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Knox City Council

Draft Green Areas & Rural Strategy (GARS)

A plan for Knox Green Wedge land and Green Corridors

Draft for Consultation – October 2021

Document Register					
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Acknowledgement of the Traditional Owners

Knox City Council acknowledges the traditional custodians of the City of Knox, the Wurundjeri and Bunurong people of the Kulin Nation.

Contributors

This document has been written by officers of the Knox City Council and is informed by a number of background technical reports. Knox City Council acknowledges the contribution of the following consultants to the background reports:

Hansen Partnership, Urban Enterprise, Context, RMCG, Ecology and Infrastructure International (EII), Urban Ecology in Action and EcoAerial.

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Executive Summary

The Knox Green Areas and Rural Strategy (GARS) has been prepared by Knox City Council (KCC). It provides a strategic planning framework for precincts along the municipal boundaries that contain some of the most important bushland, green wedge, open space and rural landscapes in Knox. The strategy guides the future of the precincts by identifying their key values and providing direction on how to protect these values. It also aims to proactively attend to the existing and emerging challenges while realising future potential.

The strategy identifies significant ecological values in the Study Area due to the existing waterways – the Dandenong Creek and its tributaries – and significant areas of native vegetation. The GARS precincts are home to a variety of wildlife species including endangered ones. Some of the open space and rural areas, even those with dispersed or no vegetation, provide essential buffers, movement opportunities and stepping stones that facilitate wildlife connectivity. Vast floodplains in the creek valleys complement these ecological systems while playing a key role in stormwater management and the prevention of flooding downstream in the urban area.

The strategy also details the Study Area's social contributions, including its important role in providing parkland, leisure and nature-based recreation opportunities for the Knox community as well as the broader regional catchment. In the coming years as the urban settlement densifies to cater for a growing population, enhancements to the open space areas and improved access to these opportunities will be essential, to ensure the health and wellbeing needs of the community are met.

The Study Area includes some of the most significant scenic landscapes in Knox, featuring rolling hills, open pastoral valleys and long range views to the Dandenong foothills. These landscapes define the edges of the urban boundary and are highly valued by the community as unique places providing a sense of belonging and attachment.

The challenges of climate change further highlight the important role of these precincts. Considering more extreme weather events are predicted, the strategy places its key focus on protecting the floodplains, avoiding development intensification in bushfire prone areas, and maintaining vegetation cover to prevent the urban heat island effect. In addition, the strategy puts forward ideas for sustainable approaches to design, infrastructure and economic practices, and supports carbon capture and renewable energy production in identified areas.

Protecting identified environmental and social values from incremental changes will be a key challenge in the coming years. The underlying land use and economy will play a critical role in protecting these values. The Study Area provides for a range of rural living,

agriculture, food production and rural industries in proximity to the urban area. The strategy seeks to promote a healthy and thriving rural economy that supports land use and activities that complement and sustain the environmental and social values, and enhance these values where possible. Once implemented, the strategy will provide KCC with a tool that can assist in influencing future outcomes, in particular at planning decision making.

Considering their diverse characteristics, a vision is provided for each precinct. The vision is supported by objectives and strategies under three themes: Ecology, Landscape & Heritage and Land Use & Access. The theme-based objectives are as follows:

Ecology:

- To protect and enhance biodiversity and wildlife connectivity
- To protect and increase tree and vegetation canopy cover
- To improve waterway health and flood management

Landscape & Heritage:

- To protect and enhance local character and landscape values
- To recognise, protect and promote existing heritage

Land Use & Access

- To recognise and protect the values of Knox Green Wedges
- To ensure land uses are located and managed to be consistent with the values and functions of the Study Area
- To facilitate connectivity and safe movement for all users

The above objectives are supported by a set of strategies that are then translated into more detailed and measurable actions. Some of the actions apply to the entire Study Area, while the others are precinct-based. Selected key actions of the strategy relate to:

- Protecting the Urban Growth Boundary in the Study Area
- Prioritising vegetation and habitat protection and enhancing wildlife corridors
- Better defining and protecting the landscape qualities and local character
- Undertaking further heritage investigation
- Protecting capable agricultural land from inappropriate development and use
- Enhancing shared path connectivity
- Improving community access to recreational opportunities
- Identifying opportunities for tourism, open space, leisure and community uses
- Protecting floodplains and bushfire prone areas from intense development
- Updates to the Knox Planning Scheme to reflect this strategy.

The strategy is accompanied by an Implementation Plan.

INTRODUCTION

The Knox Green Areas and Rural Strategy (the Strategy) provides objectives and strategic directions for precincts in Knox that are of high environmental and landscape significance. The Study Area contains areas on the edge of Metropolitan Melbourne as well as significant corridors of open space and rural land that accommodate significant conservation, resources, open space, recreation and other public functions.

As a land use planning strategy, a key purpose of this document is to inform the planning framework, including the Knox Planning Scheme (the Scheme), and guide future decision making. In addition, the project provides non-statutory recommendations in the fields of environmental management, parks and recreation, utility services, land management and community partnerships, where appropriate.

Study Area

The Study Area, as indicated in **Figure 1**, has been divided into the following precincts based on location, landscape characteristics and existing planning controls:

- Precinct 1:** The Basin Rural Landscape
- Precinct 2a:** Lysterfield Valley and Hills
- Precinct 2b:** Lysterfield Quarries and Surrounds
- Precinct 3:** Dandenong Creek Valley
- Precinct 3a:** Tirhatuan Wetlands
- Precinct 4:** Healesville Freeway Reservation and Surrounds

Outside the Study Area (see discussion in the following section):

- * Rowville Lakes Golf Course (Tirhatuan Golf Course)
- † Waverley Golf Course

The Study Area comprises land outside the Urban Growth Boundary (UGB) in The Basin to the north east of the municipality, and in Lysterfield to the south east, which provide a transition between suburban areas in Knox and the Dandenong Foothills to the east. The Study Area also includes rural, parkland and conservation land in the Dandenong Creek Valley to the west of Knox, as well as the area reserved for the proposed Healesville Freeway extension to the north-west of the municipality.

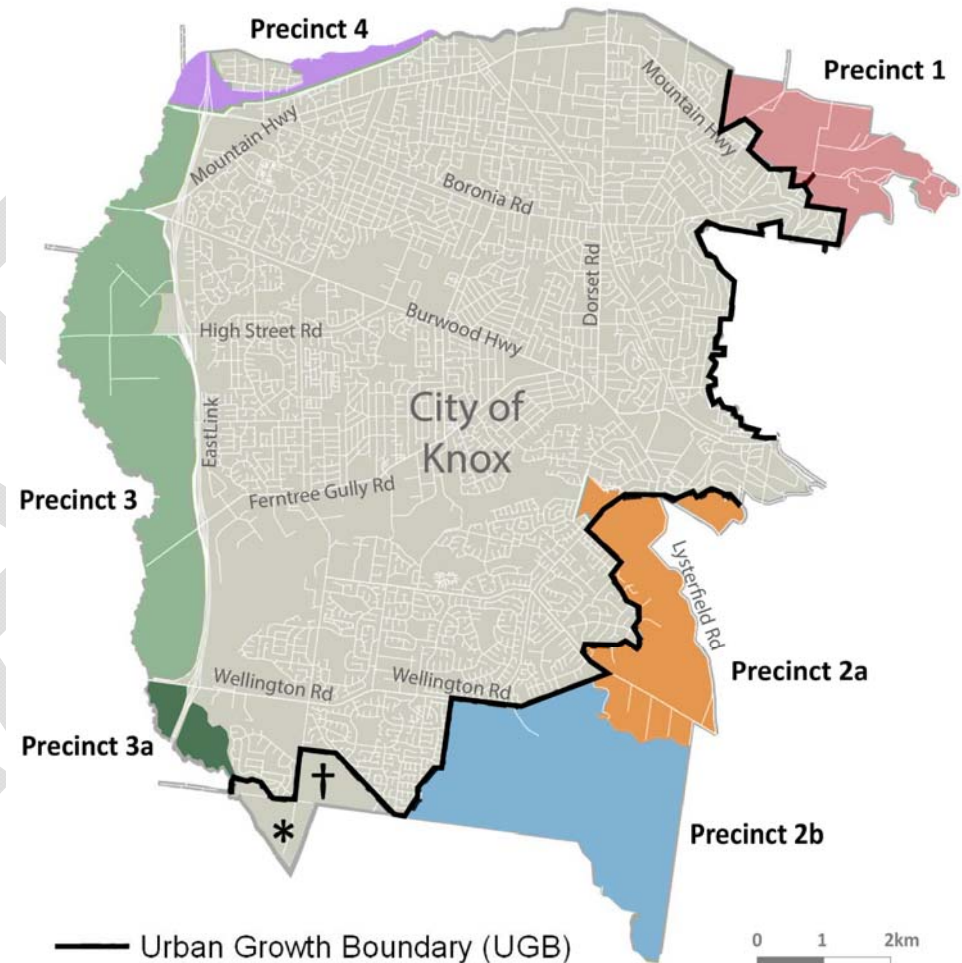


Figure 1 - Study Area

Precinct 1: The Basin Rural Landscape

Precinct 1 - The Basin Rural Landscape is 383ha in size and is located in the north-eastern corner of the Knox municipality. The precinct abuts the Dandenong Ranges National Park (DRNP) and Doongalla State Forest and contains significant native vegetation. It also includes sections of the Dandenong Creek and Dobsons Creek.

The precinct is characterised by large allotment sizes and provides attractive rural amenity, including idyllic views of Mount Corhanwarrabul. The floodplains of Dobsons Creek provide for agricultural activities while the eastern part of the precinct rises up to the Sassafras Forest, and contains privately owned rural residential properties scattered amongst native vegetation. A number of mixed grazing properties including sheep, goats, alpacas and horse agistment are present, ranging from semi-commercial in scale to hobby farming. The precinct also includes public parklands and popular access routes to the DRNP which provides significant recreational opportunities for the local and broader community.

Precinct 2a: Lysterfield Valley and Hills

The Lysterfield Valley and Hills Precinct (Precinct 2a) is almost 500ha in area and provides an important rural green wedge between the suburban areas of Rowville and the Ferntree Gully-Belgrave ridge of the Dandenongs. Located around the Monbulk Creek Valley, the precinct is characterised by a noticeable land use transition from suburb to pastoral and agricultural open landscapes. The primary land uses within this precinct are agricultural, with grazing currently dominating, along with hobby farming, horse agistment and larger lifestyle residential allotments. A number of horticultural businesses are present along Lysterfield Road, including production of Brussel sprouts and nursery plants.

Excellent views across the landscape are available from Glenfern Road and Lysterfield Road highlighting the visual transition between the metropolitan fringes and the forested slopes of the Dandenong Ranges.

Precinct 2b: Lysterfield Quarries and Surrounds

The Lysterfield Quarries and Surrounds Precinct (Precinct 2b) is approximately 877ha in area. Predominant features of Precinct 2b are the Boral and Hanson Quarries, the ridge top and slopes of the Lysterfield Hills and Lysterfield Park, with the backdrop of Churchill National Park to the south.

The precinct contains parts of Lysterfield Park including sloped areas of forest and woodland which are of environmental significance and are used by the community for a variety of recreational activities include walking, cycling, picnic, horse riding, mountain biking and orienteering.

The two quarries contain reserves of hard rock comprising granodiorite and hornfels which are extracted and processed on site. Quarrying activity comprises extracting rock and transporting it to an onsite crushing plant, then stockpiling the processed stone for sale. The quarry supplies markets in the surrounding southern and eastern suburbs and the CBD with high quality construction materials for use in the concrete and road construction industries.

Precinct 3: The Dandenong Creek Valley

The Dandenong Creek Valley is the largest precinct (975ha) and incorporates the land corridor between EastLink and the Dandenong Creek extending 10km along the Creek. This area accommodates large tracts of cleared farmland, semi-rural land, bushland, parklands and developed sporting facilities. It also includes large private properties designated for future public acquisition. Dandenong Creek runs along the Precinct's western boundary, which also serves as the boundary between Knox and the neighbouring municipalities of Whitehorse and Monash.

There is a high level of public land ownership in this precinct, with Parks Victoria and Melbourne Water responsible for a relatively large amount of this precinct due to its proximity to Dandenong Creek. Almost two-thirds of the Dandenong Creek Valley comprises waterways, public open space including sports fields, walking and cycling trails and water treatment facilities.

Precinct 3a: Tirhatuan Wetlands

This area consists of two large allotments south of Wellington Road generally between the Dandenong Creek and Corhanwarrabul Creek. The area accommodates the Tirhatuan wetlands that provide a key stormwater retention and treatment function while accommodating significant vegetation, habitat and wildlife linkages. These allotments are designated as Public Use Zone (PUZ1) in the Knox Planning Scheme and are managed by Melbourne Water.

No changes are expected to the use and function of this area over the life of this Strategy, with key priority being stormwater management and environmental protection. Considering the public zoning and ownership in this area, this area is not threatened by change and this Strategy has not included it in the detailed analysis provided for Precinct 3. However, the overarching objectives and strategies, in particular those pertaining to ecological and landscape values of the Dandenong Creek corridor in Precinct 3 are extendable to this area.

Precinct 4: Healesville Freeway Reservation and Surrounds

The Healesville Freeway Reservation and Surrounds (Precinct 4) is the smallest of the GARS precincts at 127.5ha. Originally reserved for the 'Healesville Freeway' in 1969, the reservation east of EastLink has been retained for possible future road construction. Much of the Healesville Freeway Reservation has been cleared and is used for a number of purposes including horse agistment, livestock properties, sports fields, nurseries and community gardens. The area is highly urbanised, surrounded by residential development and industrial estates.

The precinct adjoins the south side of Dandenong Creek and KCC's boundary with the City of Maroondah. Land is low lying and prone to flood.

Out of scope: Waverley and Rowville Lakes Golf Courses

The two golf courses (indicted on Figure 1) are located at the southernmost area of Knox, outside the Urban Growth Boundary, and form part of Knox Green Wedge land. However, they are not included in the Study Area for the purpose of this Strategy. This exclusion is due to the fact that the future direction for these sites is different from Council's vision for other areas of Green Wedge land in Knox.

Waverley Golf Club (and adjoining sites on Stud Road) are identified as a strategic investigation site by the Knox Housing Strategy (KHS). The KHS provides support for future rezoning of this site, subject to a successful application to the State Government to review the Urban Growth Boundary (UGB). Subject to the UGB being reviewed in favour of the site, residential development at a range of densities is considered suitable by KHS. The KHS envisages a possible future capacity of 350 dwellings and provides high level strategic direction for future housing types, location of higher densities, access, interfaces and environmental issues, to be addressed through future planning process for the site.

Rowville Lakes Golf Course (Tirhatuan Golf Course) is located to the west of Stud Road. There are no existing plans to change the use of this site. In case of future investigations into the use or development of this site, the planning process will be guided by the Department of Environment, Land, Water and Planning (DELWP) which may require a change to the UGB and compliance with Ministerial Direction No. 21 – Golf Course Redevelopment and the draft Planning Guidelines for Golf Course Redevelopment. These guidelines include a decision- making framework that would be used to assess proposals for the future redevelopment of surplus golf course land. Due to the different nature of planning process, this site has also been excluded from the GARS Study Area.

Methodology

To ensure the strategic directions are informed by adequate analysis and consultation, the preparation of this Strategy has been undertaken in five stages.

Stage1: Setting the Current Scene

The first stage of the project included gathering data about the Study Area through research and consultation. This stage also included a preliminary analysis of the information to develop a comprehensive understanding of the existing conditions in each precinct. As part of this stage, the existing geospatial datasets were sourced and thematic analytical maps were prepared, overlaying multiple layers of data to enable more detailed analysis.

This stage also represented a gap analysis of the existing information, which identified the key areas where additional technical consultant work was required. The outcomes of this stage are summarised in the **GARS Setting the Scene Report**.

Stage 2: Issues and Opportunities Analysis

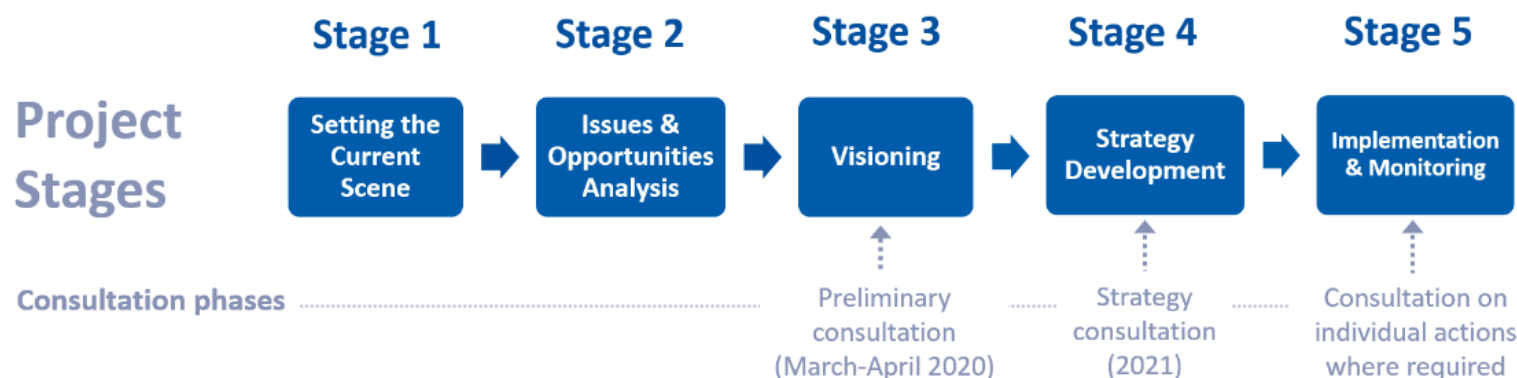
The second stage included the following tasks to undertake a detailed analysis of the issues and opportunities for the Study Area.

- i. Review of the information collated and procured in Stage 1. This included the extraction of relevant recommendations from the following consultant reports that were specifically procured for this projects:

- *Knox Wildlife Conservation and Connectivity Report (Ecology and Infrastructure International (EII); Urban Ecology in Action; EcoAerial, 2017). This study also provided the GIS database for Knox Wildlife Atlas*
- *Landscape Values and Character Assessment (Hansen Partnership, 2019)*
- *Preliminary Heritage Review: Knox Rural Heritage (Context, 2017)*
- *Assessment of Agricultural Potential of Rural Land in Knox (RMCG, 2016)*
- *GARS Economic Study (Urban Enterprise, 2019)*

- ii. Internal analysis and targeted consultation with internal and external stakeholders
- iii. Consideration of best practice and relevant studies from other Councils, in particular from adjoining councils
- iv. Strategic assessment of competing issues and opportunities for precincts or specific places. For example, the assessment of economic potential vs. environmental values vs. landscape sensitivities
- v. Organising and mapping the issues and opportunities under three emerging themes: Ecology; Landscape & Heritage; and Land Use & Access
- vi. Evaluating the recommendations in terms of reasonableness and practicality
- vii. Preliminary consideration of the recommendations in light of current provisions of the Scheme and translating the recommendations into planning language where necessary.

The above analysis along with the draft recommendations from Stage 2 are summarised in the **GARS Issues and Opportunities Report**.



Stage 3: Visioning

Stage 3 included the development of a draft vision for each precinct taking into consideration the following matters:

- State-wide vision for the Study Area including guidance from *Plan Melbourne 2017-2050*, the Planning Policy Framework and the strategic directions from the Scheme
- Council vision including the Community and Council Plan, the Municipal Strategic Statement (MSS) in the Scheme and other KCC policy and position
- Community vision – Community vision was captured through public engagement.

Preliminary Consultation (2020)

In March and April 2020, stakeholder and community consultation was undertaken to seek feedback on the draft issues and opportunities identified. As part of this consultation, comments were also invited on a draft vision for each of the precincts. The consultation results have been used to develop this Strategy, including the objectives, strategies and actions identified.

The consultation received a considerable level of interest and participation. The engagement webpage was visited 16,146 times and a total of 188 online surveys were completed during the consultation period. Amongst the GARS precincts, Precinct 1 received the highest level of engagement, followed by Precinct 3.

Full consultation results are provided in the **GARS Community Consultation Report: Visioning Consultation**.

Stage 4: Strategy Development

Following public consultation, a draft Strategy has been prepared which provides strategic directions for the Study Area. The preparation of the draft strategy has included the following steps in response to the community feedback received:

- Refining the vision for each precinct
- Review of issues and opportunities
- Developing objectives and strategies under each theme
- Providing detailed recommendations in the form of actions for “all precincts” and “precinct-specific” actions
- Preparing an Implementation Plan.

Final Consultation and Adoption

The draft Strategy was endorsed by Knox Council in October 2021 for the purpose of public consultation. After the consideration of public comments, the Strategy will be presented to Knox Council for potential adoption.

Stage 5: Implementation and Monitoring

The Strategy is complemented by an Implementation Plan which lists the actions identified, noting the leading agency/department within KCC.

A key implementation measure of the Strategy is likely to be a Scheme amendment. Other implementation measures include internal or external partnerships, further investigation, technical studies or ongoing education/advocacy work.

PART A: SETTING THE SCENE

DRAFT

1. Strategic Context

1.1. State Planning Context

Plan Melbourne 2017-2050

Plan Melbourne 2017-2050 (Plan Melbourne) is the Victorian government’s overarching plan that sets high level directions for land use planning in metropolitan Melbourne and regional Victoria. Plan Melbourne defines an Urban Growth Boundary (UGB) for Melbourne and defines the outside area as Green Wedges. The plan encourages urban consolidation within the UGB and seeks to protect Green Wedges and peri-urban areas from inappropriate development.

Some of the key directions of Plan Melbourne for the Study Area relate to:

- Supporting the productive use of land and resources in Melbourne’s non-urban areas
- Planning for Melbourne’s Green Wedges
- Making Melbourne cooler and greener by strengthening the integrated metropolitan open space network
- Protecting and restoring natural habitats
- Creating a network of green spaces that support biodiversity conservation and opportunities to connect with nature
- Protecting and enhancing the health of urban waterways.

Plan Melbourne also sets the strategic basis for the application of a range of Planning Scheme controls including zones and overlays to limit urban growth and development.

Resilient Melbourne (2016)

Resilient Melbourne was published by the City of Melbourne in May 2016 as a joint project of 32 metropolitan Melbourne councils, Melbourne’s academic, business and community sectors, and the Victorian Government. It represents the first resilience strategy for Greater Melbourne to face the challenges associated with the trends of urbanisation, globalisation and climate change. The plan considers how to respond to both chronic stresses - including sea level rise, increasing pressures on healthcare services, unemployment, and deeper social inequality - and acute shocks – such as heatwaves, bushfires, floods, pandemics, and extremist acts, including cyber-crime.

Resilient Melbourne identifies four long-term (30 years or more) objectives and an action framework under four action areas of Adapt, Survive, Thrive and Embed.

Resilient Melbourne provides direction for this Strategy as the Study Area contains some of the City’s most significant areas in terms of biodiversity, tree canopy, water systems, parkland and recreation. These areas are key to the resilience of Knox and the broader region.

Living Melbourne: Our Metropolitan Urban Forest (2019)

A flagship action from Resilient Melbourne was the preparation of a metropolitan urban forest strategy. This Strategy developed the evidence base and actions required to connect, extend and enhance urban greening across the metropolitan area. Living Melbourne was endorsed by 41 organisations representing Victorian government, water authorities, statutory agencies and industry bodies and local government,

KCC was one of the local government partners involved as part of the Eastern region which also included the municipalities of Manningham, Maroondah, Monash, Whitehorse and Yarra Ranges. The document sets targets for tree canopy and shrub cover in the Eastern region as follows.

Table 1 - Living Melbourne targets for the Eastern Region

Existing 2015	Total% tree canopy	25
	Total% tree canopy & shrubs	44
Target 2030	Total% tree canopy	27
	Total% tree canopy & shrubs	49
Target 2040	Total% tree canopy	29
	Total% tree canopy & shrubs	50
Target 2050	Total% tree canopy	30
	Total% tree canopy & shrubs	50

Living Melbourne also provides strategies to achieve the targets and provides guidance for councils to develop monitoring programs and local tree canopy targets. The Living Melbourne actions and targets need to be translated at the municipality level into relevant and measurable actions for Knox and the Study Area.

Protecting Victoria’s Environment – Biodiversity 2037 (2017)

Prepared by the Department of Environment, Land, Water and Planning (DELWP) in 2017, this document is Victoria’s plan to stop the decline of native plants and animals and improve the natural environment. Coupled with reviews of the Flora and Fauna Guarantee Act 1988 (FFG Act) and native vegetation clearing regulations, the Plan seeks to ensure

that Victoria has an effective approach to protecting and managing biodiversity. It sets high level directions for community engagement, planning (in particular for protections in reserves) funding and delivery of biodiversity related projects.

Integrated Water Management Framework (2017)

Representing another key recommendation of Resilient Melbourne, an Integrated Water Management (IWM) Framework was prepared in September 2017. The document sets out the management framework to deliver a safe and secure water supply, efficient stormwater management, healthy and valued urban landscapes and reflecting community values in place-based planning. It sets out a governance framework of IWM forums at state and regional levels and IWM Working Groups to deliver place-based IWM Plans.

Other Water-Related Plans and Programs

There are a number of other Melbourne Water plans and programs that guide KCC's management of the waterways and stormwater operations:

- Water for Victoria
- Melbourne Water's Urban Cooling Program
- Healthy Waterways Strategy – Melbourne Water
- Water for a future thriving Melbourne.

Linking People and Spaces: A Strategy for Melbourne's Open Space Network (Parks Victoria, 2002)

This document is a regional level strategy for Melbourne's open space network and specifies actions for parks, trails and waterways. The document is out of date and Parks Victoria has been working on the preparation of an updated strategy, which is also an action item from Plan Melbourne.

Movement and Place in Victoria

The Department of Transport's new approach, the Movement and Place framework, seeks to balance the needs of both transport users and place users and design a mix of transport modes that are appropriate to how the road and places are used by communities, whether they are pedestrians, drivers or cyclists.

Victorian Cycling Strategy 2018-28

The Victorian Cycling Strategy 2018-28 is prepared by Transport for Victoria and seeks to increase the number, frequency and diversity of Victorians cycling for transport. Its goals are to invest in a safer, lower-stress, better-connected network and make cycling a more inclusive experience.

Principal Bicycle Network (PBN)

The PBN is designed by VicRoads and is a network of proposed and existing bicycle routes that provide access to major destinations. The main purpose of the PBN is to guide State Government investment in bicycle infrastructure and facilities. In addition to the PBN, a network of Bicycle Priority Routes (BPR) has also been identified which represents those routes of a higher priority.

The PBN routes (existing and proposed) have been considered as part of the access and movement analysis for the Study Area.

Strategic Cycling Corridors (SCC) Network

The SCC network supports the needs of commuter trips (to work or education) and other important trips, such as to stations, shops or schools. The SCC network links up important destinations, including along EastLink and east-west linkages within the Dandenong Creek Valley. The SCCs are intended to prioritise the provision of separated cycling paths rather than shared user paths where possible.

Parts of the Dandenong Creek Trail, Eastlink Trail and east-west linkages through the Dandenong Creek Valley (Precinct 3) are classified as primary and main routes by the SCC.

Agriculture Victoria Strategy

In May 2017, Agriculture Victoria released its ten-year Agriculture Victoria Strategy. This is a reform framework articulating Agriculture Victoria's priorities to enhance Victorian agriculture's global competitiveness, innovation and resilience. The document focuses on large-scale agriculture and more intense agricultural activity. While it has limited direct action affecting the Study Area, it sets general guidance on preserving existing agriculture land and production activities.

Extractive Resources in Victoria: Demand and Supply Study 2015-2050

In 2016, the then Department of Economic Development, Jobs, Transport and Resources (DEDJTR) released the “Extractive Resources in Victoria: Demand and Supply Study 2015-2050”. The Study identified 15 Local Government Areas that are critical for supplying extractive resources for Victoria’s future construction needs. Knox was rated as the 4th most critical resource location in Victoria. This was mostly due to the two hard rock quarries in Lysterfield and Rowville – which are significant suppliers to the Melbourne construction industry and are well located for supplying the Melbourne region.

1.2. Regional Planning Context

Draft Land Use Framework Plan: Eastern Metro Region

Work is underway by DELWP on the preparation of regional Land Use Framework Plans (LUFs) to implement *Plan Melbourne* desired outcomes at a regional scale. The LUFs are intended to inform the Regional and Local Planning Policy, and to identify a series of actions which can be delivered through new partnerships, including:

- Long-term strategies (30 years) around population growth, jobs, housing, infrastructure, major transport improvements, open space and urban forests.
- Short-term actions (5 years) for State and local government to implement the LUF’s priorities and achieve the outcomes of Plan Melbourne.

Melbourne East Sport and Recreation Strategy 2016

Key messages from the Melbourne East Sport and Recreation Strategy 2016 are:

- There are high participation rates in primary sports across the region, including basketball, netball, football, cricket and soccer.
- There is current demand for more indoor courts for basketball and netball, and an immediate need for a gymnastics facility.
- There is an immediate need for additional hockey pitches in the region.
- Formalised sports such as tennis, basketball, soccer, netball, football and cricket are prominent and are the highest structured participation sports in the region.

Living Links

Living Links is an urban nature project to create a web of green spaces across Melbourne’s south-east. By linking up the many parks, reserves and other natural places, it aims to make the area a world-class urban ecosystem, improving habitat for wildlife and making it easier for people to connect with nature as part of their daily lives.



Figure 2 - Living Links Corridors

The initiative represents a partnership between the local governments in the south-east region, Melbourne Water, Parks Victoria, South East Water, Conservation Volunteers Australia and Bushwalking Victoria.

Figure 2 indicates the 17 inter-connecting corridors that have been identified through the Living Links master-planning process as offering particularly important opportunities for new or improved links across the region. In Knox, The Dandenong Creek, Blind Creek, Corhanwarrabul Creek/Monbulk Creek corridors are identified as Living Links. **Figure 3** indicates individual projects in Knox.

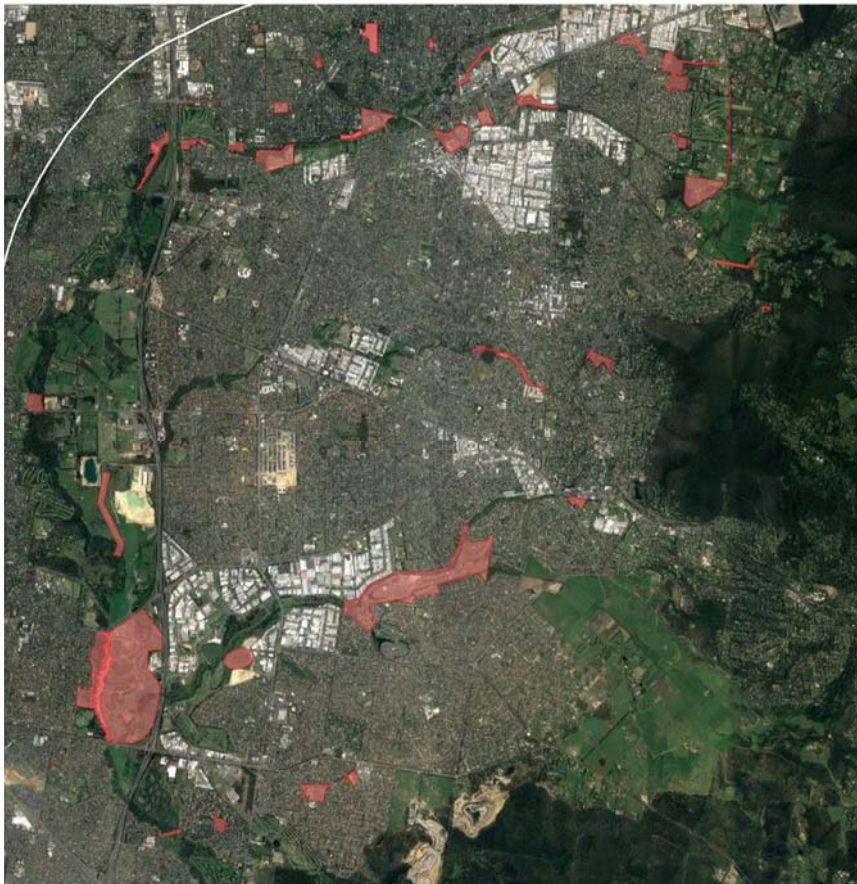


Figure 3 - Living Links Projects in Knox

Enhancing Our Dandenong Creek

In 2013 Melbourne Water and EPA designed a program to protect public health and improve storm water quality impacting Dandenong Creek between Bayswater and Endeavour Hills. A Natural Amenity Working Group was established in 2014 to represent a range of local community views. We worked together to identify priority projects to revitalise our creek. As a result, a five-year program was developed that seeks to:

- construct new habitats for threatened fish species
- increase the natural amenity and signage of the creek
- focus on pollution prevention and detection
- manage uncontrolled sewage spills for customers.

Dandenong Valley Parklands Future Direction Plan (2006)

The plan covers areas within the Cities of Knox, Monash and Whitehorse and provides strategic management directions, and identifies management zones and key actions to guide decision making about current and future uses. The document states that the time horizon of the plan is 10-15 years, which means the plan is due for a review.

Eastern Regional Trail Strategy (September 2018)

The document sets out actions for the below four trails that affect Precinct 3 (Dandenong Creek Valley):

- Dandenong Creek Trail
- Ferny Creek Trail
- Blind Creek Trail.

Dandenong Integrated Water Management Forum: Draft Strategic Directions Statement (7 August 2018)

The Forum was convened in December 2017 with subsequent Forums meeting throughout 2018 to discuss and prioritise integrated water planning and management in the catchments flowing into Port Phillip Bay from Port Melbourne to Point Nepean. City of Knox was a member of this forum and features as a collaborative partner in a number of initiatives in this paper.

Churchill National Park and Lysterfield Park Management Plan (Amended 2020)

In 2020 Parks Victoria updated the Churchill National Park and Lysterfield Park Management Plan in consultation with the community. This document details planned upgrades and management measures and is accompanied by an updated management zones map.

Eastern Region Pest Animal Strategy

KCC has endorsed a Regional Pest Animal Strategy which has been prepared in collaboration with several neighbouring councils in the eastern region as well as Parks Victoria, VicRoads and Melbourne Water. This document supports the management of invasive species and protection of native wildlife in the Study Area.

1.3. Local Planning Context

Knox Community and Council Plan 2017-21

The following table outlines how the Strategy aligns with the Knox Community and Council Plan (CCP). However, it is noted that a new CCP is currently being prepared. It is recommended that alignment is re-checked once a new CCP is adopted.

Element	Relevance to this Strategy
Knox Vision 2035: Nestled between the foothills of the Dandenong Ranges and the wetlands of the Dandenong Creek Valley, Knox has a rich natural environment and picturesque landscape, highly valued by residents and visitors alike. Knox encompasses the best of city and suburban living. From the thriving modern city vibe of Knox Central at its heart, plentiful public open spaces, outstanding civic facilities and diverse residential offerings to its leafy suburban centres with abundant space, clean air, excellent schools and good transport links, Knox is the	The project aligns with the vision in terms of supporting a rich natural environment, picturesque landscape, public open spaces and leafy suburban character.

	preferred place to live, work and play today and for generations to come.	
Goal 1 – We value our natural and built environment	Strategy 1.1 Protect and enhance our natural environment.	Including vegetation cover, creek systems, and biodiversity corridors.
	Strategy 1.2 Create a greener city with more large trees, indigenous flora and fauna.	
	Strategy 1.3 Ensure the Knox local character is protected and enhanced through the design and location of urban development and infrastructure.	The project precincts each play a key part in protecting the key landscapes and view lines to the Dandenong foothills.
Goal 3 – We can move around easily	Strategy 3.1 Enable improved transport choices supported by integrated and sustainable transport systems and infrastructure.	The Study Area includes some of Knox' key recreational walking and cycling trails.
	Strategy 3.2 Improve bike and footpath connectivity, including identifying gaps between existing bike routes, footpaths and key places.	
Goal 4 – We are safe and secure	Strategy 4.3 Maintain and manage the safety of the natural and built environment.	Safety and perception of safety should be considered as a key objective in all precincts.
	Strategy 4.4. Protect and promote public health, safety and amenity.	
Goal 5 – We have a strong regional economy, local	Strategy 5.4 Increase and strengthen local opportunities for lifelong learning, formal education pathways and skills development to improve	The Study Area play a role in Knox' economy as it contains agriculture, tourism and agri-tourism uses.

<i>employment and learning opportunities</i>	economic capacity of the community.	
Goal 6 – <i>We are healthy, happy and well</i>	Strategy 6.2 Support the community to enable positive physical and mental health.	The Study Area contains some of the key areas of parkland, conservation reserves and sporting facilities in Knox.
Goal 7 – <i>We are inclusive, feel a sense of belonging and value our identity</i>	Strategy 7.1 Protect and preserve our local cultural heritage.	The Study Area has significant character and heritage values and contributes to Knox' identity as a green/leafy City providing gateways and corridors to the Dandenongs.
Goal 8 – <i>We have confidence in decision making</i>	Strategy 8.1 Build, strengthen and promote good governance practices across government and community organisations.	The Strategy provides strategic direction and evidence base to better inform future decision making.

Knox Climate Response Plan

KCC has developed a Climate Response Plan (CRP) which recognises that we are in a state of serious climate and environment change, and acknowledges the seriousness, urgency and significance of this matter. The CRP seeks to consider climate change and biodiversity protection as key environmental factors in assessment of Council policies, projects and actions.

Knox WSUD and Stormwater Management Strategy (2010)

The Water Sensitive Urban Design (WSUD) and Stormwater Management Strategy aims to protect and improve the health of Knox's streams and creeks while ensuring that flooding impacts are minimised. It identifies the high value catchments in Knox which include Dobsons Creek (GARS Precinct 1), Blind Creek, Ferny Creek and Monbulk Creek (GARS Precinct 2a). For each catchment, it includes strategies and actions to improve catchment health, with a focus on WSUD. Some of the actions include disconnection of directly connected impervious surfaces, construction of WSUD systems, and appropriate monitoring and management of the Directly Connected Impervious (DCI) areas.

City of Knox Flood Modelling Project (underway)

KCC and Melbourne Water are currently undertaking flood modelling with the intention of preparing updated flood maps taking into consideration most recent climate scenarios. Once completed, the modelling is likely to lead to a Scheme amendment to ensure areas affected by significant flooding are accurately identified and protected. This Strategy considers any implications from this project within the Study Area.

Knox Integrated Transport Plan 2015-2025

Prepared in February 2015, this plan sets objectives and strategies, and provides detailed and costed action and initiatives for all modes of transport. Covers all modes of transport. Actions are prioritised: high priority (1-2 yrs), medium priority (3-5 yrs) and low priority (beyond 5 yrs).

The plan includes a public transport vision map, however, this is superseded by a more recent position paper endorsed by Council (refer to the next item below).

The plan does not provide a proposed cycling or pedestrian network, however, it includes action items to review the Knox Pedestrian Plan (which was reviewed in 2017) and the Knox Bicycle Plan (currently under review).

Public Transport Advocacy

KCC has long advocated for improved public transport connectivity to Knox. Relevant initiatives that are considered with respect to the Study Area (mostly Precinct 3) are:

- A heavy rail line along Wellington Road connecting to Rowville, or as an interim solution, a trackless rapid tram
- A new light rail route along Burwood Highway connecting to Upper Ferntree Gully, or extension of Route 75 as an interim measure.

Knox Bicycle Plan Review (2008)

The plan details individual projects which include new on-road and off-road bicycle facilities, upgrades, end of trip facilities and initiatives to improve safety and community awareness. It also incorporates a costed action plan and provides detailed precinct-scale mapping of existing and proposed facilities. The plan is due for a review.

Draft Knox Principal Cycling Network (underway)

This plan updates KCC's plan for Knox's bicycle network including prioritising routes in accordance with the Movement and Place classification framework. Once adopted, this plan will be accompanied by an action plan detailing individual projects. Recommendations for shared paths and cycling facilities in this Strategy have been aligned with this current project.

Knox Principal Pedestrian Network (2017)

This plan provides an in-depth analysis of pedestrian connectivity and accessibility in Knox and provides a Principal Pedestrian Network (PPN) plan with detailed implementation actions. There are PPN actions within all GARS precincts including new shared paths, footpaths, and intersection improvements. These actions have been considered in the actions for each precinct.

Knox Open Space Plan 2012-2022

Building upon the 2004-14 Open Space Plan, this plan provides a strategic framework for areas open space across the City. These strategic directions encompass themes of sustainability, community involvement, greater community use of open space and linkages between open space areas. It operates alongside Council's Open Space Asset Management Plan which defines Council open space asset and service management performance.

Knox Leisure Plan 2014-2019

This plan encourages greater use and connectivity of urban and natural environments to cater for leisure needs. Action 16 of the Implementation Plan provides guidance for GARS Precinct 2b: *"Investigate opportunities for the provision of additional sports reserves, with a particular focus on opportunities in Rowville."*

Knox Arts and Cultural Plan 2012-22

The Knox Arts and Cultural Plan sets a vision and a framework for the provision and direction of Council-supported arts initiatives across the City, ranging from improving the City's dedicated art facilities and events, to working with and supporting third party providers.

The only art facility covered in this document which falls within the GARS Study Area is The Basin Theatre in Precinct 1, which is owned and operated by The Basin Theatre Company.

Knox Strategic Assets and Investment Strategy (underway)

The only SAIS asset that falls within the Study Area is the Wantirna Reserve. At this stage it is still unknown whether there will be any impact on the Wantirna Reserve as part of SAIS. Future further confirmation will be sought at future project stages from the SAIS project team.

