

Maroondah Housing Strategy

Background Paper: HOUSING AND ENVIRONMENTAL SENSITIVITIES PAPER

May 2015

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EXECUTIVE SUMMARY

This paper describes and analyses the potential environmental sensitivities and impacts that need to be taken in account in the future planning of housing in Maroondah.

It does this by:

- describing each of the potential environmental sensitivities;
- identifying the importance in the community,
- summarising the existing policy and available evidence guiding its operation and implementation;
- identifying VCAT references where appropriate;
- identifying the nexus and considerations with housing both as a constraint and in terms of how it can be utilised to enhance residential development.

It was found that 'Neighbourhood Character', 'Ridgelines', 'Views' (to and from) 'Flooding', 'Water Quality', 'Trees and Natural Habitat' (both flora and fauna), 'Heritage', 'Cultural sensitivity', 'Contaminated Land' and 'Climate Proofing' all have significant impacts in the planning of housing in Maroondah and therefore should be considered in any Housing Strategies produced by Council.

Of these sensitivities, 'Neighbourhood Character', 'Flooding', 'Trees and Natural Habitat' and 'Climate Proofing' are, or are likely to develop into, significant considerations for the Housing Strategy.

It is important to note however, many of the sensitivities described and analysed can also be seen as assets providing opportunity, and not just a constraint, to help ensure residential development contributes to a more interesting and liveable Maroondah.

INTRODUCTION, STRUCTURE AND PURPOSE OF THE PAPER

The objective of this stage of the Housing Strategy project is to develop a comprehensive body of knowledge on current and future housing needs and issues within Maroondah.

Quality of life in Maroondah is strongly linked to our environment. As Council's Municipal Strategic Statement states, Maroondah has a very high quality natural environment which characterises a significant portion of the municipality. Its enhancement and incorporation with housing is therefore highly desirable as environmental quality has been instrumental in attracting both new residents and commercial enterprises.

It is therefore prudent that housing and environmental sensitivities associated with future housing planning and provision in Maroondah be fully considered. These impacts are often viewed as being negative but through sensitive planning the environmental assets can become opportunities to enhance residential development. Equally there can be opportunities where residential development can be used to enhance the environment. Through this paper examples of this will be highlighted.

The purpose of this paper is to highlight the environmental sensitivities so that they are equally addressed alongside other factors but also to encourage thinking of ways to use housing development to enhance environmental quality, thus producing a net environmental gain.

The paper is structured as follows:

- an overview of the policy context in which to consider environmental matters
- an introduction to the environmental sensitivities within Maroondah identifying both their constraints and opportunities associated with residential development
- Concluding comments.

POLICY CONTEXT

The most important policy and statutory provisions include:

The Planning and Environment Act 1987

Section 4 of the Victorian *Planning and Environment Act 1987* provides for the ‘fair, orderly, economic and sustainable use, and development of land’, the ‘protection of natural and man made resources’ and ‘secure a pleasant, efficient and safe working, living and recreational environment for all Victorians’. Planning schemes prepared under the *Planning and Environment Act 1987* must seek to further these objectives including addressing sensitivities and impacts.

Plan Melbourne

The Victorian State Government released ‘Plan Melbourne’ in May 2014. The emphasis of the Plan is in delivering economic development in a sustainable and integrated manner through a focus upon:

- protecting the suburbs by delivering density in defined locations
- a state of cities
- delivering a pipeline of investment opportunities
- better use of existing assets
- ‘20-minute’ neighbourhoods
- housing choice and affordability
- transitioning to a more sustainable city
- good governance and strong partnerships

Key Directions within the Environment and Water chapter of the Plan that should guide the development of Councils Housing Strategy include:

- 5.1 Use the city structure to drive sustainable outcomes in managing growth
- 5.2 Protect and restore natural habitats in urban and non-urban areas
- 5.3 Enhance the food production capability of Melbourne and its non-urban areas
- 5.4 Improve noise and air quality to improve human and environmental health
- 5.5 Integrate whole-of-water-cycle management to deliver sustainable and resilient urban development
- 5.6 Protect our significant water and sewerage assets

State Planning Policy Framework (SPPF)

The State Planning Policy Framework covers issues of State importance. It has policies under nine headings - settlement, environmental and landscape values, environmental risks, natural resource management, built environment and heritage, housing, economic development, transport and infrastructure. The intent is that from a standard suite of policies, every planning scheme in Victoria contains this policy framework – Victoria Planning Provisions. The intent of Clause (16) in the State Planning Policy Framework is that planning should provide for housing diversity, and ensure the efficient provision of supporting infrastructure. New housing should have access to services and be planned for long term sustainability, including walkability to Activity centres, public transport, schools and open space. And thirdly, planning for housing should include providing land for affordable housing.

Clause (12) states that Planning should help to protect the health of ecological systems and the biodiversity they support (including ecosystems, habitats, species and genetic diversity) and conserve areas with identified environmental and landscape values.

These dual objectives will need to be reconciled in the development of Councils Housing Strategy.

Maroondah 2040 Community Vision

The Maroondah 2040 Community Vision captures the aspirations, desires, and priorities of the community looking ahead to the year 2040 and beyond. The long term vision provides a 'roadmap' for the community, Maroondah Council and other levels of government to partner together and create a future that enhances Maroondah as a great place to live, work, play and visit.

The importance of the natural environment to the local community has been made very clear and is reflected in the following statement:

Our community said they value the natural environment with the diverse topography, flora and fauna, wetlands, parks and facilities. There is a need to increase environmental awareness throughout the City to ensure our green leafy character is maintained. Sustainable building design needs to be incorporated into development to ensure our community can make more environmentally sustainable lifestyle choices.

Local Planning Policy Framework & Municipal Strategic Statement

The Local Planning Policy Framework contains the Municipal Strategic Statement and local planning policies. The framework identifies long term directions about land use and development in the municipality; presents a vision for its community and other stakeholders; and provides the rationale for the zone and overlay requirements and particular provisions in the scheme.

The framework includes a section on Natural Resources which sets the scene for how environmental issues are to be addressed within planning decisions. It states:

Maroondah has a high quality natural environment which characterises a significant portion of the municipality. Protection and enhancement of the natural environment through the encouragement of sustainable development is a key strategy of Maroondah City Council. The quality of our environment is important for economic and social reasons. In particular, environmental quality has been instrumental in attracting both new residents and world class companies. Maroondah is physically dominated by two geographical features locally referred to as the Wicklow Hills Ridge and the Loughnan Warranwood Ridge. In the context of the municipality as a residential suburb, these two natural features are primarily characterised by low density subdivision, developed with a variety of housing choices and covered by an extensive canopy of native and exotic vegetation.

