

21.06 ENVIRONMENT

17/03/2016
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21.06-1 Environment Overview

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The Environment theme relates to the natural environment and cultural heritage. The key Environment themes are shown on the Environmental & Landscape Strategic Framework Plan included in this Clause.

Natural Environment

Knox has many environmentally significant areas including the foothills of the Dandenong Ranges, Dandenong Creek Valley, Corhanwarrabul and Monbulk creeks, and Lysterfield and Churchill National Parks. While all of these natural features provide attractive and distinctive landscape settings, the full potential of some of these resources is either not realised or at risk of being degraded through the loss of vegetation and poorly designed housing development. Opportunities exist for new development to respond creatively and positively to existing open space and waterways through siting and design and contribute to sustainability through the incorporation of building design elements that reduce reliance on non-renewable natural resources.

Knox spans two biogeographical regions, or 'bioregions': the 'Gippsland Plain' and the 'Highlands Southern Fall'. The Gippsland Plain is characterised by low-lying, near-coastal environments with predominantly woodland vegetation. The 'Highlands Southern Fall' is characterised by more hilly areas of higher rainfall, dominated by tall forests except on terrain that is particularly exposed to the elements. In Knox, the transition is determined by geology, with lightly undulating terrain of sedimentary origin in the Gippsland Plain bioregion and hilly terrain of volcanic origin in the Highlands Southern Fall.

Approximately 100 square kilometres of Knox once supported nine or ten Ecological Vegetation Classes (EVCs) that are now listed as Endangered, at the national or bioregional scale. This represents 88% of the whole municipality. Vulnerable EVCs account for much of the remaining 12% of Knox. Consequently, most occurrences of native vegetation in Knox represent an endangered or vulnerable EVC. The main reason for these EVCs being listed as endangered or vulnerable is due to extensive clearing and fragmentation, leaving only a tiny proportion of their original extent. They are not adequately reserved in parks to give confidence in their medium to long-term survival. They can ill afford any further losses, even in the case of rather small or degraded examples that are scattered all around Knox.

Victoria's Native Vegetation - a Framework for Action adopts the principle that remnants of threatened or rare EVCs (Endangered, Vulnerable, Depleted) can be of high or very high conservation significance, and therefore the sites in which they occur are deemed to be of at least 'State' significance according to the Department of Sustainability and Environment. The primary policy goal of the Framework is a reversal across the entire landscape of the long-term decline in the extent and quality of Native Vegetation leading to a Net Gain. This is to be achieved through the three-step approach of avoid, minimise and offset, with an emphasis on avoiding the removal of native vegetation where possible.

Sites of Biological Significance

Knox has many sites of biological significance, including sites of National, State, Regional and Local Significance. The sites contain native vegetation, creeks, water bodies, and floodplains. Native vegetation can be significant for its own intrinsic value, or for its role in providing fauna habitat or ecological corridors. Conservation of native flora in Knox is at a critical stage, and this has grave implications for native fauna. It is still realistic to aim to maintain the existence of every indigenous plant species presently in the municipality, but it appears that more than a quarter (and perhaps as much as half) of these species could be lost within one or two decades if no preventative action is taken. (In this clause, the term 'indigenous' refers to species that are native to Knox.)

The conservation status of plant species in Knox should be taken into consideration when assessing proposals for subdivision, works or land development that may adversely affect indigenous vegetation. Whenever possible, any actions that may compromise a species that is considered Critically Endangered, Endangered or Vulnerable in Knox should be compensated by actions that cause a net increase in the security of that species, e.g. by propagation, improved protection and removal of threats like environmental weeds. Preventing extinctions of plant species from Knox requires retention and protection of the native vegetation that forms their habitat. This is also critical for conservation of native fauna and for biodiversity generally.

Sites of Biological Significance in Knox – 2nd Edition, 2010 identifies Knox’s sites of greatest biological significance and identifies ways of protecting, enhancing and monitoring these. Each site was considered in the context of its level of biological significance, threats, planning status (e.g.zoning), aquatic influences and other factors.

Dandenong Foothills

The most significant landscape characteristic of Knox is its appearance as a suburban area set in a larger natural and rural landscape. The eastern side of Knox forms an important edge to Melbourne’s expanding suburbs and it is here that the continuous built form of the suburbs meets the vegetated hillsides of the Dandenong Ranges, stopping among the folds of the Lysterfield Valley.