Gardens for Wildlife Program

The Gardens for Wildlife (G4W) program is a partnership between Knox City Council, Knox Environment Society (KES) and the Knox community. The program encourages Knox residents and businesses to create an area in their garden to support local wildlife. This can be done by providing habitat planted with locally indigenous, Australian native or suitable introduced species. The program is free to join and provides residents with access to specialist advisors who do site visits and provide advice to the participants.

Several properties within the Study Area currently participate in this program. These properties have been considered in the GARS biodiversity assessment for their contribution to wildlife habitat and movement.

Gardens for Harvest Program

A partnership between KCC and the Shire of Yarra Ranges, the Gardens for Harvest program aims to help build skills and knowledge in residents to grow and maintain a veggie garden. The Knox Gardens for Harvest program provides residents with information guides, workshops on various gardening topics and access to Gardens for Harvest competitions and special offers. A very small number of properties in the Study Area are currently participating in this program, which is not unexpected, as the program is more relevant to the urban setting rather than larger rural landholdings.

2. Knox Planning Scheme

This section reviews existing strategic directions in the Knox Planning Scheme (the Scheme). Whilst there are a variety of clauses and provisions of the Scheme that have some level of application within the Study Area, this section only focuses on those provisions that have specific relevance or significant implications.

The Planning Policy Framework (PPF) is currently under review for translation into a new structure, being led by DELWP. The analysis of the existing policy is based on the current local content in the Scheme, on the assumption that the translation will be policy neutral. However, the recommendations in this Strategy take into account the new PPF structure and format.

2.1. Planning Policy Framework (State)

The State Planning Policies are applied statewide and provide high level direction for land use and development. The key clauses of the PPF that provide direction for the Study Area are outlined below.

Clause 11 settlement sets the basis for the Urban Growth Boundary to limit urban sprawl and direct growth into existing settlement. This clause the values of green wedge and rural land including environment and landscape values, biodiversity, and native vegetation, waterways and wetlands.

Clause 13 environmental risks and amenity aims to minimise the impacts of natural hazards including bushfire and flood and to adapt to the impacts of climate change. This policy emphasises the flood storage function of floodplains and waterways and seeks to prevent intensifying the impact of flooding through inappropriately located use and development.

Clause 14 natural resource management aims to protect agricultural land and water, earth and energy resources.

Clause 15 built environment and heritage guides the protection of rural character, heritage values and community health and wellbeing.

Clause 17 economic development encourages tourism to maximise the economic, social and cultural benefits of developing the state as a competitive domestic and international tourist destination.

Clause 18 transport seeks to ensure an integrated and sustainable transport system that provides equitable access to social and economic opportunities and contributes to environmental sustainability.

Clause 19 infrastructure sets the basis for the provision of adequate open space. It provides for long term planning protection to meet demand for future open space along the Dandenong Valley parklands.

2.2. Local Planning Policy Framework

There are multiple clauses within the Municipal Strategic Statement of the Scheme which provide strategic direction for the Study Area. A full analysis of these clauses is included in the Setting the Scene report.

Within the foothills policy area and the Dandenong Creek Valley, the Strategic Framework Plan requires the protection of major environmental and landscape features. However, the Scheme also recognises gaps and recommends to complete an assessment of and provide strategic directions for all rural and green wedge land that consider its aesthetic, biodiversity, landscape, amenity, cultural and agricultural values.

The Dandenong Creek Valley is identified as a significant landscape (Sub-clause 21.03-5), however, limited strategic direction is currently provided. The Scheme requires further investigation to strategically plan for this corridor to consolidate and improve the recreational activities and landscape and to address interface issues between parkland and urban development. It also recommends to review planning strategies and zoning in the area surrounding the Dandenong Valley Parklands to ensure consistency with objectives for development of the park.

Precincts 1, 2a and 2b are within the Dandenong Foothills Local Area (Sub-clause 21.10.1) where the Scheme aims at protecting and enhancing the landscape significance of the Dandenong Foothills. Uninterrupted view lines of the Foothills from within the municipality and around metropolitan Melbourne are maintained by ensuring retention of canopy trees and buildings and that works are sensitively designed and sited to sit below the dominant tree canopy height.

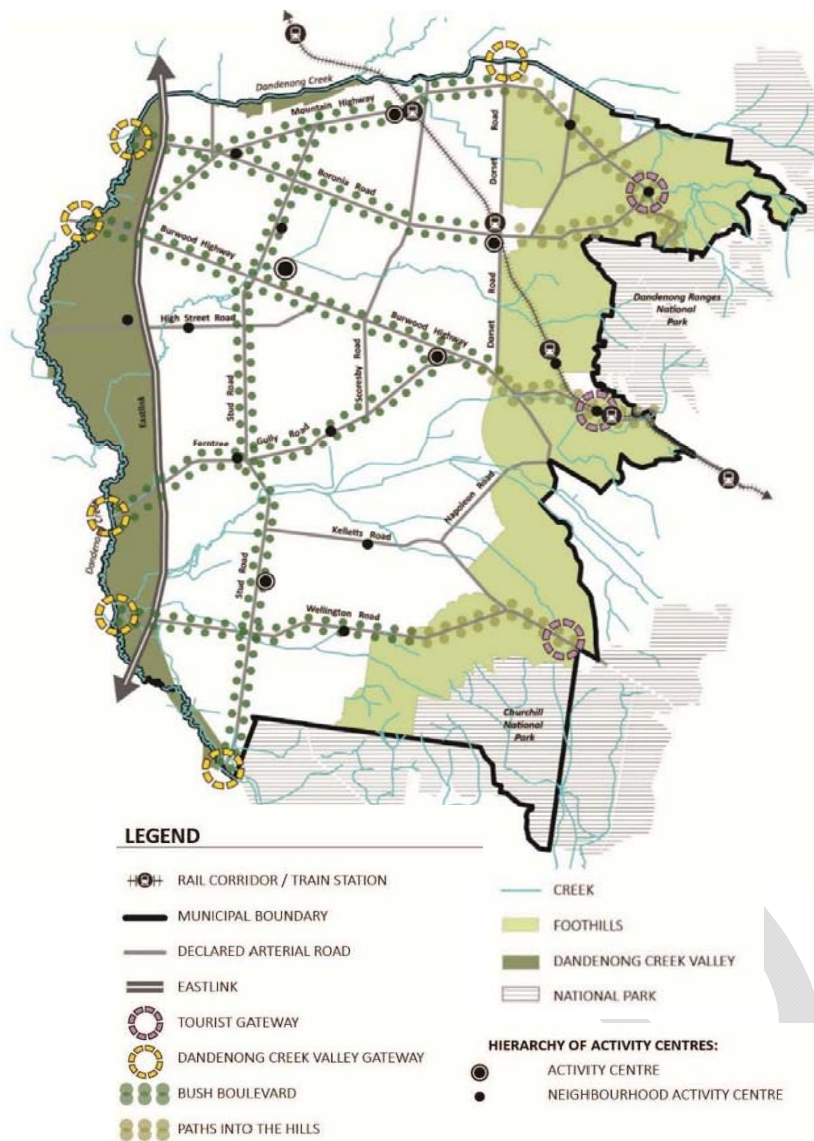


Figure 4 - Knox Planning Scheme Built Environment and Heritage Map (Clause 21.05 as at May 2021)

The following objectives are sought within the Foothills policy area:

- To maintain and improve the continuous closed tree canopy of the Foothills.
- To maintain the low density residential character of the Foothills by ensuring that existing subdivision patterns and lot sizes are retained.
- To protect and enhance the aesthetic, environmental and metropolitan landscape significance of the Dandenong Foothills.
- To protect the rural environments of The Basin and the Lysterfield Valley and Lysterfield Hills.
- To require new buildings, works and landscaping in The Basin and the Lysterfield Valley and Lysterfield Hills to protect the physical and visual amenity of the open pastoral setting.

The Scheme also requires further strategic work to undertake an assessment of agricultural land in rural and green wedge areas to better understand their productivity (including potential food production) and economy.

Clause 21.05 Built Environment and Heritage also provides guidance for the Study Area. **'Gateways'** are landscape-dominant entry points into the City that intersect with the natural significant landscapes of the Dandenong Foothills, the Lysterfield Valley and the Dandenong Creek Valley. **'Bush Boulevards'** are arterial roads with wide reservations that are planted with informal avenues of native trees. As 'Bush Boulevards' extend eastwards into the Foothills they become **'Paths into the Hills'** that have roadside verges containing significant understorey and canopy vegetation. Buildings along these roads generally contribute to this character with setbacks from the street and canopy tree planting. These attractive road corridors link the suburbs of Knox to the landscape character of the Dandenong Foothills.

2.3. Planning Scheme Controls

A thorough analysis of existing zones and overlays that apply within the Study Area has been undertaken which is included in the background "Setting the Scene" report. Another relevant set of controls are the Green Wedge Core Planning Provisions (Clause 51.02) which guide land use permissibility in Precincts 1, 2a and 2b.

The above analysis has informed recommendations in this Strategy including those under the Theme Land Use and Connectivity to ensure appropriate planning controls are applied.

3. Key Drivers

3.1. Direction for Green Wedge Land

Knox is located on the eastern edge of Melbourne's Urban Growth Boundary (UGB) and covers rural areas that are adjacent to the urban boundary. The non-urban areas outside the UGB are called Green Wedges, providing a transitional buffer between the metropolitan urban area and the surrounding peri-urban areas. The identification of protection of key values in these areas has been a key priority for this Strategy

Green Wedges were first set aside in the 1970s to conserve rural activities and significant natural features and resources between the growth areas of metropolitan Melbourne as they spread out along major road and rail links. Since 2002, Green Wedges have been defined under the Planning and Environment Act 1987. New planning zones and stronger regulations were also introduced at this time to better control the subdivision and use of Green Wedge land. There are 12 designated Green Wedges situated within the 17 metropolitan-fringe local government areas (**Figure 5**). Municipalities with significant proportions of both urban and green wedge land have also formed a group known as the Interface Councils to represent their shared interests and challenges.

Knox contains parts of two broader Green Wedge systems. Areas of land in The Basin are located within the 'Yarra, Yarra Ranges and Dandenong Ranges Green Wedge', while areas in Lysterfield and Rowville fall within the 'Southern Ranges Green Wedge'.

Three of the GARS precincts are defined as Green Wedge land (**Figure 6**). The Knox Green Wedge areas are located on the edge of the Urban Growth Boundary (UGB) and serve as places of transition between the urban area and the significant landscapes of the Dandenong Ranges and Lysterfield Park.

Protection of Green Wedges from inappropriate development has long been a key priority from a state and local policy perspective. A key factor that has contributed to the protection of Green Wedges is the requirement for ratification by Parliament for any amendment to a metropolitan fringe planning scheme that has been approved by the Minister that amends the UGB or facilitates the land to be subdivided into more lots or into smaller lots than allowed for in the planning scheme.

There is a requirement for Green Wedge Management Plans (GWMPs) to be prepared by councils to provide a future vision and strategic directions for each Green Wedge area. To assist with this, DELWP has prepared guidelines that set the role and purpose of GWMPs and outline the information that are to be covered.

With respect to Green Wedge areas that run across multiple municipalities, the expectation has been that joint GWMPs through collaboration between councils. However, this expectation has not been realised as most Councils have prepared GWMPs to the extents of their municipality.

The two Green Wedges that affect Knox are largely located within Yarra Ranges Council and the City of Casey. These councils have previously prepared individual GWMPs for parts of Green Wedge areas within their boundaries.



Figure 5 - Melbourne Green Wedges and KCC Boundary

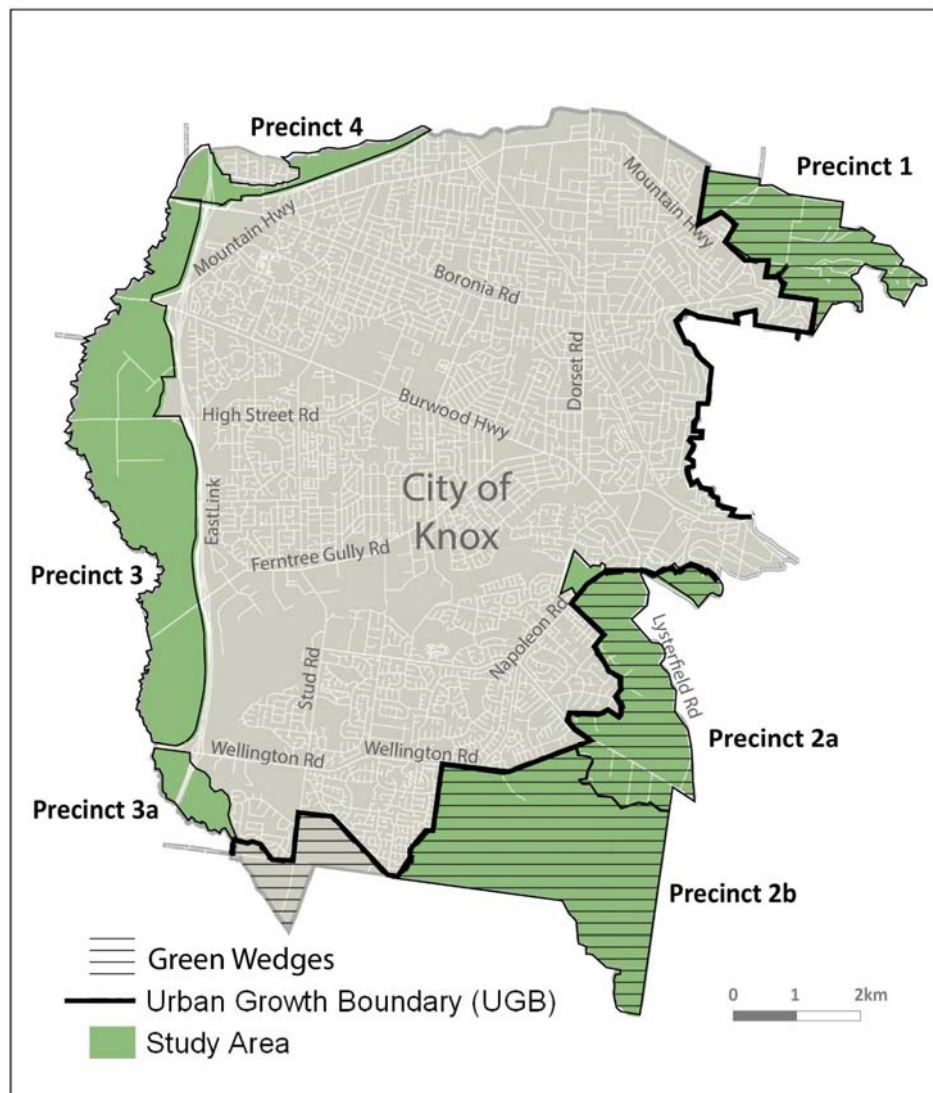


Figure 6 – The UGB and Green Wedge areas in the Study Area

Knox Green Wedge land is not of a size that warrants a separate GWMP. However, there is a current gap in policy vision and place-based direction for some of these areas. To

address this issue, this Strategy includes parts of the Knox Green Wedge land where a lack of strategic direction exists. The inclusion of these precincts along with other rural and open space corridors provides an opportunity for integrated planning and broader consistency, which is particularly beneficial to open space and wildlife connectivity across Knox.

Instead of having separate GWMPs, KCC's direction for these areas (as set out in this Strategy) aligns with broader Green Wedge planning by Yarra Ranges Council and City of Casey. This Strategy has confirmed and formalized KCC's position and will provide direction on the best approach to ensure adequate controls and management practices are in place for these areas in the absence of a stand-alone GWMP.

It is also noted that the State Government is currently reviewing their policy and Victorian Planning Provisions applicable to Green Wedges, including the draft changes released for consultation in late 2020. This Strategy takes into consideration the proposed changes and seeks to avoid inconsistency or conflict.

3.2. Climate Change

In the coming years as Knox faces the challenges of climate change, the Study Area, due to its unique physical, environmental and land use characteristics, will play a key role in climate change mitigation and adaptation.

The Study Area contains some of the richest wildlife habitats in Knox, which are highly sensitive to change. The Study Area provides unique opportunities to protect and enhance the environmental conditions to ensure a variety of wildlife species can continue to inhabit the area or use it to move around.

On the other hand, the Study Area provides significant vegetation and green surface cover in close proximity to built up areas. During extended periods of hot and dry weather, this green cover can play a key role in moderating the temperatures, mitigating the urban heat island effect and providing health and wellbeing benefits for the community. The Study Area also offers great opportunities for additional tree planting which can assist with KCC's vision to provide carbon offsets.

Rural areas in proximity to bushland are also at a growing risk of bushfire due to climate change. Inappropriate development or use intensification in these areas should be avoided to prevent increases to bushfire risk or vegetation loss to enable bushfire management.

More extreme flooding events are also expected which pose severe risks to the community, infrastructure assets and wildlife habitat. The Study Area contains some of the

key waterways in Knox, including the Dandenong Creek and its tributaries, and accommodates large areas of floodplains which play a key role in flood storage and retention to prevent flooding in the wider catchments. The protection of these floodplains from development and landform change will be necessary to reduce the risk of flooding in the urban area and to protect the health of the waterway ecosystems.

Retaining viable agricultural land and production close to the urban area is another priority in a changing climate. Farming practices (such as those that lead to beneficial increase of carbon reserves in the soil) will also need to evolve and regulatory processes must keep pace with new technologies and climate change responses.

KCC has recently adopted a Climate Response Plan (CRP) which delivers a pathway to an emissions neutral KCC by 2030 and sets interim targets. It demonstrates how Knox will adapt and improve its resilience to the climate hazards that impact the city now and in future climate scenarios. The CRP outlines the social, environmental and economic benefits expected from implementing the Plan in line with the United Nations Sustainable Development Goals and details Council's governance, powers, and the partners who need to be engaged in order to accelerate the delivery of Knox's mitigation targets and resilience goals.

This Strategy aligns with and supports the CRP direction by protecting ecological values, prioritising community health and wellbeing and dealing with land use challenges such as bushfire, flood and agricultural land management.

3.3. Biodiversity and Wildlife Connectivity

Preventing loss of biodiversity and extinction of species was a key priority for the community in all five precinct as raised during the preliminary public consultation for this Strategy. The Study Area plays a critically important role in both the conservation and movement of wildlife within Knox and the broader area. Native vegetation or areas with indigenous tree cover occupy less than five percent of the Knox municipality and the Study Area contains a significantly large proportion of Ecological Vegetation Classes (EVCs), including those listed as endangered, compared to the remainder of Knox (**Figure 6**). Each precinct provides different values and functions from each other and each is valuable in its own right.

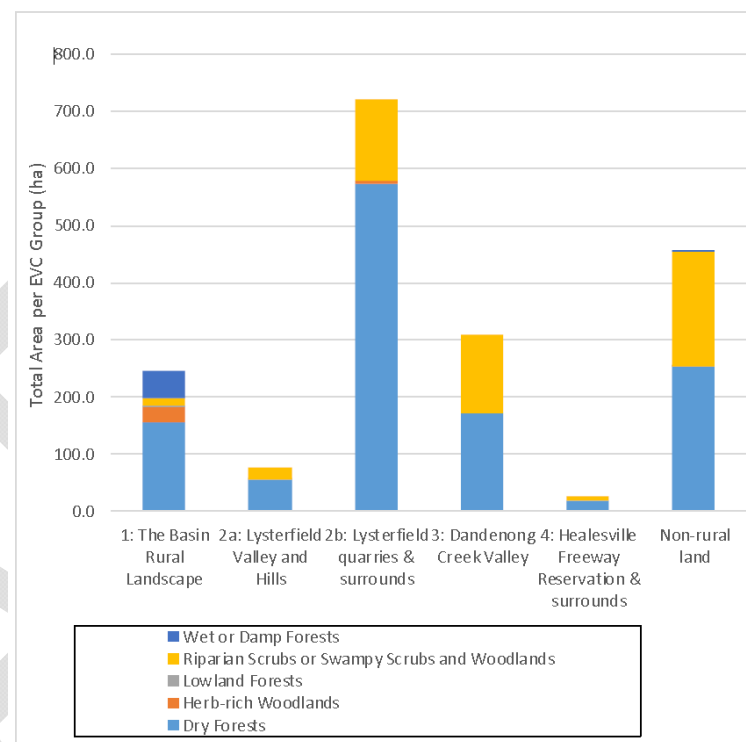


Figure 7 - Extent of EVC Group in GARS precincts compared to the remainder of Knox.

The *Sites of Biological Significance in Knox – 2nd Edition* (Lorimer, 2009) is a key study that currently guides the protection of Knox' biodiversity values and holds significant weight in planning decision making. This study is a reference document in the Knox Planning Scheme and serves as the background document behind the Environment Significance Overlays (ESOs) applied. The document contains detailed information about each identified site and provides site-specific biological information such as wildlife records, habitat requirements and movement patterns. Detailed analysis of Site of Biological significance in the Study Area is provided in the GARS Setting the Scene Report.

While the above document provides comprehensive biodiversity information, a need was identified to explore wildlife movement and connectivity further, at scales broader than individual sites. This is particularly important in the Study Area as it includes waterway

corridors and linear open spaces that provide significant wildlife linkages at the municipal and regional scale.

To investigate this matter, a technical study was procured in 2017 titled the *Knox Wildlife Conservation and Connectivity Report* (Ecology and Infrastructure International et al.). The report was adopted by Council in February 2018. A key component of the study was the collation and incorporation of previous wildlife records including observation data and evidence. Complementing the report is a “Knox Wildlife Atlas” which provides a comprehensive snapshot of wildlife occurrence within the municipality.

This report maps important areas for conservation and movement of wildlife with particular regard to ten focal species in Knox, being the Australian Reed-warbler, White-throated Treecreeper, Eastern Yellow Robin, Superb Fairy-wren, Black Wallaby, Sugar Glider, Short-beaked Echidna, Blue-tongue Lizard, Eastern Snake-necked Turtle and Southern Bullfrog.

This is done through applying a number of buffers around different landscape elements, based on the needs of the focal species. The key buffers applied are as follows:

- 180m buffers around treed Ecological Vegetation Classes (EVCs) - in line with the distance that Sugar Gliders and Eastern Yellow Robins have been recorded travelling outside bushland
- 300m buffers around EVCs represent distances travelled by Black Wallabies and Blue-tongued Lizards
- Farm dams are buffered by 375m as a study of Eastern Long-necked Turtles found that 95% of all records were within this distance from the nearest dam
- As per State Government guidelines, watercourses are buffered by 200m to support Growling Grass Frogs
- Melbourne Water recommended buffers including the 1% AEP (1:100yr ARI) flood level, and the Core Riparian Zones which provide a minimum buffer width of water courses depending on stream order, ranging from 50 m along the Dandenong Creek to a minimum of 20m for smaller creeks.

By overlaying the various buffers, the report identifies the location and extent of areas that are likely to be critical for the conservation of wildlife. The report then provides recommendations for each of these areas.

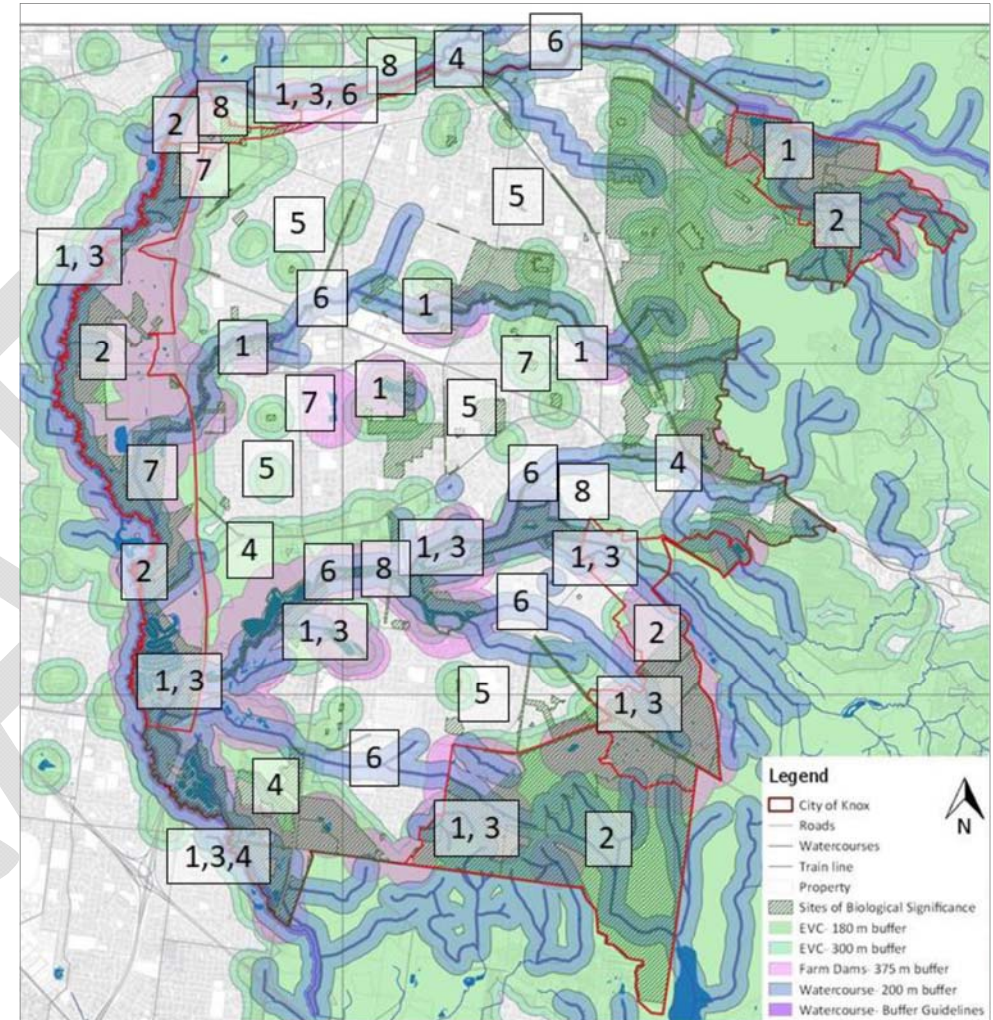


Figure 8 - Important areas for protecting habitat quality and wildlife movement within Knox. The darker shaded areas indicate a larger number of overlapping values, and hence greater importance for wildlife conservation. The GARS precincts are outlined in red. For interpretation of numbered labels refer to Table 2.

Table 2 - Reference details for Figure 8

Type	Important ecological value for wildlife conservation and connectivity
1	Locations with multiple overlapping ecological values, where remnant vegetation, riparian areas and farm dams or other waterbodies exist in close proximity to each other.
2	Large consolidated areas of greenspace with ecological values that are largely restricted to the GARS precincts.
3	High density of farm dams, offering opportunity for wetland species (turtles, frogs) to move in search of food, nesting sites or mates. Higher density of farm dams support larger populations, with more individuals and greater genetic diversity and therefore a higher likelihood of surviving future challenges.
4	Areas with very high ecological values for wildlife connectivity outside of Rural Land Precinct zones provide important connections between large areas of remnant vegetation (e.g. National Parks).
5	Developed areas with small, isolated locations with one or two high ecological values for wildlife.
6	Areas within high ecological value buffer zones where development has already occurred but still offer important opportunities for wildlife connectivity and conservation (e.g. along Blind Creek and Corhanwarrabul Creek, and Dandenong Creek between Precincts 1 and 4).
7	New developments in areas containing or adjacent to features of ecological value (e.g. golf courses, hobby farms, horse agistment) provide a critical opportunity to retain and enhance ecological values in the area while also meeting the needs for an increasing human population.
8	Construction of linear infrastructure (e.g. roads, bridges) in locations that are currently held as reserves has the potential to significantly decrease connectivity and habitat values for wildlife in those locations, through both the loss of existing habitat, and the replacement of corridors with barriers.

As seen from **Figure 8**, the GARS precincts contain important areas with multiple overlaying layers of value and therefore, play an important role in wildlife connectivity. This Strategy refers to the relevant and applicable recommendations from this report to provide strategic directions for each precinct.

3.4. Landscape and Character

The Study Area contains some of the most significant landscapes in Knox that are highly valued by the community. The Basin and the Lysterfield Valley straddle the urban/rural interface with a strong rural and natural character set in the attractive backdrop of mountain forests in the Dandenong Ranges and Lysterfield Park. The Dandenong Creek Valley Parklands is a regionally significant open space corridor with strong natural, rural and agricultural landscape elements. The Study Area presents scenic landscapes with open long range views that provide a sense of place for residents and visitors.

Like any other landscape, the Study Area is at the risk of change. Urban encroachment, new buildings, higher impact uses and associated vegetation removal all can potentially and incrementally change these landscapes.

A series of protections are currently in place by the Knox Planning Scheme for parts of the Study Area. The planning policy framework includes strategic guidance for protecting views to the foothills and the protection of significant landscapes. This policy vision has been translated into Significant Landscape Overlays (SLOs) that cover large areas in Precincts 1, 2a and 2b and include Key landscape character objectives and control tree removal and seek to ensure built form responds to the surrounding landscape.

While the SLOs have played a key role in protecting these areas from inappropriate development and change, they have a very broad scale approach to landscape (mostly to protect views to the Dandenong Foothills) and lack local-level direction to clarify the various landscape elements that need protection or enhancement. It is considered that a more place based approach to landscape and character is required in the Study Area, to inform future assessment of proposals.

Another key issue is that limited landscape direction is available for the Dandenong Creek Valley. This corridor is identified by the planning framework as a significant landscape, however, its qualities are not detailed; no strategic direction is provided; and no landscape overlays are in place in this corridor. The Planning Scheme prescribes that further strategic work be undertaken to establish the landscape characteristics of the Dandenong Creek Valley Parklands, and to address interface issues between parkland and urban development.

To fill the above information gap, the *GARS Landscape Values and Character Assessment* (Hansen Partnership, 2019) has been prepared. This study provides a character assessment for each precinct to understand the prominent landscape elements and ingredients within each precinct, as a basis for comparative analysis of their importance in their contribution to the overall 'sense of place' found within the settings. This work also includes a view-

shed and visual sensitivity analysis. Based on this analysis, the study identifies various landscape values within each precinct and makes recommendations on how to protect, manage and monitor each set of values. These findings have been incorporated into the recommendations of this Strategy.

3.5. History and Heritage

It is difficult to tell the complete story of the Study Area from a historical perspective, as there is a clear knowledge gap about Aboriginal history at the local level. The *City of Knox Heritage Study 1993*, which is the key heritage inventory for Knox, narrates the local history from the time of European settlement and includes little information about the land's Aboriginal history. The majority of reference to Aboriginal presence in the area in this document relates to encounters as seen from the viewpoint of settlers.

This Strategy has mapped the Aboriginal sites and areas of cultural heritage sensitivity in the Study Area. Detailed information has been sourced from Aboriginal Victoria (AV) which is the key state government agency responsible for Aboriginal Cultural Heritage data and management. However it should be noted, while Knox officers have access to AV information to assist with policy and decision making, Council is not allowed to publish all Aboriginal heritage information publicly due to the sensitive nature of the data. Hence the Aboriginal heritage data and mapping provided in this strategy are limited to those publicly available. However, the land use recommendations in this strategy have taken into consideration additional layers of Aboriginal heritage information to what is shown on the maps.

Regarding non-Aboriginal heritage, it has been important for this strategy to develop a preliminary understanding of places of heritage significance within the Study Area, and make recommendations on future actions. This has included a review of the heritage places included in the *City of Knox Heritage Study 1993*, some of which are currently protected by the Heritage Overlay. This exercise, however, does not represent a fresh heritage assessment of these places, but rather provides recommendations on which places are worthy of further assessment, as part of a future municipality-wide heritage study. This component of the Strategy has been informed by the report titled *Preliminary Heritage review: Knox Rural Heritage* (Context, 2017).

3.6. Agriculture

The Study Area contains the majority of agricultural land in Knox. Cattle grazing and horse agistment are the predominant agricultural use in Knox with small scale horticulture and

hobby farming occurring in parts of the Study Area. One of the objectives of this strategy has been to develop a better understanding of the existing land capacity for agriculture and future potential.

Being an interface council, KCC faces constant pressure from property holders on the edge of the urban boundary to rezone large agricultural lots to facilitate subdivision into smaller rural lifestyle properties. On many occasions, these proponents argue that the land has limited agricultural value due to soil types, slope or other issues.

Therefore, one of the aspects of this Strategy has been to develop evidence base regarding the quality and vitality of agricultural land in Knox. This component of the Strategy has been informed by two technical reports.

The *Assessment of Agricultural Potential of Rural Land in Knox* (RMCG, 2016) provides an assessment of whether rural land in Knox is capable of supporting agriculture, what agricultural production it is suitable for, and whether there are any relevant externalities, which may exclude agriculture. The study has included the following assessments informed by desktop analysis, spatial analysis and site validation:

1. Agricultural capability assessment takes into account the physical nature of the land, such as soil type, climatic condition and topography to determine the capability of the land to support sustainable soil-based agriculture.
2. Agricultural suitability assessment considers the economic, social and/or policy factors such as the economics of production, distance from markets and the strategic or policy context that may impact the production opportunity for specific agricultural commodities.
3. Externalities assessment included any remaining factors that were not eliminated through either the capability or suitability assessment, such as land use conflict and landscape value.

The study provides an analysis of each precinct's potential for different types of agriculture, agri-tourism, and related activities and presents future directions for parcels of land within each precinct. Overall, the study concludes that there is limited opportunity for commercial-scale agriculture in the Study Area, however, it highlights that the Study Area will continue to provide for perennial horticulture, livestock grazing and hobby farming. The study also makes recommendations to promote agri-tourism and recreational uses that support agriculture and complement the environmental and landscape values of land.

It is also important to analyse Agriculture from a strategic point of view within the broader economic mix, as detailed in the *GARS Economic Study* (Urban Enterprise, 2019). This analysis is outlined in the next section.

3.7. Rural Economy

A strong and sustainable rural economy can support the long term vitality of Green Wedge and rural areas and enable landowners to protect and enhance the various environmental and social values of this land.

One of the priorities for this Strategy has been to establish a better understanding of the current economic activities and trends in the Study Area, and to identify future opportunities and needs. The economic recommendations in this Strategy are informed by the *GARS Economic Study* (Urban Enterprise, 2019). This study provides the following assessment:

- Regional catchment analysis and proximity to transport and tourist routes
- Population and demographic profile
- Industry profile including employment and output
- Visitor profile including visitor type, purpose and origin
- Economic role of each precinct including existing businesses and property ownership
- Potential for economic, tourism and recreation uses including case studies
- Assessment of Planning Scheme controls in terms of the potential uses
- Evaluation of other constraints
- Recommendations to facilitate the identified potential.

3.8. Health and Recreation

Significant areas of parkland with active recreation opportunities are present in the Study Area, as well areas of native bushland that are highly popular amongst the local community and visitors for passive recreation and connecting with nature.

The Dandenong Creek Valley (Precinct 3) is an integrated open space corridor connecting a network of parklands and sport/recreation facilities that serve a large population catchment. Lysterfield Park and Churchill National Park (Precincts 2a & 2b) are other parks of regional significance that provide excellent opportunities for bushwalking, mountain biking and general recreation.

Trails and tracks in the Study Area are highly used facilities that provide recreational and wellbeing benefits to a diverse range of users. Local parks and bushland such as Wicks Reserve and Bateman Street bushland provide excellent opportunities for passive recreation and connecting with nature in proximity to residential areas.

As the Knox population grows and urban densification occurs, it is important to protect the existing recreational values, upgrade the existing facilities and seek opportunities for new areas of open space to meet the needs of the community. As part of this Strategy, the Study Area has been investigated for these opportunities. In addition, opportunities have been explored, in consultation with the community, to maximise community access to the existing recreational opportunities.

3.9. Rural Living

The Study Area contains residential properties in high amenity rural and pastoral settings. Many of the rural properties in the Study Area enable residents to mix residential use with agriculture, agri-business and horse agistment activities. The rural residents in Knox have long been key contributors to the City's environmental conservation by taking care of the remnant vegetation and existing habitat opportunities on their properties.

To maintain the quality of rural living, it is important to draw a clear picture of the existing land use and the issues faced, in consultation with the local community. The identification of risks, including bushfire and flooding risks, and preventing conflicting uses that adversely affect local character and amenity, have been important drivers for this Strategy. The suitability of the existing infrastructure, including access and connectivity, has also been assessed to ensure they meet the needs of the local communities.

Another key task has been the evaluation of existing planning controls, including zoning and subdivision sizes, to ensure they consider observed and emerging issues, enable economic potential, and support land use sustainability in the long term.

PART B - STRATEGIC DIRECTIONS

4. Objectives and Strategies for All Precincts

The GARS precincts each have a range of highly important values that need to be protected and enhanced. However, considering their location, they are likely to continue to experience pressure for urban development and interface tension between urban and rural land.

This Strategy aims to balance these competing priorities by providing a series of theme-based **Objectives** that provide the overarching goals and priorities for the Study Area. The Objectives articulate what the document aims to achieve by means of a particular set of strategies and actions.

Each Objective is supported by a suit of **Strategies** which further clarify the method or processes used to achieve the Objective, such as how Council will assess and guide proposals within the Study Area.

Considering the various characteristics and opportunities, a specific **Vision** has been developed for each precinct. The precinct-based vision sets a desired future state for each precinct and has been informed by background research, policy alignment and stakeholder and community consultation. The visioning consultation involved the local community and businesses, state government agencies, utility and service providers, environmental groups, local advisory groups and property owners and occupiers.

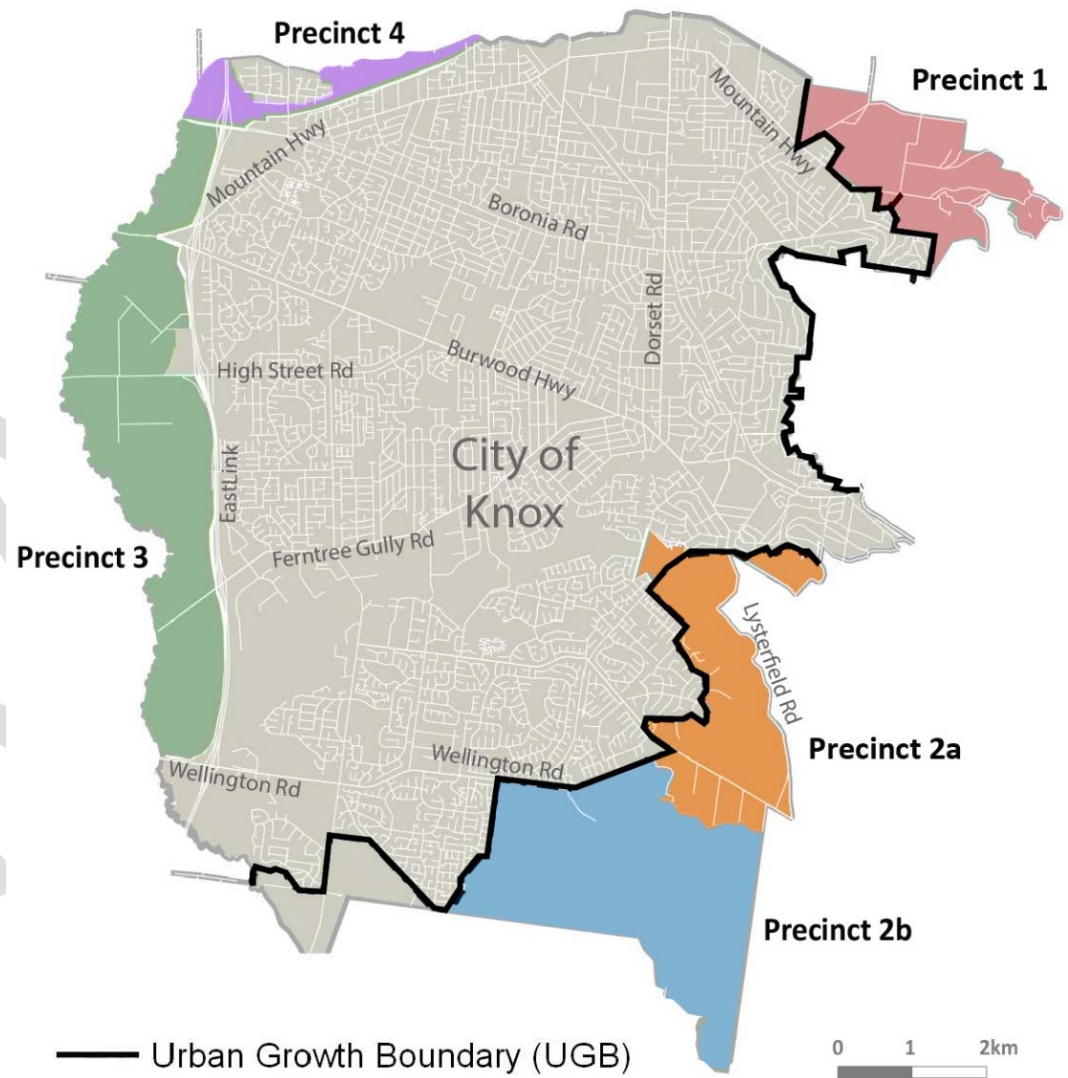
The vision for each precinct is better clarified through the recommendations for each precinct and is translated into specific **Actions**. Actions are more tangible or measurable tasks that can be allocated, placed within a timeframe, and may even need specific funds allocated. The Actions have been linked back to Objectives to ensure strategic alignment and consistency in direction.

The Objectives and Strategies are the same for all precincts, while the individual Actions are divided into precinct-based Actions and Actions that apply to the entire Study Area.