To support and supplement information about environmental planning within the MSS Council makes use of a number of reference documents such as:

- Sites of Biological Significance in Maroondah, G.S. Lorimer, J.C. Reid, L.P. Smith and H. Moss, 1997
- Notable Tree Strategy, Maroondah City Council, 1997
- Maroondah Sustainability Strategy, Maroondah City Council, 2009

Water Sensitive City Strategy (2015)

To implement the 2040 Vision and our Maroondah Planning Scheme objectives Council has recently prepared and adopted a Water Sensitive City Strategy. This document seeks to face the twin challenges to water within the urban environment of increasing population and the effects of climate change. Observations noted in the strategy include:

- Maroondah has more water than we need but most of it drains into waterways or sewerage treatment plans so there is considerable opportunity to harvest water through use of rainwater tanks etc.
- Extreme weather events (flooding and drought) are becoming more frequent and we need to adapt our environment to become resilient to these events.
- Our local waterway quality is poor.
- There are good examples of water sensitive management approaches already in Maroondah including the housing development at The Range in Croydon which utilizes non-potable water supply from the nearby Brushy Creek Treatment Plant. This recycled water is used to irrigate landscaping, gardens and can also be used for toilet flushing.

ENVIRONMENTAL SENSITIVITIES

Neighbourhood Character

Define and describe the topic

Neighbourhood character is broadly defined as the identification and evaluation of significant or dominant urban and environmental elements that contribute to urban character (source: 'Maroondah Neighbourhood Character Study', 2004).



Fig 1. A typical streetscape in Ringwood East demonstrating varied canopy and vegetation characteristics, street setbacks, housing form and style (source: Maroondah Neighbourhood Character Study, 2004, Area No. 19)

Identify its importance in the community and summarise the existing policy and available evidence guiding its operation and implementation

In Maroondah, the *Neighbourhood Character Study 2004* (see map in Appendices) forms the basis of policy and is included in the Maroondah Planning Scheme. Its impact on informing (and resulting from) housing provision is significant. Neighbourhood character is endorsed at State planning levels and used by VCAT to set precedent and inform decision making.

Maroondah's land use policy platform includes substantial emphasis on preferred neighbourhood character in development assessment, decision making/precedent setting and strategic land use policy development. Maroondah has a diversity of urban and land form characters from rolling topography of the ridgelines in North Ringwood and Croydon, to valley areas around the Mullum Mullum Creek and Dandenong Creek, to flat, cleared land suitable for industrial development in Bayswater. A mixture of architectural styles from Edwardian in older parts of Ringwood, to contemporary apartment forms in central Ringwood provide interest and contrast in the municipality. The presence of established trees, gardens, established neighbourhoods and extensive views to surrounding ridgelines have been identified as particularly characteristic of Maroondah.

Twenty-four neighbourhood character areas are identified in Maroondah, derived mainly on the basis of community values, existing character, preferred future character and design guidelines.

Planning scheme references to the topic

Policy provisions relating to housing and neighbourhood character in Maroondah make general references across the SPPF and in the LPPF as well as Particular Provisions, General Provisions, zones and overlay controls. In Maroondah's LPPF (Municipal Strategic Statement and Local policies), this includes:

- Clause 21.07 – Housing and Residential Land Use
- Clause 22.02 – Residential Neighbourhood Character
- Zone provisions and schedules (eg NRZ, Clause 32.09)
- Overlay provisions (eg Clause 42.03, SLO)
- Particular provisions (eg Clause 54 - neighbourhood character)
- Particular provisions (eg Clause 55 - neighbourhood character, infrastructure, site context/description and Clause 56 - multiple dwellings on site, design response, urban landscape)

The Neighbourhood Character Study forms very influential policy basis for land use decision making, built form and landscape attributes assessment and preferred design outcomes for housing development in the Maroondah Planning Scheme.

The nexus with housing.

Case Study

To be added

As neighbourhood character can include a combination of the public and private realms, every property, public place or piece of infrastructure makes a contribution including housing. It is the cumulative impact of all these contributions that establishes neighbourhood character. For each of Maroondah's 24 neighbourhood character areas, the policy objectives remain identical:

- *ensure that Maroondah is provided with diverse and sustainable high quality residential environments*
- *identify neighbourhood character and design elements that are special to maintaining and enhancing the character of the residential areas of Maroondah*
- *identify and enhance areas of special neighbourhood character in Maroondah*
- *ensure that all new residential development contributes to the maintenance and enhancement of the canopy vegetation of Maroondah*
- *provide policy guidance to ensure that new development occurs in a manner that contributes to the preferred neighbourhood character of Maroondah*
- *ensure that new dwellings are sited and constructed in a manner that contributes to and enhances the preferred neighbourhood character of Maroondah*

Neighbourhood character relies on an assessment of site context, identification of neighbourhood and identification of features. This in turn informs a preferred neighbourhood character in terms of design response. It often includes a qualitative assessment and the exercise of judgement and can be tangible in terms of built form, landscape and architectural rhythm and equally conceptual in terms of providing 'feel'. The provision of housing should lead to an 'acceptable planning outcome' and be 'respectful of the preferred neighbourhood character of the area' with built form elements being equal to or secondary to the look and feel of the locality.

However, for each character area the individual attributes will differ. For example, in Clause 22.02: *Neighbourhood area 1 - Mullum Mullum Creek*, the preferred future character will be achieved by:

- *Ensuring well articulated and site responsive buildings that relate to the streetscape*
- *Ensuring building setbacks allow space between dwellings for vegetation*
- *Ensuring that driveways or car parking structures do not dominate the front setbacks*
- *Encouraging low front fence treatments*
- *Encouraging the retention of the tree canopy by actively retaining or replacing established trees*
- *Ensuring development adjacent to the creek parkland responds to and complements the landscape character of the area*
- *Developing consistent street tree planting with an indigenous and/or native theme including areas adjacent to the creek*

Defining issues for Maroondah with respect to future housing provision sensitivities arise in how to accommodate future residential development that respects varied neighbourhood character and simultaneously meets future needs. Equally, the issue of whether neighbourhood character is worthy of protection in all 24 areas is legitimate and deserves further investigation. At present, defining neighbourhood character attributes include elements such as:

- patterns (of neighbourhood development)
- built form, scale and massing
- landscape and notable features (SLO, VPO, DDO and NCO Overlays)
- height, setbacks and architectural style/rhythm (levels of articulation and detail, roof patterns)
- topography, natural features and street network, street trees, vegetation

- relationship between buildings, private open spaces and the public realm
- predominant form of development
- front fences
- parking and access

Neighbourhood Character Overlay

On part of the Wicklow Ridgeline and part of Croydon a dedicated Overlay can be used to capture neighbourhood character considerations and inform future housing provision on a mass scale. In two specific circumstances, Council has decided to put the Neighbourhood Character Overlay in place (Clause 43.05). The first is the Alto Avenue and Wicklow Hills Estate which has a direct bearing on the impact of neighbourhood character, ridgeline characteristics and views. It is used where entire areas including streets warrant this type of preservation. Key neighbourhood character and other features of this area include built form, trees and bird life, large blocks and open spaces and dense mature vegetation cover in spacious garden settings. The hilly topography often plays an important role in placing this area as a significant backdrop to views from Mount Dandenong and the continuous nature of the canopy vegetation throughout the Wicklow Hills Ridge provides a strong character element. Built form, landscaping, trees and set backs are controlled to maintain neighbourhood character and so effect future housing provision.