The Dandenong Ranges National Park, Churchill National Park and the Lysterfield Quarries provide hard edges to the suburbs.

The Lysterfield Valley is classified by the National Trust as “an attractive pastoral landscape which forms part of a ‘green wedge’ between the suburban areas of Rowville and Dandenong North, and the urbanised Ferntree Gully-Belgrave ridge of the Dandenongs”. It is considered to form a ‘gateway’ to the Dandenongs, and provide an important buffer between urban and rural areas.

Views of the Dandenong Ranges and their foothills are valued highly by the Knox community, also forming a backdrop to countless views across the eastern suburbs of Melbourne, including long range views from the Melbourne central business district. The important characteristic of the hills in these views is their heavily vegetated, apparently natural environment. Only occasional clearings or roofs interrupt the dominating tree canopy. Maintaining this balance of tree cover and development is a matter of metropolitan significance and an essential consideration in determining future land use and development within this sensitive area. The intent of the *Dandenong Foothills* local planning policy (Clause 22.01) is to ensure that development within the area is limited and managed so that it complements and respects the landscape features most valued by the wider community and protects the sensitive ecological balance.

Within the Dandenong Foothills area there are a number of sites of biological significance, including the Dandenong Ranges Buffer area, as identified within the *Sites of Biological Significance in Knox – 2nd Edition, 2010*. Indigenous vegetation in these locations is important on both a landscape and biological basis.

The interface between urban development and the Dandenong Ranges and national parks in Lysterfield are particularly susceptible to bushfire events. Land use and development planning in these areas must recognise and minimise the level of fire risk to life, property and the environment. This planning must prioritise the protection of human life and, where appropriate, apply the precautionary principle in decision-making. Within these areas, particular consideration must be given to the appropriateness of new development and the impact on significant vegetation.

Urban Edge and Urban Growth Boundary (UGB)

The application of the UGB assists in maintaining an urban edge that reflects the significance, on a metropolitan level, of the rural valleys and landscapes along the eastern edge of the City.

The landscape areas adjacent to the UGB are described as:

- Lysterfield Valley and Lysterfield Hills Rural Landscape;
- Dandenong Foothills: Lower Slope and Valley Area;
- Dandenong Foothills: Foothills Backdrop and Ridgeline Area;
- The Basin Rural Landscape; and
- Lysterfield Urban/Rural Transition and Lysterfield Valley Contributory Area.

These areas are shown in the Plan to Clause 22.01.

The *Knox Urban Design Framework 2020* (2003) examines ‘The Edge of the Suburbs’, seeking a clear, attractive and stable interface between urban development and the rural hinterland, with the slopes of the foothills continuing to be dominated by close canopy native vegetation. The *Knox Urban Design Framework* has defined the ‘urban edge’ by examining landscape qualities and development patterns. The ‘urban edge’ is treated as a:

- transitional area where impacts of development due to factors other than location relative to a boundary are of concern, and area specific development controls can be defined that will be effective in protecting landscape values;
- contributory area where areas adjacent to a boundary are largely developed, and aspects of development should be retained or enhanced to reflect or support guidelines for the adjacent boundary or transition area; or
- simple contour line where the impact of development above this line would impact on landscape values of a ridge and rural valley.

Dandenong Creek Valley

The Dandenong Creek Valley extends across the western side of Knox, setting the City apart from adjoining suburbs and creating a unique sense of entry. The semi-rural landscape of the creek valley forms the basis of a linear park network stretching across the south eastern suburbs from Frankston to the north-west tip of Knox. This park network is of metropolitan significance because of its size and continuity, and extensive user catchment. EastLink is situated along the eastern edge of the system, between the creek and residential areas. As a consequence of EastLink there is a major opportunity to consolidate the many disjointed component parklands and reserves, to rehabilitate and develop the landscape and to maximise access.

Creek Corridors and Waterways

Knox is traversed by a series of small creeks, generally running east to west, whose corridors present opportunities for an important system of public space. These corridors include drainage easements, floodways, parks and other public reserves. Because of the large land areas involved, their relatively uninterrupted extent through the municipality, and their natural state, these spaces have the potential to contribute much more effectively to the Knox’s landscape and recreation resources. These corridors present opportunities to create highly valued and amenable open space networks of walking and cycling paths, public spaces, landscape and ecological corridors. There is further scope to improve perceptions of safety and surveillance, whilst providing a creek front address, by reorientating development to provide a sense of address and take advantage of the future potential outlook over the creek and open space environments. Additional challenges include improving water quality in creeks through best practice stormwater management and Water Sensitive Urban Design.