Draft Green Areas and Rural Strategy (GARS) Summary

Theme	Ecology			Landscape & Character		Land Use & Access		
Objective	To protect and enhance biodiversity and wildlife connectivity	To protect and increase tree and vegetation canopy cover	To improve waterway health and flood management	To protect and enhance local character and landscape values	To recognise, protect and promote existing heritage	To recognise & protect the values of Knox Green Wedges	To ensure land uses are located and managed to be consistent with the values and functions of the Study Area	To facilitate connectivity and safe movement for all users
Strategies	<ul style="list-style-type: none"> • Conserve existing wildlife habitat and biodiversity values. • Improve wildlife connectivity and ecological corridors. • Increase community awareness and engagement in ecological improvements • Facilitate improved weed and pest management practices. 	<ul style="list-style-type: none"> • Protect and enhance vegetation and tree canopy cover. • Monitor changes to tree canopy, vegetation and surface cover. • Recognise the role of trees and vegetation cover in moderating the temperature and reducing the urban heat island effect. 	<ul style="list-style-type: none"> • Conserve existing wildlife habitat and biodiversity values. • Protect floodplains from development and change. • Enhance water quality and the ecological health of the waterways. • Identify flood prone areas and improve stormwater management. • Encourage WSUD systems. 	<ul style="list-style-type: none"> • Identify and protect local character within the Study Area • Define and protect landscape values including vistas and long range views. • Ensure land uses do not adversely affect the local character. • Ensure built form considers and responds to the local character and landscape values. 	<ul style="list-style-type: none"> • Identify, celebrate and promote the heritage values and history, including Aboriginal and non-Aboriginal heritage. • Promote greater community knowledge and understanding of Aboriginal cultural heritage. • Protect places of heritage significance from inappropriate development and use. 	<ul style="list-style-type: none"> • Provide strategic direction for Green Wedges and interface areas in the Knox Planning Scheme. 	<ul style="list-style-type: none"> • Ensure new uses do not adversely impact on existing ecological and landscape values or existing settlements. • Protect agricultural land from inappropriate development and use. • Promote and support the ongoing viability of agricultural practices. • Strengthen and promote the recreational, cultural, sporting and tourism role. • Protect the amenity and character of existing residential areas. • Manage risks including those associated with bushfire, pollution and contamination. • Facilitate better land management practices. • Support and facilitate public art in appropriate locations. 	<ul style="list-style-type: none"> • Enhance pedestrian, cyclist and vehicular connectivity and access. • Advocate for improved public transport connectivity. • Enhance movement safety for all users. • Reduce traffic conflict between various modes.

5. Recommendations for All Precincts



Theme 1: Ecology

Wildlife Conservation and Connectivity

The Study Area plays a key biodiversity role in Knox as it contains some of the most significant areas of native bushland and waterways. Considering their location, ecological qualities, current land use and lot configuration, each of the GARS precincts present unique opportunities for future enhancements including habitat restoration and improvements to wildlife connectivity. Such opportunities may not exist to the same extent in some other areas of biodiversity value in Knox, including those within the urban area which are more likely to be impacted by urban land use nearby. There is therefore a strong case for prioritisation of ecological preservation and enhancements in the Study Area.

- Building upon the evidence base set in the *Knox Wildlife Conservation and Connectivity Report* (Ecology and Infrastructure International et al., 2017), this Strategy aims at better incorporating wildlife connectivity into the planning framework. The following recommendations from the above report are considered to be related to the planning framework and have implications for the Study Area:
- Mandating an ecologically sensitive development approach in high ecological buffer zones
- Strengthening mechanisms for native vegetation protection
- Developing planning mechanisms to protect riparian buffer zones, particularly along Dandenong Creek, Blind Creek, Corhanwarrabul Creek and their tributaries, to:
 - Prohibit further development within the Melbourne Water Core Riparian Zones and adjacent vegetation buffers;
 - Minimise any additional development in the remaining areas of the 200m buffer zone identified by the Growling Grass Frog Sub-Regional strategy; and
 - Mandate Water Sensitive Urban Design interventions within the 200m buffer zone to disconnect stormwater drains from natural waterways and help reinstate more natural water cycles.
- Reducing the barrier effect at the specific sites identified to increase connectivity for all fauna species.

This Strategy confirms the important role of the Planning Scheme, including the Environmental Significance Overlay (ESO). While the majority of habitat areas in the Study Area are covered by this overlay, the Strategy seeks to strengthen the implementation of the existing requirements. Revegetation and habitat improvements are also encouraged,

in appropriate locations where they do not cause an increase to bushfire risk to the existing settlements.

Pest and weed management was another issue that was highlighted during the consultation for this Strategy. KCC has been involved in discussions regarding the development of a Regional Pest Animal Strategy. There are also opportunities to support improved maintenance practices including on private land.

The local community will continue to play a key role in habitat protection and enhancement. Friends/community groups in Knox provide a valuable source of local knowledge and stewardship and have contributed to a variety of habitat enhancement projects in Knox over the past years.

Council should continue to support community efforts by providing resources, funding and links to state and regional programs. The Knox Gardens for Wildlife program is one example of a biodiversity initiative that has been well received by the residents, including rural residential properties in the Study Area. This program provides an opportunity to link people to nature and involve the community in broader actions around ecological enhancement.

It is also noted, while this Strategy provides recommendations within the boundaries of the Study Area, wildlife connectivity requires broader consideration to ensure connectivity continues outside the Study Area.

Objective:

To protect and enhance biodiversity and wildlife connectivity.

Strategies:

- Conserve existing wildlife habitat and biodiversity values.
- Improve wildlife connectivity and ecological corridors.
- Increase community awareness and engagement in ecological improvements.
- Facilitate improved weed and pest management practices.

Action 1. Investigate options to incorporate relevant recommendations from the Knox Wildlife Conservation and Connectivity Report (Ecology and Infrastructure International et al., 2017) into the Knox Planning Scheme, including the following recommendations:

- a) Ensuring the connectivity elements and important habitats are considered in the review of planning applications and strategic planning decisions.
- b) Applying appropriate buffers along the waterways including the Dandenong Creek, Dobsons Creek, Monbulk Creek and Blind Creek to the extent of the Study Area, to:
 - Prohibiting further development within the Melbourne Water Core Riparian Zones.
 - Minimising development and intense land use within 200m buffer zones.
 - Mandating Water Sensitive Urban Design approaches within 200m buffer zones.
- c) Mandating an ecologically sensitive development approach to new development and the construction of linear infrastructure (e.g. roads, bridges) within high ecological value buffer zones.
- d) Encourage habitat restoration and revegetation within 300m buffer zones to existing areas of native vegetation, in areas that do not increase bushfire risk to existing settlements.

The above action might entail new policy or overlay provisions and making the Knox Wildlife Conservation and Connectivity Report a reference document in the Scheme, subject to further planning investigation.

Action 2. Investigate the need for further guidelines to facilitate Ecologically Sensitive Design for new development and the construction of linear infrastructure (e.g. roads, bridges).

Action 3. Advocate for wildlife linkages to continue outside the Study Area, in accordance with the recommendations of the Wildlife Conservation and Connectivity Report (Ecology and Infrastructure International et al., 2017).

Action 4. Continue collaboration with other councils and the state government regarding pest management and pollution control.

Action 5. Continue to support and grow community partnerships and initiatives including the Gardens for Wildlife program.

Vegetation Canopy Cover

The Study Area contains significant vegetation and makes a key contribution to the overall tree canopy cover in Knox. These areas play a key role in preventing the urban heat island effect and controlling the temperature in the nearby suburbs.

Tree canopy loss is an issue faced across Metropolitan Melbourne including in Knox. Data published by DELWP (2019) suggests that tree cover has fallen in Knox from 19.1% in 2014 to 18.0% in 2018, a loss of 120 hectares. The largest loss has occurred on residential properties but public infrastructure, such as streets also saw a loss.

The Study Area presents unique opportunities to maintain and increase the canopy cover. Parts of the Study Area are outside the Urban Growth Boundary where development is limited and protections are currently in place from intense development and tree removal. In addition, considerable land in the Study Area is publicly owned or zoned for conservation or public recreation purposes, where tree protection or planting is easier to enforce.

Due to existing planning controls, the majority of the Study Area is not at the risk of large scale clearing, however, faces the threat of incremental loss of canopy and green ground cover. This relates to a variety of reasons such as gradual increases to building site coverage, the natural death of trees over time or poor maintenance. There are also challenges faced due to bushfire management requirements considering Knox sits at the edge of the urban area where settlement meets the bush.

Knox does not currently have strategic guidance or targets for maintaining or increasing its total tree canopy cover. It is also noted that the cooling effect of trees is not currently reflected in the existing policy and planning controls. The Scheme currently values trees for three main reasons:

- Biodiversity values - native habitat trees (implemented through ESOs)
- Amenity and exotic values (through VPOs)
- Landscape values (through SLOs)

As discussed earlier, *Living Melbourne* provides high level guidance and direction for monitoring the tree canopy. It guides councils to develop monitoring programs and local tree canopy targets. These actions need to be translated at the municipality scale to be able to provide locally relevant and measurable targets for Knox.

Another known issue is that mapping anomalies exist in the Vegetation Protection Overlay (VPO). This matter is currently under review. An investigation of the VPO in the Study Area has found locations where the overlay map does not correspond with the correct location of trees on the ground. These errors have been identified on the precinct maps.

Objective:

To protect and increase tree and vegetation canopy cover.

Strategies:

- Protect and enhance vegetation and tree canopy cover.
- Monitor changes to tree canopy, vegetation and surface cover.
- Recognise the role of trees and vegetation cover in moderating the temperature and reducing the urban heat island effect.

Action 6. Undertake a project for Knox to:

- a) Map the existing tree canopy and vegetation cover broken down by height strata and surface cover types.
- b) Investigate setting of measurable tree canopy cover targets including sub-targets for public land (parks, streets) and private property.
- c) Define actions to achieve the canopy targets.
- d) Establish a program for regular monitoring of vegetation cover and control progress against the established targets.
- e) Facilitate enforcement in cases of unlawful tree removal.

Action 7. Undertake a review of the Vegetation Protection Overlay (VPO) to correct the existing anomalies and identify opportunities for additional trees to be protected by the overlay.

Action 8. Investigate Planning Scheme options to recognise the role of trees, vegetation and surface cover types in moderating the temperature and reducing the urban heat island effect.

Waterways and Flood Management

The health of waterways in the Study Area, including the Dandenong Creek, Blind Creek, Monbulk Creek and Dobsons Creek needs to be prioritised over the coming years. This is to ensure healthy waterway ecosystems, appropriate flood management and habitat conservation.

Waterway management requires collaboration with neighbouring councils, landowners, community groups and Victorian government agencies including Melbourne Water and DELWP. Collaborative projects such as *Living Links* and *Enhancing our Dandenong Creek* are good examples of multi-agency partnerships that offer particularly important opportunities for new or improved waterway health across the region.

Some of the creeks in the Study Area run within privately owned land which creates additional challenges. The protection of these waterways through appropriate planning controls and supporting the landowners to manage the waterways and their buffers will be critical in the coming years.

The protection of floodplains in the Study Area is another priority to prevent flooding in the urban area, maintain the natural flow of water, reduce pressure on the waterways and prevent habitat loss. The floodplains are constantly under pressure from development and land use that changes topography and reduces surface perviousness. Such changes would adversely affect the Study Area's role in the natural flow, storage and retention of water in particular during stormwater events.

This Strategy has identified that some of the floodplains within the Study Area are not currently covered by adequate planning controls. The key overlay in the Scheme that protect floodplains of the natural waterways is the LSI0. Another flood-related overlay is the SBO which controls development within areas that are subject to the 1% AEP (1:100yr ARI) flood and ensures adequate siting of buildings and design standards within these areas. The Knox SBO has not been updated since 1999 and only covers the Melbourne Water drainage network area.

KCC and Melbourne Water have been working to prepare updated flood models taking into account up to date data and projected future scenarios associated with climate change. Once completed, the new flood map needs to be incorporated in the Planning Scheme, to be able to guide future land use and development. The draft flood model suggests areas of land within the Study Area will be affected by the new flood map, where protection or management will be critical.

Catchment management will also be important to maintain and enhance water quality. KCC's *Water Sensitive Urban Design and Stormwater Management Strategy 2010* has

identified some of the waterways in the Study Area as “high value” and has led to actions and investments to improve catchment hydrology. In this respect, KCC has Water Sensitive Urban Design (WSUD) initiatives including disconnecting impervious areas from the creeks, providing stormwater tanks to residents and the construction of WSUD infrastructure.

In the Study Area, gradual increases to impervious surfaces such as by larger buildings or uses that require large areas of car parking (such as places of worship) have the potential to adversely impact catchment hydrology. It is important to consider the previous investments in water quality and ensure future development and infrastructure construction practices do not compromise these values.

Objective:

To improve waterway health and flood management.

Strategies:

- Protect floodplains from development and changes to topography.
- Enhance water quality and the ecological health of the waterways.
- Identify flood prone areas and improve stormwater management practices.
- Encourage an ecologically-sensitive and water-sensitive approach to development and infrastructure.

Action 9. Following the completion of the flood mapping project by KCC and Melbourne Water (MW), undertake a Scheme amendment to apply adequate overlays to areas affected by the 1% AEP (1:100yr ARI) flood level, including:

- a) Land Subject to Inundation Overlay (LSIO) to areas affected by flooding from natural waterways.
- b) Special Building Overlay (SBO) to areas affected by flooding from the drainage network (SBO1 for MW network and SBO2 for KCC network).

Action 10. Provide greater guidance in the Planning Scheme to limit the extent of impervious surface including guidance for car parking areas in the Study Area.

Action 11. Continue to collaborate with stakeholders on regional and multi-agency initiatives that improve the waterways and catchments, including the Living Links and the Enhancing our Dandenong Creek projects.

Theme 2: Landscape and Heritage

Landscape and Character

It is noted that currently there is limited statewide guidance on how best to define and protect rural and Green Wedge landscape values. In recent years, DELWP has been workshopping ideas with councils to develop a planning framework for the assessment and recognition of Green Wedge landscapes. However, this work to date has not resulted in any recommendations that could assist with landscape assessment for the Study Area.

To fill the current gaps, the *GARS Landscape and Character Study* (Hansen Partnership, 2019) was prepared as part of this Strategy which identifies the key character elements and landscape values of each precinct. Based on these elements, the study recommends the following levels of 'significance' to be assigned to each precinct based on a comparative analysis of their contribution to the overall 'sense of place' found within the settings.

Precinct	Prominent Landscape Character Elements	Landscape Significance
Precinct 1: The Basin Rural Landscape	1. Dobsons and Dandenong Creek Flood Plain 2. Basin Township Entry & Boulevard 3. Western Isolated Hilltops 4. Dandenong Ranges Foothills & Gullies	Municipal
Precinct 2a: Lysterfield Valley and Hills	1. Lysterfield Foothills Open Ridgeline 2. Wellington Road Flood Plain & Flats 3. Eastern Slopes to the Monbulk Creek Valley 4. Monbulk Creek Floodplain	Metropolitan
Precinct 2b: Lysterfield Quarries and Surrounds	1. Rising Wellington Road Ridgelines 2. Lysterfield Park Bushland Silhouette 3. Extractive Industries & Works 4. Open Grassland	Metropolitan
Precinct 3: Dandenong Creek Valley Precinct	1. Dandenong Valley Park & Wetlands 2. Dandenong Creek Riparian Corridor 3. East-West Aligned Road Corridors 4. High Voltage Power Line Infrastructure	Regional
Precinct 4: Healesville Freeway Reservation and Surrounds	1. Wantirna Road Cutting 2. Bateman Street Bushland 3. Dandenong Creek Floodplain 4. Dandenong Creek Riparian Corridor 5. EastLink Corridor	Local

The landscape character analysis describes the major form, features and attributes of each precinct including topographical features, landscape settings and physical elements of significance. The study then performs a visual analysis featuring viewshed and visual sensitivity analysis to determine level of visibility from key vantage points. The study concludes with detailed recommendations on valuable landscape elements in each precinct and how to protect and manage them. These recommendations have been incorporated in the precinct-based recommendation within this Strategy.

It is recommended that this study informs the Planning Scheme to ensure the identified values are considered when reviewing proposals. Currently, parts of the Study Area including Precincts 1, 2a and 2b are covered by the Significant Landscape Overlay (SLO) which sets controls applicable to vegetation, earthworks, building bulk, character and other scenic qualities. The Knox Municipal Strategic Statement (MSS) Clause 21.10 Local Areas also recognises these precincts as significant landscape and provides high level strategic direction to protect their values. There are opportunities to build upon these existing provisions and provide more site-specific guidance for the key character elements identified.

In addition, while Precinct 3 has been identified as being a regionally significant landscape, limited landscape direction is currently provided in the Scheme, and no SLOs apply in this precinct. It would be important that the identified values for this precinct are incorporated into the Scheme.

Objective:

To protect and enhance local character and landscape values.

Strategies:

- Identify and protect local character within the Study Area
- Define and protect landscape values including vistas and long range views.
- Ensure land use and built form do not adversely affect the local character.
- Ensure built form considers and responds to the local character and landscape values.

Action 12. Undertake a review of the existing Planning Scheme provisions to recognise the character and protect landscape values in the Study Area, in line with the findings of the GARS Landscape and Character Study.

Heritage

This Strategy recommends a full review of heritage values in Knox, including both Aboriginal and non-Aboriginal heritage.

It is considered that there is a role for KCC to establish the Aboriginal history of Knox at a local level and incorporate it into its historical narrative and educational initiatives.

Non-Aboriginal heritage values of the Study Area are currently informed by the municipal-wide Heritage Study which was prepared in 1993. No comprehensive review of Knox cultural heritage has been undertaken since. A number of heritage sites within the Study Area are part of large scale landscape and environmental systems that need to be assessed in their broader heritage context and thematic history. Examples are the Dandenong Ranges and Lysterfield Park which form part of larger heritage areas.

To assist with such review, this Strategy includes a preliminary examination of places of heritage significance within the Study Area, and make recommendations on the way forward. This has included a review of the 27 heritage places included in the *City of Knox Heritage Study 1993*. Some of these places are currently protected by the Heritage Overlay while some others do not have statutory protections in place. This has been informed by the report titled *Preliminary Heritage review: Knox Rural Heritage* (Context, 2017) which, through a combination of site inspections and desktop research, provides the following information:

- Confirmation of whether the heritage places still exist;
- Photographic evidence of the places;
- Map of the places (analogue mapping) or provide an indication of the locality;
- Preliminary assessment of the existing conditions of each place; and
- Recommendations including whether further heritage investigation of the place is required.

Where sites have been able to be accessed and found, the majority of recommendations are to retain existing Heritage and other Overlays. Where sites were not found or insufficient information has been available, a recommendation for further investigation has been made. Many of the sites without current statutory protection are recommended for assessment. It should be noted that this preliminary review does not represent a fresh heritage assessment of the places.

Objective

To recognise, protect and promote existing heritage.

Strategies:

- Identify, celebrate and promote the heritage values and history, including Aboriginal and non-Aboriginal heritage.
- Promote greater community knowledge and understanding of Aboriginal cultural heritage.
- Protect places of heritage significance from inappropriate development and use.

Action 13. Undertake a comprehensive review of Aboriginal and non-Aboriginal heritage across the municipality, taking into consideration the specific recommendations in the *Preliminary Heritage review: Knox Rural Heritage* (Context, 2017).

Theme 3: Land Use and Access

Green Wedge Interface

This Strategy has reiterated the importance of the Urban Growth Boundary (UGB) in protecting Precincts 1, 2a and 2b from inappropriate development. The UGB has proven to be a strong and effective planning tool to maintain the integrity of Knox Green Wedge land in these areas, despite ongoing pressure for subdivision and rezoning outside the UGB.

Another key finding is, while Knox is an interface council, a simple transitional buffer solution to the urban/rural interface is not practical. Instead, a place-based approach to the protection of values, including environmental, landscape and rural economic values, is recommended. In other words, simply because an area is close to the UGB does not mean it is appropriate for smaller lot sizes or more intense development.

This is because some of Knox' most sensitive landscapes and biodiversity hotspots are located in proximity to the UGB. Some of these landscapes present scenic views that uniquely define the gateways not only to Knox, but also to Metropolitan Melbourne. For example, this Strategy has identified highly valuable landscapes in The Basin or environmental buffers in Lysterfield and Rowville, which are highly sensitive to change and should be protected from inappropriate development and change.

This matter is also seen in light of recent discussions by DELWP regarding potential location of more intense uses such as places of worship and schools adjacent to the UGB. This Strategy strongly opposes such idea and confirms that proximity to the UGB is not an appropriate locational criterion for such uses.

Assessing proposals in the interface areas needs to take into account their impacts on a case by case basis. This includes the visual impact - in particular for those uses that present highly dominant built form – the environmental impact, the extent of impervious surface required for car parking, and the traffic impact on the locality. The cumulative impact of multiple buildings within a limited interface area should also be considered as it could be to the detriment of local character, landscape and environmental values.

On many occasions, these uses are more appropriate within the urban area in close proximity to residential settlement and transport services. In the Green Wedges, proposals of these types should be considered on a case by case basis, taking into consideration the site context and values to protect.

The Green Wedge policy direction in the Scheme is currently limited to State and Regional policy. Providing local strategic direction for Green Wedge land is required to ensure the identified values as part of this Strategy are recognised and protected.

Objective:

Recognise and protect the values of Knox Green Wedges.

Strategy:

- Provide strategic direction for Green Wedges and interface areas in the Knox Planning Scheme.
- Provide a place-based approach to Green Wedge interface.

Action 14. Avoid any changes to the Urban Growth Boundary in Precincts 1, 2a and 2b.

Action 15. Investigate Planning Scheme options to provide local strategic direction for Knox Green Wedge land in line with the recommendations of this Strategy for Precincts 1, 2a and 2b.

Action 16. Clarify, through strategic directions in the Planning Scheme, that a transitional buffer approach to the Green Wedge interface is not intended, and that a place-based, value-based approach to assessment is required.

Land Use and Economy

This Strategy has identified agricultural land that is worthy of protection including in the Dandenong Valley, Lysterfield Valley and Dobsons Valley (The Basin). While precinct-based recommendations are provided later in this Strategy to protect these areas, it is noted that the Scheme currently does not provide local policy direction for agriculture in Knox. It would be important that policy direction is also provided to support long term protection of agricultural land and production in Knox.

The Study Area offers considerable open space, recreation, tourism, sport, art and culture land use opportunities. It also contains extractive industries that are likely to continue operation for a couple of decades. Detailed direction and actions to support these land uses is provided in the precinct-based recommendations section.

Summary of Economic, Tourism, Community and Recreation Potential

	Precinct 1 The Basin Rural Landscape	Precinct 2A Lysterfield Valley and Hills	Precinct 2B Lysterfield Quarries and Surrounds	Precinct 3 Dandenong Creek Valley	Precinct 4 Healesville Freeway Reservation & Surrounds
Suitability for agriculture intensification	Medium	Medium	Low	High	Low
Suitability for agri- tourism	High	Medium	Low	High	Low
Suitability for standalone tourism uses	High	Low	Low	High	Low
Suitability for community / social enterprise	High	Low	Low	High	Medium
Accessible to population catchments	Medium	Medium	Medium	High	High
Accessible by public transport	Low	Low	Low	Medium	Medium
Accessible by bike/hiking/walking	Low	Low	Medium	High	High
Suitability for Active Recreation	Medium	Low	High	High	High
Suitability for other intensive industry	Low	Low	High	Medium	Low
Suitability for Passive Recreation	Low	Low	High	High	Medium
Ranking	19	13	18	28	18

Objective:

To ensure land uses are carefully located and managed to be consistent with the values and functions of the Study Area.

Strategies:

- Ensure new uses do not adversely impact on existing ecological and landscape values or existing settlements.
- Protect agricultural land from inappropriate development and use.
- Promote and support the ongoing viability of agricultural practices.
- Strengthen and promote the recreational, cultural, sporting and tourism role.
- Protect the amenity and character of existing residential areas.
- Manage risks including those associated with bushfire, pollution and contamination.
- Facilitate better land management practices.

Action 17. Investigate Planning Scheme options to provide strategic direction for agriculture and agricultural land in Knox.

Action 18. Investigate initiatives and incentives, such as rate exemptions, to help protect agricultural production and improve land management practices.

Action 19. Investigate the potential for Carbon Farming and climate friendly agricultural practices including regenerative agriculture.

Public Art

The Study Area provides great opportunities for new public art to be incorporated into the landscape. In particular, some of the precincts are located at gateways to Knox where a high level of visitation where highly visibility exists and public art can create unique places and contribute to a sense of belonging and pride.

The Study Area has been assessed to identify locations that provide opportunities for public art. This assessment takes into consideration matters such as visitation rate, visibility, land ownership, gateways to Knox, community interest, green space, parks, trails, waterways potential for place making, storytelling and accessibility.

The above assessment has identified potential locations for public art in The Basin Triangle, Dorset Road extension/Napoleon Road intersection, Burwood Highway/EastLink and High Street Road. These locations have been indicated on the land use maps.

Strategy:

- Support and facilitate public art in appropriate locations.

Action 20. Support the provision of public art in the Study Area including at the locations identified, subject to detailed assessment.

Access and Connectivity

The Study Area contains some of the highly used trails in Knox and provides linkages to fantastic bushwalking and cycling opportunities. There are opportunities across the GARS precincts to enhance walking and cycling connectivity with additional shared paths and improvements to existing facilities.

Some of the local roads including in The Basin and Lysterfield provide key access routes to recreational destinations in national parks, however, do not provide cycle lanes or shared paths. Traffic conflict between various modes, including vehicles, walkers, cyclists and horse riders, was raised as a key issue on these roads during the public consultation.

The Study Area has limited public transport coverage and is partially served by bus services. This is a greater issue in the Dandenong Creek Valley where future residential area is planned as part of Boral Quarry redevelopment.

The below Access and Connectivity strategies are further clarified through actions identified in the precinct-based recommendations.

Objective:

To facilitate connectivity and safe movement for all users.

Strategies:

- Enhance pedestrian, cyclist and vehicular connectivity and access.
- Advocate for improved public transport connectivity.
- Enhance movement safety.
- Reduce traffic conflict between various users.

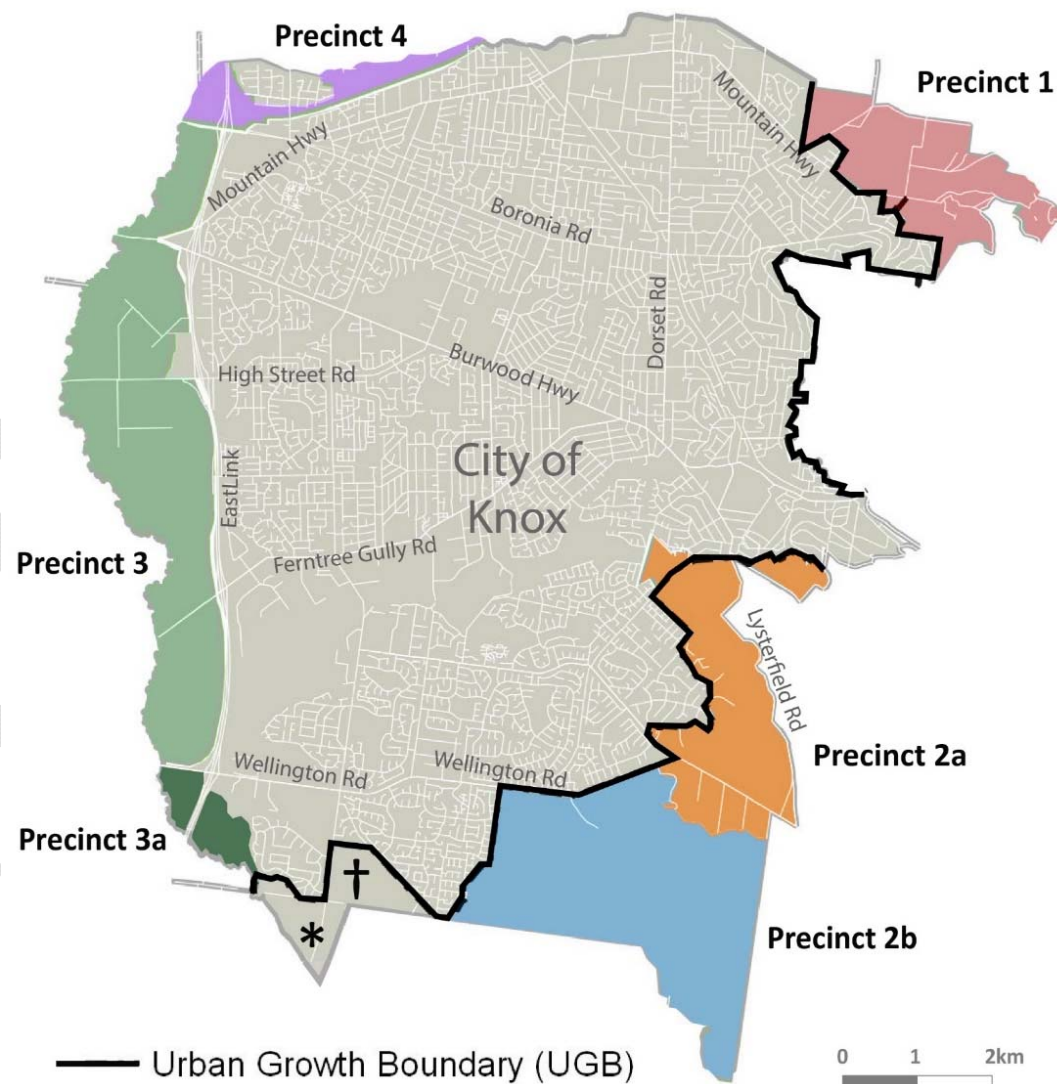
Action 21. Advocate for the construction of proposed shared paths and cycle lanes identified in this strategy.

6. Precinct-based Recommendations

DRAFT

Precinct 1:

The Basin Rural Landscape



Vision for Precinct 1

The Vision for Precinct 1 reflects feedback received during public consultation involving the stakeholders and the community. Key themes from the public consultation are summarised below:

- **Prioritising environmental conservation**
There was overwhelming support for the focus in this precinct to be on ecological protection. It was suggested that this focus be strengthened to prevent a clash of priorities and ensure environmental values are not compromised by land uses such as agriculture or tourism.
- **Protecting from development**
The feedback demonstrated significant concerns about the possibility of future development or change and suggested that the vision emphasises the protection of floodplains in The Basin to manage stormwater and support the waterways.
- **Concerns about tourism/economic opportunities**
Concerns were raised about potential tourism and business activities due to the number of visitors to the area and its impact on the environmental qualities and local traffic.
- **Protecting the distinct natural and rural character**
Protecting the current natural landscape and the green/rural character within the backdrop of the Dandenong Ranges was considered very important.
- **Ecological enhancement**
There were suggestions for targeting “enhancement” in addition to “protection” of ecological values.
- **Bushfire risk**
Concerns were raised that revegetation in wrong areas might increase bushfire risk.

Vision for Precinct 1:

The Basin Rural Landscape Precinct will be protected as an ecologically significant area with a distinct natural and rural landscape character, providing a scenic gateway to the Dandenong Ranges. The conservation and enhancement of the precinct’s biodiversity, waterways and landscape values will be prioritised, while supporting compatible land use such as sustainable agriculture, rural living, recreation and community uses that complement and enhance these values.

Theme 1: Ecology

Biodiversity and Wildlife Connectivity

Almost two-thirds of Precinct 1 supports native vegetation, and most of the precinct has been classified as Sites of Biological Significance for Knox, based primarily on the occurrence of native vegetation.

Being surrounded on the southern, eastern and north-eastern boundaries by the DRNP, the precinct provides an important consolidated ecological link between Doongalla Forest and Upper Ferntree Gully. The precinct plays a key role in wildlife habitat and movement as it contains large extents of native vegetation and a high density of watercourses. Maintaining the continuous cover of vegetation in this precinct will be essential to support the long-term viability of wildlife, larger populations and greater opportunities for movement and dispersal in multiple directions.

The precinct also contains Wicks/Wicks East Reserves (managed by KCC) and Liverpool Road Retarding Basin (managed by Melbourne Water) which are public reserves of high biodiversity value while assisting with stormwater management for the broader catchment.

A large extent of the vegetation and sensitive habitat in the precinct are located within private properties which will play a key role in the coming years to protect biodiversity and wildlife movement. The eastern part of the precinct, which consists of lots in the Rural Conservation Zone, is predominantly used for residential purposes. This area accommodates a dense and continuous cover of vegetation which connect with Doongalla Forest/DRNP and is at risk of incremental vegetation loss due to land use conflict and fire management requirements.

The larger properties in the central part of in Precinct 1 also provide important linkages, stepping stones and floodplain habitat. The Salvation Army land in The Basin offers complementary and additional resources to wildlife and its buffer role is recognised in protecting the adjacent Rural Conservation Zone, as well as providing opportunities for connectivity to the Liverpool Rd Retarding Basin. The Dobsons Creek traverses this property and provides a densely vegetated ecological corridor.

Whilst the majority of waterways in Knox are protected by public zoning (incl. PCRZ), there are sections of the Dandenong Creek and the Dobsons Creek within Precinct 1 that are within private land and are not protected by public zoning. However, the entire precinct is covered by the Environmental Significance Overlay (ESO1 and 2) which provides good protections for vegetation and habitat. The ESO generally requires planning permits for

building, subdivision, carrying out of works and the removal of vegetation. Exemptions are provided for vegetation removal that are necessary for emergency works and management of land including fire management, weed control, infrastructure or resources where other permits exists.

The conflict between tree protection and fire management was an important concern raised by the community during the project consultation. There was a strong message that preserving the natural environment needs to take precedence in this precinct, and new development that requires tree removal to address bushfire risk should be prevented.

The majority of vegetation cover in Precinct 1 is located on private property used for residential purposes. Many of these areas are affected by the bushfire Management Overlay (BMO) that seeks to ensure human safety in proximity to bushland. While significant vegetation clearing has not occurred since the implementation of ESOs and SLOs, incremental loss of vegetation has been observed. This is sometimes caused by increasing building and outbuilding footprints on rural lots where additional defensible space or fuel reduction is required around new or added structures.

Objective:

To protect and enhance biodiversity and wildlife connectivity.

- Action 1.1.** Review the planning framework to
- ensure the protection of native vegetation and habitat is prioritised in Precinct 1
 - recognise the role of Dandenong and Dobsons Creeks in wildlife connectivity
 - ensure bushfire risk and management in BMO affected areas is considered from early stages of any development proposal, such as pre-application stage, and proposals that require vegetation removal to comply with the bushfire requirements are not supported.

- Action 1.2.** Reduce the wildlife barrier effects at the following sites in accordance with the recommendations in Appendix 1:

- Dandenong Creek - Liverpool Road (ID: 1)
- Dandenong Creek – Dobson Lane (ID: 2)

- Action 1.3.** Investigate mechanisms to support private landowners to improve maintenance and weed control including of Sugarloaf Hill.

Waterways and Flood Management

Precinct 1 is within the Upper Dandenong Creek catchment and contains a section of Dandenong Creek and also Dobsons Creek which is a tributary to Dandenong Creek.

The Dobsons Creek catchment has been identified as the highest value waterway in Knox by KCC's *Water Sensitive Urban Design and Stormwater Management Strategy 2010*. KCC has undertaken Water Sensitive Urban Design (WSUD) initiatives in this catchment to improve catchment hydrology. This has included disconnecting impervious areas from the creek to improve its ecological health, providing stormwater tanks to residents and the construction of Wicks Reserve (Ferdinand Von Mueller) Raingarden. KCC has also constructed swales in Basin-Olinda Road and a roadside retention facility along Sheffield Road. The WSUD project locations are indicated on Map 1.

Situated along the creek path is also the Liverpool Road Retarding Basin which was developed by Melbourne Water (MW) to provide for the storage of stormwater to prevent flooding downstream.

Apart from the smaller rural lots north of Doongalla Road, the vast majority of lots in Precinct 1 are not connected to piped drainage. This is in line with KCC's strategy to disconnect properties from the drainage network and promote a water sensitive approach to drainage within this precinct.

Incremental increases to impervious surfaces (e.g. house extensions, outbuildings, paved outdoor areas) places additional pressure on the drainage systems in this high value catchment. There are opportunities to build upon the previous investments in improving water quality within the Dobsons Creek catchment and ensure future development and infrastructure construction practices protect these values.

The precinct also plays a key role in flood retention and management as it contains floodplains of the Dobsons and Dandenong Creeks. Protecting these floodplains from development and topographic change will be important to prevent flooding downstream and maintain the health of the waterways. The current flood map adopted in the Knox Planning Scheme is outdated and does not accurately map the flood prone areas in Precinct 1. For instance, the Dobson Creek floodplain has no flood overlays. An updated flood map is currently being prepared which is recommended for incorporation into the Scheme.

Objective:

To improve waterway health and flood management.

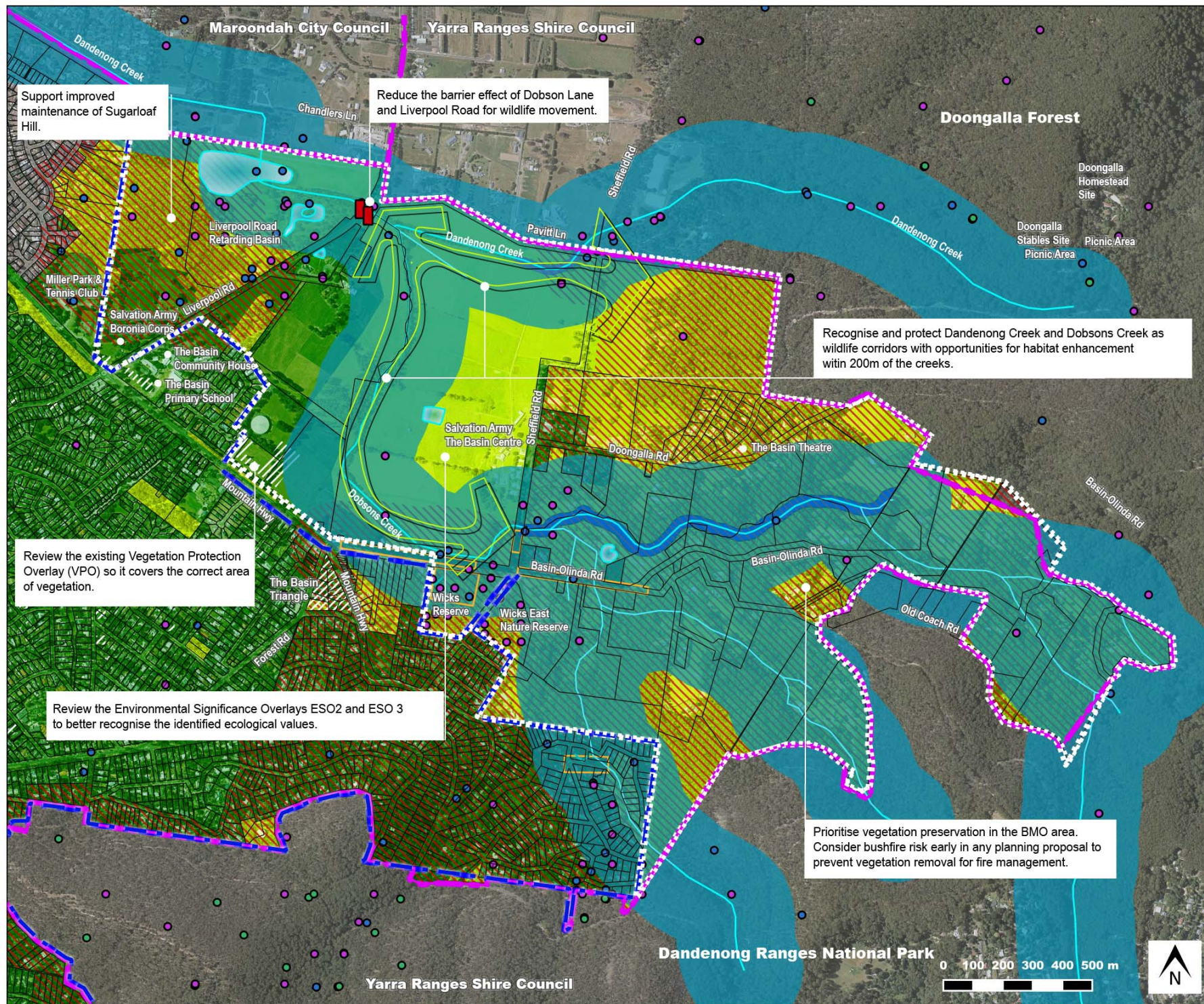
- Action 1.4.** The planning framework to acknowledge that Precinct 1 is in the high value catchment of the Dobsons Creek.
- Action 1.5.** Investigate options to incorporate WSUD measures as part of new development in the Dobsons Creek catchment.
- Action 1.6.** Support a WSUD approach to public works and infrastructure including the constructions or upgrade of roads within this precinct.
- Action 1.7.** Ensure the Dobsons/Dandenong Creek floodplain is protected from development and level change.