Fig 2. Neighbourhood Character Overlay on part of the Wicklow Hills Ridge - Alto Avenue
(source: Maroondah Planning Scheme)

Summarise the issues

The understanding of neighbourhood character is being able to describe how the features of a residential area in Maroondah comes together to give that area its own particular character. It is a unique set of principles about an area including identity and 'feel'. Housing provision is framed comprehensively in terms of neighbourhood character in Maroondah, which includes many and

varied unique features. The resulting design guidelines have direct bearing on housing design and siting. Council's current 'Council Plan' makes reference to an urban form that enhances the desirable attributes of Maroondah to protect and value ridgelines, vegetation, 'neighbourhood character', local history and cultural heritage. VCAT relies heavily on neighbourhood character in Maroondah in establishing context and undertaking decision-making with regard to housing.

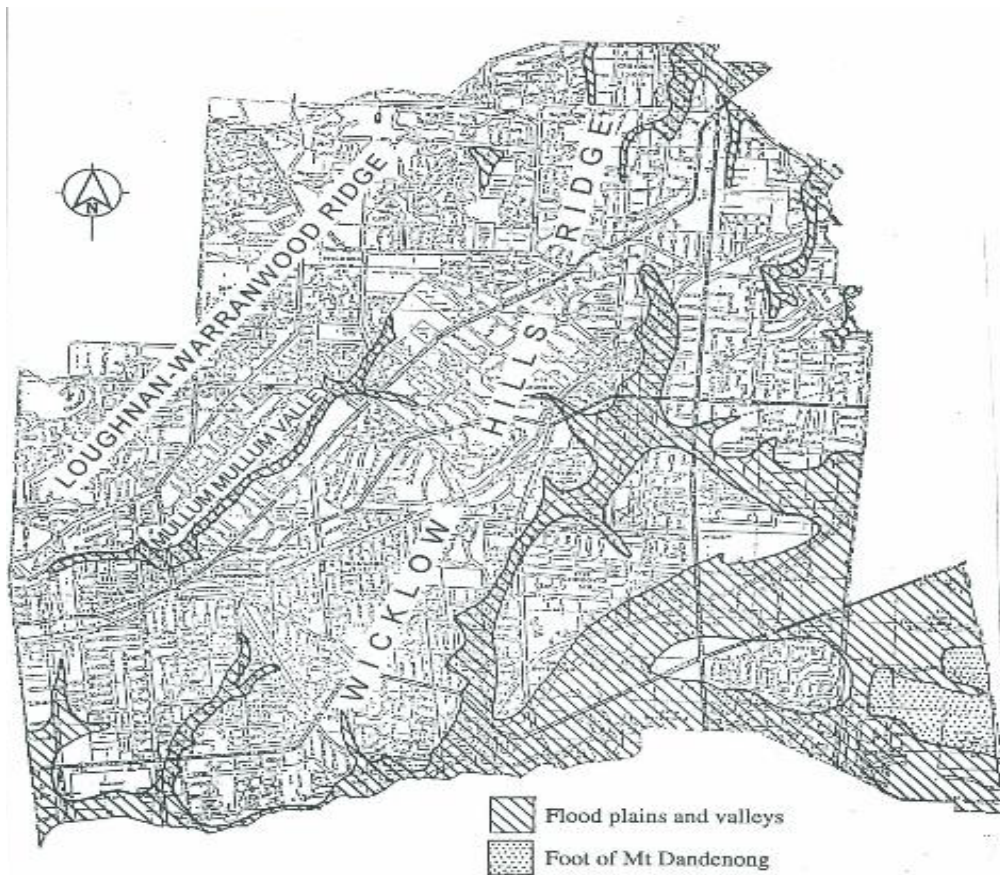
RIDGELINES

Define and describe the topic

Ridgelines are the top parts of a mountain range, providing topographical interest, depth and elevation.

Identify its importance in the community and summarise the existing policy and available evidence guiding its operation and implementation

Maroondah is physically dominated by two ridgelines, the Wicklow Hills Ridge and the Loughnan-Warranwood Ridge, that have unique flora and fauna characteristics. These ridgelines have a prominent role in defining the environmental significance of the municipality, due to the extensive coverage of natural bushland and large canopy trees on larger lots. Maroondah's ridgelines and valleys form part of the drainage basin for two major metropolitan watercourses – the Yarra River and the Dandenong Creek. The current 'Council Plan' makes reference to creating and fostering a culture within the community that is committed to protecting the unique features of Maroondah's landscape, including ridgelines, 'by developing an urban form that enhances this desirable attribute'. Depending on the location, the streetscapes on and around the ridgelines in conjunction with the vegetation and tree canopy often take advantage of views afforded by the elevated nature of the ridgelines. Often, the low density nature of the land is even more fundamentally characterised by the 'canopy vegetation', hence Maroondah's defining long term attribute, consistently held in high regard by the community and Council and interest groups.



Map 1. Maroondah's ridgelines (source: Sites of Biological Significance in Maroondah 1997)

Sometimes the canopy vegetation is integrated between the road reserve and private sites, making it difficult to distinguish any form of built environment. The preservation of larger lot sizes, the maintenance of the canopy vegetation and the minimisation of building bulk (both in terms of building size and the overall density of dwellings) provides variation in lot sizes in the municipality.

Council's land use strategies aim to achieve the strategic importance of ridgelines in Maroondah. Future housing provision is to have regard to objectives such as:

- prevent any form of degradation to levels of visual and aesthetic amenity
- limit the site density of new medium density housing development to a level which is reflective of the surrounding housing pattern and respectful of environmental constraints
- ensure that new medium density housing is developed on sites and in a manner where there will be minimal loss of canopy vegetation and biologically significant native understorey
- control the design and siting of single dwelling construction and extensions in sensitive residential areas such as the ridgelines and drainage catchment areas
- ensure that the visual amenity of the ridgeline is not compromised by dwelling design, building bulk or construction materials
- encourage and promote the re-vegetation of private and public land with indigenous flora
- significantly minimise the building construction practice of "cut and fill" to prevent increased stormwater runoff and the associated impact of gully erosion, loss of top soil and vegetation destruction
- prevent the removal of any canopy tree (except if standard removal requirements are met) from vacant land on either ridgeline where the Design and Development Overlay, Significant Landscape Overlay or Vegetation Protection Overlay applies

- protect sites of natural and biological significance from inappropriate urban development pressures
- enhance the natural ridgeline environment through innovative planning techniques and community education
- ensure new residential development contributes to achieving the preferred neighbourhood character of the neighbourhood area

Planning scheme references to the topic

Traditionally, ridgelines in Maroondah are affected by built form and landscape overlays, both of them pertinent to future housing provision, design and siting by virtue of specific design and density controls.