Cultural Heritage

Local heritage is an integral part of the evolution of land use in Knox. The *City of Knox Heritage Study* (1993) has been adopted to provide protection of the known heritage sites in the municipality. The challenge is to retain and promote the upkeep of these in a way that is sympathetic to their heritage values. Viable uses need to be retained or identified to help preserve these sites. Development of these sites and nearby land will need to consider potential impacts on the heritage values of these sites. Planning and development approvals within the municipality must acknowledge the importance of identified heritage sites and promote their protection and enhancement. The *City of Knox Heritage Study* identifies and provides context on sites listed for special consideration.

Aboriginal Cultural Heritage

Aboriginal cultural heritage is an important part of Knox's history and contemporary life. Due to Knox's history of land development and use, there are relatively few known Aboriginal heritage places in the municipality. Those that remain include scarred trees, artefact (stone) scatters and historical places. The challenge is to manage and protect what remains and to be aware of the potential to identify further Aboriginal heritage values through changing land-uses and development. If development is proposed to occur close to these heritage places, consideration will need to be given to the potential impact on these heritage values at all stages of the planning and development process.

Sustainability

Many global environmental issues affect Knox at the local scale. These issues include air quality; greenhouse gas emissions and energy efficiency; noise; water quality and catchment management; land development and the loss of habitat and biodiversity; and industrial and household wastes. Through responsible planning these issues can be better managed and improved. *The Knox 2008/2018 Sustainable Environment Strategy* provides a framework for Council and the community to move towards sustainability.

Knox aims to foster sustainable design that:

- Moves towards the elimination of the use of non-renewable resources (such as fossil fuel based energy, mains water and materials)
- Moves towards the elimination of solid waste production
- Moves towards the elimination of air, soil and water pollution
- Creates healthy indoor environments
- Protects and enhances natural eco-systems and cycles.

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Environment Objectives and Strategies

Objective 1 (Natural Environment)

To ensure the ongoing conservation of all existing native flora and fauna species.

Strategies

- Increase connectivity between areas of indigenous vegetation.
- Ensure the retention and management of indigenous vegetation for its habitat, ecological and intrinsic values, particularly along creek valleys and linear reserves; in

the vicinity of the Dandenong Ranges National Park and other parks and reserves; and in recognised sites of biological significance.

- Ensure that indigenous vegetation remain as one of the most significant environmental and visual characteristics of Knox and continue to provide natural habitats for local flora and fauna.
- Incorporate the planting of indigenous vegetation within development proposals to extend and continue vegetative corridors and linkages, while ensuring that such plantings do not increase or introduce the risk of bushfire.
- Maximise the geographical link between unavoidable losses of native vegetation with offsets located as close as practicable to the local catchment and plant/animal population area impacted.
- Limit development where the extent of vegetation removal that would be required for bushfire management would adversely impact on environment or significant landscape values.

Objective 2 (Natural Environment)

To control and manage pest plants and animals.

Strategies

- Manage the threat of environmental weeds and identify environmental weeds for control or elimination, particularly at bushland reserves, roadside planting reserves, recognised sites of biological significance and sites adjoining these.

Objective 3 (Dandenong Foothills)

To protect the landscape and environmental significance of the Dandenong Foothills.

Strategies

- Create an attractive and stable interface between urban and non-urban areas in The Basin, and from Glenfern Road to Churchill National Park.
- Maximise public access to and benefits from parks, bushland and rural spaces.
- Protect rural environments from intrusions of suburban development beyond the Urban Growth Boundary.
- Maintain an urban edge that reflects the significance, on a metropolitan level, of the rural valleys and landscapes along the eastern edge of Knox.
- Ensure that development maintains the character of the area as a natural bush environment dominated by indigenous vegetation where the treed slopes rise above the suburbs.
- Develop a quality interface across the suburban/rural edge of the municipality along the urban edge boundary.
- Limit development within the Dandenong Foothills Area that may compromise its landscape and environmental significance.
- Protect landscape and environmentally significant vegetation from development or works that is likely to compromise its long-term conservation.