Map 1

Precinct 1- The Basin Rural Landscape

Theme: Ecology

Knox Green Areas & Rural
Strategy (GARS)



Legend

Knox Wildlife Atlas (1995-2017)

- Wildlife Records - Multiple Sources
- Wildlife Records - Victorian Biodiversity Atlas
- Knox Focal Species 2017
- Barriers to Wildlife Movement

Knox Planning Scheme

- Environmental Significance Overlay 2 (ESO2)
- Environmental Significance Overlay 3 (ESO3)
- Floodway Overlay (FO)
- Vegetation Protection Overlay (VPO)
- Bushfire Management Overlay (BMO)
- Urban Floodway Zone

Other

- Precinct Boundary
- Creeks and Lakes
- WSUD - Project Area
- Knox City Boundaries
- Urban Growth Boundary

Theme 2: Landscape and Heritage

Landscape and Character

The *GARS Landscape and Character Study* (Hansen Partnership, 2019) has identified the Basin Rural Landscape precinct as a highly valued and diverse landscape. The Dobsons and Dandenong Creek Floodplain has significant character value within this precinct, is highly visible from public vantage points and is recommended for protection. The union between the heavily vegetated ridges, gullies and open uninterrupted flood plains are the important landscape for The Basin. The study identifies the following character areas (as shown on the map) and details key landscape values for each area:

Character Area	Description	Approach	Key Landscape Values
1	The Basin's Dobsons and Dandenong Creek Floodplain	Protection	Rural integrity and open character; short and long open views from roads; low-lying valley conditions
2	The Basin Township and Entry	Management	Corridor views; roadside vegetation
3	The Western Isolated Hilltops	Monitoring	Vegetation; views to hilltops
4	The Dandenong Foothills and Gullies	Management	Natural landscape condition

Currently, the majority of Precinct 1 is covered by the Significant Landscape Overlay (SLO4) which sets controls applicable to vegetation, earthworks, building bulk, character and other scenic qualities. Clause 21.10 of the Scheme also recognises the whole precinct as a significant landscape and provides high level strategic direction to protect its values. There are opportunities to build upon these existing provisions and provide more site-specific guidance for the key character areas identified.

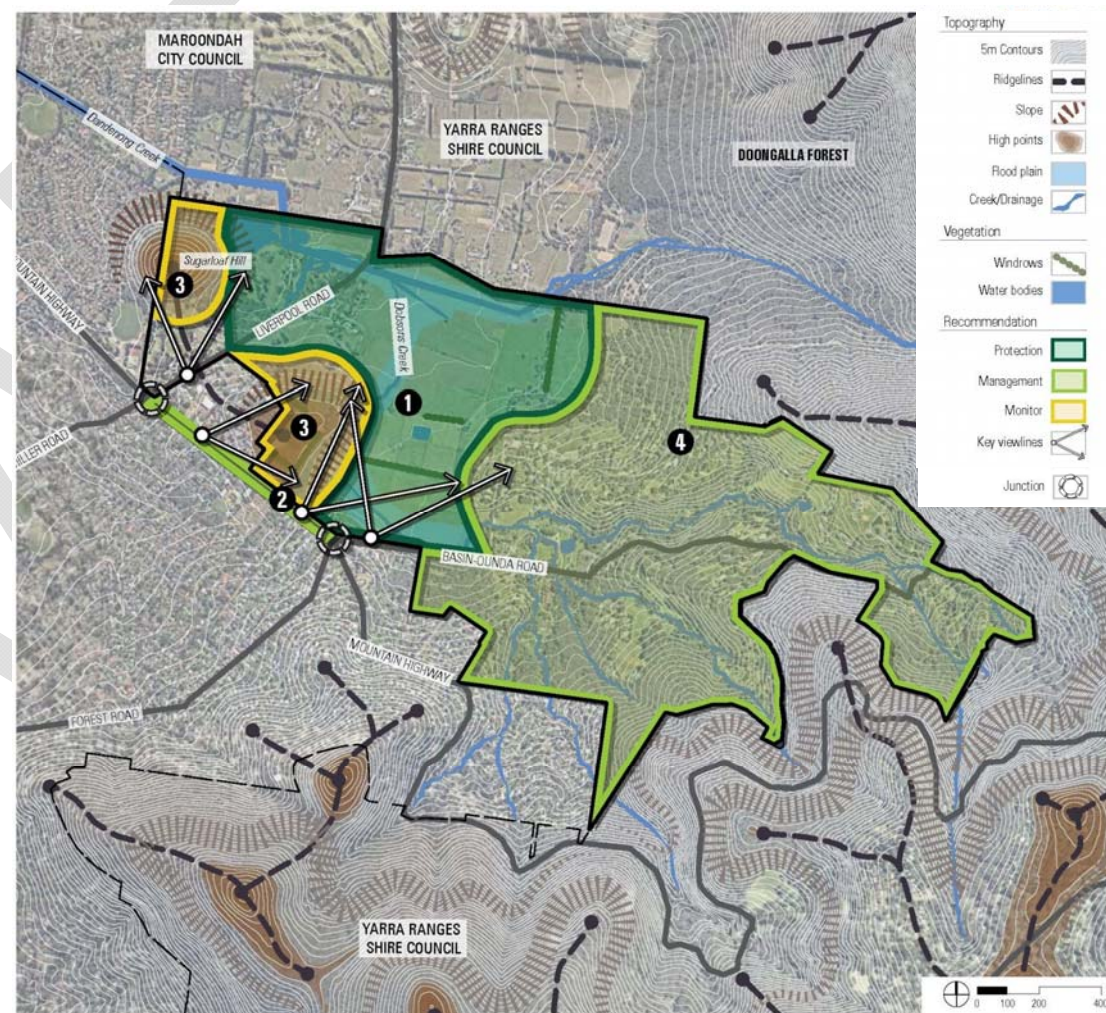
Objective:

To protect and enhance local character and landscape values.

Action 1.9. Undertake a review of the existing Planning Scheme provisions to better recognise and protect landscape values, in line with the findings of the GARS Landscape and Character Study.

Action 1.10. Discourage fragmentation of land within the Dobsons Creek floodplain character area.

Action 1.11. Investigate opportunities for weed management and removal of shrub, to open up foothill views, particularly those on public owned land.



Map 2 – Precinct 1 Landscape Assessment (Source: Hansen Partnership)

Heritage

Precinct 1 contains significant areas of Aboriginal Cultural Heritage Sensitivity associated with the Dandenong and Dobsons creeks and the Dandenong foothills. The precinct also includes an area of artefact scatter.

The precinct contains three non-Aboriginal heritage places that are protected through the Heritage Overlay (HO), and seven places that are included in the City of Knox Heritage Study 1993 but are not protected through the Scheme.

The *Preliminary Heritage Review: Knox Rural Heritage* (Context, 2017) reviews the existing heritage places within the precinct (HO items and non-HO items listed in Knox Heritage Study 1993) and provides recommendations for each place.

Objective:

To recognise, protect and promote existing heritage.

Action 1.12. Ensure adequate consultation occurs prior to any proposals affecting the Aboriginal Sites and Areas of Cultural Sensitivity as shown on the heritage map.

Action 1.13. Undertake a review of the heritage places in accordance with the recommendations from the *Knox Rural Heritage Report* (Context, 2017), as summarised below.

Place Name and Description	Recommendations
HO places	
HO5 Wicks Reserve	<ul style="list-style-type: none"> • Of historic and social/recreational significance. • Well documented and part of the area ESO, SLO and HO – no further research / assessment required. • Retain Environment, Heritage and Significant Landscape Overlays.
HO54 One Oak Tree (Basin Olinda Road, The Basin)	<ul style="list-style-type: none"> • Intact and in good condition • Of historic and aesthetic significance • No further consideration required • Retain Heritage Overlay

HO8 Chandler Oak Tree, Sheffield Road, The Basin	<ul style="list-style-type: none"> • Of historic and aesthetic significance due to age and size. • Well documented and no further consideration required. • Retain Heritage Overlay.
Non-HO places	
Western face of the Dandenongs The whole of the western and part of the north-western slopes of the main Dandenong Range stretching from Montrose to the southern boundary of the Ferntree Gully National Park	Undertake an Integrated Aboriginal, Natural and cultural heritage assessment to explore these different aspects of significance in a holistic manner.
Dandenong Ranges The whole of the Dandenong Ranges form a backdrop to Knox but are predominantly in Yarra Ranges	Undertake an integrated Aboriginal, Natural and cultural heritage assessment would be appropriate for the Dandenong Ranges. This would involve an initial assessment at the state level (for inclusion in the Victorian Heritage Register) which would involve other municipalities. There may also be a case for the identified heritage values to be nominated for inclusion in national level listing.
Salvation Army site 1 Liverpool Road, The Basin	While there are no known archaeological reviews of the site, given that it contains 2 watercourses (Dobsons and Dandenong Creeks), it is identified as an area of cultural sensitivity. Recommended for both Aboriginal and non-Aboriginal cultural heritage assessment. Potential Aboriginal, historic, aesthetic and social values.
Clevedon Gardens	<ul style="list-style-type: none"> • Of historic significance as a site only. • Difficult to put forward as a HO without further investigation into the garden. • 'Tentative list' – although it's possibly too far removed from its historic origins (not a priority). • Recommended for further investigation. Potential historic aesthetic and social values.

Glen Elbourne Gardens	<ul style="list-style-type: none"> • Worth following up, either on an 'open day' or with the owner. • Note the large wholesale nursery next door and other properties going up the Dobson Creek valley to Olinda plus Old Coach Road – worth considering as part of a larger historic landscape unit. • Worthy of further research and consideration. • Recommended for heritage assessment. Potential historic aesthetic and social values.
Old Coach Road	<ul style="list-style-type: none"> • Of historic significance. • Recommended for heritage assessment. Potential historic and aesthetic values.
Mountain Highway The Basin	<ul style="list-style-type: none"> • Further investigation is required to confirm the nature of the structure. • Recommended for heritage assessment. Potential historic aesthetic and social values.

Map 3

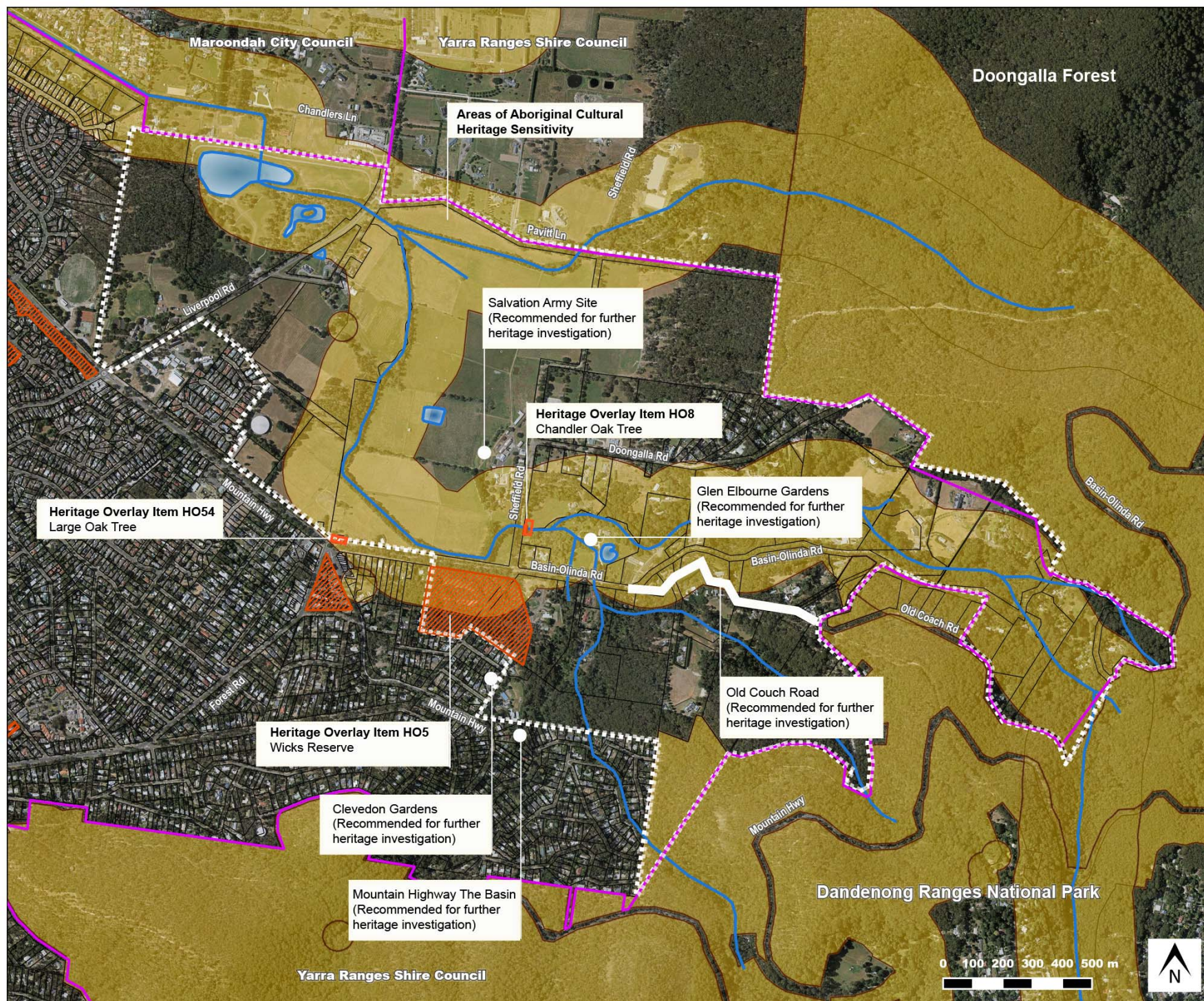
Precinct 1- The Basin Rural Landscape

Theme: Heritage

Knox Green Areas & Rural
Strategy (GARS)

Legend

-  Precinct Boundary
-  Creeks and Lakes
-  Heritage Overlay (HO)
-  Areas of Cultural Heritage Sensitivity (Aboriginal Victoria)



Theme 3: Land Use and Access

Land Use and Economy

Precinct 1 is part of Knox Green Wedge located adjacent to the urban boundary and contains high quality agricultural land in the floodplains of the Dobsons Creek and uniquely valuable landscapes and significant vegetation. Protection of the precinct from urban development and subdivision will be a key priority in the coming years.

The precinct also benefits from proximity to the Basin Triangle, community and art facilities, parks, cycling trails and scenic tourist routes. Within limits of the planning framework that applies in Green Wedges, the precinct offers opportunities for rural based business such as eco-tourism, agri-tourism, community/social enterprise and small scale café/restaurant uses which can benefit and complement the precinct's agricultural, landscape and environmental values. However, such uses can only be supported if they are of low intensity and do they do not adversely affect the identified environmental and landscape values.

The *Knox Green Areas and Rural Strategy Economic Study* (Urban Enterprise, 2019) provides the following evaluation of economic, tourism, community and recreation potential for Precinct 1:

Summary of Economic, Tourism, Community and Recreation Potential

Suitability for agriculture intensification	Medium
Suitability for agri- tourism	High
Suitability for standalone tourism uses	High
Suitability for community / social enterprise	High
Accessible to population catchments	Medium
Accessible by public transport	Low
Accessible by bike/hiking/ walking	Low
Suitability for active recreation	Medium
Suitability for other intensive industry	Low
Suitability for passive recreation	Low

Larger Rural Properties (Green Wedge Zone 2 (GWZ2) and Special Use Zone 1 (SUZ1))

The central and western part of the precinct contains a number of larger lots which are used for agriculture, grazing and special uses. The past and present involvement of the Salvation Army in the area is a major contributor to its current open valley, rural outlook. The Basin Centre on Sheffield Road runs rehabilitation programs focused around the benefits of farming, growing crops, raising livestock, bakery and dairy activities. The

Boronia Corps is located adjacent to Miller Park on Liverpool Road and accommodates worship services, community activities, a thrift shop, laser strike and a community garden.

Rainfall and good quality soils provide agriculture potential within the floodplains of the Dobsons Creek. This area has potential for livestock grazing, perennial horticulture or horse agistment. However, the site is limited in scale and isolated from other livestock producers meaning economies of scale are difficult to achieve for a commercial operator. Agriculture use of this land is likely to be of a hobby farming nature used in conjunction with other uses.

This larger lots in the precinct present opportunities for targeted business attraction such as restaurant, winery, visitor accommodation and eco-tourism uses. The property sizes would allow for siting buildings and activities carefully to minimise negative impact on the environmental and landscape values and prevent changes the existing character. For further detail and case studies refer to the report *Knox Green Areas and Rural Strategy Economic Study* (Urban Enterprise, 2019).

The SUZ1 is not supportive of a number of tourism uses including visitor accommodation and restaurant, which are identified as some of the best fit uses for the precinct. The land uses allowed under the SUZ1 conflict with both the Green Wedge objectives and the use table under the Core Planning Provisions (Clause 51.02 of the Scheme). In case of future changes, more alignment with Green Wedge objectives are recommended.

Rural Living Lots (Rural Conservation Zone (RCZ1))

The eastern part of Precinct 1 is characterised by rural residential uses with relatively smaller lot sizes in the range of 4ha. These residential lots play a key role in the conservation of native vegetation and the vegetated foothills character. The area is home to a range of homebased businesses including consulting, creative industry and other professional services. This area also accommodates existing community uses such as The Basin Theatre and a place of worship.

For this area, more direction is required to assist with land use decisions. Existing trends indicate an appetite for home based business and small-scale café/restaurant uses in this area. Decision on these uses should ensure they do not adversely affect the local character and biodiversity values. Consideration must be given to bushfire risks, prevention of vegetation removal, traffic impact, car parking. The accumulative impact of such uses in this predominantly residential area should also be considered.

Parks and Reserves

Protecting the existing open space and recreational values is another priority in Precinct 1.

The precinct contains Wicks Reserve and Wicks East Nature Reserve which are popular recreational destinations in a rich bushland setting.

The Liverpool Road Retarding Basin, managed by Melbourne Water, is another parkland in Precinct 1 which serves an important drainage function in preventing flooding downstream by providing a considerable area for stormwater retention along the Dandenong Creek. In addition to its drainage function, the retarding basin features a high amenity parkland with recreational opportunities including fishing, cycling and dog walks. Shared paths near the retarding basin provide panoramic views of the hills.

The Basin Triangle

The Basin Neighbourhood Activity Centre (outside Study Area) is recognised as a Knox Gateway in the Planning Scheme and has opportunities for revitalization and enhancements to public realm. Car parking in road verges and reserves is a current problem the area.

Any commercial growth should be limited to the south of Mountain Highway while the priority in the north will be to preserve the openness and long range views.

Other constraints

Limited street lighting is available within the precinct. However, additional street lighting is not desirable due to its potential impact on wildlife.

The majority of the precinct is not connected to reticulated sewer. Servicing needs to be considered as part of any future proposal.

Objective:

To recognise and protect the values of Knox Green Wedges.

Action 1.14. Protect Precinct 1 from more intense urban development.

Objective:

To ensure land uses are carefully located and managed to be consistent with the values and functions of the Study Area.

Action 1.15. Ensure future land use and development complements the precinct's primary environmental and landscape values, including environmental conservation, agriculture, agribusiness, art and culture, with complementary small scale tourism-related purposes.

Action 1.16. Protect the Dobsons Creek valley, as a significant landscape with capable agricultural land, from inappropriate development and use that would compromise these values.

Action 1.17. Maintain the existing residential settlement character and prevent further intensification and vegetation loss. Consider bushfire risks and vegetation impacts early in the planning process and do not support proposals that rely on vegetation removal including for fire management or car parking.

Action 1.18. Maintain the current minimum subdivision sizes in Precinct 1 and prevent fragmentation of land.

Action 1.19. Support enhancements to amenity, scenic qualities and recreational values.

Action 1.20. Facilitate enhancements to The Basin Neighbourhood Activity Centre, through a potential master planning process, to

- strengthen and diversify commercial land use within the existing commercial zones to the south of the roundabout;
- protect and maximise public access to open range views to the north of the roundabout;
- revitalise and enhance the public realm and local character; and
- support and facilitate public art to complement the local character.

Action 1.21. For the larger rural properties within the central and western part of the precinct (GWZ2 and SUZ1), support discretionary uses (i.e. Section 2 uses) that are for tourism, agri-tourism, educational and commercial purposes, where proposals are sited and designed sensitively to protect and enhance the environmental, agriculture and landscape values of this precinct, and do not increase bushfire risk.

Action 1.22. Investigate opportunities to establish parkland to the north of The Basin Triangle roundabout to protect long range views from this location and provide additional passive recreation opportunities.

Action 1.23. In case of future changes to the SUZ1 zoning, support alignment with the VPP Green Wedge objectives and use permissibility, while preventing urban development and land fragmentation.

Access and Connectivity

Due to its general amenity and proximity to recreational and visitor destinations in the DRNP and Doongalla Forest, Precinct 1 presents great opportunities for recreational walking and cycling. Map 4 indicates the existing trails and tracks within and around Precinct 1, including:

- Existing tracks in the Doongalla Forest. Some of these are also used for horse riding.
- The Dandenong Creek Trail to the north-west of the precinct.
- Off-road paths along Mountain Highway and dedicated on-road cycle lanes along Forest Road.
- Victoria Walks Doongalla Homestead walk starts at the Basin shopping centre and visits multiple points of interest including Wicks Reserve, Chandler Oak heritage site and The Basin Theatre before heading into the forest. This walk uses Basin Olinda Road, Sheffield Road and Doongalla Road within Precinct 1.

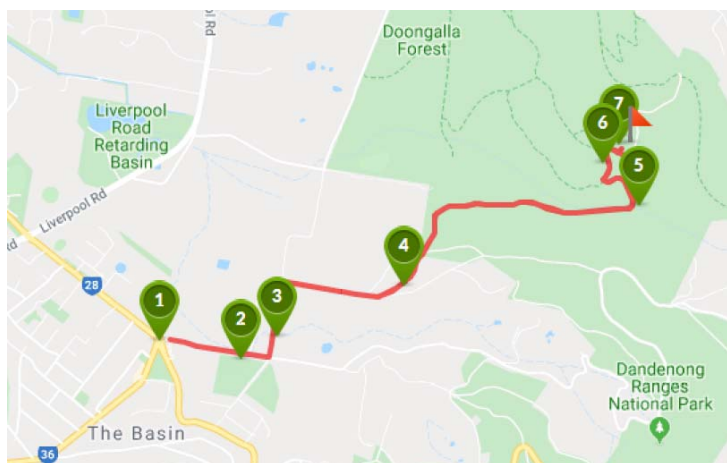


Figure 9 - Doongalla Homestead Walk (Source: Victoria Walks website)

In terms of public transport, bus route 755 runs along Mountain Highway and connects the Bayswater Station and Knox City Shopping Centre via Boronia, The Basin and Ferntree Gully. Other than the areas within the catchment of this route, the rest of Precinct 1 is not within walkable distance to public transport.

The precinct has a good level of access and permeability for vehicular movement. Mountain Highway and Basin-Olinda Road, and to some extent Old Coach Road, provide connectivity to destinations to the east and serve as tourist routes for visitors to the

Dandenong Ranges. Liverpool Road and Sheffield Road provide the essential north-south connectivity between the suburban areas to the south and Kilsyth/Kilsyth South to the north of the precinct. The precinct also contains some local roads, some of them being unsealed. It is noted that the unsealed roads contribute to the rural and natural character of the precinct and are not considered an issue.

While the precinct provides a good level of connectivity, there are concerns about traffic safety on local roads due to a conflict between walking/cycling and vehicle traffic, in particular on roads without segregated paths. A strong message from the public consultation for this precinct was related to a need for improvements to walking and cycling infrastructure. Multiple respondents mentioned the existing safety concerns along Liverpool Road and the need for an adequate segregated shared path. Similarly, there were concerns raised regarding movement safety along Sheffield Road/Doongalla Road due to a mix of pedestrian, bicycle, horse riders and vehicular traffic.

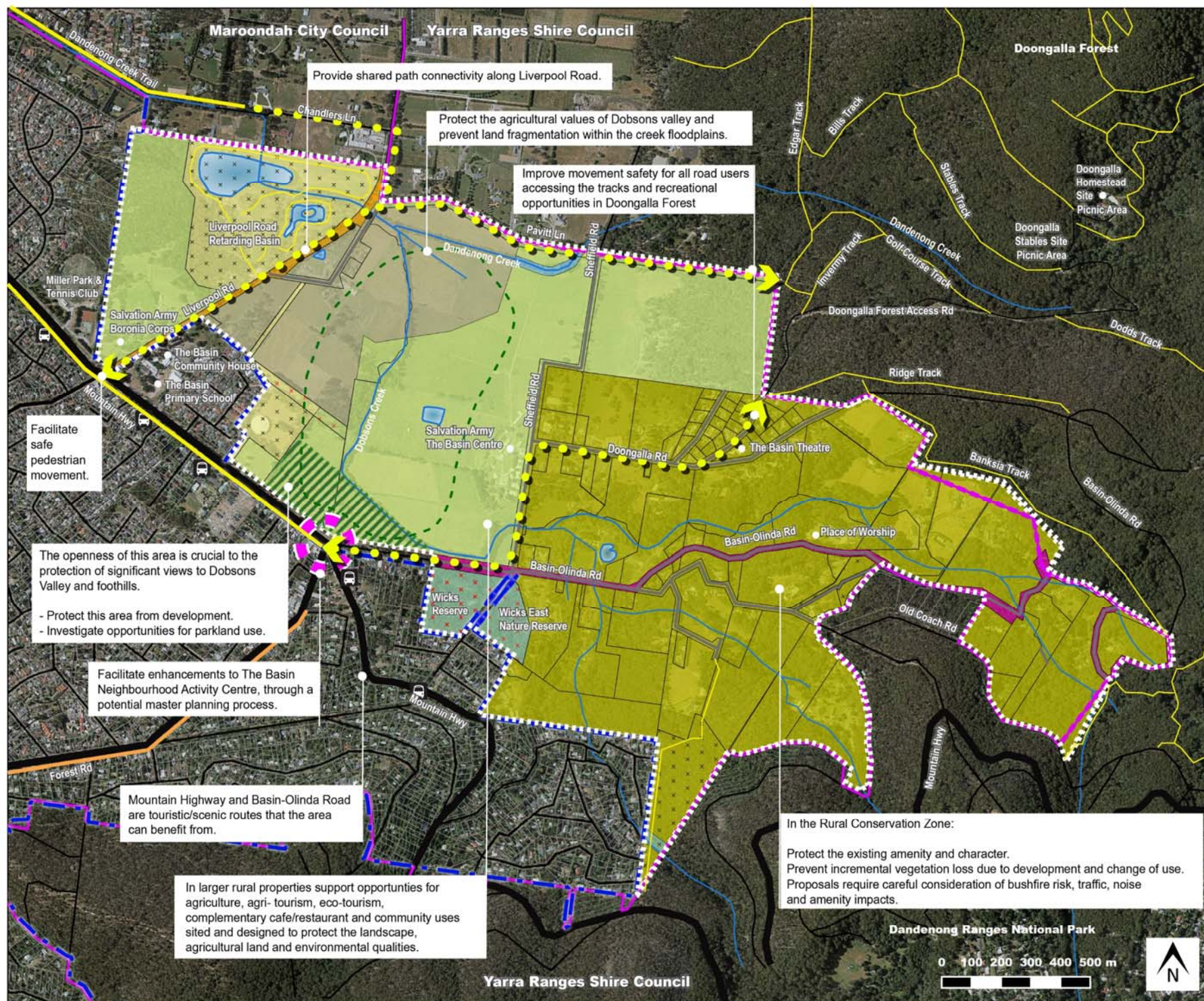
Another issue identified during the consultation was the need for a pedestrian crossing at the intersection of Liverpool Road and Mountain Highway to address current pedestrian safety issues near The Basin Primary School. There were also specific suggestions for additional trail linkages connecting to the existing tracks to the south of the precinct and to the Dandenong Creek Trail to the north-west.

While the community supported such improvements, it was also noted that new facilities should not be at the expense of native vegetation.

Objective:

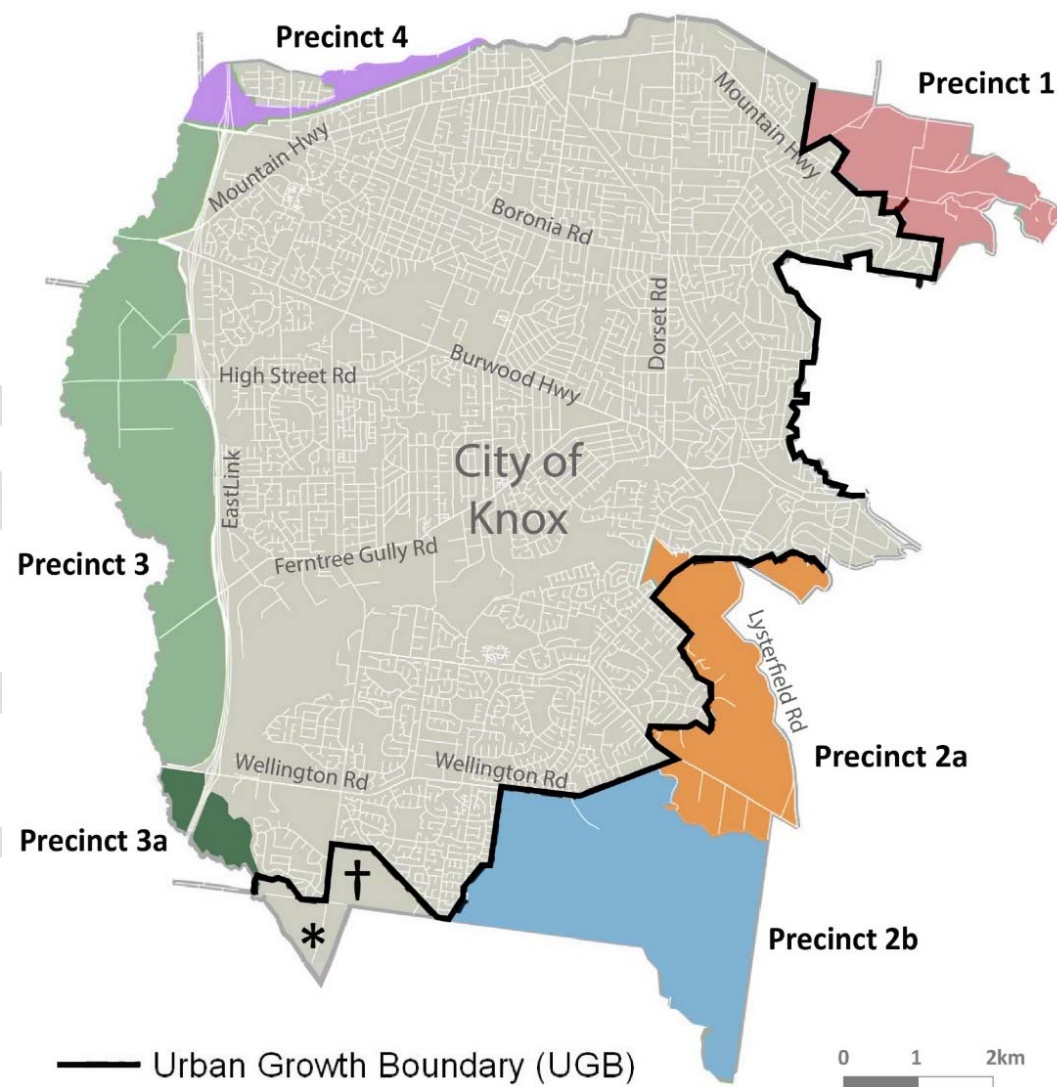
To facilitate connectivity and safe movement for all users.

- Action 1.24.** Investigate upgrades to the Sheffield Road/Doongalla Road route to:
- Provide a safe multi-user path for pedestrians, cyclists and horse riders.
 - Potentially reduce traffic speeds.
 - Provide signs regarding horse manure catcher and cleaning up after dogs.
- Action 1.25.** Investigate upgrades to the Liverpool Road to:
- Provide a shared path.
 - Facilitate improved pedestrian movement around the Mountain Highway intersection to ensure safe connectivity to The Basin Primary School.
- Action 1.26.** Advocate for improved pedestrian safety on Mountain Highway and Basin-Olinda Road near The Basin roundabout.



Precinct 2a:

Lysterfield Valley and Hills



Vision for Precinct 2a

The Vision for Precinct 2a reflects feedback received during public consultation involving the stakeholders and the community. Key themes from the public consultation are summarised below:

- **Prioritising environmental conservation**

Suggestions were made about moving the reference to biodiversity/wildlife connectivity earlier in the vision statement to give it a higher priority over other matters.

- **Green buffer role**

It was recommended that the vision acknowledges the role of this area as part of the green fringe backdrop of Knox providing a buffer between the urban landscape and the hills.

- **Future development**

Some comments stated that protecting this area from further development should be a priority, while others believed some development and growth should be permitted to allow people to enjoy living there.

- **General support**

Overall, there was a high level of support for the draft vision subject to minor changes.

Vision for Precinct 2a:

The Lysterfield Valley and Hills will be protected as a distinct landscape of natural and pastoral character providing an open green buffer on the edge of the urban area with important biodiversity and wildlife connectivity values. The precinct supports agriculture, rural industries and lifestyle living while providing an important role in flood management and water quality.

Theme 1: Ecology

Wildlife Habitat and Connectivity

Due to its creeks, pockets of native vegetation, farm dams and lack of intense development, Precinct 2a provides an important connection for wildlife movement between Lysterfield Park and the Upper Ferntree Gully block of the DRNP.

The southern two-thirds of this precinct contains well connected farm dams and is likely to provide important overland connections for water-dependent species such as the Southern Bullfrog and Eastern Snake-necked Turtle, as well as other ground dwelling amphibians such as the EPBC-listed Growling Grass Frog *Litoria raniformis*, which was historically recorded in this area.

While existing Scheme controls support wildlife conservation and connectivity, there are opportunities for strengthening habitat protection in particular in the vicinity of Monbulk Creek. Currently, Monbulk Creek is covered by a 20m wide ESO2. ESO2 also covers pockets of native vegetation across the precinct. It is understood that Yarra Range is considering a 30m wide ESO over the stretch of Monbulk Creek to the east of Precinct 2a. There are opportunities for connectivity/consistency with this adjoining overlay and to work with the property owners to improve the riparian corridor. The *Knox Wildlife Conservation and Connectivity Report* encourages habitat enhancements within a 200m corridor.

It is also noted that parts of the Site of Biodiversity area protected by ESO2 are being used for sheep grazing. This poses risks to vegetation and habitat values of this area.

The proposed Dorset Road Extension reservation runs through the floodplains of Monbulk Creek. Should the road be constructed in traditional ways, it is likely to have a negative impact on the wildlife conservation and connectivity values of this precinct. However, there are opportunities to approach this road project in ways that deliver improved connectivity benefits for both wildlife and people. A case study example of how this project could be undertaken to deliver both a transport and a wildlife corridor is presented in Appendix 8 of *Knox Wildlife Conservation and Connectivity Report*.

Six barriers to wildlife movement have been identified within or abutting Precinct 2a as shown on the map, generally where roads intersect the creeks.

Objective:

To protect and enhance biodiversity and wildlife connectivity.

Action 2a.1. Support enhancements to the riparian corridor of Monbulk Creek and strengthen habitat values and connectivity within 200m of the creek.

Action 2a.2. Review the existing ESO over Monbulk Creek to ensure it properly covers the environmentally significant areas, in consultation with Melbourne Water to identify the Core Riparian Zone (CRZ) and the adjacent vegetation buffers.

Action 2a.3. For the proposed Dorset Road Extension, advocate for a concept of a multi-modal road/pedestrian and nature conservation corridor that supports both wildlife and human connectivity and contributes to habitat restoration within 200m of Monbulk Creek.

Action 2a.4. Reduce the wildlife barrier effects at the following sites in accordance with the recommendations of Appendix 1 to this report:

- Monbulk Creek – Blackwood Park (ID 19)
- Monbulk Creek – Napoleon Road (ID 20)
- Monbulk Creek – Lysterfield Road (ID 21)
- Monbulk Creek – Dorset Road Extension (ID 40)
- Drainage Channel - Dorset Road Extension (ID 41)
- Drainage Channel – Lysterfield Road (ID 42)

Action 2a.5. Undertake initiatives for supporting/partnering with rural land-holders to protect and enhance the ecological values including the riparian vegetation, and ensuring grazing practices do not damage habitat values.

Waterways and Flood Management

The main waterway in Precinct 2a is the Monbulk Creek which runs through private properties and connects to Corhanwarrabul Creek to the west. The entire precinct is within the Corhanwarrabul Creek catchment.

The floodplains of the Monbulk Creek are currently protected by a 400m wide Land Subject to Inundation Overlay (LSIO). The floodplain map needs to be updated in the Scheme to ensure it covers flood prone areas based on up-to-date rainfall scenarios. This section of the creek also is covered by a rectangular shaped Floodway Overlay (FO). Considering the unnatural shape of the overlay, a review is required to investigate if the overlay is correctly imposed.

Further protection and enhancement in the northern section of this precinct could help strengthen the resilience of this area. For example, creek embankment and vegetation restoration within the 200m zone adjacent to Monbulk Creek are likely to reduce the risk of flooding in the downstream urban zones. This is something that has become increasingly important considering that construction has occurred in the Comprehensive Development Zone in Waterford Valley to the north-west of this precinct and that future climate will cause more extreme rainfall events.

It is also noted that a small section of Ferny Creek runs through Gilmour Park. This park is owned by Melbourne Water and is publicly managed.

The proposed Dorset Road extension alignment is located in proximity to Monbulk Creek within an areas affected by the 1% AEP flooding from the creek.

Objective:

To improve waterway health and flood management.

- Action 2a.6.** Protect the floodplains of Monbulk Creek from development and level change to maintain their flood storage and retention values and prevent flooding downstream.
- Action 2a.7.** Advocate for the proposed Dorset Road extension to consider flooding from Monbulk Creek and apply a water sensitive design approach to maximise the natural flow and retention of water.
- Action 2a.8.** Review the Floodway Overlay over Monbulk Creek to ensure it serves a purpose and covers the correct area.

Map 5

Precinct 2a - Lysterfield Valley and Hills

Theme: Ecology

Knox Green Areas & Rural Strategy (GARS)

Legend

Knox Wildlife Atlas (1995-2017)

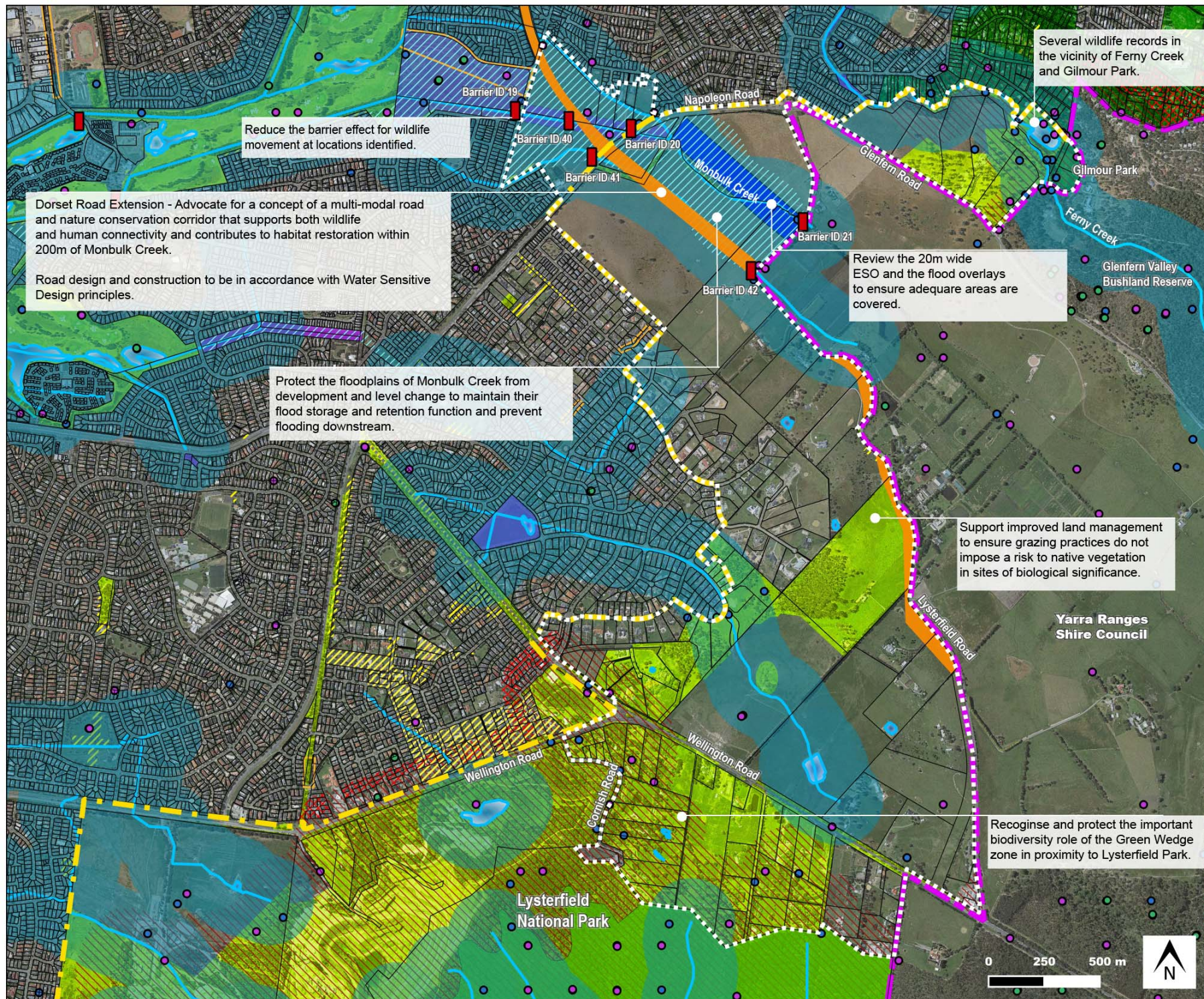
- Wildlife Records - Multiple Sources
- Wildlife Records - Victorian Biodiversity Atlas
- Knox Focal Species 2017
- Barriers to Wildlife Movement
- Waterways 200m Buffer

Knox Planning Scheme

- Environmental Significance Overlay 2 (ESO2)
- Environmental Significance Overlay 3 (ESO3)
- Floodway Overlay (FO)
- Vegetation Protection Overlay (VPO)
- Bushfire Management Overlay (BMO)
- PCRZ
- Urban Floodway Zone
- Public Acquisition Overlay (Vic Roads)
- Land Subject to Inundation Overlay (LSIO)

Other

- Precinct 2a Boundary
- Creeks and Lakes
- WSUD - Project Area
- Urban Growth Boundary
- Knox City Boundaries



Theme 2: Landscape and Heritage

Landscape Values

The *GARS Landscape and Character Study* (Hansen Partnership, 2019) states that open views towards the bare Lysterfield ridgeline are particularly prominent landscape elements in the local and regional panorama. The study recommends that the ridgeline and the associated slopes be recognised as an important scenic feature. The study identifies the following character areas and details key landscape values for each area:

No.	Description	Approach	Key Landscape Values
1	The Lysterfield Foothills Open Ridgelines	Protection	Bare open ridgelines and saddles, panoramic views from roads, windrow and vegetation clusters
2	The Wellington Road Flood Plain and Flats	Management	Rural integrity and open character, windrow and vegetation clusters, low-lying valley conditions
3	The Monbulk Creek Valley (Eastern Slopes)	Protection	Bare open ridgelines and saddles, panoramic Views from roads, windrow and vegetation clusters
4	The Monbulk Creek Floodplain	Monitoring	Open rural character, riparian vegetation, low lying valley conditions

The minimum subdivision area of 20ha in GWZ1 has been an important factor protecting the topographic landscape values. The majority of Precinct 2a is covered by SLO1 which protects vegetation and viewlines and controls building heights, development above 115m AHD, colours and materials. Clause 21.10 of the MSS also provides strategic direction to protect landscape values in this precinct. There are opportunities to build upon these existing provisions and provide specific guidance for the character areas above.