Fig 3. Significant Landscape Overlay & Vegetation Protection Overlay protects the vegetation on ridgelines in Maroondah (source: Maroondah City Council)

Significant Landscape Overlay and Vegetation Protection Overlay

In the Maroondah Planning Scheme, Significant Landscape Overlays (SLO) and Vegetation Protection Overlays (VPO) on the ridgelines (see maps in Appendices) have provided significant impacts on housing via: vegetation removal/landscaping requirement permit triggers; site coverage minimum requirements; average slope requirements; natural surface level permit triggers; (cut or fill) and overall built form including height. This directly impacts size, setbacks, built form and height of dwellings on site with variations granted via planning permit. In particular, the SLO3 affects the ridgelines exclusively with these requirements. The extension of planning controls relating to dwelling density, canopy tree protection and minimisation of building bulk to all areas on the two ridgelines is considered an appropriate planning outcome.

Design and Development Overlay

The Design and Development Overlay (DDO) Schedules 1 and 2 (see map in Appendices) ensure lot size allows for the protection and enhancement of areas of high environmental quality and biological or landscape significance, particularly on ridgelines. This in turn provides opportunities in the placement and siting of housing for aspect, view lines, sense of openness, etc. It also ensures subdivision contributes to a coordinated and attractive streetscape and lots of a minimum size and configuration allow adequate scope for the retention and development of canopy vegetation in garden settings.

The nexus with housing.

Case Study

To be added

Future housing strategies will be dictated by policy in the Maroondah Planning Scheme around built form controls on ridgelines (height, topography, slope, lot size, lot coverage, cut & fill) and conservation of the existing patterns of vegetation, landscape quality, ecosystems and re-generation of vegetation. In particular, the designated prevention of future development upon natural features - particularly impacting canopy trees on ridgelines will ensure that the development, use and management of land for housing remains sensitive and aesthetically pleasing. However, it remains that ridgelines, given their defining topographical attributes, provide considerable impediments but also worthy arguments for working with the landscape and its features.

Summarise the issues

Both the Wicklow Hills Ridge and the Loughnan-Warranwood Ridge have managed to remain remarkably intact, despite the intense development of other parts of the municipality. The Maroondah Municipal Housing Strategy 1997 recognised the importance of the low density ridgeline environments in providing protection of lots sizes, setbacks, space for canopy planting and consequently maximizing views through and across lots. This perhaps is the ultimate outcome in having constraints placed on building envelopes comprising residential housing.

The community and Council in 2015 maintain these values and that future housing provision does respect lot sizes, site coverage, slope and height considerations and resulting dwelling design constraints subject to Design and Development Overlays; together with vegetation controls prescribed by Vegetation Protection Overlays and Significant Landscape Overlays to achieve preferred residential development outcomes on ridgelines

VIEWS (TO AND FROM RIDGELINES)

Define and describe the topic

This potential sensitivity is related to ridgelines, hence potential impediments with respect to views to and from ridgelines.



Fig 4. View of Wicklow Ridgeline - Croydon to Bayswater from Mt Dandenong
(source: Croydon Conservation Society)

Identify its importance in the community and summarise the existing policy and available evidence guiding its operation and implementation

In the case of the Wicklow Ridgeline, open views to both the mountains and the Wicklow Ridgeline are a prominent feature of Croydon Park and Town Park, highlighted in Council's Croydon Town Centre Structure Plan 2006, *'Views from within the Town Centre are less dominant, and often screened by the close range buildings and trees. However, from parts of the Town Centre, framed views are afforded, and it is important that these are retained or enhanced with new viewing opportunities'*.

The objective becomes therefore to protect principal views towards the Dandenong Ranges and the Wicklow Ridgeline from *'key public spaces and upper levels of private development on key sites within the Town Centre'* and to ensure that buildings framing or edging these views provide an articulated building form, including gaps between upper levels of buildings and well-considered building profile, so that it does not detract from the view.

Similarly for the Loughnan Ridgeline, the land use character provides that developments, (particularly on hill faces and upper slopes) are not highly visible from a distance and maintain a vegetation-dominated backdrop when viewed from within and outside the neighbourhood - thereby protecting the view as part of the overall amenity.

Ridgeline views are mentioned in several Council strategies, canopy tree cover often interspersed by rooftops, dominating views to the ridgelines. Additionally, Maroondah's ridgelines help define sense of place and provide views from dwellings and streets that are evident both within and outside the municipality. These views provide topographic interest to many of the suburbs.

The nexus with housing.

Case Study

To be added

Canopy coverage, built form, height, topography, slope, lot size, lot coverage, cut & fill will continue to provide opportunities to preserve views through dwellings and from dwellings, driven mainly via overlay controls and local policy provision in the Maroondah Planning Scheme. Providing a sense of space in the preservation and enhancement of views gives scope and depth not afforded by closed views in high density environments. It is a desirable attribute for housing provision.

For example, Council's Croydon Town Centre Structure Plan, 2006 advocated preparation of a schedule to the Design and Development Overlay to limit building heights and require building articulation to protect or frame key identified public views to the Dandenong Ranges and Wicklow Ridgeline.

It is not however necessarily a view upheld by VCAT as pertaining to one or more parties in land use development ownership disputes, the notion of no one party necessarily owning a 'view' often prevailing. As previously mentioned in the preceding section on ridgelines, views are preserved and enhanced by maintaining lot sizes, setbacks and built form restrictions in the Design and Development Overlay and vegetation controls in the Significant Landscape Overlay and Vegetation Protection Overlay.

Summarise the issues

The importance of capitalising on views to and from the ridgelines in Maroondah has been described and the opportunities for maintaining impact of views in future housing strategies is evident in the range of local policy provisions (Clauses 21 & 22), strategies, overlay controls and mapping pertinent to ridgelines. The Loughnan Warranwood Ridge and Wicklow Hills Ridge remain defining features of Maroondah and the benefits that come from maintaining them for future housing provision is numerous and desirable in terms of creating sense of place. Not strictly a planning matter in and of itself, the undisputed desirability of housing placement, design and siting with respect to views continues to remain valuable at a variety of levels.

FLOODING

Define and describe the topic

Flooding is a natural hazard but unlike most other natural hazards, floods are to a great degree predictable in terms of their location, depth and extent. It can include 'mainstream' flooding (fluvial flooding or riverine flooding) occurring when excessive rainfall over an extended period of time causes a river to exceed its capacity; or 'stormwater' flooding (pluvial flooding) caused when heavy rainfall creates a flood event independent of an overflowing water body. 'Groundwater flooding' occurs as a result of water rising up from the underlying rocks or from water flowing from abnormal springs. This tends to occur after much longer periods of sustained high rainfall.