- Ensure that development in high bushfire risk areas is appropriately sited to protect and minimise the removal of landscape and environmentally significant vegetation.
- Encourage management of landscapes to protect their qualities over the long term.

Objective 4 (Dandenong Creek Valley)

To protect and improve the Dandenong Creek Valley as a natural landscape and open space area.

Strategies

- Consolidate the area as a major open space resource.
- Minimise the visual dominance of development, integrate development with the landscape, and protect environmental values in areas that cannot be acquired as parkland.
- Minimise the negative impacts of major infrastructure including EastLink, other roads and high voltage transmission facilities.
- Protect indigenous vegetation and encourage the planting of indigenous vegetation wherever possible to protect and improve water quality of the creek.
- Realise appropriate opportunities for social interaction.
- Reveal the cultural heritage of the area.

Objective 5 (Creek Corridors and Waterways)

To protect and enhance creeks and waterways as key public, landscape and environmental assets.

Strategies

- Develop and enhance the creek corridor system as a network of paths, public open space, and natural systems with a sense of address.
- Encourage interaction of public and private realms along creek corridors and waterways.
- Encourage creek corridors to be actively used as public spaces, enhancing their role as places for social, recreational and community activities.
- Re-create habitats for wildlife in association with creek corridors and waterways recognising the aesthetic and biological values of wildlife.
- Use the visibility of water to enhance perception and experience of the natural cycles of the landscape.
- Restore and enhance the creeks as corridors of native bushland through Knox to complement its setting between the foothills and Dandenong Creek Valley.
- Improve the interface of development with the creek corridors and parks, and increase the concentration of adjoining development in key locations.
- Ensure that best practice environmental management is used in the design, construction and operation of drainage systems to reduce impacts on surface waters and ground water.

- Refer to directions in the Port Phillip and Westernport Regional River Health Strategy (2007).
- Implement the *Knox Central Urban Design Framework* particularly with regard to the Lewis parklands and Blind Creek precincts.

Objective 6 (Creek Corridors and Waterways)

To reduce the impact of urban stormwater run-off on creeks, rivers, bays and other receiving waters and their surrounds, both within and outside the City.

Strategies

- Ensure use and development complies with Council's adopted strategies for managing stormwater, water quality and water use and the *Urban Stormwater Best Practice Environmental Management Guidelines* (1999).
- Encourage new residential developments to contribute to 'no net increase' in the rate, volume and pollutant load of stormwater entering the municipal drainage system, creeks, rivers and other waterways.
- Ensure new development contributes to the ongoing improvement of stormwater management and the quality of stormwater runoff, and reduces pollution in local waterways.
- Encourage preparation of Site Stormwater Management Plans for sites larger than one hectare and sites where a Stormwater Management Plan is necessary to achieve stormwater management objectives.
- Ensure all new developments and redevelopments minimise the amount of impervious surfaces on a site.

Objective 7 (Creek Corridors and Waterways)

To ensure that development responds to drainage and flood constraints.

Strategies

- Ensure all proposals accord with the capacity of available infrastructure to accommodate changes in run-off and/or contribute to the improvement of infrastructure off-site where this is appropriate.
- Encourage new development to manage overland flow.

Objective 8 (Cultural Heritage)

To protect and enhance places of cultural heritage.

Strategies

- Promote the protection, retention, restoration, conservation and viable use of heritage places.
- Encourage the preparation of management plans for heritage places on private land.
- Facilitate uses which acknowledge the importance of identified heritage places within a current day context.

Objective 9 (Aboriginal Cultural Heritage)

To protect and enhance places of Aboriginal cultural heritage.

Strategies

- Promote the identification, protection and management of Aboriginal cultural heritage.

Objective 10 (Sustainability)

To reduce energy usage in all developments and contribute to a reduction in greenhouse gas emissions, and encourage reduced water usage and reduced usage of non-renewable natural resources in residential and non-residential development.