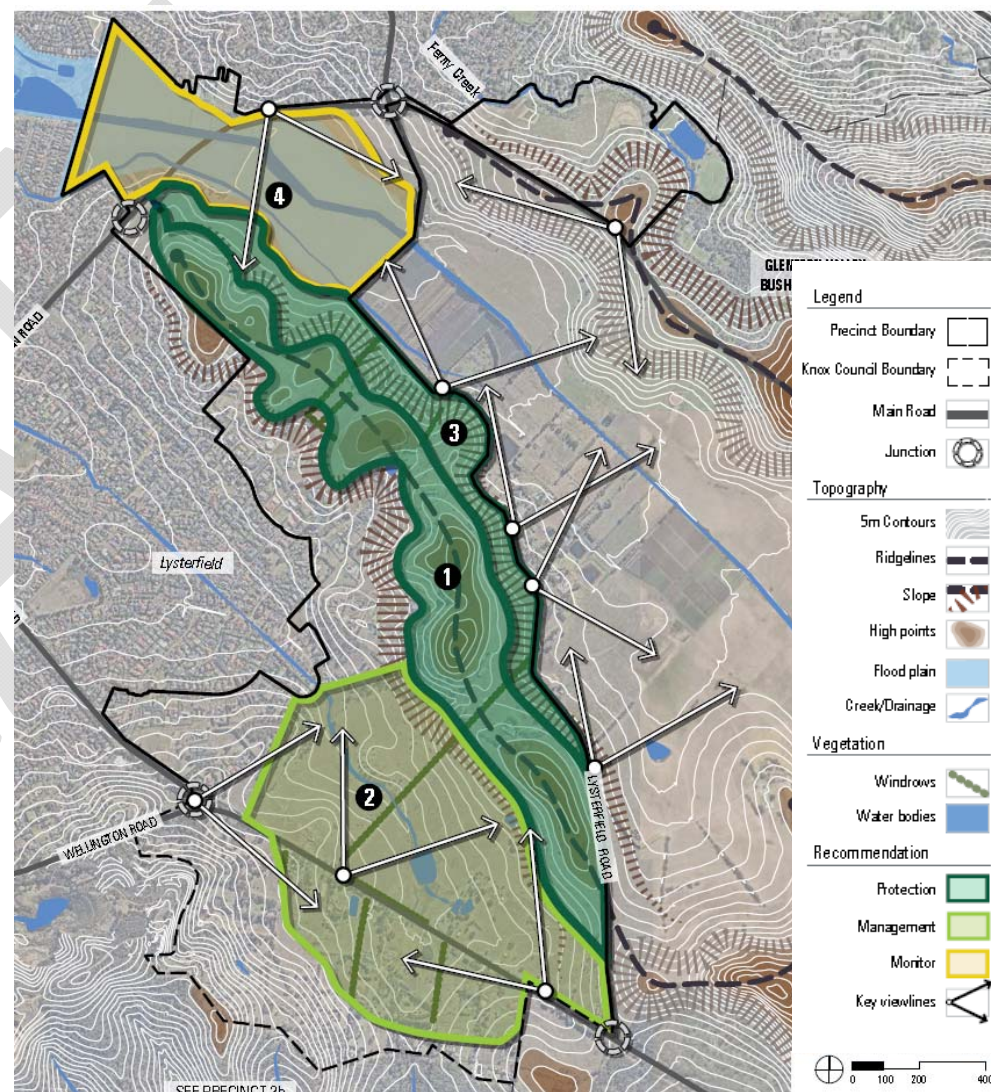
The proposed Dorset Road Extension will have a significant impact on Area 4 and long range views to the ridgeline in Areas 3 and 4.

Objective:

To protect and enhance local character and landscape values.

Action 2a.9. Review the existing Scheme provisions including the MPS, PPF and SLO1 in light of the findings of the *GARS Landscape and Character Study* (Hansen Partnership, 2019).

Action 2a.10. Advocate for the future Dorset Road extension design to respect the landscape character, and celebrate and emphasise the key views and the open rural character of the valley.



Map 6 – Precinct 2a Landscape Assessment (Source: Hansen Partnership)

Heritage

Precinct 2a contains areas of Aboriginal Cultural Heritage Sensitivity associated with Monbulk Creek and around Ferny Creek in Gilmour Park. Some artefact scatter is found in this precinct.

The precinct contains a number of Oak trees listed in the Heritage Overlay (HO) and five places from Heritage Study 1993 that are not included in the HO.

The *Preliminary Heritage Review: Knox Rural Heritage* (Context, 2017) reviews the existing heritage sites within the precinct (HO items and items listed in Knox Heritage Study 1993) and provides recommendations for each place.

Objective

To recognise, protect and promote existing heritage.

Action 2a.11. Ensure adequate consultation occurs prior to any proposals affecting the Aboriginal Sites and Areas of Cultural Sensitivity as shown on the heritage map.

Action 2a.12. Review the places of heritage significance in accordance with the recommendations from the *Preliminary Heritage Review: Knox Rural Heritage* (Context, 2017), as summarised in the table below.

	<ul style="list-style-type: none"> Need for more research to establish the historic landscape character and to help define significant sites and boundaries.
Former Lysterfield School, 1430 Wellington Road Lysterfield	<ul style="list-style-type: none"> Recommended for heritage assessment. Potential historic, aesthetic and social values.
Lysterfield cheese factory, Lysterfield Road	<ul style="list-style-type: none"> Place is also part of the Lysterfield valley landscape. Recommended for heritage assessment. Potential historic, aesthetic and social values.

Site Name and Description	Recommendations
HO Places	
HO43 Avenue of Honour, Lysterfield Road (ten Silky Oaks, two English Oaks)	<ul style="list-style-type: none"> Of historic and social significance Consider updating the heritage citation to incorporate the description provided in the Knox Heritage Study. Retain Heritage and Significant Landscape overlays.
Non-HO Places	
Lysterfield Valley Lysterfield	<ul style="list-style-type: none"> Recommended for heritage assessment for sites within the landscape. Recommended for Significant Landscape Assessment.
Fern Tree Gully Market Gardens (Remnant green corridor)	<ul style="list-style-type: none"> Recommended for heritage assessment for sites within the landscape. Recommended for significant landscape assessment.

Map 7

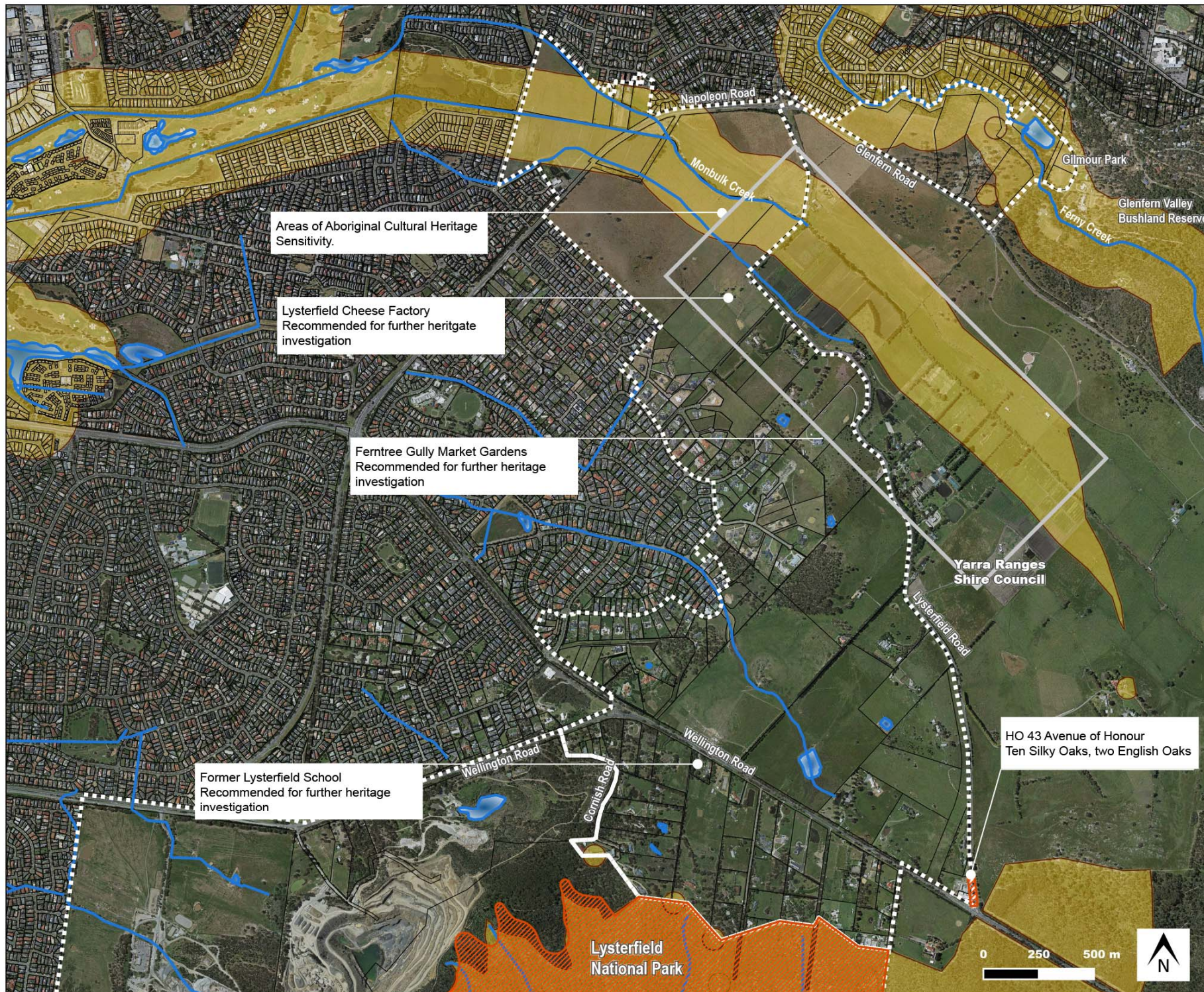
Precinct 2a - Lysterfield Valley and Hills

Theme: Heritage

Knox Green Areas & Rural Strategy (GARS)

Legend

-  Precinct Boundary
-  Creeks and Lakes
-  Heritage Overlay (HO)
-  Areas of Cultural Heritage Sensitivity (Aboriginal Victoria)



Theme 3: Land Use and Access

Land Use and Economy

The land use and economic analysis suggests that the economic potential for this precinct is achievable under the current Planning Scheme controls. Overall, the *GARS Economic Study* (Urban Enterprise, 2019) provides the following evaluation of economic, tourism, community and recreation potential for Precinct 2a:

Summary of Economic, Tourism, Community and Recreation Potential

Suitability for agriculture intensification	Medium
Suitability for agri- tourism	Medium
Suitability for standalone tourism uses	Low
Suitability for community / social enterprise	Low
Accessible to population catchments	Medium
Accessible by public transport	Low
Accessible by bike/hiking/ walking	Low
Suitability for Active Recreation	Low
Suitability for other intensive industry	Low
Suitability for Passive Recreation	Low

Central Valley and large Green Wedge lots

The central valley area within Precinct 2a is characterised by larger landholdings which contain hobby farms, lifestyle properties, horse agistment, horticulture and rural stores along Lysterfield Road. The northern part of this area is affected by the floodplains of the Monbulk Creek extending to the east into Yarra Ranges. There is a minimum Subdivision of 20ha in the Green Wedge Zone 1 (GWZ1).

Medium agricultural capability exists in the low lying areas of the Monbulk Creek floodplain. Elsewhere, agriculture potential is lower due to steep slope and water supply issues for commercial farming. In these areas, opportunities exist for livestock grazing, growing of low water crops, nurseries and other large format supplies.

A small area in the north of the precinct is within the Urban Growth Boundary. This area is zoned Rural Living (RLZ) however is highly affected by flooding from Monbulk Creek and is currently used for farming (incl. brussel sprouts) and rural living purposes.

Larger land holdings in the Lysterfield Valley provide for the agricultural uses while maintaining the open rural landscape character of the valley. Potential uses for this precinct are livestock grazing, perennial horticulture, nursery, large format supplies and restaurants if co-located with and ancillary to other uses such as a vineyard or garden centre. The existing minimum subdivision including the 20ha which applies in the GWZ1 is considered appropriate in this area.

Agricultural production in the precinct is at the risk of land fragmentation, in particular as Dorset Road extension will cut through the precinct. High land values and encroachment issues also threaten long term viability of commercial horticulture enterprises.

Green Wedge lots

Relatively smaller rural residential lots in the range of 2-4ha are located in the northern and southern part of the precinct in Green Wedge Zone 2 (GWZ2). This zone consist of grazing land on the hillside to the north of Glenfern Road, as well as smaller lots in the range of 2-3ha to the south of Wellington Road. These lots provide for a variety of rural uses including lifestyle living, hobby farming and dog kennels.

The area south of Wellington Road has provided for a different range of rural economy within the precinct. Site layouts and considerable building setbacks from Wellington Road have provided for a high quality scenic amenity and rural character in this area. These lots also have an important biodiversity role due to their proximity to Lysterfield Park

Rural Conservation lots

The western part of the precinct is characterised by smaller Rural Conservation Zone (RCZ1) lots in the range of 0.5ha to 2ha which are located on the edge of the urban area in proximity to the suburban residential areas of Lysterfield. The subdivided area within this zone has resulted in a relatively intense residential character with limited vegetation or biodiversity value which is not in line with the zone purpose. Most of the lots contain extensive building footprints consisting of large houses and outbuildings.

The rural residential uses support home based business of varying typologies including creative businesses, construction trades and other professional services.

Public Art Opportunities

The future Dorset Road extension within the Monbulk Creek valley in Precinct 2a will be a highly visible alignment within a scenic landscape setting. This corridor offers opportunities for the incorporation of public art to complement the landscape and mitigate the visual impact of the new road.

Objective:

To recognise and protect the values of Knox Green Wedges.

Action 2a.13. Protect Precinct 2a from more intense urban development.

Objective:

To ensure land uses are carefully located and managed to be consistent with the values and functions of the Study Area.

Action 2a.14. Maintain the current zoning regime.

Action 2a.15. Support the continuation of agriculture within the floodplains of Monbulk Creek.

Action 2a.16. Acknowledge and support the different role of each zone within this precinct to enable a diversity of rural economy and character.

Action 2a.17. Maintain the current minimum subdivision lot size requirements to support landscape values and agricultural potential of land.

Action 2a.18. Support land use which respects the existing landscape character, protect key viewlines and provides positive biodiversity outcomes.

Action 2a.19. Support tourism, agri-tourism and restaurant/café uses where they are accompanied by agriculture or natural systems and protect the landscape and character values.

Action 2a.20. Support and facilitate public art along the Dorset Road extension within the Monbulk Creek valley in Precinct 2a.

Access and Connectivity

The precinct is well connected for vehicular movement through a network of arterial roads (Wellington Road, Lysterfield Road, Napoleon Road, Glenfern Road and Kelletts Road) and local roads within the precinct.

These roads also provide important routes for visitors to the Dandenong Ranges including Wellington Road which serves as a key gateway and touristic corridor into the hills.

Overall, public transport connectivity is limited to Precinct 2a. Bus Route 691 runs along Napoleon Road connecting the local residents to Boronia and Waverley Gardens. Routes 681 and 682 which are loop services to the Knox City Shopping Centre run via Kelletts Road, Rosewood Boulevard and Heritage Way. Some of the smaller Rural Conservation lots are within walking distance to these bus routes.

Precinct 2a benefits from proximity to Lysterfield Park, which contains very popular and highly used bushwalking and mountain biking trails. There are opportunities to improve connectivity and access to these trails.

Roads in/abutting Precinct 2a do not provide segregated bike lanes or shared paths. The State Government plans propose new on-road cycle lanes along Wellington Road, Kelletts Road and Napoleon Road.

Objective:

To facilitate connectivity and safe movement for all users.

Action 2a.21. Advocate to the State Government to provide cycle lanes along Wellington Road, Kelletts Road and Napoleon Road.

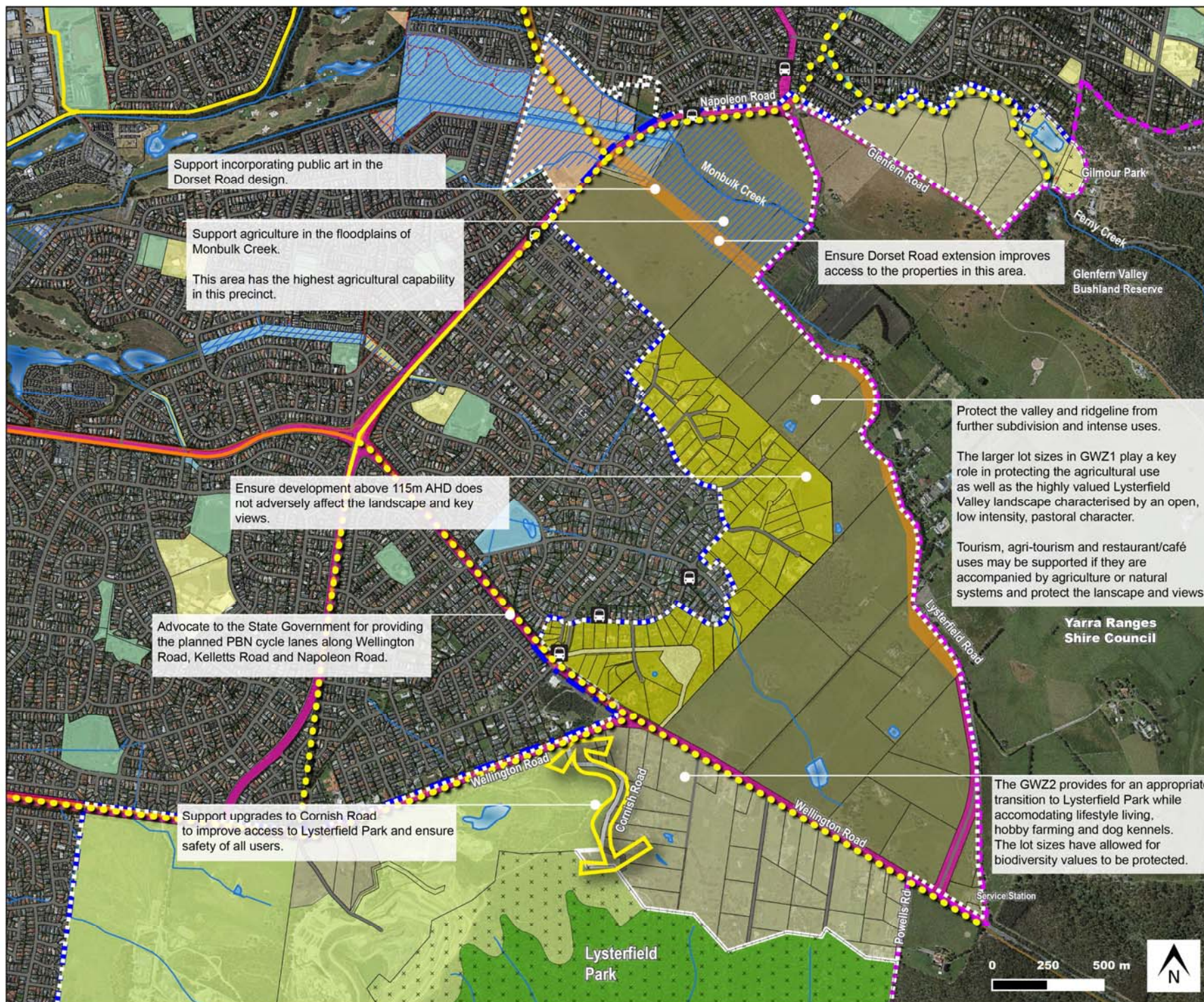
Action 2a.22. Ensure Dorset Road extension improves access to rural lots in the Monbulk Creek Valley.

Map 8

Precinct 2a - Lysterfield Valley and Hills

Theme: Land Use & Access












Knox Green Areas & Rural Strategy (GARS)




Legend

-  Precinct Boundary
-  LGA Boundaries
-  Urban Growth Boundary
-  Creeks and Lakes Areas
-  Cadastre

Zones - Knox Planning Scheme

-  GWZ1
-  GWZ2
-  PCRZ
-  PPRZ
-  PUZ1
-  RCZ2
-  RDZ1
-  RLZ
-  UFZ
-  Land Subject to Inundation Overlay (LSIO)
-  Public Acquisition Overlay (Vic Roads)

Road Centrelines

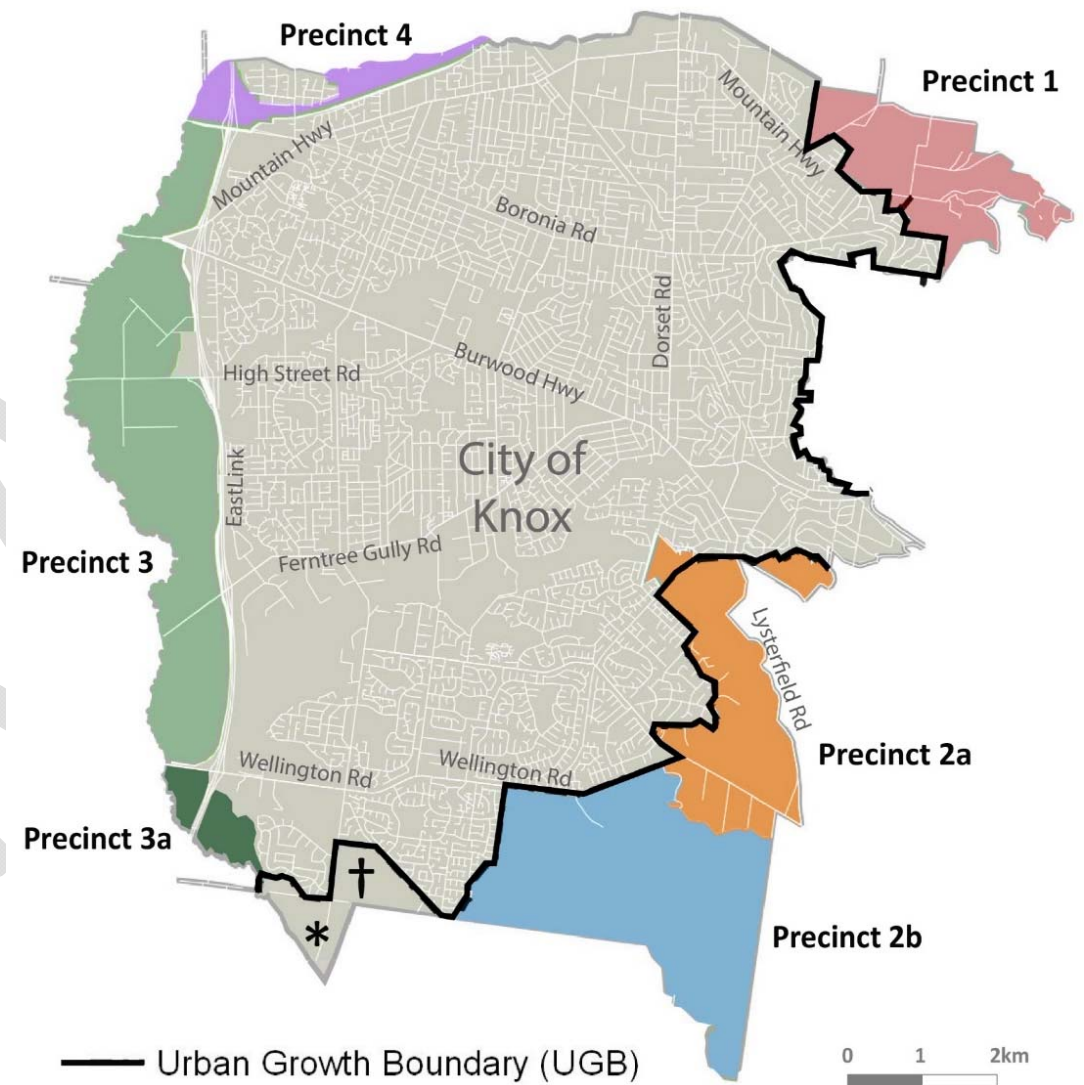
-  Local Streets/Rds

Pedestrian/Bicycle Network

-  Existing On Road
-  Existing Off Road
-  Proposed Walking/Cycling Routes
-  Proposed Multi-user Road Enhancements

Precinct 2b:

Lysterfield Quarries and Surrounds



Vision for Precinct 2b

The Vision for Precinct 2b reflects feedback received during public consultation involving the stakeholders and the community. Key themes from the public consultation are summarised below:

- **Prioritising environmental conservation**

Protecting vegetation and wildlife in this precinct was considered an important priority for many respondents.

- **Extractive industries**

A considerable level of opposition was expressed to the operation of the two quarries in this precinct, in terms of their scenic, environmental and amenity impacts. In this respect, it is noted that the quarries' lifetime and operation is regulated by the Victorian Government and exempted from KCC planning approval process. The vision seeks to recognise the economic role of the quarries while managing their impact on the surrounding area.

- **Tourism**

Some concerns were raised about the notion of tourism, in particular as it may be interpreted as significant or intense tourism uses. The vision has been amended to clarify that improving access to nature tourism opportunities in the national parks is intended.

Vision for Precinct 2b:

The Lysterfield Quarries and Surrounds will preserve significant vegetation and habitat within Lysterfield Park and Churchill National Park while enhancing access to recreation and nature tourism opportunities. The precinct will continue to provide a low density rural buffer between the urban area and the sensitive wildlife habitat in the national parks. The economic role of the existing extractive industries will be supported while minimising negative impacts on the surrounding urban areas.

Theme 1: Ecology

Wildlife Habitat and Connectivity

Precinct 2b contains portions of Lysterfield Park and Churchill National Park that hold significant ecological and biodiversity values.

The north-east section of this precinct abuts rural land in Precinct 2a, with the many farm dams and the adjacent catchment of Monbulk Creek. Maintaining this connection between the native vegetation and the adjacent agricultural lands will help preserve the populations of Short-beaked Echidna, Southern Bullfrog, Black Wallaby, and the four bird focal species that occur in this landscape.

The national park areas are well protected through a combination of zoning (PCRZ, PPRZ), public ownership, environmental (ESO) and heritage (HO) overlays. The vegetation outside the parkland is also protected by the ESO.

While the majority of existing vegetation in Precinct 2b is protected by overlays, exemption from Planning Permit processes may apply within the scope of the approved work plans for the two quarries. This makes some of the sites of biodiversity in Precinct 2b vulnerable to future clearing in case of extensions to quarry activities. Hanson Quarry has indicated of its intention to expand the quarry activities to the west of the existing quarry area. This is likely to impact native vegetation in this area.

The northern part of Precinct 2b serves as an important buffer between the Rowville residential areas to the north and the significant habitat areas in Lysterfield Park and Churchill National Park. It is important that this rural buffer is protected and maintained. The fact that this area is outside the Urban Growth Boundary helps with the protection of this buffer from intense development.

The precinct offers great opportunities for additional vegetation planting to strengthen the existing habitats. Clause 21.10 of the Scheme requires 80% of all new vegetation (both canopy trees and understorey) to be indigenous.

Objective:

To protect and enhance biodiversity and wildlife connectivity.

Action 2b.1. Maintain the northern area within Precinct 2b as a low density, rural, open space area to create a buffer between the Rowville residential areas and the sensitive habitat in Lysterfield Park and Churchill National Park.

Action 2b.2. Maintain the current Urban Growth Boundary to prevent intense development within Precinct 2b.

Action 2b.3. Undertake planting and revegetation within Precinct 2b, with the objective of maintaining and strengthening wildlife connectivity and linkages to the bushland areas within Lysterfield Park and Churchill National Park.

Action 2b.4. Require a net gain contribution for any vegetation removal as part of the planned quarry expansion, by native vegetation planting to enhance habitat and wildlife connectivity.

Waterways and Flood Management

The precinct contains a number of streams and much of the catchment for these streams which feed into Lysterfield Lake. The majority of Lysterfield Park is within the Eumemmerring Creek catchment with the north western part the precinct being within the Dandenong Creek (Police Road to Bayswater Road) catchment.

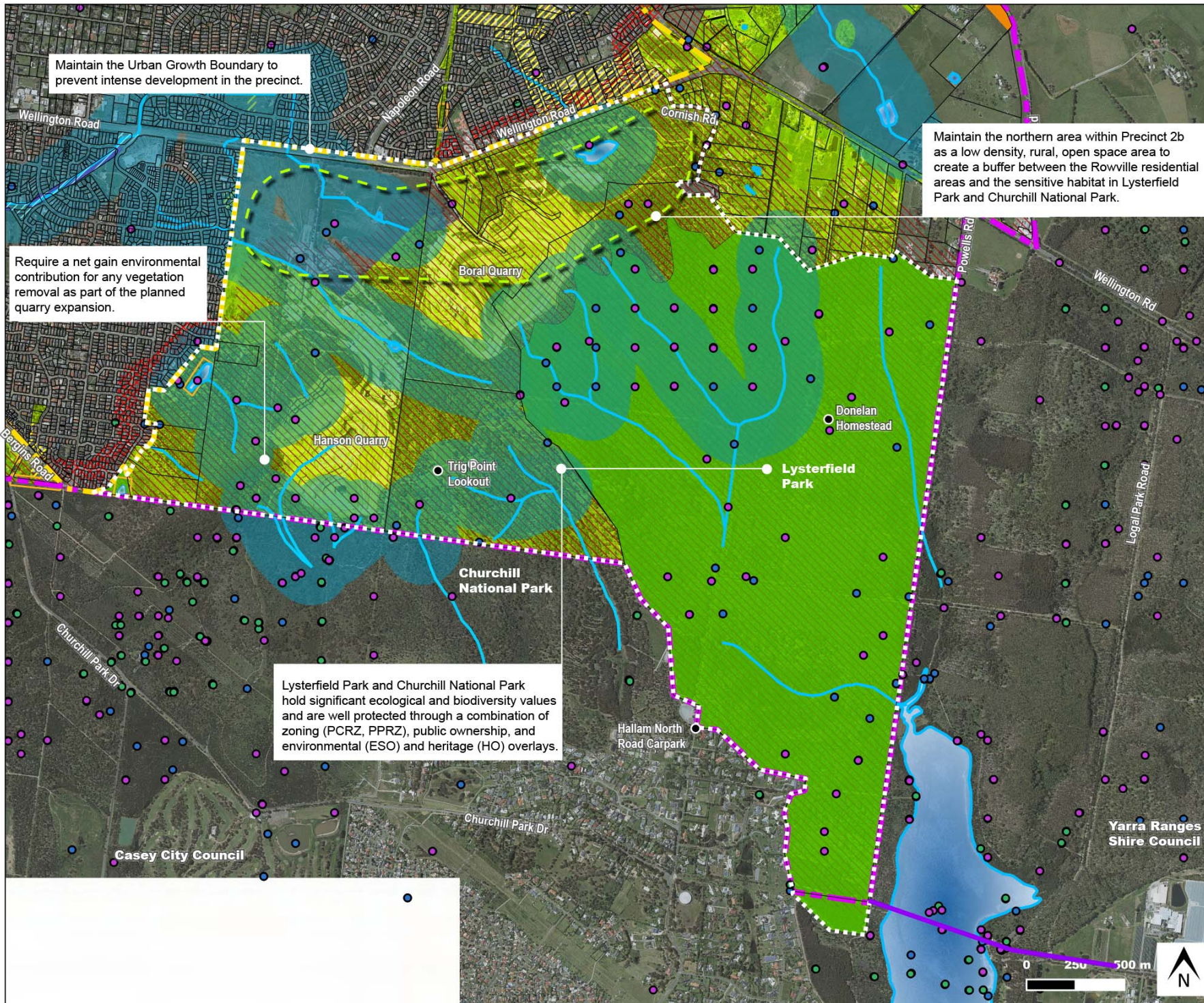
A number of small lakes exist in the precinct, including one within Heaney Park. The key waterways in this precinct are in a public zone and well protected by the planning framework.

Map 9

Precinct 2b - Lysterfield Quarries and Surrounds

Theme: Ecology

Knox Green Areas & Rural Strategy (GARS)



Legend

Knox Wildlife Atlas (1995-2017)

- Wildlife Records - Multiple Sources
- Wildlife Records - Victorian Biodiversity Atlas
- Knox Focal Species 2017

Knox Planning Scheme

- Environmental Significance Overlay 2 (ESO2)
- Vegetation Protection Overlay (VPO)
- Bushfire Management Overlay (BMO)

Zones - Areas

- PCRZ
- UFZ

Other

- Creeks and Lakes
- WSUD - Project Area
- Precinct 2b Boundary
- Urban Growth Boundary
- Knox City Boundaries

Theme 2: Landscape and Heritage

Landscape Values

The *GARS Landscape and Character Study* (Hansen Partnership, 2019) recommends that the defining forested edge of this part of Knox be recognised. Topography and native vegetation cover are important features in this precinct with key view corridors along Wellington Road to both the east and west. The study identifies the following character areas (as shown on the map) and details key landscape values for each area:

No.	Description	Approach	Key Landscape Values
1	The Rising Wellington Road Ridgelines	Management	Native bushland condition
2	The Lysterfield Park and Bushland Silhouette	Protection	Native bushland condition
3	The Extractive Industries and Works	Management	N/A
4	The Open Grazing Land	Monitoring	Rural integrity and open character

The vegetation and landscape qualities of Lysterfield Park are well protected through zoning and public ownership of land. The majority of Precinct 2b is covered by SLO1 which protects vegetation and viewlines. SLO1 also controls building heights, development above 115m AHD, colours and materials.

The north-western corner of the precinct (within Area No 4) is covered by SLO5 which requires that development is sensitive to the natural characteristics of the land including slope, terrain and any remnant vegetation, and that development minimises impact on views of the Dandenong Ranges, Lysterfield Valley, Lysterfield Hills and significant ridgelines.

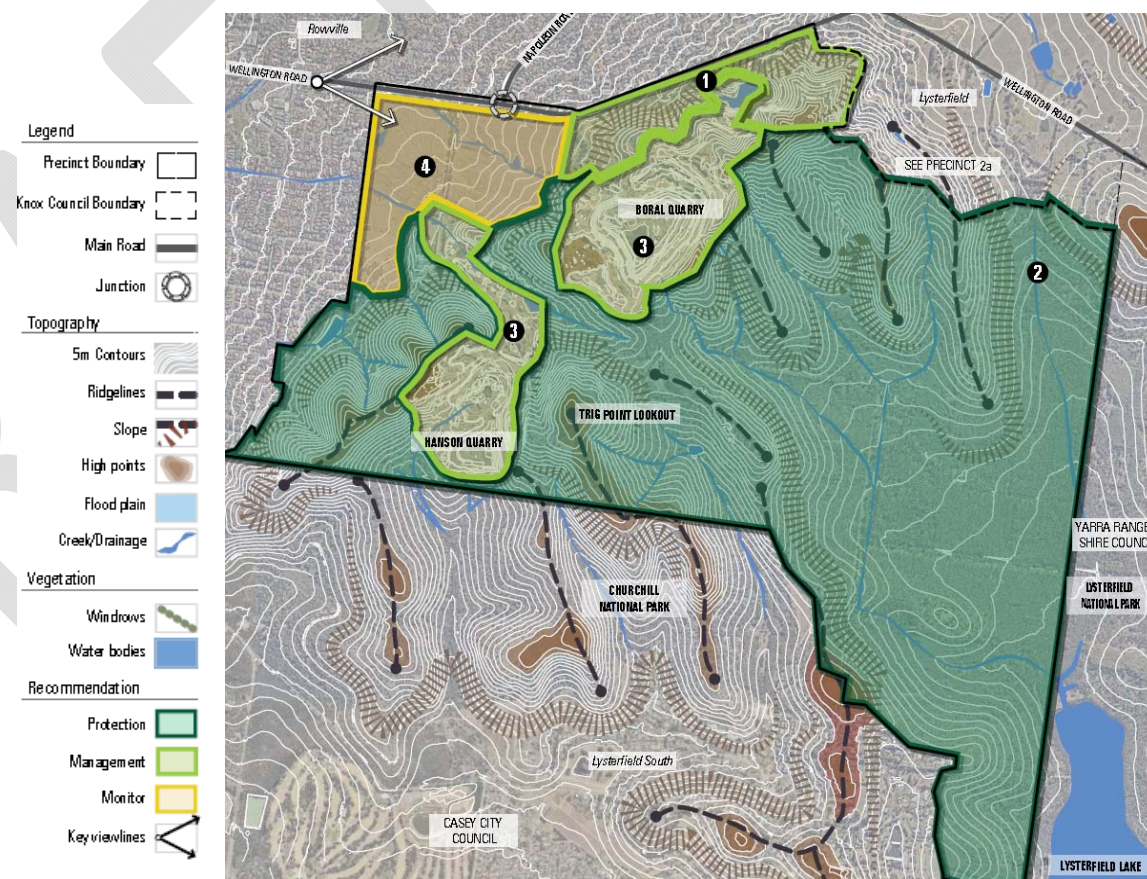
The Scheme at clause 21.10 provides strategic direction to protect landscape values in this precinct. There are opportunities to expand these provisions.

Objective:

To protect and enhance local character and landscape values.

Action 2b.5. Review the existing Scheme provisions including the MPS, PPF and SLO1 and SLO5 in light of the findings of the *GARS Landscape and Character Study* (Hansen Partnership, 2019).

Action 2b.6. Ensure future changes on Hanson Quarry land do not adversely impact the key landscape values.



Map 10 – Landscape Assessment (Source: Hansen Partnership)

Heritage

Precinct 2b contains areas of Aboriginal Cultural Heritage Sensitivity and artefact scatter within Lysterfield Park.

Precinct 2b includes two heritage places listed in the HO and two non-listed places listed in Knox Heritage Study 1993. The *Preliminary Heritage Review: Knox Rural Heritage* (Context, 2017) reviews the existing heritage places within the precinct (HO and non-HO items) and provides recommendations for each place.

Action 2b.7. Ensure adequate consultation occurs prior to any proposals affecting the Aboriginal Sites and Areas of Cultural Sensitivity as shown on the heritage map.

Action 2b.8. Review the places of heritage significance in accordance with the recommendations from the *Knox Rural Heritage Report* (Context, 2017), as summarised in the table below.