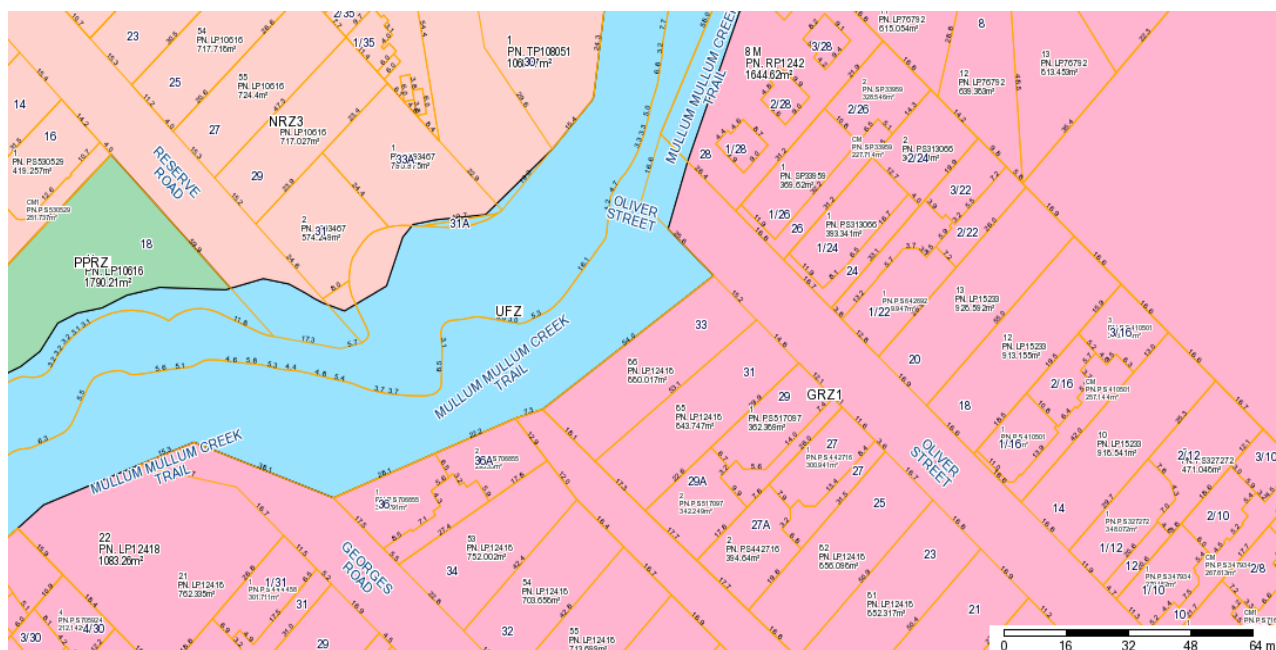
Identify its importance in the community and summarise the existing policy and available evidence guiding its operation

Council has embarked on flood modelling for Maroondah in recent years in terms of overall impact and infrastructure outcomes. This means that appropriate measures can be developed to reduce potential flood damage. The statutory authorities responsible for the collection of flood information and for land use planning in flood-affected areas are councils and floodplain management authorities (CMAs and Melbourne Water – see map in Appendices). Together they provide the evidence base and research to implement and improve flood mitigation and management strategies.

Planning scheme references to the topic

The State level planning framework maintains that land use planning is recognised as being the best means of avoiding future flooding problems. It proposes that via careful planning, risks to life, property and community infrastructure can be minimised and the environmental significance of floodplains protected.

Maroondah Council is currently embarking on reviewing and improving flood mitigation strategies. The State planning policy for floodplains (Clause 13.02) provides the broad framework for flood policy and provisions into planning schemes. In Victoria, floods are usually caused by heavy or prolonged rainfall, which can result in either 'mainstream flooding' or 'stormwater flooding'. These two types of flooding are the basis of the flood zone and overlays in planning schemes. There are four types of flood provisions available based on the type of flooding and the potential level of risk to life and property: Urban Floodway Zone (UFZ); Floodway Overlay (FO); Land Subject to Inundation Overlay (LSIO); Special Building Overlay (SBO).



Map 2. Mullum Mullum Creek UFZ – mainstream flooding (source: Maroondah Planning Scheme)

Maroondah has an UFZ that ensures any development maintains the free passage and temporary storage of floodwater, minimises flood damage and is compatible with flood hazard, local drainage conditions and the minimisation of soil erosion, sedimentation and silting. Housing is a prohibited use in this zone.

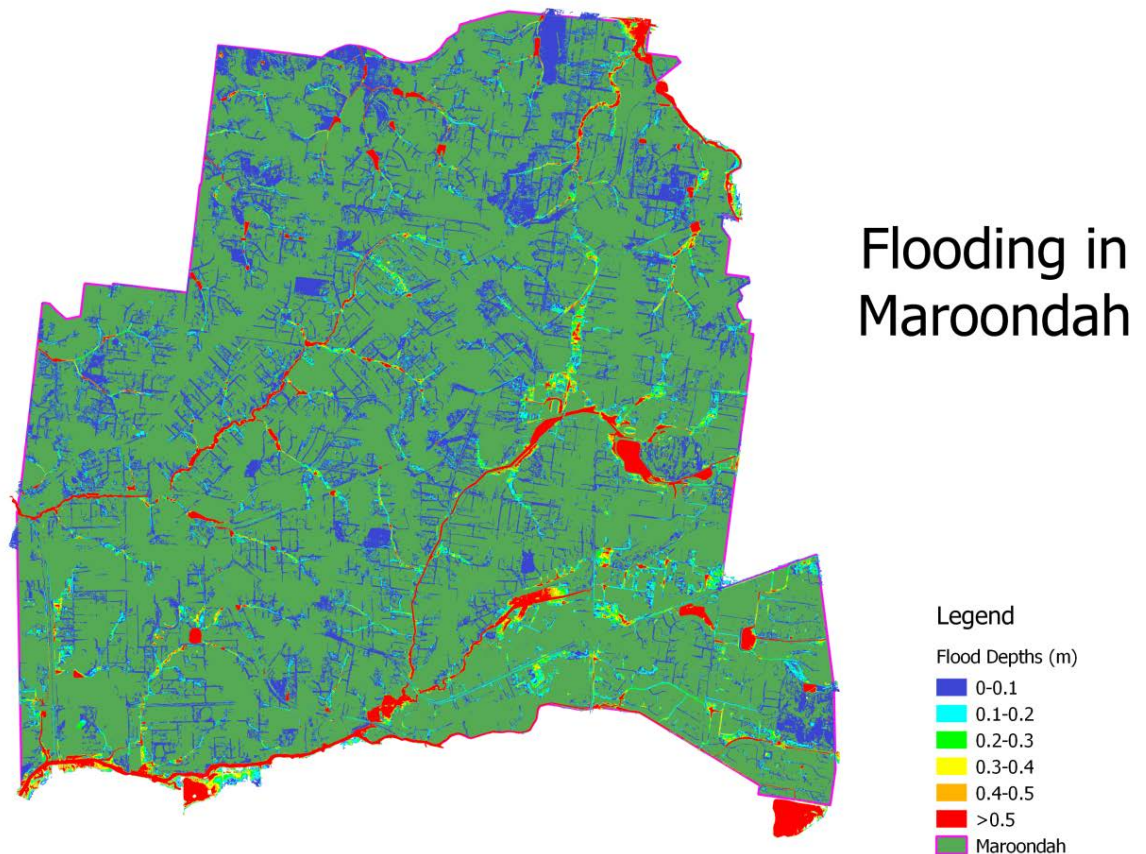
Maroondah has an SBO to identify land in urban areas liable to inundation by overland flows from the urban drainage system as determined by or in consultation with the floodplain management authority. This is the principle objective. However, the overlay also exists to:

- ensure that development maintains the free passage and temporary storage of floodwaters
- minimises flood damage
- is compatible with the flood hazard and local drainage conditions
- will not cause any significant rise in flood level or flow velocity
- protects water quality in accordance with the provisions of relevant State Environment Protection Policies

There is no Flooding overlay or Land Subject to Inundation Overlays within Maroondah.

2013 Maroondah Flood Modelling Study

Council's engineers have begun an extensive flood modeling project to better understand locations at risk and therefore prepare against the prospect of water flooding events, including updating impacts on housing and the current internal planning referral processes, re-examining the SBO, overland flow paths and Melbourne Water assets. The map below shows all potential flood impacts in Maroondah, modelled on specific flood occurrence (years) scenarios and created to be run as an animated model showing flood peak and dissipation with depths shown. It shows flooding and catchment details to a more accurate degree (10 centimeter contours) and will form the basis of an updated SBO map for the Maroondah Planning Scheme.



Map 3. 2013 Maroondah Flood Modelling Study Area (source: Maroondah City Council)

The nexus with housing.

Floodplain management provides very real constraints on housing provision and design, construction detail and allied issues such as drainage on site and off site. Referral of development applications for residential construction to catchment authorities, statutory authorities or water authorities provides a critical function in helping the advancement of Section 6 (e) of the *Planning and Environment Act, 1987* enabling planning schemes to ‘regulate or prohibit any use or development in hazardous areas, or areas likely to become hazardous’.

Flooding practice advice at State level, (‘Applying the Flood Provisions in Planning Schemes – a guide for Councils’, November 2012) provides for a range of planning tools for flooding scenarios and types of flooding (ie. difference between stormwater flooding and development in land subject to inundation near creek beds) and residential development commensurate with potential flood risk. These include: Urban Floodway Zone (UFZ), Floodway Overlay (FO), Land Subject to Inundation Overlay (LSIO) and Special Building Overlay (SBO) derived based on the type of flooding and the potential level of risk to life and property. This also applies to urban infrastructure and its capacity to tolerate and even ameliorate urban flood scenarios via infrastructure design, land forming, irrigation and drainage works. On a lot by lot basis in the private sphere, the provision of open space, permeable surfaces, water harvesting, stormwater outlets, water sensitive urban design, landscape and vegetation has a significant overall impact on the effective address of water in volumes in urban areas.

For Maroondah’s 2040 long term strategy, the ‘long-term protection and rehabilitation of the city’s waterways and wetlands to improve water quality and stream flow’ is as much an opportunity to

capitalise on beautiful natural assets as it is a question of pure function and safety - working in partnership with other catchment authorities 'to ensure effective stormwater management across Maroondah, including the identification and implementation of appropriate strategies that increase the storage, re-use and re-direction of stormwater and provide flood mitigation for the community'. Maroondah's more than 750,000 trees (mostly native species) in parks and reserves help to maintain water runoff and flooding problems across the municipality.

Case Study

To be added

Summarise the issues

Mainstream flooding, stormwater flooding and water quality continue to exert their impacts as real limitations in the planning and provision of housing for Maroondah into the future. Having been recognised as future issues in Maroondah's highest policy documents, further work is being done by Council's Strategic Planning and Sustainability and Engineering/Infrastructure areas to ensure flood mitigation at all levels can be successfully managed. With the advent of climate change and adverse weather patterns, the impact of flooding on Maroondah may take an even higher priority.

WATER QUALITY

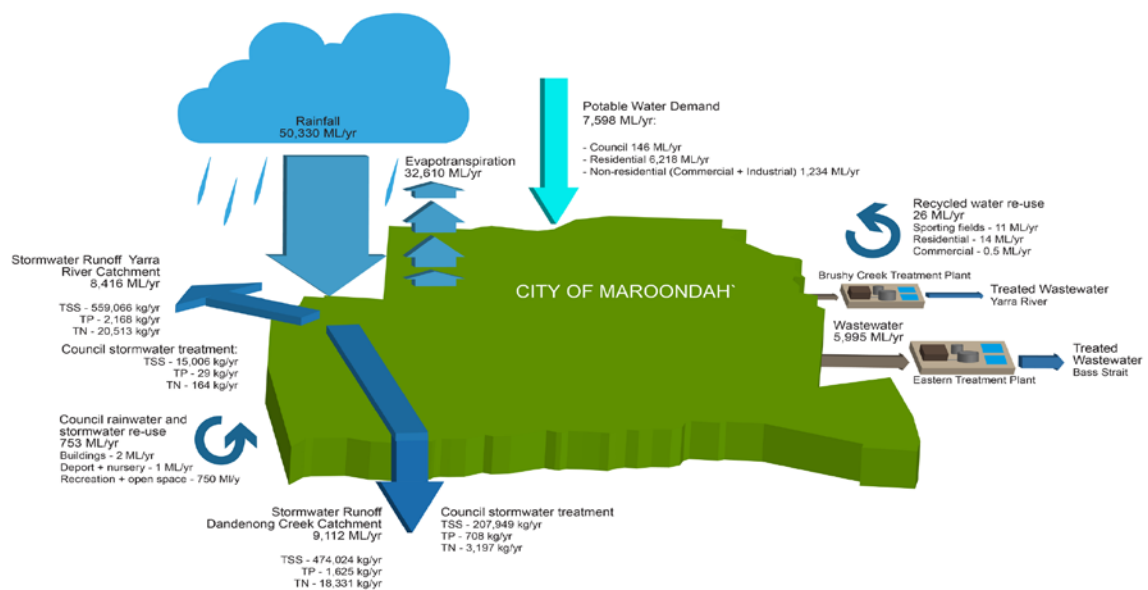


Fig 5. Water Balance for City of Maroondah (source: Maroondah City Council)

Define and describe the topic

Broadly defined as two issues, ecological status of water refers to water in creeks and generally servicing flora/fauna in creeks, rivers, streams and ponds while chemically treated water refers to drinking water for domestic consumption. Council's Municipal Strategic Statement and LPPF (ie Natural Resources Policy and Waterways Protection Policy) make reference to the importance of creeks and waterways in the municipality, extending to major catchment areas (ultimately to Port Phillip Bay). The northern portion of the municipality drains to the Yarra Catchment, whilst the southern section drains to Dandenong Creek.