Strategies

- Encourage the provision of energy efficient devices and practices and the use of alternative energy sources in the development and redevelopment of premises across the municipality.
- Encourage the retention of buildings or parts of buildings that have efficient recycling potential and can be adapted to a variety of uses.
- Encourage resource efficient design, construction techniques and use of materials that minimises environmental impacts.
- Promote the opportunities for new development to be more environmentally sustainable through the use of industry sustainable design standards and environmental assessment tools.
- Encourage the provision of water and energy saving devices in the development and redevelopment of premises across the municipality.
- Encourage innovative landscape design that minimises water consumption and maximises biodiversity, including greater use of indigenous and drought tolerant plant species, recycled landscaping materials and water re-use and recycling.
- Encourage the design of new development to facilitate sustainable transport modes through improving conditions for walking and cycling and connectivity to public transport.

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Environment Implementation

These strategies will be implemented by:

Using zones, overlays, policies and the exercise of discretion

- Applying appropriate zones and overlays, including the application of the Environmental Significance Overlay and Vegetation Protection Overlay as appropriate for Sites of Biological Significance.
- Applying the *Dandenong Foothills* local policy at Clause 22.01.
- Applying the *Neighbourhood Character* local policy at Clause 22.07.
- Applying the *Scoresby-Rowville Employment Precinct* local policy at Clause 22.08.
- Ensuring use and development is consistent with park management plans.

- Requesting Property Management Plans for retained vegetation where development/subdivision occurs as appropriate.
- Ensuring planning applications on land identified as being of biological significance and sites adjoining, acknowledge the importance of the site and any potential for incompatibility of use, including fire hazard and environmental matters such as the introduction of environmental weeds or spread of *phythopthera cinnamoni* (*cinnamoni fungus*).
- Requesting, where appropriate, that planning applications for use or development in, or adjoining, parks and adjoining waterways provide information which identifies any potential vegetation, habitat, air, water and soil quality impacts on the park or waterway.
- Considering park management plans when assessing transport proposals in the vicinity of public parks.
- Requiring proponents to identify and address the environmental impacts of proposals and to consider the three-step approach of the *Native Vegetation Framework* (avoid, minimise, offset).
- Implementing the native vegetation and restoration priorities defined in the *Port Phillip and Western Port Native Vegetation Plan* (2006).
- Ensuring planning applications on sites listed in the schedule to the Heritage Overlay acknowledge the importance of the site.
- Ensuring advertising signs located on land listed in the schedule to the Heritage Overlay are designed and sited to complement the heritage values of the listed property.
- Considering any management plans for the heritage place.
- Applying the Knox City Council: 2008/2018 Sustainable Environment Strategy (2008).
- Using Knox's Stormwater Drainage Strategy, Stormwater Quality Management Plan and Water Sensitive Urban Design Guidelines to ensure development addresses issues of stormwater quantity, stormwater quality and Water Sensitive Urban Design.
- Utilising best practice industry sustainable design standards and environmental assessment tools in the assessment of planning applications.