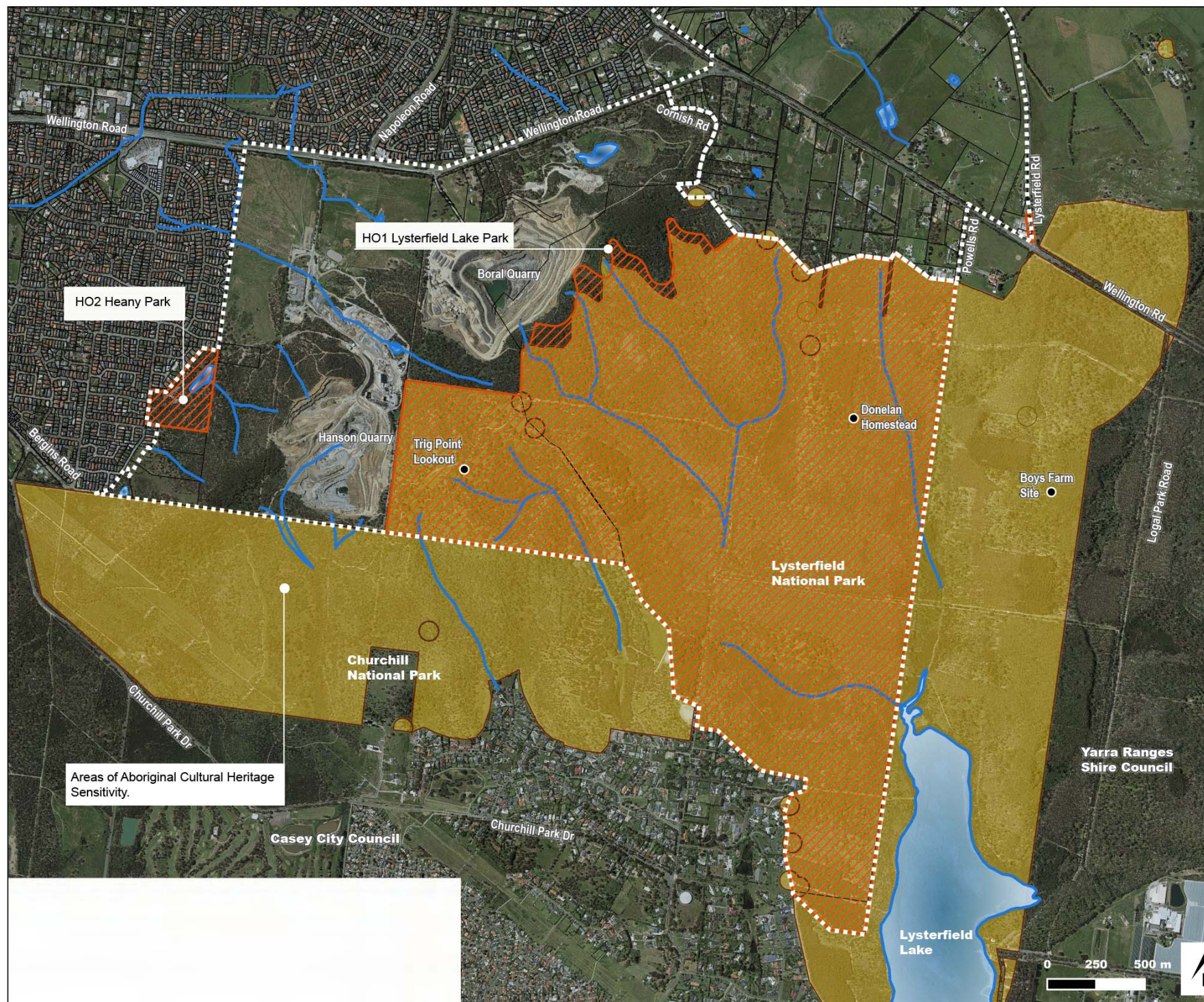
Site Name and Description	Recommendations
HO Places	
HO1 Lysterfield Lake Park	<ul style="list-style-type: none"> • Of historic (HO1) and environmental significance (ESO2) • Public land, recommend co-ordination with Parks Victoria for assessment of individual sites
HO2 Heany Park	<ul style="list-style-type: none"> • Well documented, no further consideration • Retain heritage and other overlays
Non-HO Places	
Churchill National Park, Churchill Road Rowville	<ul style="list-style-type: none"> • Public land, co-ordinate with Parks Victoria. • Recommend heritage assessment for specific sites within the Park
Lysterfield Quarries	<ul style="list-style-type: none"> • Heritage assessment not recommended

Map 11

Precinct 2b - Lysterfield Quarries and Surrounds

Theme: Heritage

Knox Green Areas & Rural Strategy (GARS)



Legend

-  Precinct Boundary
-  Creeks and Lakes
-  Heritage Overlay (HO)
-  Areas of Cultural Heritage Sensitivity (Aboriginal Victoria)

Theme 3: Land Use and Access

Land Use and Economy

Overall, the *GARS Economic Study* (Urban Enterprise, 2019) provides the following evaluation of economic, tourism, community and recreation potential for Precinct 2b:

Summary of Economic, Tourism, Community and Recreation Potential

Suitability for agriculture intensification	Low
Suitability for agri- tourism	Low
Suitability for standalone tourism uses	Low
Suitability for community / social enterprise	Low
Accessible to population catchments	Medium
Accessible by public transport	Low
Accessible by bike/hiking/ walking	Medium
Suitability for Active Recreation	High
Suitability for other intensive industry	High
Suitability for Passive Recreation	High

Public Parks

The parts of Lysterfield Park and Churchill National Park that fall within Precinct 2b contain sloped areas of forest and woodland which are owned and managed by Parks Victoria. The parks are popular for a variety of recreational activities including walking, cycling, nature tourism, picnic, horse riding, mountain biking and orienteering.

Lysterfield Park is one of the best places to mountain bike close to Melbourne. It contains parts of the State Mountain Bike Course which was used for the 2006 Commonwealth Games. The course consists of a network of well connected trails which flow up and down steep hills and through native vegetation. A short diversion from the top of the State Mountain Bike Course provides access to Trig Point Lookout which offers views across to Melbourne's CBD.

The management framework for the area is outlined in Parks Victoria's document *Churchill National Park and Lysterfield Park Management Plan* which was originally prepared in 1998. Parks Victoria amended the management plan in 2020 to reflect changes to the recreational use of these parks over the past twenty years. The scope of this amendment

process was to recognise mountain biking as a significant recreational activity in the park, document existing trails, update management zones and ensure contemporary management practices for Aboriginal cultural heritage are reflected in the management plan. Northern areas within the park have been identified to be protected by a special protection area and special management areas overlay in the amendment to the park management plan to protect park values. The parks have nature based recreation and tourism values that could be enhanced in line with the management plan recommendations.

Within the surrounding area, there are opportunities for outdoor education uses that can leverage from the extensive mountain biking activity that takes place in the precinct of Lysterfield Park.

Heany Park is also a smaller park along the western boundary of Precinct 2b which is owned by KCC. The Park consists of a bushland and a lake, accommodates scout camps and is home to Heany Park Scout Group. The park and the Green Wedge lots to its south provide an important vegetated buffer between the Hanson Quarry and the residential areas to the west.

Extractive Industries

There are two quarries in Precinct 2b operated by Boral and Hanson Australia. Together, the two quarries place Knox as the 4th most critical resource location for hard rock in Victoria.

The quarries have operated for over 30 years, and are currently operating pursuant to Work Authorities issued by the State Government. Hanson Australia seeks to expand its existing extraction limits which would extend the operating life of the quarry by five to ten years, with potential cessation of quarrying activities at the site in 25-30 years.

The extractive industries in this precinct are significant suppliers to the Melbourne construction industry and are well located for supplying the Melbourne region. They provide a significant economic role, including employment and economic output within the region.

The quarries are located on two large parcels of land zoned Special Use Zone (SUZ2). Limited guidance is currently provided within the planning framework regarding future use following the cessation of operation. While such development will be outside the life of his strategy, it is considered that the sustainable long term use of the land should avoid creating a lake following the completion of quarrying and aim for an improved community outcome, including ongoing protection of remaining significant vegetation outside the

extent of extraction, improved access to the national parks and the provision of active and passive recreation opportunities.

Rural Use

The northern strip of Precinct 2b is currently used for rural purposes including grazing and horse agistment on parts of the Hanson quarry land. The precinct also includes a number of smaller privately held Green Wedge Zone (GWZ2) lots abutting Wellington Road and to the south of Heany Park.

This rural area provides an essential buffer role between the Urban Growth Boundary and Lysterfield Park which helps protect the significant biodiversity and scenic landscape values of the park. In case of future rezoning following the life of the quarries, urban development outside the UGB will not be supported. A GWZ2 zone may be appropriate, in line with the existing residential pockets within this rural buffer, subject to detailed investigation.

The northern part of the Hanson Quarry land is clear of vegetation and is currently used for grazing/agistment. There are opportunities for community uses during the ongoing operation of the quarry through the provision of an active recreation complex. KCC has been liaising with Hanson regarding the potential development of the north eastern portion of the Hanson property for community facilities including sporting ovals.

Economic opportunities in Precinct 2b will be based on those uses that can build upon and complement the existing land uses such as recreation and education opportunities including outdoor education. Due to existing land use patterns and constraints, there are limited opportunities for other land uses including agriculture.

Public Art Opportunities

The future Dorset Road extension within the Monbulk Creek valley in Precinct 2a will be a highly visible alignment within the broader setting. This corridor offer opportunities for public art to complement this scenic landscape and mitigate the visual impact of the highway.

Objective:

To recognise and protect the values of Knox Green Wedges.

Action 2b.9. Protect Precinct 2b from more intense urban development.

Objective:

To ensure land uses are carefully located and managed to be consistent with the values and functions of the Study Area.

Action 2b.10. Support the ongoing operation of the Boral and Hansen Quarries within the approved work plan areas.

Action 2b.11. Investigate and support the use of the northern part of the Hanson quarry land for active recreation and sporting facilities.

Action 2b.12. Encourage the use of the quarry land following the completion of quarrying to provide for improved community and environmental outcomes, and facilitate permeability to enhance community access to the national parks.

Action 2b.13. Investigate general alignment with the Green Wedge Zone 2, in case of future rezoning of the northern part of the precinct, to provide a low intensity buffer to the national parks.

Action 2b.14. Collaborate with Parks Victoria regarding enhancements to nature based recreation and tourism opportunities within Lysterfield Park and improving access from Knox.

Action 2b.15. Support and facilitate public art along Wellington Road potentially as part of future planned ovals/recreation reserve.

Access and Connectivity

Precinct 2b can provide a positive role in improving connectivity between Lysterfield Park and the residential areas to the north of precinct 2b.

The main access to Lysterfield Park and its highly valued trail network is from south and currently, direct access is limited for the nearby residents in Knox. The quarries act as a physical barrier and there is a lack of connecting shared paths/tracks or a formalised entry point from Knox.

This has resulted in informal car parking issues in the vicinity including on Lysterfield Road approaching the Wellington Road intersection. Powells Road and Cornish Road currently provide informal entry to the parks which creates issues for the local residents. Powells Road has limited capacity due to its narrow road reservation and local traffic generated by rural industry uses. Cornish Road, on the other hand, is believed to be a more suitable option, however, requires substantial upgrades. The current issues relate to traffic and cyclist safety, drainage issues and environmental degradation. It is noted that the *Churchill*

National Park and Lysterfield Park Management Plan does not provide for improved access from the northern side.

The precinct is not within walking catchment of public transport, which is another reason why urban development should not be supported.

Objective:

To facilitate connectivity and safe movement for all users.

Action 2b.16. Provide connectivity between the Lysterfield Park trail network and the suburban areas, as part of future redevelopment of the quarries.

Action 2b.17. Investigate opportunities for upgrades to Cornish Road and the possibility of a formalised entry point, including car parking, to provide access to Lysterfield Park, in collaboration with Parks Victoria.

Action 2b.18. Facilitate improvements to Powells Road to address existing informal car parking issues.

Map 12

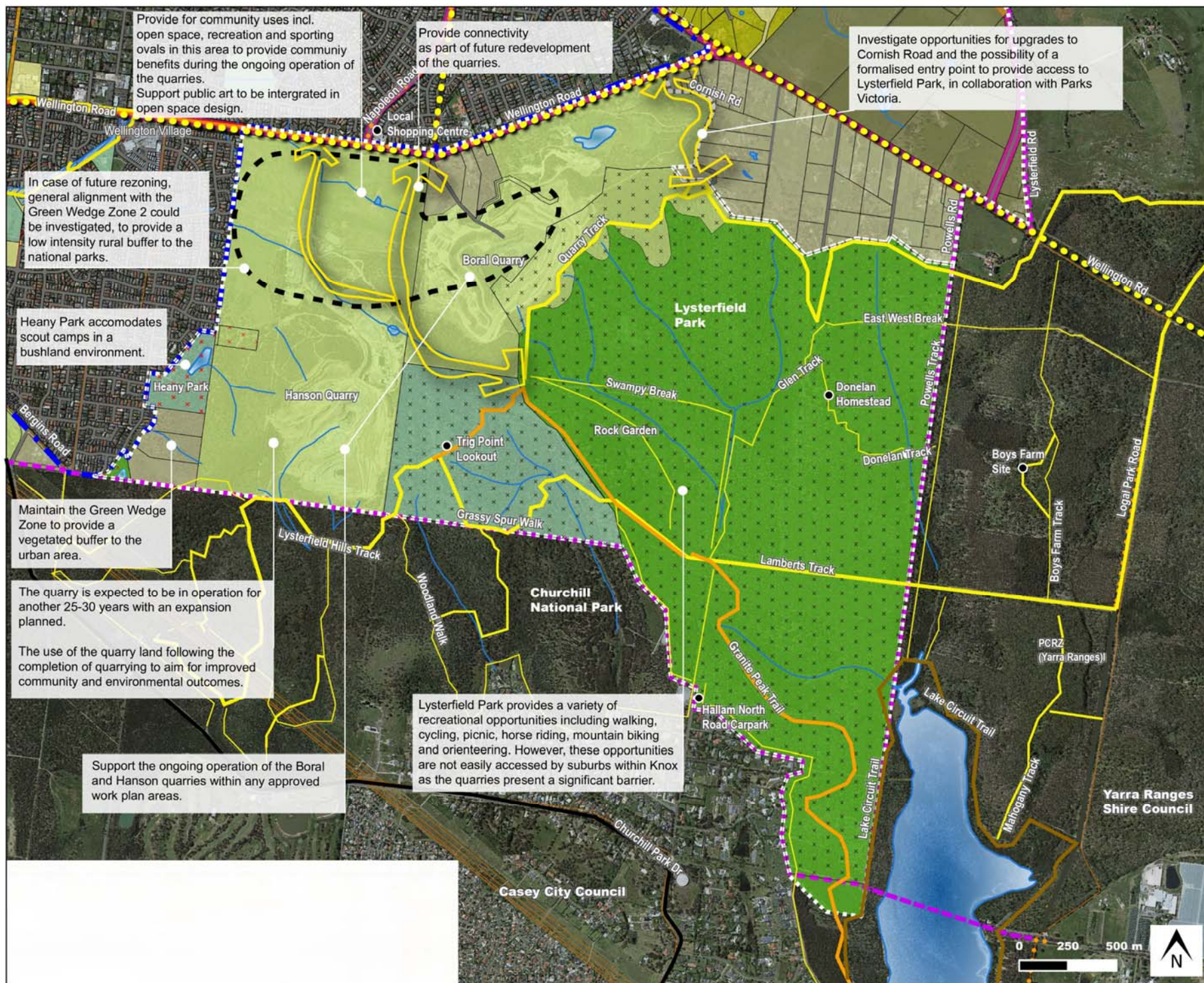
Precinct 2b - Lysterfield Quarries and Surrounds

Theme: Land Use & Access

Knox Green Areas & Rural Strategy (GARS)

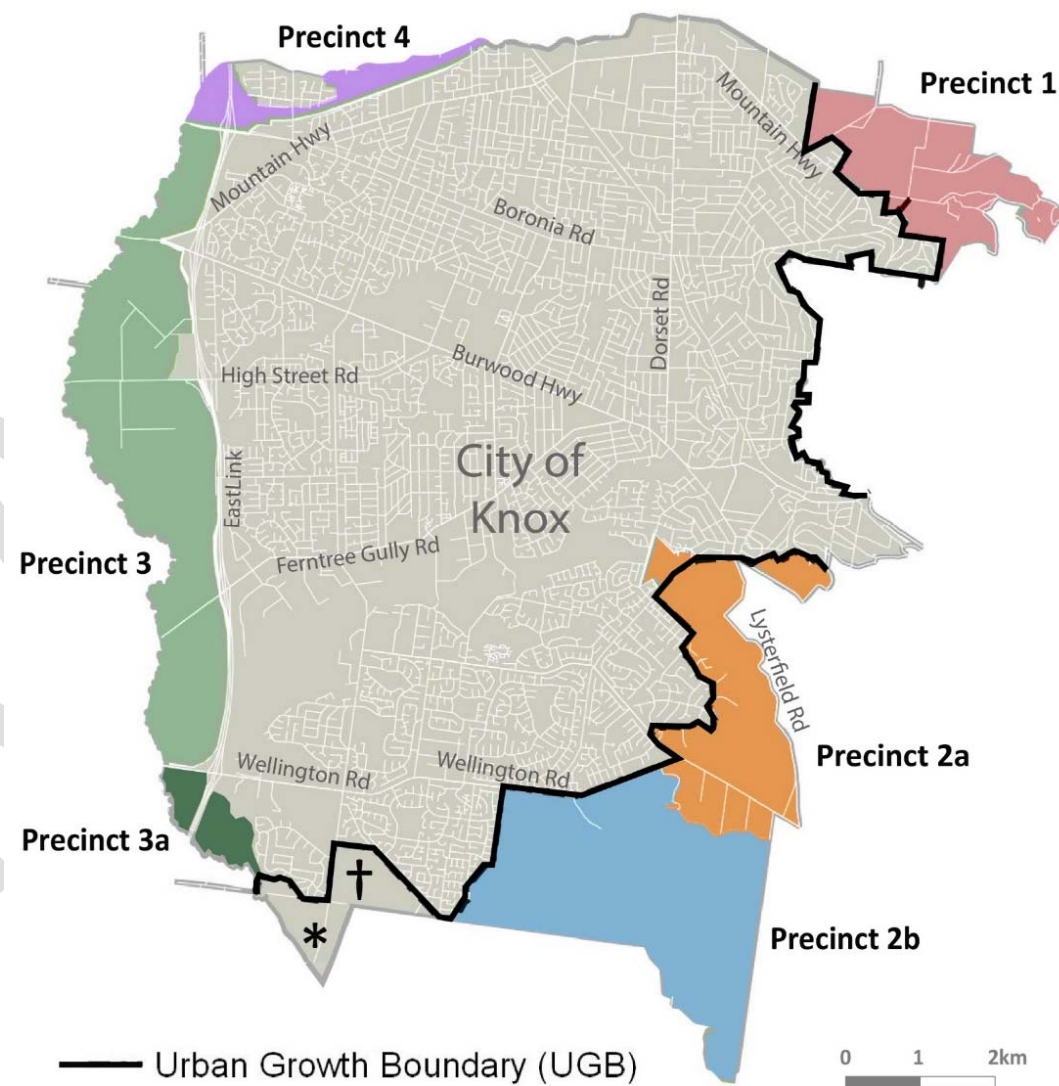
Legend

-  Precinct Boundary
 -  LGA Boundaries
 -  Urban Growth Boundary
 -  Creeks and Lakes Areas
 -  Cadastre
- Zones - Knox Planning Scheme**
-  GWZ2
 -  PCRZ
 -  PPRZ
 -  RDZ1
 -  RDZ2
 -  SUZ2
 -  UFZ
 -  Public Acquisition Overlay (PAO2)
- Land Ownership**
-  Local Government
 -  State Government/Agencies
- Road Centrelines**
-  Local Streets/Rds
- Pedestrian/Bicycle Network**
-  Existing On Road
 -  Existing Off Road
 -  Proposed Walking/Cycling Routes
 -  Routes for improved connectivity



Precinct 3:

Dandenong Creek Valley



Vision for Precinct 3

The Vision for Precinct 3 reflects feedback received during public consultation involving the stakeholders and the community. Key themes from the public consultation are summarised below:

- **The importance of waterways and wildlife corridors**

The consultation highlighted the importance of the waterways and the role of this precinct in wildlife movement and connectivity which needs to be recognised by the vision.

- **Development pressures**

Concerns were expressed about the future potential development at Jenkins Orchard and the Boral Redevelopment Site and how they would interact with and affect the function of this precinct as a green lungs corridor.

- **Horse agistment**

Maintaining the current horse agistment activities in this precinct was considered an important and rare recreational opportunity for the community.

Vision for Precinct 3:

The Dandenong Creek Valley Precinct is a consolidated “green lungs” corridor protecting key waterways and wildlife corridors while providing considerable recreational, nature conservation, flood mitigation, urban agriculture and parkland opportunities within the Eastern Metropolitan region.”

Theme 1: Ecology

Wildlife Habitat and Connectivity

Precinct 3 offers significant habitat values as it contains the widest core riparian zones of the Dandenong Creek, many well-connected billabongs, large extents of flood plains, as well as a relatively consistent spread of remnant vegetation along the length of the precinct.

Knox Wildlife Atlas indicates a high level of wildlife sightings recorded along the Dandenong Creek, Blind Creek and Corhanwarrabul Creek which highlight the role of these creek systems in wildlife connectivity. The pockets of remnant vegetation scattered across the precinct also provide important habitat and linkages for wildlife movement.

Public land ownership and management has played a key role in preserving biodiversity values in this precinct. Parks Victoria is a key landowner in Precinct 3 and a key contributor to the protection of habitat values. Melbourne Water also contributes to the health and habitat values of the Dandenong Creek. As part of the Enhancing Our Dandenong Creek project, KCC has been working with Melbourne Water and Environment Protection Authority (EPA) to identify projects including constructing new habitats for threatened fish species, increasing the natural amenity, pollution prevention and detection. Significant investment into the natural assets in this precinct were made by a number of agencies during the construction of EastLink.

The community also contribute significantly to the environmental state of the precinct. There is a high level of community involvement in environmental management including by the Friends of Dandenong Valley Parklands, individual volunteers, students and other community groups.

The Boral redevelopment site has previously been designated for residential development. This site provides a significant opportunity to enhance connectivity along the Blind Creek and incorporate habitat restoration into master planning and open space design.

Poor maintenance of orchards and weed control have the potential to reduce the wildlife connectivity and conservation values of this precinct if they encroach upon areas of native vegetation or other areas of habitat. However, in some cases areas of existing weeds may provide habitat values for wildlife. Therefore, any actions to remove or reduce weed cover should be undertaken in a staged basis, alongside active planting of native vegetation as replacement habitat.

Six barriers to wildlife movement have been identified within or abutting Precinct 2a as shown on the map, generally where roads intersect with the creeks.

An analysis of the Planning Scheme controls indicates that the majority of the identified habitat areas including the riparian vegetation are well protected through the Scheme either, through PCRZ zoning or ESO overlays. The analysis has found the following issues that are recommended for investigation.

Two parcels of land have been identified along the Dandenong Creek corridor that are not zoned for conservation purposes:

- 115-123 Axford Road, Wantirna South – This area of crown land is densely vegetated and the Rural Living Zoning seems to be an anomaly. This matter is currently being investigated by DELWP and Parks Victoria.
- 1A Burwood Highway, Wantirna –The area has been cleared and developed for retail purposes (gardening and landscaping supplies). It is recommended that any future redevelopment of the area incorporates habitat restoration.

Objective:

To protect and enhance biodiversity and wildlife connectivity.

- Action 3.1.** Acknowledge the significant role of this precinct in providing wildlife habitat and connectivity at a regional scale which is due to the integrity of existing native vegetation and the creek corridors.
- Action 3.2.** Continue the application of ESO2 across the precinct and review the local content to strengthen the provisions in accordance with the recommendations of this Strategy.
- Action 3.3.** Support rezoning to ensure the Dandenong Creek corridor is protected for conservation purposes, in consultation with stakeholders, including at 115-123 Axford Road, Wantirna South.
- Action 3.4.** Encourage reestablishment of the riparian vegetation and habitat as part of any future redevelopment at 1A Burwood Highway, Wantirna.
- Action 3.5.** Provide for habitat restoration and connectivity along the Dandenong Creek, and along Blind Creek as part of future development of the Boral Quarry site.
- Action 3.6.** Reduce the wildlife barrier effects at the sites indicated on the map in accordance with the recommendations of Appendix 1 to this report.

Action 3.7. Investigate and rectify the identified zoning anomalies along the Dandenong Creek corridor.

Action 3.8. Advocate for enhancements within this precinct to continue along the creek corridor south of Wellington Road.

Waterways and Flood Management

Precinct 3 supports important waterbodies including the Dandenong Creek, Blind Creek, Corhanwarrabul Creek and their tributaries. The precinct is within the Blind Creek and Dandenong Creek catchments, which flows from the Dandenong Ranges to Port Phillip Bay via Patterson River. The upstream section of Blind Creek in Boronia (outside Study Area) is identified as a “High Value” waterway in Knox as part of the Knox WSUD and Stormwater Management Strategy.

The billabongs and wetlands in Precinct 3 play a key role in water quality of the creek system while providing significant habitat for aquatic species. Melbourne Water works with KCC to manage these creek systems including ongoing monitoring of water quality and sediment control at the Corhanwarrabul Creek and Dandenong Valley treatment wetlands.

Precinct 3 contains large flood plains associated with the creeks. Large open space areas in Precinct 3 assist with flood mitigation. The southern part of the precinct accommodates the floodplain wetlands associated with the Corhanwarrabul Creek. This area has a major impact on flows and water quality in the Dandenong Creek.

The areas affected by flooding are protected by the Land Subject to Inundation Overlay (LSIO). The flood overlay that currently applies is due for review. Melbourne Water and KCC are currently undertaking the 1%AEP flood modelling using the most recent techniques and methodology. Once this work is completed it is essential that the results are incorporated into the Scheme to ensure adequate development controls apply within floodplains.

Future redevelopment of the Boral quarry site will have to ensure that stormwater impacts are minimised and managed properly to prevent any negative impacts on the waterways or surrounding area. The section of Blind Creek that runs through the Boral quarry site was realigned from its original route and currently presents poor conditions. The future redevelopment of the Boral quarry site presents great opportunities for naturalization of the creek and enhancement of its condition as a healthy waterway.

Objective:

To improve waterway health and flood management.

Action 3.9. Protect the floodplains and wetlands in Precinct 3 for their flood storage and retention values.

Action 3.10. Continue the KCC/MW/Parks Victoria collaboration to improve waterway health and sediment control in Precinct 3.

Action 3.11. Future redevelopment of the Boral quarry site is to ensure that stormwater impacts are minimised and managed to the satisfaction of the relevant agencies.

Action 3.12. Naturalise the Blind Creek and enhance its condition as a natural waterway corridor as part of the future development of the Boral quarry site.

Map 13

Precinct 3 - Dandenong Creek Valley Parklands

Theme: Ecology

Knox Green Areas & Rural Strategy (GARS)

Legend

Knox Wildlife Atlas (1995-2017)

- Wildlife Records - Multiple Sources
- Wildlife Records - Victorian Biodiversity Atlas
- Knox Focal Species 2017
- Barriers to Wildlife Movement
- Waterways 200m Buffer

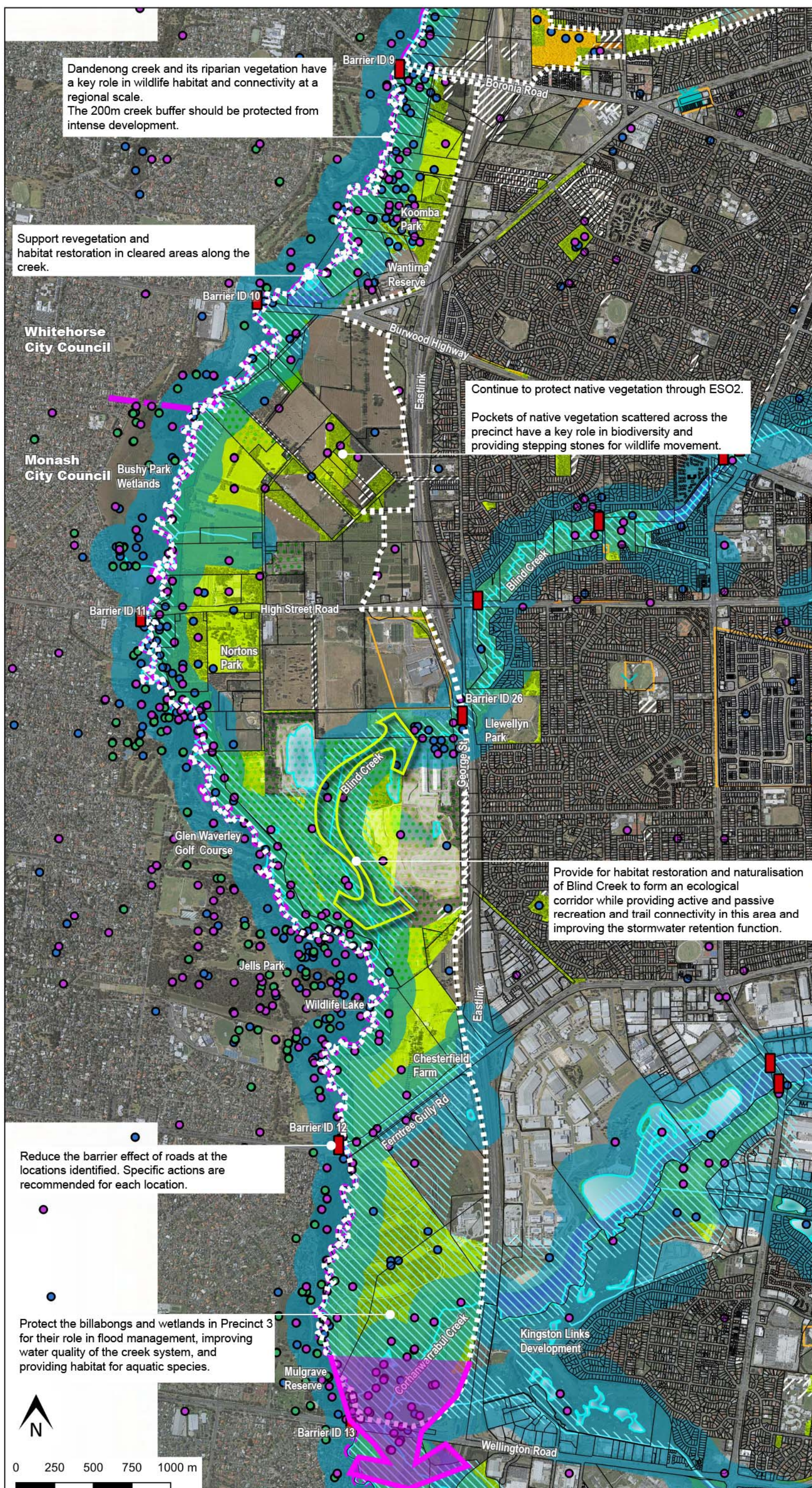
Knox Planning Scheme

- Environmental Significance Overlay 2 (ESO2)
- Vegetation Protection Overlay (VPO)
- PCRZ
- Urban Floodway Zone

Other

- Creeks and Lakes
- Floodplains
- WSUD - Project Area
- Precinct 3 Boundary
- Knox City Boundaries

➔ Enhancements within this precinct are to continue along the creek corridor south of Wellington Road



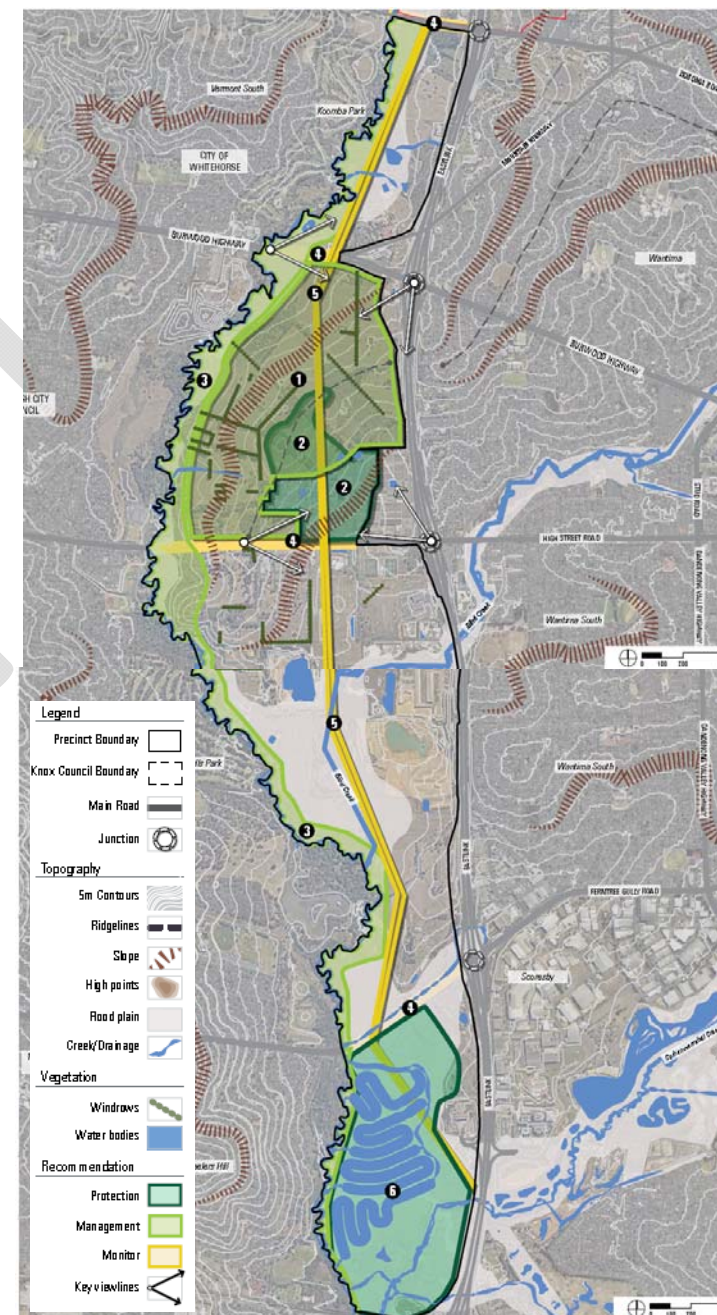
Theme 2: Landscape and Heritage

Landscape Values

The *GARS Landscape and Character Study* (Hansen Partnership) advises that while the corridor is a single entity, there is a notable distinction between the character of its northern sector (with elevated land between the Blind and Dandenong Creeks - immediately north of High Street Road) and its low southern wetlands. The openness and mixed vegetated quality of the valley is important to its character, in particular the elevated Wantirna South Ridgeline and cultivated hilltop. The study identifies the following character areas (as shown on the map) and details key landscape values for each area:

No.	Description	Approach	Key Landscape Values
1	The Wantirna South Ridge	Management	Rural character on rising land; roadside/windrow vegetation; native bushland patches
2	The Central Cultivated Hilltop	Protection	Rural character; Panoramic views from roads; Roadside/windrow vegetation; native bushland patches
3	The Dandenong Creek Riparian Corridor	Management	Riparian vegetation; low-lying valley conditions
4	The East-West Aligned Road Corridors	Management	Framed/open views from roads
5	The High Voltage Power Line Infrastructure	Management	The mitigating effect of vegetation
6	The Dandenong Valley Park and Wetland	Protection	Wetland vegetation; low-lying valley conditions

The Scheme refers to the precinct as a significant landscape and sets high level strategies to protect and enhance the landscape qualities. However, these strategies are not translated into any landscape overlays. Most vegetation within the precinct including the Dandenong Creek riparian corridor are protected through a combination of ESO2 and VPO2. The predominant PPRZ and PCRZ zoning also provides some protections. It is recommended to complement these existing provisions with more direction based on the findings.



Objective:

To protect and enhance local character and landscape values.

Action 3.13. Review the existing Scheme provisions including the MPS and PPF in light of the findings of the *GARS Landscape and Character Study*. New strategic policy direction for landscape values of the precinct and a new SLO are to be investigated.

Heritage

Precinct 3 contains areas of Aboriginal Cultural Heritage Sensitivity associated with Dandenong Creek, Blind Creek and Corhanwarrabul Creek. It also includes a number of Aboriginal sites including artefact scatter and scarred trees.

The precinct includes three heritage places listed in the HO and three non-listed places. The *Preliminary Heritage Review: Knox Rural Heritage* (Context, 2017) reviews the existing heritage places within the precinct (HO and non-HO items) and provides recommendations for each place.

Objective

To recognise, protect and promote existing heritage.

Action 3.14. Ensure adequate consultation occurs prior to any proposals affecting the Aboriginal Sites and Areas of Cultural Sensitivity as shown on the heritage map.

Action 3.15. Review the places of heritage significance in accordance with the recommendations from the *Knox Rural Heritage Report* (Context, 2017), as summarised in the table below.

Site Name and Description	Recommendations
HO Places	
HO36 Clow Cottage, Dandenong Valley Parklands	<ul style="list-style-type: none"> • Retain heritage overlay. • Recommend heritage assessment to inform current listings.
HO10 Chesterfield Farm, Ferntree Gully Road Scoresby	<ul style="list-style-type: none"> • Retain heritage and other overlays.
HO50 Boronia Road Wantirna (west of EastLink) - Trees	<ul style="list-style-type: none"> • Further investigation required to determine extent. • Retain heritage and other overlays.
Non-HO Places	
Axford Road Ruin, Axford Road Wantirna	<ul style="list-style-type: none"> • Recommend further investigation and heritage assessment.
Bushy Park, 3 Bushy Park Lane Wantirna South	<ul style="list-style-type: none"> • Recommended for heritage assessment.
Norton Park and Shepherds Bush, Wantirna South	<ul style="list-style-type: none"> • Public land - co-ordinate with Parks Victoria. • Recommend heritage assessment for specific sites within the Park.

Map 15

Precinct 3 - Dandenong Creek Valley Parklands

Theme: Heritage

Knox Green Areas & Rural Strategy (GARS)



Theme 3: Land Use and Access

Land Use and Economy

The Dandenong Valley Parklands play a key role within the broader open space network as a large scale consolidated green corridor reserved for open space purposes, serving the eastern suburbs catchment. A large portion of the parkland is owned by Parks Victoria and is zoned for public and conservation purposes.

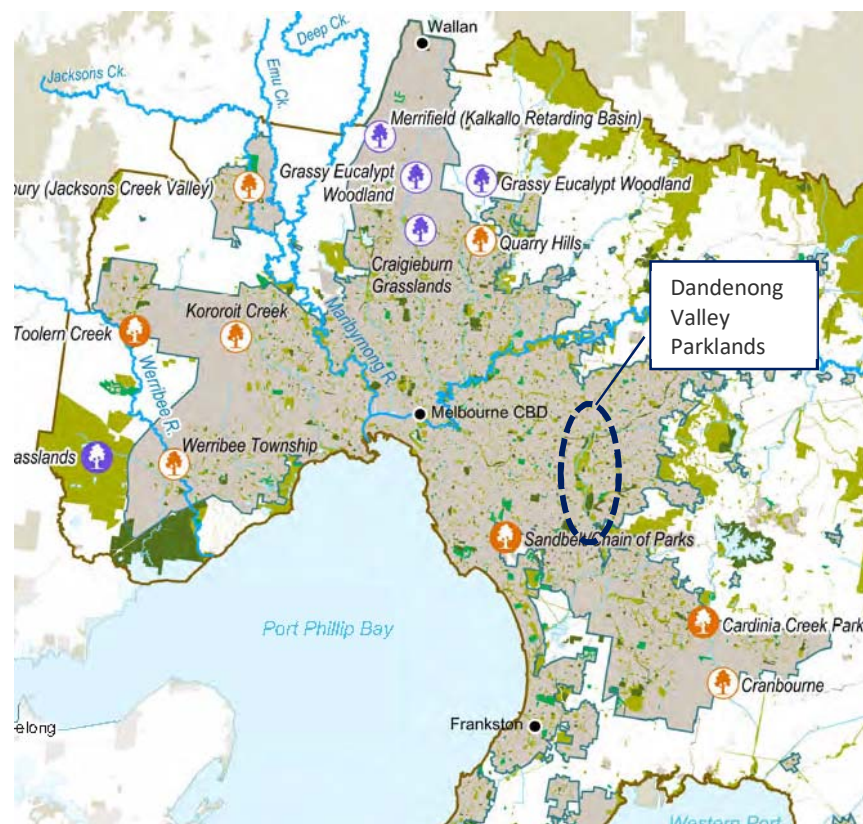


Figure 10 - Dandenong Creek Valley Parklands in the metropolitan open space context
(Source of base map: Plan Melbourne)

Some areas of this corridor have been developed for parkland, sport and recreation purposes. The other parts are leased by Parks Victoria to private operators who use the land for a variety of purposes including horticulture, fresh produce markets, horse agistment and cattle grazing. Chesterfield Farm is an example of leased land which provides educational and tourism services such as interaction with farm animals and farm shows. Parts of the parklands are owned privately and have a Public Acquisition Overlay (PAO) on them.

Parks Victoria prepared the Dandenong Valley Parklands Future Directions Plan in 2006. This document sets out Parks Victoria's vision, management framework and implementation actions for the wider Dandenong Valley Parklands area. The plan is due for a review however no review is planned by Parks Victoria in the short term.

Out of the GARS precincts, this precinct offers the greatest opportunities for agriculture, recreation, agri-tourism and community uses. The *GARS Economic Study* (Urban Enterprise, 2019) provides the following evaluation of economic and land use potential for Precinct 3:

Summary of Economic, Tourism, Community and Recreation Potential

Suitability for agriculture intensification	High
Suitability for agri- tourism	High
Suitability for standalone tourism uses	High
Suitability for community / social enterprise	High
Accessible to population catchments	High
Accessible by public transport	Medium
Accessible by bike/hiking/ walking	High
Suitability for Active Recreation	High
Suitability for other intensive industry	Medium
Suitability for Passive Recreation	High

As the population increases in Knox and the region, there are opportunities to explore this additional potential to meet the growing demand of the community. This would be in line with Plan Melbourne vision for an integrated and high quality open space network, as well as the purpose of the PPRZ zone.

While the above opportunities have been identified, preliminary consultation for this Strategy did not find sufficient support from the stakeholders and the local community to

support changes in the short term. It is also noted that Parks Victoria as a key landowner has no immediate plans for comprehensive planning for the parklands.

The evidence base in this Strategy can be used to guide future planning in partnership with the stakeholders in case opportunities arise in the future.

Objective:

To ensure land uses are carefully located and managed to be consistent with the values and functions of the Study Area.

Action 3.16. Acknowledge the important role of the Dandenong Creek Valley Parkland as a significant green corridor within the eastern region.

Action 3.17. Support the following opportunities for the Dandenong Creek Valley parklands:

- a) Enhancements to open space to enable more active and passive recreational use.
- b) Tourism, agri-tourism, urban agriculture and cafes.
- c) Community partnerships with opportunities for KCC to connect community businesses and commercial partners with Parks Victoria.
- d) Education opportunities such as nature-based education.
- e) Cycling-oriented activities/businesses along the bike routes, support opportunities for such as bike shops, storage, organic trails and food trails.
- f) Urban agriculture models such as city farms/community gardens, community nurseries and plant exchanges, edible landscapes, food forests, indigenous food production, institutional and demonstration gardens and restaurant gardens (refer case study of CERES in the *GARS Economic Study*).