Whilst the quality of ecological water in Maroondah's streams and creeks is slowly improving with water quality strategies at local and State level, Maroondah residents enjoy excellent drinking water from regional catchments. This involves managing impacts in a water catchment area, particularly a drinking water catchment. It involves multiple issues connected to water and water quality including drinking water quality, density of dwellings, effluent disposal and septic tank system maintenance, vegetated corridors and buffer zones along waterways, buildings and works and agricultural activities.

Identify its importance in the community and summarise the existing policy and available evidence guiding its operation and implementation

Council's 'Water Sensitive City Strategy' 2015 notes that Jumping Creek, Anderson's Creek, Bungalook Creek, Brushy Creek and Taralla Creek are classified 'very poor' in terms of ecological health, exacerbated by stormwater, illegal discharge, creek modifications and occasionally septic tank discharges. Major threats to the water environment in Maroondah include the loss of native vegetation and waterway degradation (and therefore impact on drinking water and ecological status).

In terms of drinking water, a responsible authority such as Maroondah Council and water corporations, planners, developers and land owners have responsibilities about how open drinking water catchments are protected through guidelines, codes of practice, legislation, subordinate legislation (Maroondah Planning Scheme) and model permit conditions.

Planning scheme references to the topic

A variety of legislation informs the Maroondah Planning Scheme in the SPPF and LPPF including:

- *Safe Drinking Water Act 2003*
- *Planning and Environment Act 1987*
- *Catchment and Land Protection Act 1994*
- *Water Act 1989*
- *Local Government Act 1989*
- *Crown Land (Reserves) Act 1978*

Water tends to be separated in planning schemes between waterways, creeks and the natural environment, as opposed to drinking water for use in residential development. Clauses 14 and 19 in the SPPF address the importance of water quality, water catchments and development infrastructure (eg. *ensure water quality in water supply catchments is protected from possible contamination by urban, industrial and agricultural land uses*).

The issues become relevant when assessing a planning permit application in or on land in an open drinking water catchment. Maroondah's water catchments, streams, rivers, flood zones and related assets are mapped in helping to mitigate potential impacts to water and water quality for sewage and drinking water. An overarching body at State level, Melbourne Water, along with regional water corporations administer principle policy.

Specific examples of potential impact include: improving the condition of waterway frontages with vegetation; stock access and waterways; maintaining onsite wastewater treatment systems such as septic tanks; soil erosion and effects on water provision; using and managing nutrients wisely; and improving agricultural chemical use. For Maroondah, local policy (Clause 22) builds on the MSS Statement objectives with respect to water and water quality.

Maroondah's GIS maps assets and potential impacts such as drainage patterns, Melbourne Water assets, sewer points, potential flood points, flood modelling, overland points, bridges, culverts, catchments and sub catchments in undertaking works and review of essential assets.

Council's Sites of Biological Significance in Maroondah, 1997 made reference to physical alteration of creeks and creek beds and indirectly Maroondah's water quality noting it was usually impossible to retain or restore the vegetation to its previous state, because the specific environmental requirements have been lost. It also noted the original vegetation of Maroondah's flood plains and valleys had been decimated, *'the aquatic habitat value of the streams has been mostly lost too, partly because of the modified creek beds, flows and surroundings, and partly because retarding basins and pipes now prevent the migration required by some of the aquatic fauna'*, hence the relationship between biodiversity and water quality.

The nexus with housing.

Case Study

To be added

For Maroondah, the connections with housing provision are mainly issues of function, safety, hygiene and amenity in terms of:

- minimising the physical impact and stress of development and land use on the natural environment
- encouraging the preservation and enhancement of the natural environment including the maintenance of clean air and water and protection of canopy vegetation
- promotion of the benefits of controlled and sustainable residential development in headwater catchments and minimisation of any form of degradation of the catchment or watercourse of both the Yarra River and Dandenong Creek
- the attraction of being close to water

- the opportunity to stormwater harvest
- the opportunity to implement landscaping and buffer strips to create a unique and highly desirable housing environment

Summarise the issues

Water quality in Maroondah is regulated by a variety of overarching State policies that are disseminated in the Maroondah Planning Scheme via the SPPF and the LPPF. The legislative basis for water and water related issues pertains to management, mitigation and control of water resources in residential areas affecting Maroondah. The multifaceted nature of water legislation and policy making is best administered at local level via the planning permit referral and permit process. Housing provision and placement can have detrimental effects on catchment areas and water quality, mitigated by strategies and referral processes.

TREES AND NATURAL HABITAT (FLORA AND FAUNA)

Define and describe the topic

Native vegetation in Maroondah comprises approximately 750,000 tree in parks and reserves, (not including trees on private property) 47 bushland reserves comprising amongst other things wildflowers, wildlife, bush walks and wetlands, 433 parks (with 34km of shared off-road trails) and 121 public playgrounds. Native vegetation is defined in the Victoria Planning Provisions as ‘plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses’. A planning permit is required to remove native plants that meet this definition, unless an exemption applies. The Permitted clearing of native vegetation – Biodiversity assessment guidelines (the Guidelines) classify native vegetation in two categories; remnant patches and scattered trees.

Habitats occurring in Maroondah include:

- Wetlands
- Herb-rich plains grassy wetland
- Swamp scrub
- Manna Gum riparian forest
- Swamp Gum forest
- Silver-leafed Stringybark forest
- Messmate sub riparian forest
- Mixed eucalypt forest of Silver-leafed Stringybark
- Mixed eucalypt forest of Messmate Stringybark
- Messmate and Narrow-leafed Peppermint
- Yellow Box - Candlebark Forest
- Peppermint and Bundy forest
- Box-Stringybark Woodland

Identify its importance in the community and summarise the existing policy and available evidence guiding its operation and implementation

Maroondah’s flora and fauna is highly revered as an integral part of the municipality and reflected in policy provision as various levels. There are 460 indigenous flora species in Maroondah. Perhaps most importantly, Council’s recently completed Maroondah 2040 long term policy states, ‘In 2040,

Maroondah will be a vibrant and diverse city with a healthy and active community, living in green leafy neighbourhoods which are connected to thriving and accessible activity centres contributing to a prosperous economy within a safe, inclusive and sustainable environment’.



Fig 6. Kilsyth South Spider Orchid and Rough Bush-Pea (source: Maroondah City Council)

There are nine plants in Maroondah that are listed as rare or threatened under the Flora and Fauna Guarantee Act, 1988, including the Kilsyth South Spider Orchid at national level and the Rough Bush-Pea at municipal level. Maroondah has 117 indigenous bird species. Fragmentation of remnant habitat has meant that nearly all indigenous bird species recorded in the municipality are of biological significance at a municipal level.