Undertaking further strategic work

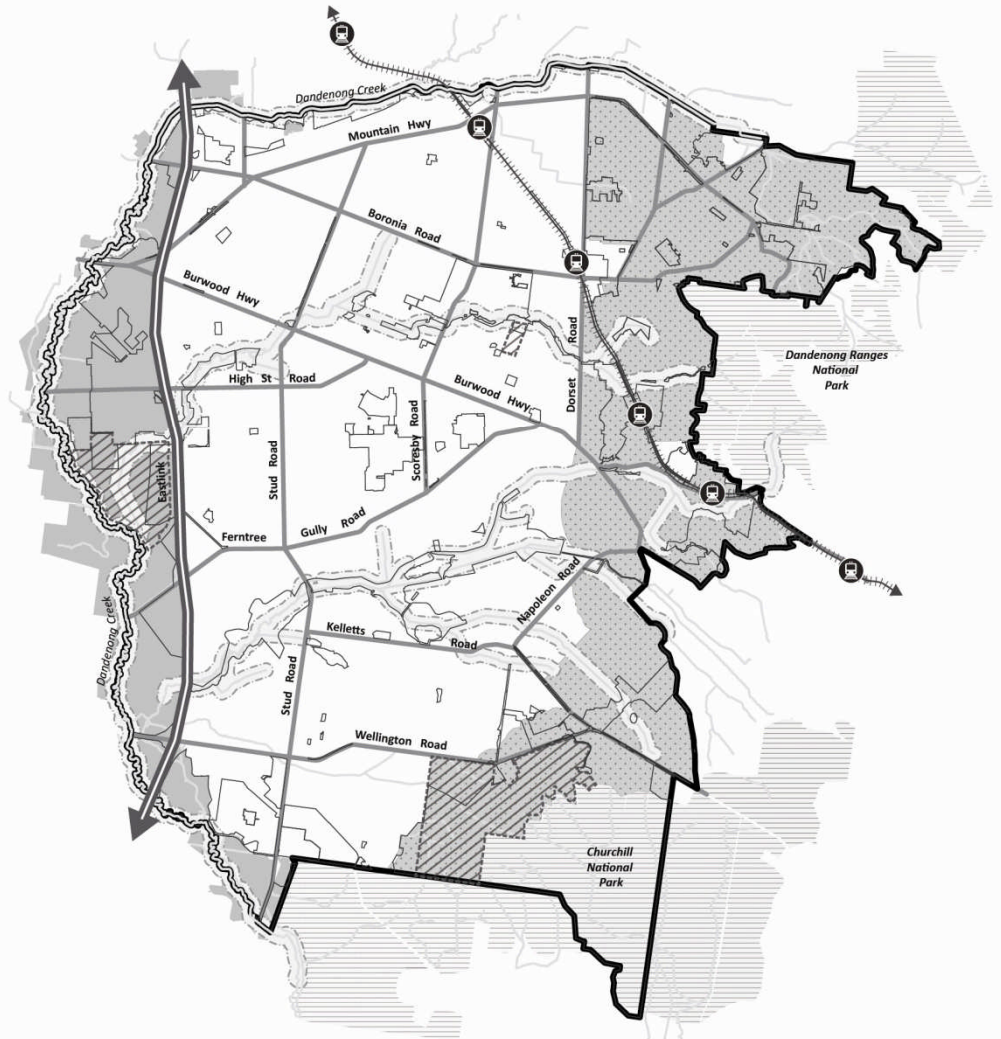
- Review the zoning in the area surrounding the Dandenong Valley Parklands to ensure consistency with objectives for development of the park.
- Review and implement the recommendations of the *Knox Significant Vegetation Study (2003)* and the *Sites of Biological Significance in Knox – 2nd Edition, 2010*.
- Review the *City of Knox Heritage Study (1993)*.
- Undertake an Aboriginal Cultural Heritage Study.
- Work with power supply agencies to develop complementary design standards for fencing and other treatments around their infrastructure to minimise visual impact.
- Implement the *Knox Central Urban Design Framework*, particularly with regards to the Lewis Parklands and Blind Creek precincts.

Undertaking other actions












- Improve the amenity of public spaces to encourage their use.

- Develop and improve the parks and public spaces along the creek corridors and waterways to accommodate a variety of recreational and social activities for the surrounding neighbourhoods.
- Design parks with an understanding of recreational needs.
- Consulting with the relevant fire authority in the early stages of the planning process where relevant.
- Consolidate and improve the Dandenong Valley Park for recreational activities and its natural landscape characteristics.
- Work with the State Government and its agencies to acquire, lease or license land and rationalise existing crown land reserves within the Dandenong Creek Valley, so as to extend existing park areas and provide a consistent set of principles and priorities to co-ordinate the activities of all private and government interests.
- Liaise with Parks Victoria in developing and implementing a development strategy and master plan for the Dandenong Valley Parklands (metropolitan park). Taking into account interface issues between parkland and urban development (e.g. protection from fire hazards, control of pest plants and animals).
- Liaise with Monash, Whitehorse and Greater Dandenong councils regarding development adjoining the Dandenong Creek Valley and existing and proposed planning controls.

ENVIRONMENTAL AND LANDSCAPE FRAMEWORK



LEGEND

-  MUNICIPAL BOUNDARY
-  RAIL CORRIDOR/TRAIN STATION
-  DECLARED ARTERIAL ROAD
-  EASTLINK
-  QUARRY: FUTURE REMEDIATION
-  NATIONAL PARK
-  ENHANCED CREEK CORRIDOR AND OPEN SPACE NETWORK
-  DANDENONG CREEK VALLEY: CONSOLIDATE AND IMPROVE RECREATIONAL AND LANDSCAPE CHARACTERISTICS
-  CREEK
-  SITES OF BIOLOGICAL SIGNIFICANCE
-  DANDENONG FOOTHILLS: PROTECT LANDSCAPE AND ENVIRONMENTAL SIGNIFICANCE