High Street Road Corridor

High Street Road serves an important role as a key gateway to Knox with a distinct rural, horticultural character. With the future redevelopment of Jenkins Orchard and the Boral

quarry, it would be important to recognise the existing landscape character and take actions to maintain and complement the character where possible.

The future development in these areas will need to respond to the local character. Monitoring changes to the other parcels of land on this corridor will also be important over the coming years.

Action 3.18. Define High Street Road corridor as a Gateway to Knox. Protect the rural, horticultural character of this corridor and seek opportunities to enhance its aesthetics through landscaping, building design and public art which respond to and complement the rural, horticultural and bushy character of this corridor.

Boral Quarry Redevelopment Site

The Boral Quarry site at 191 George Street, Wantirna South has been designated as a Strategic Investigation Site in the Scheme for future residential and employment uses.

The development will include residential and employment areas and provide for nature conservation and passive recreation uses in proximity to the Dandenong Creek riparian corridor.

The current use of the site as a quarry and the modified section of Blind Creek has lowered wildlife connectivity through this area. The development presents great opportunities to undertake revegetation and habitat restoration along the creek to revitalise its function as an ecological corridor.

Action 3.19. Future redevelopment of the Boral Quarry site to

- a) Provide for the revegetation and naturalisation of Blink Creek to reestablish its function as an ecological corridor.
- b) Protect and enhance the habitat values of the Dandenong Creek ecological corridor.
- c) Provide for passive and nature based recreation in appropriate areas.

Knox Regional Sports Park

Knox Regional Sports Park is located on crown land managed by KCC. It currently includes an indoor sports stadium, two synthetic soccer pitches and associated soccer pavilion, open grassed areas for informal recreation, grassed field and operations area for the

Victorian Association of Radio Model Soaring (VARMS), car parking areas and groups of predominantly native and indigenous trees.

In 2018 KCC has approved a Masterplan for the sports park which provides for the following upgrades:

- Ten additional domestic basketball courts;
- A new gymnastics facility suitable for regional level competition;
- A Centre of Excellence facility and high-performance training centre;
- An 8,000 seat capacity sports/entertainment area with overflow parking for 2,500 vehicles within the adjacent Cathies Lane Landfill site;
- The conversion of the existing 5-a-side soccer pitches to one full size field, six new 5-1-side pitches and extension to the existing pavilion; and
- At grade car parking facilities and intersection upgrade works to facilitate parking demands and traffic flows.

The Masterplan is KCC's response to growing demand across Knox for high quality sporting and recreational facilities. Basketball, gymnastics and soccer are all experiencing significant growth and, as a result, demand for facilities at a local level is exceeding supply. Implementation of the Masterplan will be funded jointly by KCC and the State Government.

Action 3.20. Support complementary uses in proximity to the Knox Regional Sports Park including allied health and sports medicine.

Existing Parks

Koomba Park is a popular destination for birdwatching and incorporates both the Dandenong Creek Trail which branches off to a boardwalk section and the EastLink Trail that continues on to follow EastLink. An area of land zoned Road Zone 1 (RDZ1) exists within Koomba Park. This area could be investigated for potential rezoning and inclusion in Koomba Park.

Wantirna Reserve on the corner of EastLink and Burwood Highway is currently managed by KCC by agreement with Parks Victoria. A Masterplan is currently being prepared for Wantirna Reserve.

The approved masterplan for the expansion of Knox Regional Sports Park presents great opportunities for the surrounding area, including for allied health and sports medicine.

Nortons Park (also a dog park) is managed by Parks Victoria. A leash free dog park has recently been created which has improved visitor experience and has been well received by the community.

A number of small pockets of land are used for parkland purposes but are not correctly zoned. These have been identified on the map for investigation.

Action 3.21. Investigate the area within Koomba Park which is zoned for road purposes for potential rezoning and inclusion in the park.

Action 3.22. Investigate parkland lots that are not zoned PPRZ for potential rezoning, in consultation with subject to consultation with DELWP and Parks Victoria.

Action 3.23. Advocate for further improvements to Nortons Park by Parks Victoria.

Cathies Lane Landfill Site

Cathies Lane landfill site is currently vacant, however, land use opportunities for this site are limited due to soil condition and applicable buffers. This site is currently being investigated for a potential solar park by KCC.

Action 3.24. Investigate opportunities for renewable energy production (solar park) at the Cathies Lane landfill site.

Public Art Opportunities

The east-west corridors within Precinct 3 provide gateways to Knox with a high level of visibility. These corridors offer opportunities for public art to enhance aesthetics and help

Action 3.25. Support and fund public art along the High Street Road and Burwood Highway to enhance amenity and sense of place consistent with the local character.

Access and Connectivity

Precinct 3 is well served by the arterial road network including EastLink, Boronia Road, Burwood Highway, High Street Road, Ferntree Gully Road and Wellington Road. The precinct is also supported by an excellent network of trails including the Dandenong Creek Trail and the EastLink Trail. These trails provide strong linkages with surrounding municipalities and other recreational areas.

Multiple bus services run along Boronia Road, Burwood Highway, High Street Road, Ferntree Gully Road and Wellington Road. However, a large area internal to the precinct, including the Boral redevelopment site is not within walkable catchment of public transport.

The area to the north of High Street Road presents a barrier to connectivity, both for vehicular movement and walking/cycling connectivity. Road access is limited to a number of cul-de-sacs, mostly rough surfaced. Overall this area does not provide much permeability.

The State Government plans propose on-road cycle lanes on Burwood Highway and the section of EastLink south of Ferntree Gully Road. However, it does not propose any upgrades along High Street Road. This road has no cycle lanes or shared paths which is an issue considering the number of bus services stopping at this location. Considering the potential for future urban developments at the Boral and Jenkins Orchard sites, and the expansion of the Knox Regional Sports Park, there will be more demand for pedestrian and cyclist movement on this road.

The Boral Quarry redevelopment will create a new population catchment which needs adequate connectivity to the surrounding network. Main access will be from High Street Road. The development needs to provide a high level of permeability and connectivity including shared path connectivity through the site and to the surrounding trails including the Dandenong Creek Trail, EastLink Trail and the Regional Sports Park. The Blind Creek corridor presents great opportunities for shared path connectivity and new linkages to Jells Park which is a popular destination.

EastLink (freeway) represents a barrier to pedestrian/cyclist connectivity. The area near Kingston Links has been identified as a missing link by the Eastern Regional Trail Strategy's Ferny Creek Trail extension to the Dandenong Creek Trail. A new bridge connection is appropriate at this location.

Objective:

To facilitate connectivity and safe movement for all users.

Action 3.26. Advocate for and support the on-road and off-road cycling proposals shown on the map.

Action 3.27. Advocate for a shared path along High Street Road connecting with the EastLink Trail with the Dandenong Creek Trail.

Action 3.28. Seek opportunities to improve access and connectivity through the area between High Street road and Burwood Highway.

Action 3.29. The Boral redevelopment site to provide for shared path connectivity through the site connecting with the surrounding trails, including along the Blind Creek linking to Jells Park.

Action 3.30. Support the provision of public transport to the Boral redevelopment site and ensure the road network are designed to facilitate bus movement.

Action 3.31. Improve access to Knox Regional Sports Park.

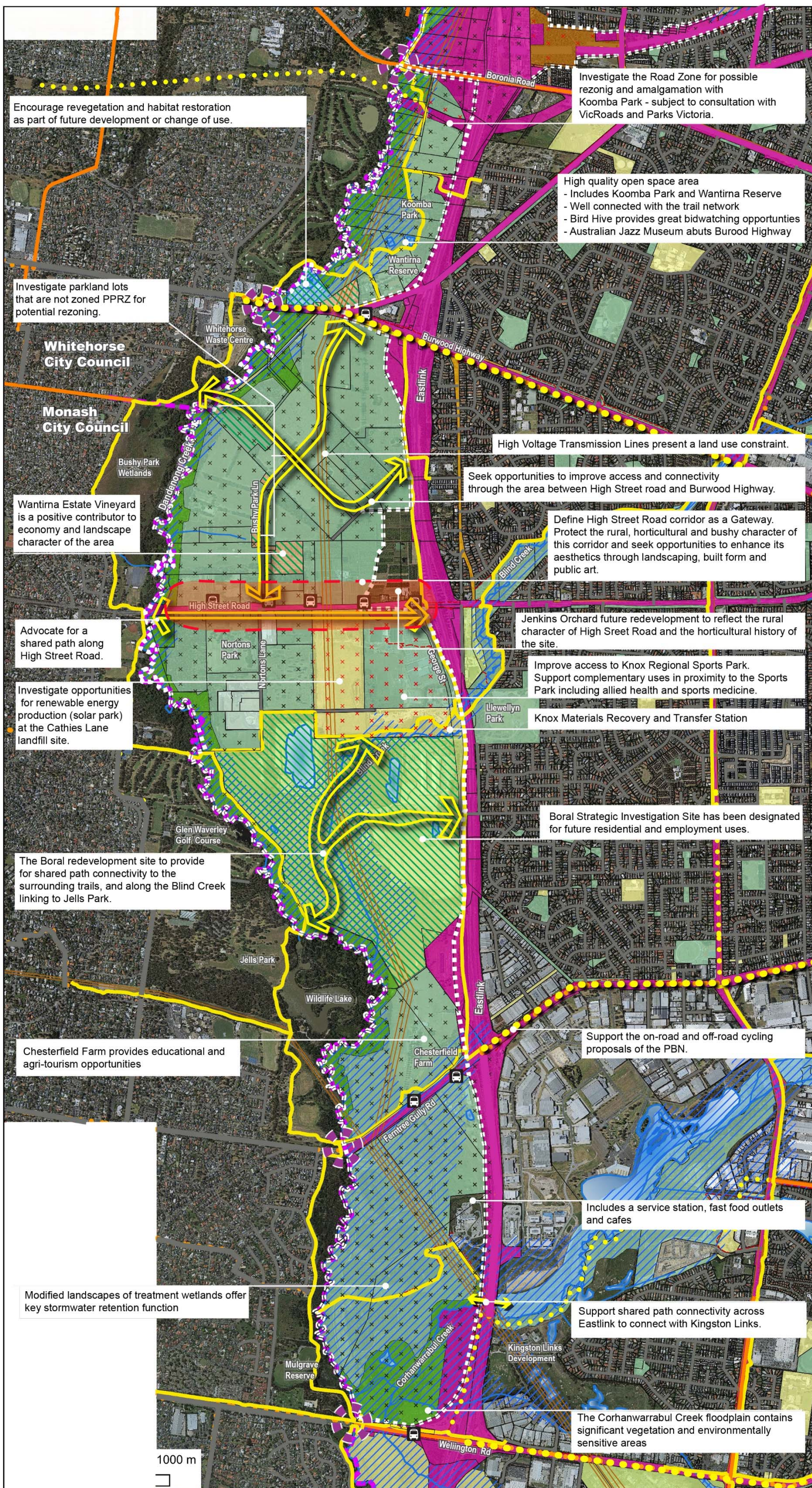
Action 3.32. Support shared path connectivity across Eastlink to Kingston Links.

Map 16

Precinct 3 - Dandenong Creek Valley Parklands

Theme: Land Use & Access

Knox Green Areas & Rural Strategy (GARS)



Legend

- Precinct 3 Boundary
- LGA Boundaries
- Creeks and Lakes Areas
- Cadastre

Zones - Knox Planning Scheme

- FZ
- PCRZ
- PPRZ
- PUZ6
- RDZ1
- RDZ2
- RLZ
- SUZ2
- UFZ
- HV Transmission Lines

Scheme Overlays

- Land Subject to Inundation Overlay (LSIO)
- Public Acquisition Overlay PAO1
- Public Acquisition Overlay PAO2

Land Ownership

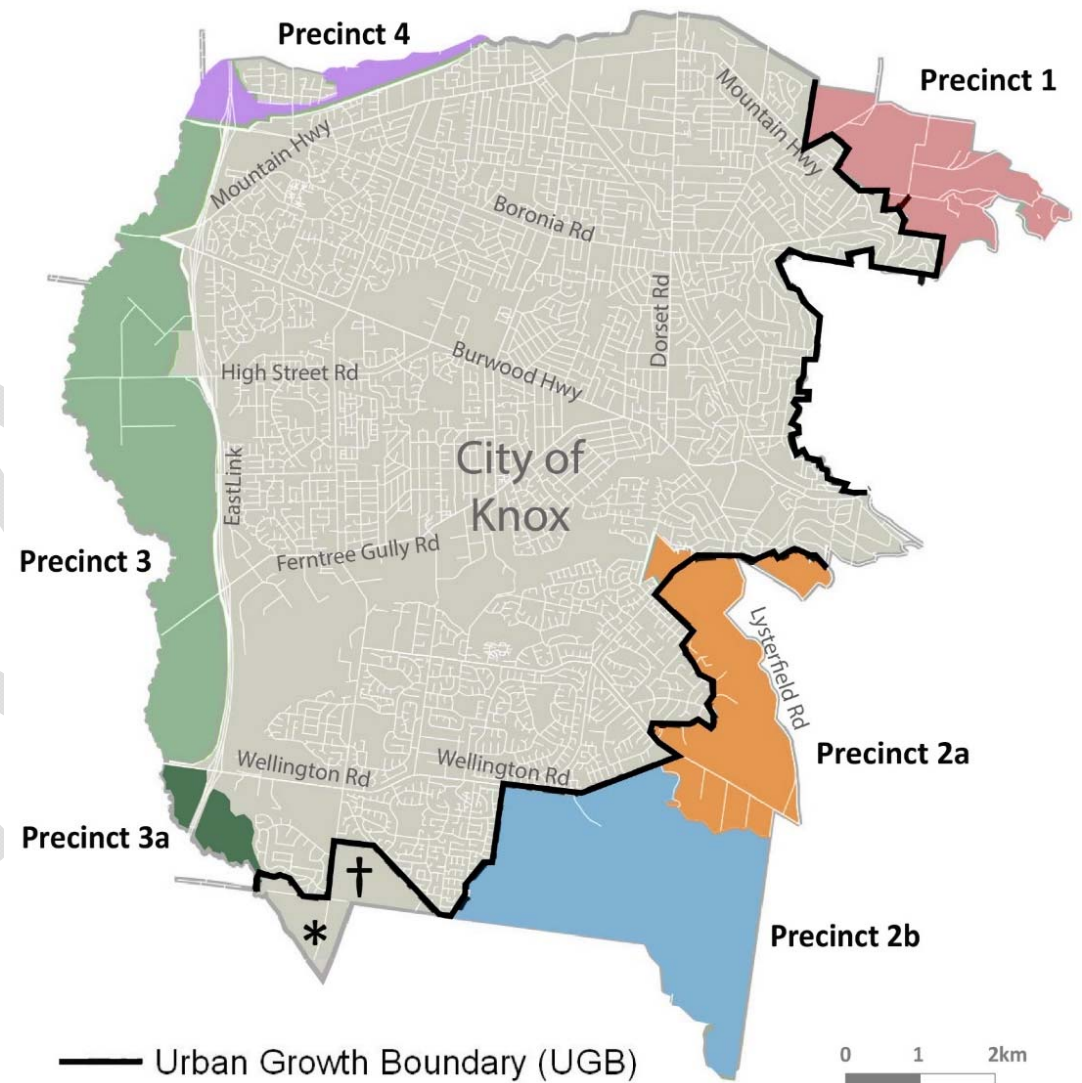
- Local Government
- Local Government Other
- State Government/Agencies

Pedestrian/Bicycle Network

- Shared paths - existing
- On-road cycleways - existing
- Proposed Bicycle Routes
- Proposed walking/Cycling connectivity (GARS)
- Knox Gateways (existing)

Precinct 4:

Healesville Freeway Reservation and Surrounds



Vision for Precinct 4

Precinct 4 contains the land corridor reserved by the State Government for the potential extension of the Healesville Freeway to connect to EastLink. Plans for this road corridor to the west of Knox in Whitehorse were cancelled a few years ago and the reservation area was declared surplus. The land was rezoned, master planned and redeveloped subsequently.

The stretch of the reservation within Knox, however, has been maintained by VicRoads with no timelines for design or construction. The uncertainty surrounding the road has resulted in a lack of clear direction or long term purpose for the reserved land as well as the surrounding area.

To accommodate this uncertainty, the vision and recommendation for this precinct are formulated under two scenarios: a **“Road Scenario”** and a **“No-Road Scenario”**.

The Vision for Precinct 4 reflects feedback received during public consultation involving the stakeholders and the community. Key themes from the public consultation are summarised below:

- **Open space/parkland opportunities**

The creation of new parkland (recreational & environmental) was supported to provide opportunities to provide a linkage between Dandenong Creek, Bateman St Bushland and surrounding park/habitat sites.

- **Biodiversity and conservation buffer**

One comment suggested that the vision should make a direct reference to “Biodiversity” as an important priority for this precinct.

Vision for Precinct 4:

Road Scenario: The future Healesville Freeway extension will be sensitive and responsive to the Dandenong Creek ecological and waterway corridor, seeking opportunities for water and habitat enhancements, while supporting the open space and recreational uses.

No Road Scenario: The precinct will provide an integrated high quality open space and parkland corridor with complementary uses which protect and enhance native vegetation, wildlife connectivity and waterway health.

Theme 1: Ecology

Wildlife Habitat and Connectivity

The precinct includes parts of the Dandenong Creek and its 200m buffer zone which has significant biodiversity values. The Knox Wildlife Atlas indicates high levels of wildlife records in proximity to the creek and within areas of native vegetation. Previous revegetation and restoration efforts by KCC and Maroondah City Council and community groups such as Friends of Dandenong Creek have greatly added to the wildlife habitat and dispersal opportunities.

The greatest threat to wildlife habitat in this precinct is the Healesville Freeway reservation which affects some areas of native vegetation located on land parcels either zoned for road purposes or affected by a Public Acquisition Overlay.

This includes the Bateman Street Bushland which is a Site of Biodiversity of state-level significance and contains one of the largest and most intact areas of endangered Valley Heathy Forest in the Melbourne region. This bushland is protected by ESO2, however, is subject to a Public Acquisition Overlay (PAO1).

Winton Wetlands is another area of high habitat values, with significant wildlife sightings recorded. Although the vegetated area is protected by PCRZ zoning, it abuts land zoned Road Zone and could be affected by future road works. This area requires careful protection in case of future road construction to minimise wildlife exposure to traffic. Should the adjoining land not be required for road purposes, the land within 200m of the Creek is recommended to be rezoned to PCRZ to facilitate protection and revegetation.

The creek and its riparian vegetation are well protected through the Scheme. The Urban Floodway Zone (UFZ) covers the Dandenong Creek and the Public Conservation and Resource Zone (PCRZ) protects the adjoining riparian corridor. There are great opportunities within 200m of the creek to improve habitat through revegetation which would also provide additional passive recreation opportunities.

Compatible land-uses for this precinct are: nature-based health activities to complement and strengthen health outcomes, nature-based or open air sports and recreation, bush playgroups and community gardens.

Objective:

To protect and enhance biodiversity and wildlife connectivity.

- Action 4.1.** Continue the application of ESO2 in Precinct 4 to protect native vegetation and habitat values.
- Action 4.2.** Acknowledge the role of the Dandenong Creek corridor and previous investments in bushland restoration along the creek in wildlife connectivity within the broader region.
- Action 4.3.** Prohibit development within the Melbourne Water's Core Riparian Zone (CRZ) and the adjacent vegetation buffers.
- Action 4.4.** Investigate mechanisms to achieve an ecologically sensitive development approach to new development and the construction of linear infrastructure (e.g. roads, bridges) across the precinct.
- Action 4.5.** Reduce the wildlife barrier effects of EastLink over the Dandenong Creek corridor in accordance with the recommendations of Appendix 1 to this report.
- Action 4.6.** Review the VPO in Precinct 4 to ensure it covers all the intended vegetation.

Road Scenario

- Action 4.7.** Advocate for an underpass design to protect Bateman Street bushland.
- Action 4.8.** Minimise the risk of exposure of wildlife to vehicular traffic from the future freeway through adequate buffer areas.
- Action 4.9.** Design and construction in proximity to Winton Wetlands should be sensitive to the ecological values of this wetland and minimise wildlife exposure to works or traffic.

No-Road Scenario

- Action 4.10.** Protect the Bateman Street Bushland and other Sites of Biological Significance and enhance their environmental and passive recreation values.
- Action 4.11.** Support future uses of the reservation corridor that can protect and enhance the ecological values.

Action 4.12. Investigate the Road Zone land in the vicinity of Winton Wetlands which is within 200m of the Creek for possible rezoning to PCRZ to protect habitat values and facilitate revegetation.

Waterways and Flood Management

Precinct 4 abuts the Dandenong Creek along its northern and western boundaries and the entire precinct is within the Dandenong Creek catchment.

The strip of land to the north of the Healesville Freeway reservation, including Manson Reserve and the golf driving range have a key role in the storage and retention of flooding from the Dandenong Creek.

Wetland building has recently been undertaken at JW Manson Reserve to improve stormwater management and water quality.

The existing open spaces and road reservation are affected by floodplains of the Dandenong Creek.

Objective:

To improve waterway health and flood management.

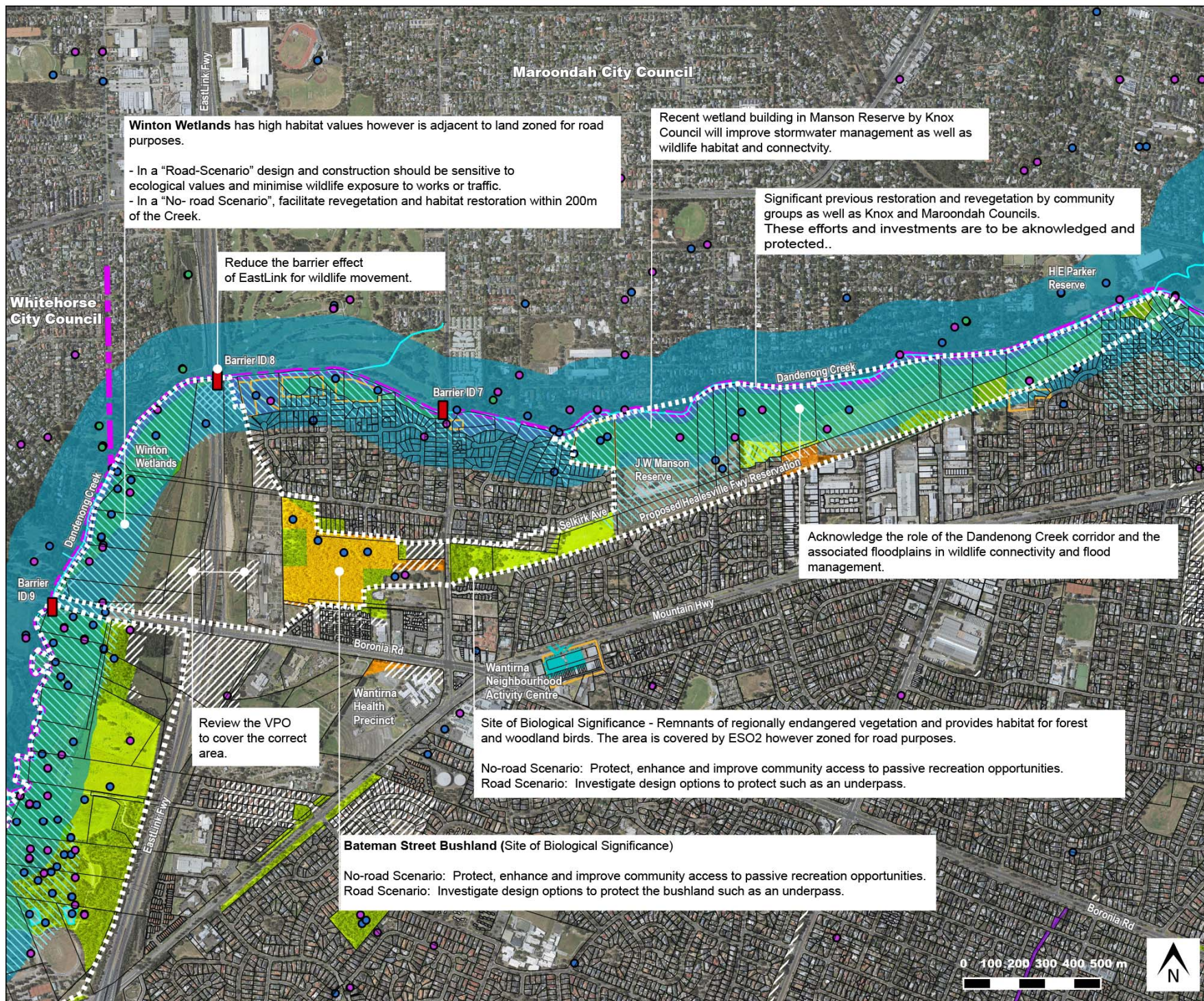
Action 4.13. Any development or the addition of impervious surfaces in the flood affected area (1% AEP level) needs to be accompanied by adequate studies and plans to demonstrate how flooding can be managed in particular through WSUD measures.

Map 17

Precinct 4 - Healesville Freeway Reservation & Surrounds

Theme: Ecology

Knox Green Areas & Rural Strategy (GARS)



Legend

Knox Wildlife Atlas (1995-2017)

- Wildlife Records - Multiple Sources
- Wildlife Records - Victorian Biodiversity Atlas
- Knox Focal Species 2017
- Barriers to Wildlife Movement

Knox Planning Scheme

- Environmental Significance Overlay 2 (ESO2)
- Vegetation Protection Overlay (VPO)
- Urban Floodway Zone
- Public Acquisition Overlay (Vic Roads)

Other

- Creeks and Lakes
- Floodplains
- WSUD - Project Area
- Knox City Boundaries
- Precinct 4 Boundary

Theme 2: Landscape and Heritage

Landscape Values

The *GARS Landscape and Character Study* (Hansen Partnership, 2019) advises that the key landscape character of the Healesville Freeway Reservation and Surrounds relates to the natural native vegetation corridor along the Dandenong Creek and the Bateman Street Bushland. The area has a modest profile suitable for future recreation activities and facilities if required.

The study identifies the following character areas (as shown on the map) and details key landscape values for each area:

No.	Description	Approach	Key Landscape Values
1	The Wantirna Road Cutting	Monitoring	Roadside vegetation aspect to nature
2	The Bateman Street Bushland	Management	native bushland condition
3	Dandenong Creek Floodplain	Monitor	open aspect and views
4	Dandenong Creek Riparian Corridor	Management	Riparian vegetation low lying valley conditions

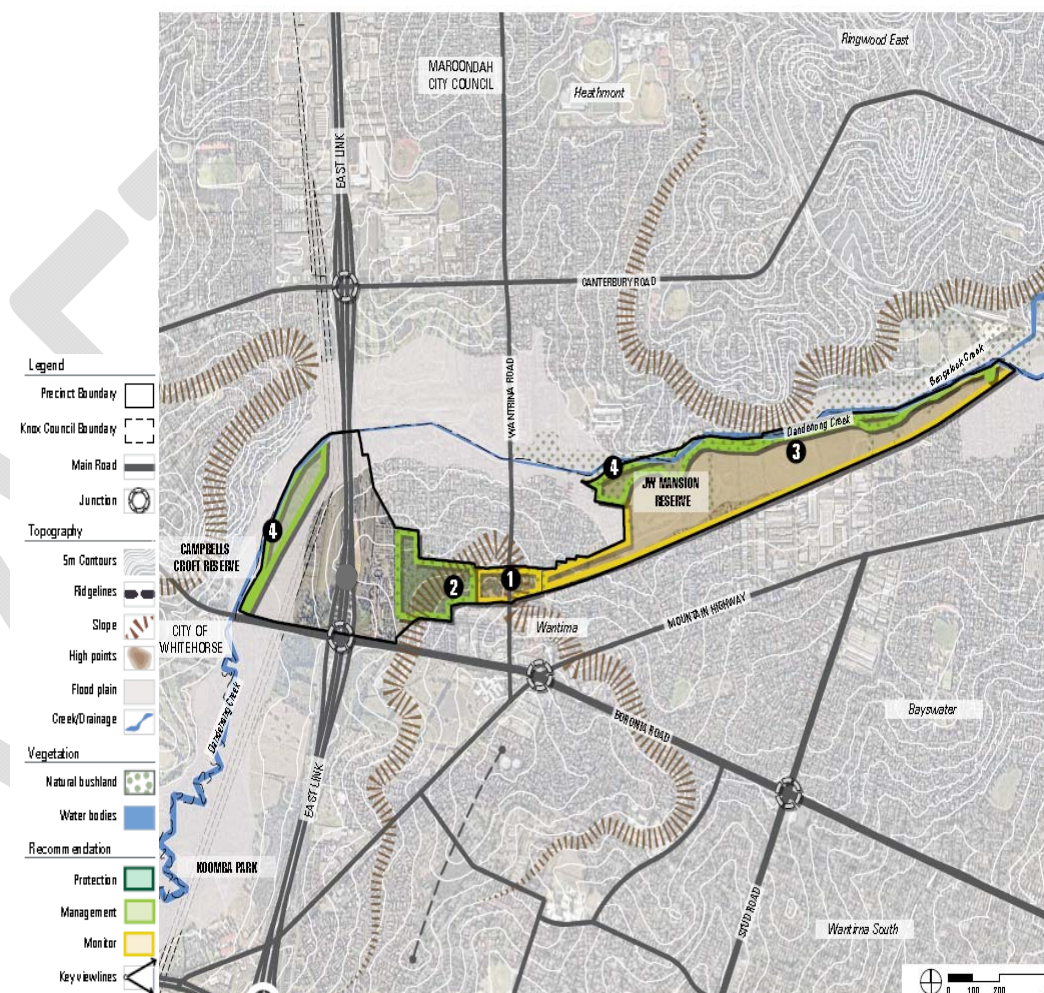
No landscape policies or overlays currently apply in Precinct 4. The Landscape Study confirms that “Protection” from a landscape perspective is not required in this precinct. It is considered that areas identified for “Management” coincide with areas of native vegetation which are recommended for protection for environmental reasons. The open areas are also identified for monitoring so that open views to the vegetated areas are maintained. It will be important to ensure any future development or road construction in this precinct is sensitive to this bushland character and where possible enhances the natural/leafy character of the area.

Objective:

To protect and enhance local character and landscape values.

Action 4.14. Review the Scheme provisions for opportunities to reflect the findings of the GARS Landscape and Character Study.

Action 4.15. Ensure future development responds to the character areas, celebrates the natural/leafy character of the precinct and provides opportunities for views to the vegetated areas.



Map 18 – Precinct 4 Landscape Assessment (Source: Hansen Partnerships)

Heritage

Precinct 4 contains areas of Aboriginal Cultural Heritage Sensitivity associated with Dandenong Creek and a number of sites of artefact scatter.

The precinct includes one Heritage Overlay (HO) item which covers several trees along Boronia Road. The *Preliminary Heritage Review: Knox Rural Heritage* (Context, 2017) reviews the existing heritage sites within the precinct and provides recommendations for each place.

Objective:

To recognise, protect and promote existing heritage.

Action 4.17. Ensure adequate consultation occurs prior to any proposals affecting the Aboriginal Places and Areas of Cultural Sensitivity as shown on the heritage map.

Action 4.18. Review the places of heritage significance in accordance with the recommendations from the Knox Rural Heritage Report (Context, 2017), as summarised in the table below.

Site Name and Description	Recommendations
HO Places	
HO50 Boronia Road Wantirna (west of EastLink) - Trees	<ul style="list-style-type: none"> • Further investigation required to determine extent • Retain heritage and other overlays.

Map 19

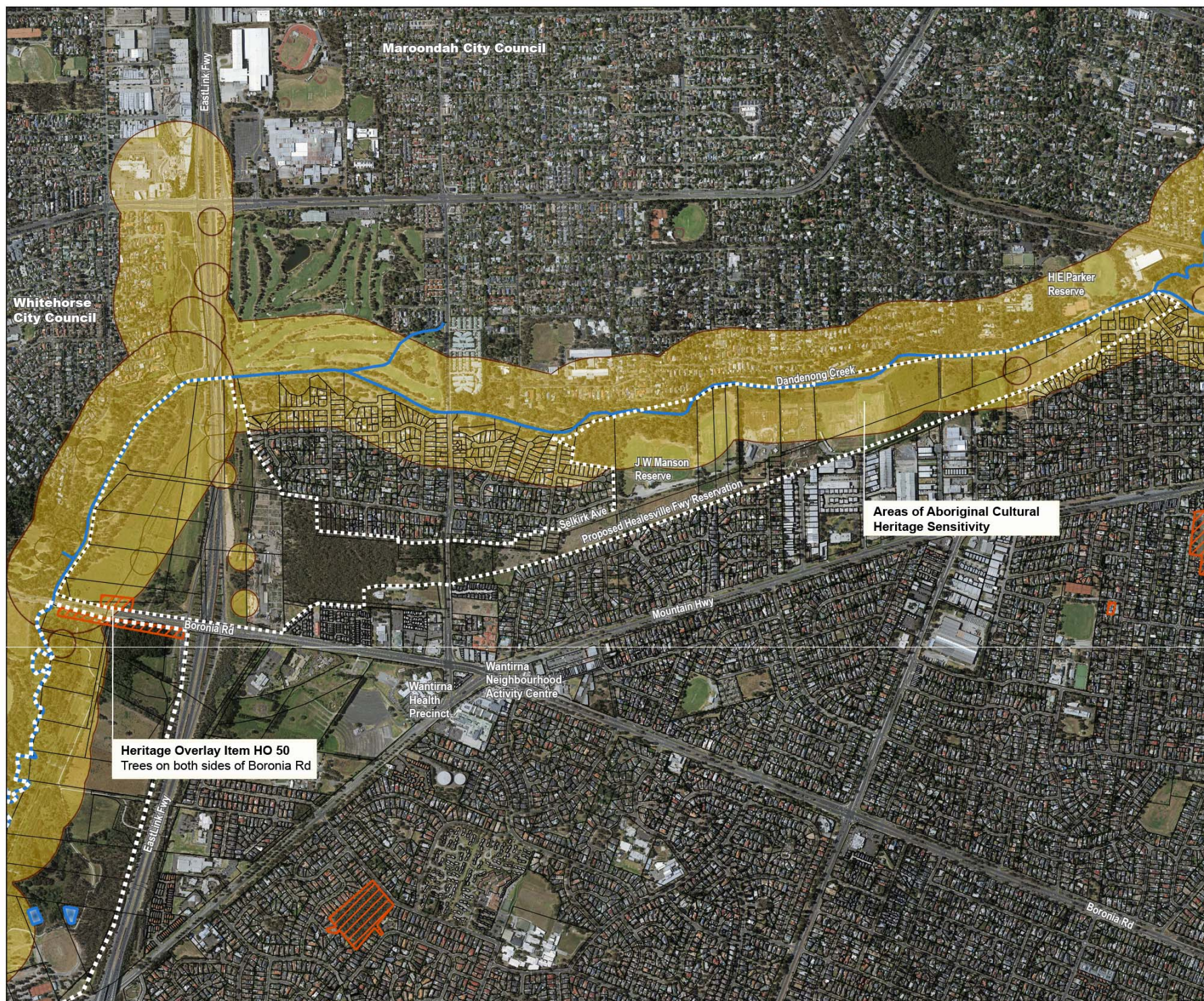
Precinct 4 - Healesville Freeway Reservation and Surrounds

Theme: Heritage

Knox Green Areas & Rural Strategy (GARS)

Legend

-  Precinct Boundary
-  Creeks and Lakes
-  Heritage Overlay (HO)
-  Areas of Cultural Heritage Sensitivity (Aboriginal Victoria)



Theme 3: Land Use and Access

Land Use and Economy

The Healesville Freeway corridor in Knox has been protected through a combination of Road Zone (RDZ1) and Public Acquisition Overlay (PAO). A number of lots within the reservation and to the north of the reservation are owned by VicRoads. KCC also owns a number of properties in this precinct including the Bateman St Bushland.

Apart from its environmental values, Bateman Street Bushland provides excellent nature-based recreation and opportunities for the surrounding residential areas.

The creek and the trail network along it provide high quality recreational benefits. JW Manson Reserve contains sporting grounds that are owned and managed by the City of Maroondah. The facility is used by the community for recreation as well as a variety of community events. Parts of Manson Reserve which are used for open space are currently zoned Rural Living Zone.

Land fragmentation and lack of long term certainty has resulted in short term uses and the precinct is generally considered under-utilised. The current uses include a plant supply nursery, a golf driving range, community gardens and a number of horse agistment properties. Some of these represent interim uses as the land reserved for the road is leased by VicRoads to private operators. The golf driving range is subject to site specific controls incorporated into the Scheme to allow for the use.

Land use in this precinct is affected by significant constraints. Large areas of land are affected by the Dandenong Creek floodplain including the 1%AEP flood level. The entire site is also within the Declared Bushfire Prone Areas.

Overall, the *GARS Economic Study* (Urban Enterprise, 2019) provides the following evaluation of economic, tourism, community and recreation potential for Precinct 4:

Summary of Economic, Tourism, Community and Recreation Potential

Suitability for agriculture intensification	Low
Suitability for agri- tourism	Low
Suitability for standalone tourism uses	Low
Suitability for community / social enterprise	Medium
Accessible to population catchments	High
Accessible by public transport	Medium
Accessible by bike/hiking/ walking	High
Suitability for Active Recreation	High

Suitability for other intensive industry	Low
Suitability for Passive Recreation	Medium

Future land use within this precinct depends largely upon the future of the Healesville Freeway reservation. It is noted that the western stretch of this reservation within the Whitehorse City Council was declared surplus, rezoned and developed largely for open space purposes. To date, VicRoads plan is to maintain the reservation in case the freeway extension in Knox is required.

Should road construction go ahead, it is important that the road protects the amenity and functionality of the existing open space and recreational uses, and improves access and connectivity to these areas where possible.

In the event that the reservation be declared surplus, there will be opportunities for consolidation of the land parcels within this precinct and undertake comprehensive planning. The following matters could be provided for as part of comprehensive planning:

- **Open Space and recreation** - Knox faces a growing demand for open space, recreational and sport facilities, in particular as we have planned for densification across the municipality, including the implementation of the Housing Strategy and the delivery of activity centres such as Boronia and Bayswater. It would be crucial for Knox to maintain existing open space and also seek opportunities to expand and enhance them where possible. This corridor presents a unique opportunity to create a network of high quality active open space while maintaining the environmental values of the creek system.
- **Urban farm** - Due to good soils, the precinct offers opportunities for small scale urban agriculture.
- **Compatible Development**– Opportunities may be investigated for compatible development to be integrated with the open space, including café/restaurant uses or mixed use opportunities. The key constraint to development within this corridor is flooding. Stormwater investigation and consultation with Melbourne Water would be required to determine whether the stormwater can be mitigated, potentially through a water sensitive design approach across the entire precinct, and to determine if any areas within the corridor could be considered for potential development.
- **Connectivity** – Improved vehicular access and walking/cycling connectivity through the site as well as to the surrounding area.

Objective:

To ensure land uses are carefully located and managed to be consistent with the values and functions of the Study Area.

Action 4.19. Advocate for VicRoads to review the operation of the broader traffic network to determine whether the Healesville Freeway Reservation in Knox is required.

Road Scenario

Action 4.20. Ensure the new road alignment preserves the existing recreational values of the existing open space and trails.

No- Road Scenario

Action 4.21. Remove the PAO from Bateman Street Bushland and rezone to PCRZ for conservation purposes.

Action 4.22. Undertake comprehensive planning for the precinct to:

- a) Consolidate land with possible amalgamation and rationalization of zoning along the reservation.
- b) Expand and upgrade the existing open space to create a high quality active and passive open space corridor.
- c) Improve vehicular access and walking/cycling connectivity, making the open space corridor more accessible the surrounding community.
- d) Investigate opportunities for compatible uses to be integrated with the open space, including café/restaurant or mixed use development, subject to flood mitigation investigations.
- e) Enhance the environmental values associated with the creek.
- f) Incorporate water into the design, through a water sensitive design approach with potential swales integrated with the open space.

Access and Connectivity (Map 23)

Precinct 4 is accessed via local roads coming off Wantirna Road and Mountain Highway. Access to the open spaces and trails within the precinct is very poor due to limited permeability through the leased properties along the reservation. The main access to Manson Reserve is via Selkirk Ave which runs through the residential area to the west

and then becomes a cul-de-sac. Proximity to main roads and trails provides great opportunities for access improvements in this precinct.

The Healesville Freeway extension, if constructed, provides opportunities for improved access. However, this corridor could also act as an urban barrier if not planned well.

The Dandenong Creek Valley Trail in Precinct 4 runs within the Knox side of the creek which provides strong opportunities for additional walking/cycling linkages with the surrounding recreational destinations. The State Government plans propose new on-road cycle lanes along Wantirna Road and a new shared path along the potential future Healesville Freeway.

Traffic projections for Wantirna Road suggest that it will need to be duplicated at some point in the future. However, the recently constructed bridge over the Dandenong Creek may prevent that.

Bus services currently run along Wantirna Road and Mountain Highway. The majority of the precinct is not within walking catchment of public transport.

Objective:

To facilitate connectivity and safe movement for all users.

Action 4.23. Support the walking and cycling connectivity proposals shown on the map.

Action 4.24. Support continuous shared trail connectivity and linkages to Dandenong Creek Trail and the Whitehorse section of Healesville Freeway Reserve.

Road Scenario

Action 4.25. Ensure the future Healesville Freeway extension does not present an urban barrier but rather facilitates improved access to Manson Reserve, the Dandenong Creek Trail and other recreational opportunities in the area.

