrastructure provision in the Officer South Employment precinct.

What do we know so far?

- The Victorian Integrated Transport Model (VITM) is a tool developed by the Department of Transport and Planning to assist in the planning of road and public transport infrastructure for Victoria.
- There are limitations to the application of VITM in the assessment of transport scenarios. However VITM is still a useful tool to evaluate future traffic conditions.
- Thompsons Road is forecast to carry a significant amount of traffic east of Berwick Cranbourne Road due to its future extension and widening, thus relieving some of the pressure from Princess Freeway.
- In addition to Thompsons Road, Officer South Road would carry most of the traffic through the precinct in a north–south direction. Grices Road is also forecast to carry a significant amount of traffic in Officer South Employment, with local traffic commuting to and from the neighbourhood activity centre and commercial areas.
- Traffic volumes on connector roads in Officer South Employment would generally be low, with the highest being 1,000 vehicles per two hours. This is well within the proposed road capacity.
- As in the 2018 Base model, Princes Freeway would still carry most of the traffic through the study area.
- The peak direction of travel would generally be westbound or northbound during AM peak and eastbound or southbound during PM peak. However, the peak direction would be reverse on Thompsons Road and Grices Road west of Officer South Employment as most traffic would be attracted to the employment precinct.

What does this mean for the Officer South Employment PSP?

- The planned road network would need to be able to support the forecasted vehicle volume as outlined in this report.

Potential future considerations and opportunities

- There is potential for Thompsons Road to be delivered at an earlier stage to unlock industrial land early and promote freight movement in the south-eastern corridor.
- As traffic modelling is based on assumptions at a point in time, there is opportunity for closer analysis to be conducted at the time of the development proposal to better understand the rate of change at that time.



**Officer South Employment
Precinct Structure Plan
Background Report**

December 2023