No- Road Scenario

Action 4.26. Improve vehicular access to the open space as part of comprehensive planning, preferably through the industrial area on Mountain Highway to avoid traffic pressure on the residential streets to the west. Shared path connectivity is to be provided to this residential area as well as the Dandenong Creek Trail. Alternatively, a part of the Healesville Reservation can be used to create a new access road with a shared path connecting this area to Wantirna Road.

Map 20

Precinct 4 - Healesville Freeway Reservation & Surrounds

Theme: Land Use & Access

Knox Green Areas & Rural Strategy (GARS)

Legend

--- Precinct Boundary

--- LGA Boundaries

--- Creeks and Lakes Areas

--- Cadastre

Zones - Knox Planning Scheme

--- PCRZ

--- PPRZ

--- RDZ1

--- RLZ

--- UFZ

Scheme Overlays

--- Land Subject to Inundation Overlay (LSIO)

--- Public Acquisition Overlay (Vic Roads)

Land Ownership

--- Local Government

--- Local Government Other

--- State Government/Agencies

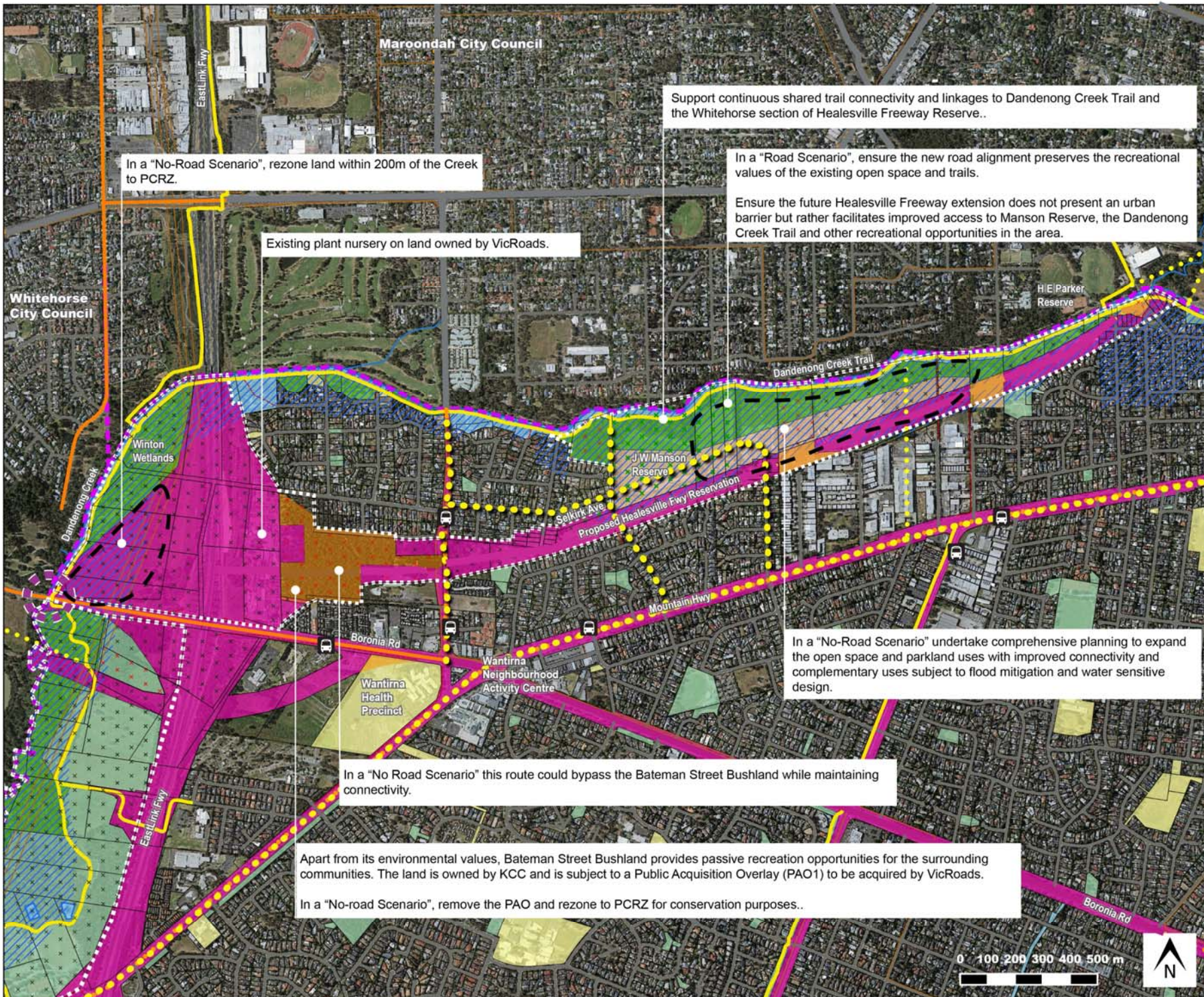
Pedestrian/Bicycle Network

--- Existing On Road

--- Existing Off Road

--- Proposed Walking/Cycling Routes

--- Knox Gateways



7. Implementation and review

Successful implementation will require effective monitoring, evaluation and review processes. KCC is responsible for the monitoring and evaluation of the actions identified within this Strategy.

Subject to Council adoption of the Strategy, an Implementation Plan will be prepared incorporating the actions identified within this document.

Targeted communications are proposed to ensure government departments, agencies, key stakeholders and the community as a whole will remain well-informed and engaged in the implementation process.

Examples of communication include (but are not limited to):

- Major projects/tasks and milestones published via KCC community publication or via a media release
- KCC website will be updated (when considered necessary) to advise the community of the achievements and milestones for projects/actions.

The monitoring and evaluation process will allow the community, stakeholders and government agencies to have access to information about the progress of the management plan and increases KCC's credibility and accountability.

The Strategy will be reviewed every five years and updated as required.

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List of Abbreviations


AEP	Annual Exceedance Probability	Precinct 2a	Lysterfield Valley and Hills Precinct
AHD	Australian Height Datum	Precinct 2b	Lysterfield Quarries and Surrounds Precinct
BMO	Bushfire Management Overlay	Precinct 3	Dandenong Creek Valley Precinct
CBD	Central Business District	Precinct 4	Healesville Freeway Reservation and Surrounds Precinct
CRZ	Core Riparian Zone	PUZ	Public Use Zone
DELWP	Department of Environment, Land, Water and Planning	PUZ6	Public Use Zone – Local Government
DRNP	Dandenong Ranges National Park	PUZ1	Public Use Zone – Service and Utility
EPA	Environment Protection Authority	RCZ1	Rural Conservation Zone (Schedule 1)
EPBC Act	Environmental Protection and Biodiversity Conservation Act 1999	RCZ2	Rural Conservation Zone (Schedule 2)
ESO	Environmental Significance Overlay	RDZ1	Road Zone (Category 1 Road)
ESO1	Environmental Significance Overlay (Schedule 1)	RDZ2	Road Zone (Category 2 Road)
ESO2	Environmental Significance Overlay (Schedule 2)	RLZ	Rural Living Zone
ESO3	Environmental Significance Overlay (Schedule 3)	RMIT	Royal Melbourne Institute of Technology
ESO4	Environmental Significance Overlay (Schedule 4)	SBO	Special Building Overlay
EVC	Ecological Vegetation Class	SBO1	Special Building Overlay (Schedule 1)
FO	Floodway Overlay	SBO2	Special Building Overlay (Schedule 2)
FZ	Farming Zone	SLO	Significant Landscape Overlay
GARS	Knox Green Areas & Rural Strategy	SLO1	Significant Landscape Overlay (Schedule 1)
GW	Green Wedge	SLO4	Significant Landscape Overlay (Schedule 4)
GWMP	Green Wedge Management Plans	SLO5	Significant Landscape Overlay (Schedule 5)
GWZ1	Green Wedge Zone (Schedule 1)	SUZ1	Special Use Zone (Schedule 1)
GWZ2	Green Wedge Zone (Schedule 2)	SUZ2	Special Use Zone (Schedule 2)
HO	Heritage Overlay	The Scheme	The Knox Planning Scheme
KCC	Knox City Council	UFZ	Urban Floodway Zone
LGA	Local Government Area	UGB	Urban Growth Boundary
LSIO	Land Subject to Inundation Overlay	VPO	Vegetation Protection Overlay
MPS	Municipal Planning Strategy	VPO2	Vegetation Protection Overlay (Schedule 2)
MSS	Municipal Strategic Statement	WSUD	Water Sensitive Urban Design
MW	Melbourne Water		
PAO1	Public Acquisition Overlay (Schedule 1)		
PAO2	Public Acquisition Overlay (Schedule 2)		
PBN	Principal Bicycle Network		
PCRZ	Public Conservation and Resource Zone		
PPF	Planning Policy Framework		
PPRZ	Public Parks and Recreation Zone		
Precinct 1	The Basin Rural Landscape Precinct		



Appendix 1 - Wildlife Barrier Locations and Recommendations



Precinct 1: The Basin Rural Landscape Precinct

Site Name and Map ID	Structure type, purpose and dimensions (H x W x L)	Assessment and recommendations	Site Images
Dandenong Creek and Liverpool Rd ID #1	<ul style="list-style-type: none"> 1 concrete box culvert 3m x 3m x 16m For creek flow Natural substrate(?) Tree gap ~30m 	<ul style="list-style-type: none"> Likely barrier to some focal bird species due to traffic volume Replace culvert with open span bridge No dry passage – add shelf Plant trees between Dobson Ln and Liverpool Rd or install rope bridge over Liverpool Rd 	
Dandenong Creek and Dobson Ln ID #2	<ul style="list-style-type: none"> 1 concrete box culvert 3m x 3m x 5m For creek flow Natural substrate Tree gap ~20m 	<ul style="list-style-type: none"> Low traffic volume service road adjacent to Liverpool Rd Unlikely a barrier to wildlife movement due to narrow road and low traffic volume Plant trees between Dobson Ln and Liverpool Rd or install rope bridge over Dobson Ln Replace culvert with open span bridge No dry passage – add shelf 	

Precinct 2a: Lysterfield Valley and Hills

Site Name and Map ID	Structure type, purpose and dimensions (H x W x L)	Assessment and recommendations	Site Images
Monbulk Creek and Blackwood Park Dr ID #19	<ul style="list-style-type: none"> • 1 open span bridge for pedestrians • 1 open span bridge for traffic • Pedestrian bridge 2m x 5m x 3m • Traffic bridge 2m x 5m x 5m • Both bridges for creek flow • Natural substrate • Tree gap ~10m 	<ul style="list-style-type: none"> • Road bridge is currently single lane only, likely to be widened in near future • If widening occurs, ensure open span bridge with maximum height and allow for flat embankment on both sides of creek channel • Not a barrier for gliders or turtles • Possibly a barrier for focal bird species due to traffic volume, but gap size small so less of a concern • Likely a barrier for wallabies due to narrow channel, lack of flat embankment and road bridge filled with water 	


<p>Monbulk Creek and Napoleon Rd ID #20</p>	<ul style="list-style-type: none"> • Open span bridge • 4m x 12m x 15m • Natural substrate • For creek flow • Tree gap ~40m • No flat embankment on either side of creek 	<ul style="list-style-type: none"> • Unlikely a barrier to focal birds due to narrow road and dense shrub growth in river channel • Possible barrier to gliders • Install rope bridge, but powerlines on one side of Napoleon Rd is a complication • Re-contour embankments under bridge to create some flat space on one or both sides of creek 	
<p>Monbulk Creek and Lysterfield Rd ID #21</p>	<ul style="list-style-type: none"> • Open span bridge • 2m x 6m x 16m • For creek flow • Natural substrate • Tree gap ~4m 	<ul style="list-style-type: none"> • Not a complete barrier to any focal species • Might hinder movement of focal bird species due to relatively high traffic volume 	



<p>Monbulk Creek and Dorset Rd extension ID#40</p>	<ul style="list-style-type: none"> • An easement exists for an extension of Dorset Rd to the south of Burwood Hwy, currently used as informal open space • The Dorset Rd extension will traverse Monbulk Creek near Napoleon Rd, potentially disrupting movement along the creek 	<ul style="list-style-type: none"> • Ensure that the crossing of Monbulk Creek takes into account the natural values of the adjacent area and enhances both the quality of habitat and the landscape connectivity for wildlife. Special consideration should be given for platypus as there are recent records in this area • The easement for the Dorset Rd extension should also encompass recreational and conservation uses (see Appendix 8) 	
<p>Dorset Rd extension and drainage channel ID#41 and Lysterfield Rd ID#42</p>	<ul style="list-style-type: none"> • An easement exists for an extension of Dorset Rd to the south of Burwood Hwy. • The easement for Dorset Rd runs through private property to the south-east of Blackwood Park Drive • The drainage channel is a small drain to the south east of Napoleon Rd, within private property, and the Dorset Rd extension encompasses this drainage channel 	<ul style="list-style-type: none"> • Enhance the function, flow and quality of the channel by returning it to a natural stream, with bends and floodplains • The easement for the Dorset Rd extension should also encompass recreational and conservation uses (see Appendix 8) 	

Precinct 2b: Lysterfield Quarries and Surrounds


Site Name and Map ID	Structure type, purpose and dimensions (H x W x L)	Assessment and recommendations	Site Images
Nil			

Precinct 3: Dandenong Creek Valley


Site Name and Map ID	Structure type, purpose and dimensions (H x W x L)	Assessment and recommendations	Site Images
Dandenong Creek and Boronia Rd ID #9	<ul style="list-style-type: none"> Two open span bridges, separated by 2m Each structure 12m wide For creek flow and pedestrians Pedestrian section 4m x 2.5m x 12m Creek flow section 4m x 13m x 12m Tree gap size ~ 60m Pedestrian section with concrete base Creek flow section with large rocks in creek and concrete abutment. Pedestrian path fenced from creek-flow section 	<ul style="list-style-type: none"> Barrier to gliders No issues for turtles or birds Lack of natural stream bank a limitation for terrestrial species Reduce weed cover and revegetate Plant trees in median of Boronia Rd and on verges of both bridges Install rope bridge above Boronia Rd 	


<p>Dandenong Creek and Burwood Hwy ID #10</p>	<ul style="list-style-type: none"> • Two open span bridges, separated by 12m • Each bridge 2.5m x 40m x 15m • For creek flow and pedestrians • Pedestrian path fenced from creek-flow section • Centre channel for creek has concrete base • Flood zones either side of creek channel with natural substrate • Dense reeds and shrubs on both approaches • Tree gap size ~ 60m 	<ul style="list-style-type: none"> • Unlikely a barrier to most focal species, except gliders • Plant trees between bridge structures and within median of Burwood Hwy • Lots of cat, dog and fox prints in mud under bridges, including rat footprints (possibly water rat?) • Install rope bridge above bridges over Burwood Hwy 	
<p>Dandenong Creek and High Street Rd ID #11</p>	<ul style="list-style-type: none"> • 2 open span bridges, separated by 2m • Each bridge 2.5m x 30 m x 15 m • For creek flow and pedestrians • Natural substrate for section with creek flow • Pedestrian path with concrete substrate • Pedestrian path fenced from creek-flow section • Tree gap ~40m • For pedestrians and creek flow 	<ul style="list-style-type: none"> • Unlikely a barrier to birds given dense reeds and understorey • Possibly a barrier for gliders, given gap size and relative height of trees and bridge structure • Not an issue for turtles • Replace weed cover with native shrubs and grasses • Plant trees between within median and possibly between bridge structures if sufficient space • Consider installing rope bridge above High Street Rd • Install furniture (logs, rocks etc) under bridge structures to provide shelter for small vertebrates 	

<p>Dandenong Creek and Ferntree Gully Rd ID #12</p>	<ul style="list-style-type: none"> • 2 open span bridges, separated by 4m • Each bridge 2.5m x 40m x 15m • For creek flow and pedestrians • Pedestrian path has concrete substrate • Pedestrian path fenced from creek-flow section • Natural substrate for section with creek flow • Tree gap ~50m 	<ul style="list-style-type: none"> • Likely a barrier for glider movement due to gap size and low relative height of trees above bridge height • Unlikely a barrier for other species – lots of fox and cat prints in mud under bridge • Plant trees within median of Ferntree Gully Rd • Plant trees between bridge structures • Install rope bridge above creek • Install furniture (logs, rocks etc) under bridge structures to provide shelter for small vertebrates 	
<p>Dandenong Creek and Wellington Rd ID #13</p>	<ul style="list-style-type: none"> • 2 open span bridges, separated by 3m • Each bridge 3.5m x 45m x 15m • 1 concrete pipe culvert, 2m diameter x 50m • Substrate under bridge is concrete, but with soil and grass growth covering much of it • Bridge for high-flow events and pedestrians • Pedestrian path fenced from creek-flow section • Culvert takes regular creek flow • Tree gap ~70m • Powerlines on south side of Wellington Rd 	<ul style="list-style-type: none"> • Barrier to gliders • Unlikely an issue for other species, but approaches to bridge structure quite open and will limit use by small birds • Replace concrete base with natural substrate • Plant trees in median of Wellington Rd • Plant trees and shrubs on both approaches to bridge structure • Install rope bridge over Wellington Rd • Install furniture (logs, rocks etc) under bridge structures to provide shelter for small vertebrates 	

<p>Blind Creek and EastLink ID #26</p>	<ul style="list-style-type: none"> • 2 multi-span bridges for EastLink separated by 7m • 3 pipe culverts for bike path adjacent to EastLink • Bridges 2.4m x 40m x 28 m • Culverts 1.5m x 6m • Bridges for creek flow and pedestrians • Culvert for creek flow • Tree gap > 100m • Natural substrate for creek under EastLink and concrete for pedestrian path • Culvert has metal substrate • Pedestrian path is fenced from creek section • Wire mesh fence along bike path will limit wildlife movement 	<ul style="list-style-type: none"> • Multi-span bridges have large open spaces underneath • Definitely a barrier to gliders • May limit movement from focal birds due to large open spaces under bridges, but not a complete barrier • Install rope bridge underneath EastLink • Install furniture (e.g. logs, rocks etc) to provide cover for wildlife • Plant trees and shrubs on both approaches and between multi-span bridges and between EastLink bridges and bike path • Replace wire mesh fence with more open-style barrier to allow wallaby movement, if occurring in area 	
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Precinct 4: Healesville Freeway Reservation and Surrounds

Site Name and Map ID	Structure type, purpose and dimensions (H x W x L)	Assessment and recommendations	Site Images
Dandenong Creek and Wantirna Rd ID #7	<ul style="list-style-type: none"> • Open span bridge • 4m x 20m x 13m • For pedestrians and creek flow • Pedestrian path fenced from creek-flow section • Tree canopy gap ~30m, with powerlines on west side 	<ul style="list-style-type: none"> • Minor barrier to most species • Undertake revegetation on both sides to improve approaches • Replace concrete base with natural substrate • Plant trees on west side of Wantirna Rd 	

<p>Dandenong Creek and EastLink (North), Wantirna</p> <p>ID #8</p>	<ul style="list-style-type: none"> • Two open span bridges, separated by ~10m • 3m x 60 m x 18m • Natural substrate under bridges • For creek flow and pedestrians • Pedestrian path is not fenced from creek-flow section • Tree gap size > 100m 	<ul style="list-style-type: none"> • Complete barrier to gliders • No issues for turtles • Minor barrier to other focal species due to lack of vegetation on approaches to underpass • Protect small tree growing between the two structures • Plant trees and shrubs on both sides of EastLink and between both structures • When trees sufficiently tall, install rope bridge under or over EastLink • Place 'furniture' (i.e. logs, tree stumps, rock etc) under bridges to provide cover for small animals 	
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Appendix 2 – Action Plan

Actions for all precincts

Action 1. Investigate options to incorporate relevant recommendations from the Knox Wildlife Conservation and Connectivity Report (Ecology and Infrastructure International et al., 2017) into the Knox Planning Scheme, including the following recommendations:

- a) Ensuring the connectivity elements and important habitats are considered in the review of planning applications and strategic planning decisions.
- b) Applying appropriate buffers along the waterways including the Dandenong Creek, Dobsons Creek, Monbulk Creek and Blind Creek to the extent of the Study Area, to:
 - Prohibiting further development within the Melbourne Water Core Riparian Zones.
 - Minimising development and intense land use within 200m buffer zones.
 - Mandating Water Sensitive Urban Design approaches within 200m buffer zones.
- c) Mandating an ecologically sensitive development approach to new development and the construction of linear infrastructure (e.g. roads, bridges) within high ecological value buffer zones.
- d) Encourage habitat restoration and revegetation within 300m buffer zones to existing areas of native vegetation, in areas that do not increase bushfire risk to existing settlements.

The above action might entail new policy or overlay provisions and making the Knox Wildlife Conservation and Connectivity Report a reference document in the Scheme, subject to further planning investigation.

Action 2. Investigate the need for further guidelines to facilitate Ecologically Sensitive Design for new development and the construction of linear infrastructure (e.g. roads, bridges).

Action 3. Advocate for wildlife linkages to continue outside the Study Area, in accordance with the recommendations of the Wildlife Conservation and Connectivity Report (Ecology and Infrastructure International et al., 2017).

Action 4. Continue collaboration with other councils and the state government regarding pest management and pollution control.

Action 5. Continue to support and grow community partnerships and initiatives including the Gardens for Wildlife program.

Action 6. Undertake a project for Knox to:

- a) Map the existing tree canopy and vegetation cover broken down by height strata and surface cover types.
- b) Investigate setting of measurable tree canopy cover targets including sub-targets for public land (parks, streets) and private property.
- c) Define actions to achieve the canopy targets.
- d) Establish a program for regular monitoring of vegetation cover and control progress against the established targets.
- e) Facilitate enforcement in cases of unlawful tree removal.

Action 7. Undertake a review of the Vegetation Protection Overlay (VPO) to correct the existing anomalies and identify opportunities for additional trees to be protected by the overlay.

- Action 8.** Investigate Planning Scheme options to recognise the role of trees, vegetation and surface cover types in moderating the temperature and reducing the urban heat island effect.
- Action 9.** Following the completion of the flood mapping project by KCC and Melbourne Water (MW), undertake a Scheme amendment to apply adequate overlays to areas affected by the 1% AEP (1:100yr ARI) flood level, including:
- a) Land Subject to Inundation Overlay (LSIO) to areas affected by flooding from natural waterways.
 - b) Special Building Overlay (SBO) to areas affected by flooding from the drainage network (SBO1 for MW network and SBO2 for KCC network).
- Action 10.** Provide greater guidance in the Planning Scheme to limit the extent of impervious surface including guidance for car parking areas in the Study Area.
- Action 11.** Continue to collaborate with stakeholders on regional and multi-agency initiatives that improve the waterways and catchments, including the Living Links and the Enhancing our Dandenong Creek projects.
- Action 12.** Undertake a review of the existing Planning Scheme provisions to recognise the character and protect landscape values in the Study Area, in line with the findings of the GARS Landscape and Character Study.
- Action 13.** Undertake a comprehensive review of Aboriginal and non-Aboriginal heritage across the municipality, taking into consideration the specific recommendations in the *Preliminary Heritage review: Knox Rural Heritage* (Context, 2017).
- Action 14.** Avoid any changes to the Urban Growth Boundary in Precincts 1, 2a and 2b.
- Action 15.** Investigate Planning Scheme options to provide local strategic direction for Knox Green Wedge land in line with the recommendations of this Strategy for Precincts 1, 2a and 2b.
- Action 16.** Clarify, through strategic directions in the Planning Scheme, that a transitional buffer approach to the Green Wedge interface is not intended, and that a place-based, value-based approach to assessment is required.
- Action 17.** Investigate Planning Scheme options to provide strategic direction for agriculture and agricultural land in Knox.
- Action 18.** Investigate initiatives and incentives, such as rate exemptions, to help protect agricultural production and improve land management practices.
- Action 19.** Investigate the potential for Carbon Farming and climate friendly agricultural practices including regenerative agriculture.
- Action 20.** Support the provision of public art in the Study Area including at the locations identified, subject to detailed assessment.
- Action 21.** Advocate for the construction of proposed shared paths and cycle lanes identified in this strategy.

Precinct 1

- Action 1.1.** Review the planning framework to
- ensure the protection of native vegetation and habitat is prioritised in Precinct 1;
 - recognise the role of Dandenong and Dobsons Creeks in wildlife connectivity; and

- ensure bushfire risk and management in BMO affected areas is considered from early stages of any development proposal, such as pre-application stage, and proposals that require vegetation removal to comply with the bushfire requirements are not supported.

Action 1.2. Reduce the wildlife barrier effects at the following sites in accordance with the recommendations in Appendix 1:

- Dandenong Creek - Liverpool Road (ID: 1)
- Dandenong Creek – Dobson Lane (ID: 2)

Action 1.3. Investigate mechanisms to support private landowners to improve maintenance and weed control including of Sugarloaf Hill.

Action 1.4. The planning framework to acknowledge that Precinct 1 is in the high value catchment of the Dobsons Creek.

Action 1.5. Investigate options to incorporate WSUD measures as part of new development in the Dobsons Creek catchment.

Action 1.6. Support a WSUD approach to public works and infrastructure including the constructions or upgrade of roads within this precinct.

Action 1.7. Ensure the Dobsons/Dandenong Creek floodplain is protected from development and level change.

Action 1.9. Undertake a review of the existing Planning Scheme provisions to better recognise and protect landscape values, in line with the findings of the GARS Landscape and Character Study.

Action 1.10. Discourage fragmentation of land within the Dobsons Creek floodplain character area.

Action 1.11. Investigate opportunities for weed management and removal of shrub, to open up foothill views, particularly those on public owned land.

Action 1.12. Ensure adequate consultation occurs prior to any proposals affecting the Aboriginal Sites and Areas of Cultural Sensitivity as shown on the heritage map.

Action 1.13. Undertake a review of the heritage places in accordance with the recommendations from the *Knox Rural Heritage Report* (Context, 2017).

Action 1.14. Protect Precinct 1 from more intense urban development.

Action 1.15. Ensure future land use and development complements the precinct's primary environmental and landscape values, including environmental conservation, agriculture, agribusiness, art and culture, with complementary small scale tourism-related purposes.

Action 1.16. Protect the Dobsons Creek valley, as a significant landscape with capable agricultural land, from inappropriate development and use that would compromise these values.

Action 1.17. Maintain the existing residential settlement character and prevent further intensification and vegetation loss. Consider bushfire risks and vegetation impacts early in the planning process and do not support proposals that rely on vegetation removal including for fire management or car parking.

Action 1.18. Maintain the current minimum subdivision sizes in Precinct 1 and prevent fragmentation of land.

Action 1.19. . Support enhancements to amenity, scenic qualities and recreational values.

Action 1.20. Facilitate enhancements to The Basin Neighbourhood Activity Centre, through a potential master planning process, to

- strengthen and diversify commercial land use within the existing commercial zones to the south of the roundabout;
- protect and maximise public access to open range views to the north of the roundabout;
- revitalise and enhance the public realm and local character; and

- support and facilitate public art to complement the local character.

Action 1.21. For the larger rural properties within the central and western part of the precinct (GWZ2 and SUZ1), support discretionary uses (i.e. Section 2 uses) that are for tourism, agri-tourism, educational and commercial purposes, where proposals are sited and designed sensitively to protect and enhance the environmental, agriculture and landscape values of this precinct, and do not increase bushfire risk.

Action 1.22. Investigate opportunities to establish parkland to the north of The Basin Triangle roundabout to protect long range views from this location and provide additional passive recreation opportunities.

Action 1.23. In case of future changes to the SUZ1 zoning, support alignment with the VPP Green Wedge objectives and use permissibility, while preventing urban development and land fragmentation.

Action 1.24. Investigate upgrades to the Sheffield Road/Doongalla Road route to:

- Provide a safe multi-user path for pedestrians, cyclists and horse riders.
- Potentially reduce traffic speeds.
- Provide signs regarding horse manure catcher and cleaning up after dogs.

Action 1.25. Investigate upgrades to the Liverpool Road to:

- Provide a shared path.
- Facilitate improved pedestrian movement around the Mountain Highway intersection to ensure safe connectivity to The Basin Primary School.

Action 1.26. Advocate for improved pedestrian safety on Mountain Highway and Basin-Olinda Road near The Basin roundabout.

Precinct 2a

Action 2a.1. Support enhancements to the riparian corridor of Monbulk Creek and strengthen habitat values and connectivity within 200m of the creek.

Action 2a.2. Review the existing ESO over Monbulk Creek to ensure it properly covers the environmentally significant areas, in consultation with Melbourne Water to identify the Core Riparian Zone (CRZ) and the adjacent vegetation buffers.

Action 2a.3. For the proposed Dorset Road Extension, advocate for a concept of a multi-modal road/pedestrian and nature conservation corridor that supports both wildlife and human connectivity and contributes to habitat restoration within 200m of Monbulk Creek.

Action 2a.4. Reduce the wildlife barrier effects at the following sites in accordance with the recommendations of Appendix 1 to this report:

- Monbulk Creek – Blackwood Park (ID 19)
- Monbulk Creek – Napoleon Road (ID 20)
- Monbulk Creek – Lysterfield Road (ID 21)
- Monbulk Creek – Dorset Road Extension (ID 40)
- Drainage Channel - Dorset Road Extension (ID 41)

- Drainage Channel – Lysterfield Road (ID 42)

Action 2a.5. Undertake initiatives for supporting/partnering with rural land-holders to protect and enhance the ecological values including the riparian vegetation, and ensuring grazing practices do not damage habitat values.

Action 2a.6. Protect the floodplains of Monbulk Creek from development and level change to maintain their flood storage and retention values and prevent flooding downstream.

Action 2a.7. Advocate for the proposed Dorset Road extension to consider flooding from Monbulk Creek and apply a water sensitive design approach to maximise the natural flow and retention of water.

Action 2a.8. Review the Floodway Overlay over Monbulk Creek to ensure it serves a purpose and covers the correct area.

Action 2a.9. Review the existing Scheme provisions including the MPS, PPF and SLO1 in light of the findings of the *GARS Landscape and Character Study* (Hansen Partnership, 2019).

Action 2a.10. Advocate for the future Dorset Road extension design to respect the landscape character, and celebrate and emphasise the key views and the open rural character of the valley.

Action 2a.11. Ensure adequate consultation occurs prior to any proposals affecting the Aboriginal Sites and Areas of Cultural Sensitivity as shown on the heritage map.

Action 2a.12. Review the places of heritage significance in accordance with the recommendations from the *Preliminary Heritage Review: Knox Rural Heritage* (Context, 2017).

Action 2a.13. Protect Precinct 2a from more intense urban development.

Action 2a.14. Maintain the current zoning regime.

Action 2a.15. Support the continuation of agriculture within the floodplains of Monbulk Creek.

Action 2a.16. Acknowledge and support the different role of each zone within this precinct to enable a diversity of rural economy and character.

Action 2a.17. Maintain the current minimum subdivision lot size requirements to support landscape values and agricultural potential of land.

Action 2a.18. Support land use which respects the existing landscape character, protect key viewlines and provides positive biodiversity outcomes.

Action 2a.19. Support tourism, agri-tourism and restaurant/café uses where they are accompanied by agriculture or natural systems and protect the landscape and character values.

Action 2a.20. Support and facilitate public art along the Dorset Road extension within the Monbulk Creek valley in Precinct 2a.

Action 2a.21. Advocate to the State Government to provide cycle lanes along Wellington Road, Kelletts Road and Napoleon Road.

Action 2a.22. Ensure Dorset Road extension improves access to rural lots in the Monbulk Creek Valley.

Precinct 2b

Action 2b.1. Maintain the northern area within Precinct 2b as a low density, rural, open space area to create a buffer between the Rowville residential areas and the sensitive habitat in Lysterfield Park and Churchill National Park.

Action 2b.2. Maintain the current Urban Growth Boundary to prevent intense development within Precinct 2b.

Action 2b.3. Undertake planting and revegetation within Precinct 2b, with the objective of maintaining and strengthening wildlife connectivity and linkages to the bushland areas within Lysterfield Park and Churchill National Park.

Action 2b.4. Require a net gain contribution for any vegetation removal as part of the planned quarry expansion, by native vegetation planting to enhance habitat and wildlife connectivity.

Action 2b.5. Review the existing Scheme provisions including the MPS, PPF and SLO1 and SLO5 in light of the findings of the *GARS Landscape and Character Study* (Hansen Partnership, 2019).

Action 2b.6. Ensure future changes on Hanson Quarry land do not adversely impact the key landscape values.

Action 2b.7. Ensure adequate consultation occurs prior to any proposals affecting the Aboriginal Sites and Areas of Cultural Sensitivity as shown on the heritage map.

Action 2b.8. Review the places of heritage significance in accordance with the recommendations from the *Knox Rural Heritage Report* (Context, 2017).

Action 2b.9. Protect Precinct 2b from more intense urban development.

Action 2b.10. Support the ongoing operation of the Boral and Hansen Quarries within the approved work plan areas.

Action 2b.11. Investigate and support the use of the northern part of the Hanson quarry land for active recreation and sporting facilities.

Action 2b.12. Encourage the use of the quarry land following the completion of quarrying to provide for improved community and environmental outcomes, and facilitate permeability to enhance community access to the national parks.

Action 2b.13. Investigate general alignment with the Green Wedge Zone 2, in case of future rezoning of the northern part of the precinct, to provide a low intensity buffer to the national parks.

Action 2b.14. Collaborate with Parks Victoria regarding enhancements to nature based recreation and tourism opportunities within Lysterfield Park and improving access from Knox.

Action 2b.15. Support and facilitate public art along Wellington Road potentially as part of future planned ovals/recreation reserve.

Action 2b.16. Provide connectivity between the Lysterfield Park trail network and the suburban areas, as part of future redevelopment of the quarries.

Action 2b.17. Investigate opportunities for upgrades to Cornish Road and the possibility of a formalised entry point, including car parking, to provide access to Lysterfield Park, in collaboration with Parks Victoria.

Action 2b.18. Facilitate improvements to Powells Road to address existing informal car parking issues.

Precinct 3

Action 3.1. Acknowledge the significant role of this precinct in providing wildlife habitat and connectivity at a regional scale which is due to the integrity of existing native vegetation and the creek corridors.

Action 3.2. Continue the application of ESO2 across the precinct and review the local content to strengthen the provisions in accordance with the recommendations of this Strategy.

Action 3.3. Support rezoning to ensure the Dandenong Creek corridor is protected for conservation purposes, in consultation with stakeholders, including at 115-123 Axford Road, Wantirna South.

- Action 3.4.** Encourage reestablishment of the riparian vegetation and habitat as part of any future redevelopment at 1A Burwood Highway, Wantirna.
- Action 3.5.** Provide for habitat restoration and connectivity along the Dandenong Creek, and along Blind Creek as part of future development of the Boral Quarry site.
- Action 3.6.** Reduce the wildlife barrier effects at the sites indicated on the map in accordance with the recommendations of Appendix 1 to this report.
- Action 3.7.** Investigate and rectify the identified zoning anomalies along the Dandenong Creek corridor.
- Action 3.8.** Advocate for enhancements within this precinct to continue along the creek corridor south of Wellington Road.
- Action 3.9.** Protect the floodplains and wetlands in Precinct 3 for their flood storage and retention values.
- Action 3.10.** Continue the KCC/MW/Parks Victoria collaboration to improve waterway health and sediment control in Precinct 3.
- Action 3.11.** Future redevelopment of the Boral quarry site is to ensure that stormwater impacts are minimised and managed to the satisfaction of the relevant agencies.
- Action 3.12.** Naturalise the Blind Creek and enhance its condition as a natural waterway corridor as part of the future development of the Boral quarry site.
- Action 3.13.** Review the existing Scheme provisions including the MPS and PPF in light of the findings of the *GARS Landscape and Character Study*. New strategic policy direction for landscape values of the precinct and a new SLO are to be investigated.
- Action 3.14.** Ensure adequate consultation occurs prior to any proposals affecting the Aboriginal Sites and Areas of Cultural Sensitivity as shown on the heritage map.
- Action 3.15.** Review the places of heritage significance in accordance with the recommendations from the *Knox Rural Heritage Report* (Context, 2017).
- Action 3.16.** Acknowledge the important role of the Dandenong Creek Valley Parkland as a significant green corridor within the eastern region.
- Action 3.17.** Support the following opportunities for the Dandenong Creek Valley parklands:
- Action 3.18.** Define High Street Road corridor as a Gateway to Knox. Protect the rural, horticultural character of this corridor and seek opportunities to enhance its aesthetics through landscaping, building design and public art which respond to and complement the rural, horticultural and bushy character of this corridor.
- Action 3.19.** Future redevelopment of the Boral Quarry site to:
- a) Provide for the revegetation and naturalisation of Blink Creek to reestablish its function as an ecological corridor.
 - b) Protect and enhance the habitat values of the Dandenong Creek ecological corridor.
 - c) Provide for passive and nature based recreation in appropriate areas.
- Action 3.20.** Support complementary uses in proximity to the Knox Regional Sports Park including allied health and sports medicine.
- Action 3.21.** Investigate the area within Koomba Park which is zoned for road purposes for potential rezoning and inclusion in the park.
- Action 3.22.** Investigate parkland lots that are not zoned PPRZ for potential rezoning, in consultation with subject to consultation with DELWP and Parks Victoria.
- Action 3.23.** Advocate for further improvements to Nortons Park by Parks Victoria.
- Action 3.24.** Investigate opportunities for renewable energy production (solar park) at the Cathies Lane landfill site.
- Action 3.25.** Support and fund public art along the High Street Road and Burwood Highway to enhance amenity and sense of place consistent with the local character.

Action 3.26. Advocate for and support the on-road and off-road cycling proposals shown on the map.

Action 3.27. Advocate for a shared path along High Street Road connecting with the EastLink Trail with the Dandenong Creek Trail.

Action 3.28. Seek opportunities to improve access and connectivity through the area between High Street road and Burwood Highway.

Action 3.29. The Boral redevelopment site to provide for shared path connectivity through the site connecting with the surrounding trails, including along the Blind Creek linking to Jells Park.

Action 3.30. Support the provision of public transport to the Boral redevelopment site and ensure the road network are designed to facilitate bus movement.

Action 3.31. Improve access to Knox Regional Sports Park.

Action 3.32. Support shared path connectivity across Eastlink to Kingston Links.

Precinct 4

Action 4.1. Continue the application of ESO2 in Precinct 4 to protect native vegetation and habitat values.

Action 4.2. Acknowledge the role of the Dandenong Creek corridor and previous investments in bushland restoration along the creek in wildlife connectivity within the broader region.

Action 4.3. Prohibit development within the Melbourne Water's Core Riparian Zone (CRZ) and the adjacent vegetation buffers.

Action 4.4. Investigate mechanisms to achieve an ecologically sensitive development approach to new development and the construction of linear infrastructure (e.g. roads, bridges) across the precinct.

Action 4.5. Reduce the wildlife barrier effects of EastLink over the Dandenong Creek corridor in accordance with the recommendations of Appendix 1 to this report.

Action 4.6. ... Review the VPO in Precinct 4 to ensure it covers all the intended vegetation.

Action 4.7. Advocate for an underpass design to protect Bateman Street bushland.

Action 4.8. Minimise the risk of exposure of wildlife to vehicular traffic from the future freeway through adequate buffer areas.

Action 4.9. Design and construction in proximity to Winton Wetlands should be sensitive to the ecological values of this wetland and minimise wildlife exposure to works or traffic.

Action 4.10. Protect the Bateman Street Bushland and other Sites of Biological Significance and enhance their environmental and passive recreation values.

Action 4.11. Support future uses of the reservation corridor that can protect and enhance the ecological values.

Action 4.12. Investigate the Road Zone land in the vicinity of Winton Wetlands which is within 200m of the Creek for possible rezoning to PCRZ to protect habitat values and facilitate revegetation.

Action 4.13. Any development or the addition of impervious surfaces in the flood affected area (1% AEP level) needs to be accompanied by adequate studies and plans to demonstrate how flooding can be managed in particular through WSUD measures.

Action 4.14. Review the Scheme provisions for opportunities to reflect the findings of the GARS Landscape and Character Study.

Action 4.15. Ensure future development responds to the character areas, celebrates the natural/leafy character of the precinct and provides opportunities for views to the vegetated areas.

Action 4.17. Ensure adequate consultation occurs prior to any proposals affecting the Aboriginal Places and Areas of Cultural Sensitivity as shown on the heritage map.

Action 4.18. Review the places of heritage significance in accordance with the recommendations from the Knox Rural Heritage Report (Context, 2017).

Action 4.19. Advocate for VicRoads to review the operation of the broader traffic network to determine whether the Healesville Freeway Reservation in Knox is required.

Action 4.20. Ensure the new road alignment preserves the existing recreational values of the existing open space and trails.

Action 4.21. Remove the PAO from Bateman Street Bushland and rezone to PCRZ for conservation purposes.

Action 4.22. Undertake comprehensive planning for the precinct to:

Action 4.23. Support the walking and cycling connectivity proposals shown on the map.

Action 4.24. Support continuous shared trail connectivity and linkages to Dandenong Creek Trail and the Whitehorse section of Healesville Freeway Reserve.

Action 4.25. Ensure the future Healesville Freeway extension does not present an urban barrier but rather facilitates improved access to Manson Reserve, the Dandenong Creek Trail and other recreational opportunities in the area.

Action 4.26. Improve vehicular access to the open space as part of comprehensive planning, preferably through the industrial area on Mountain Highway to avoid traffic pressure on the residential streets to the west. Shared path connectivity is to be provided to this residential area as well as the Dandenong Creek Trail. Alternatively, a part of the Healesville Reservation can be used to create a new access road with a shared path connecting this area to Wantirna Road.

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