Mammals in Maroondah include the Koala, Swamp Wallaby, Echidna and the native Water Rat. In total Maroondah has 18 indigenous and six introduced mammals. Some of these species include the White-striped Freetail bat, Common Ringtail Possum, Brown Antechinus and Sugar Glider. Maroondah has two major creeks and many wetlands that support nine species of frogs - some of these species include the Peron's Tree Frog, Spotted Marsh Frog and the Southern Toadlet. Other fauna include reptiles such as the Red-bellied Black Snake, White-lipped Snake, Lowland Copperhead Snake, Blotched Blue Tongue, McCoy's Skink and the Common Long-necked Tortoise.

The emphasis on building on Maroondah's flora and fauna includes integration of housing with all forms of vegetation, habitat corridors, animal life, species enhancement and protection and links to allied issues such as open space strategies, preservation of biologically relevant areas, etc. The impact of trees and natural habitat on future housing strategies and housing provision is highly significant and far reaching for Maroondah in terms of defining where and to what extent housing will be constructed, encroachment strategies and landscape considerations. At present, various bushland management strategies and allied council policies/strategies have direct bearing on Maroondah's flora and fauna and indirectly housing provision.

Two Maroondah Council studies and resulting policy provisions are very relevant at this point:

- The *Habitat Corridors Strategy 2005* planned for a network of habitat links connecting larger areas of remnant vegetation in order to protect and enhance biodiversity within and beyond the City of Maroondah. It identified 17 key corridors incorporating ecological linkages now recognised as a fundamental principle in land use planning and land management for biodiversity conservation in developed landscapes. A direct impact on housing provision is ensuring that new medium density housing is developed on sites and in a manner where there will be minimal loss of canopy vegetation and biologically significant native understorey, reinforced by planning scheme provisions. Hence, the importance of including and preserving native vegetation buffers in land use planning including housing development close to significant landscapes and biologically significant areas.

- The *Sites of Biological Significance in Maroondah 1997* report and resulting Vegetation Protection Overlay (VPO) controls came from the commitment of council in its 1995 Corporate Plan, to *'include sites of biological significance in the Maroondah Planning Scheme (local section) for public and private property, and assist with appropriate decision making on applications for development of sites in adjacent areas'*. The project identifies the sites of biological significance, and also provides guidance on the additional 1995 Corporate Plan commitment to *'develop and maintain a program for protection and restoration of remnant vegetation on Council owned land, particularly along roadsides and open space corridors'*. These commitments are carried on today.

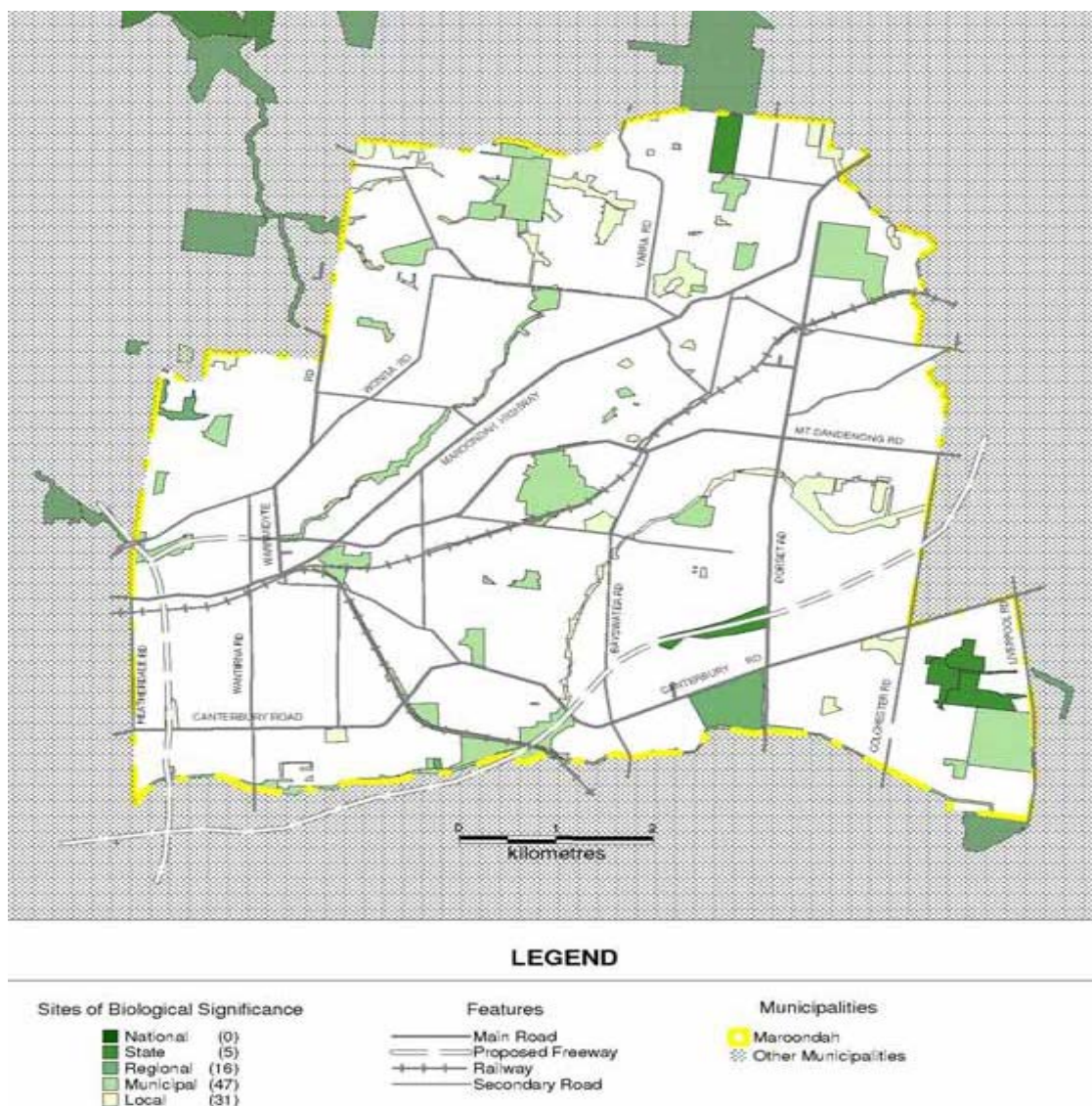
Weed invasion plays a significant part on Maroondah's stocks of trees and natural habitat. Weeds can spread from the gardens of neighbouring properties or from dumped garden refuse. Some of the most common garden plants eg. English Ivy, Angled Onion, Creeping Buttercup and various Broom species, can cause major damage to Maroondah's natural bushland reserves that cannot be reversed.

Many of the Maroondah (2014) Festival goers in the Strategic Planning and Sustainability area identified 'green issues' as primary considerations for the community. This provides valuable feedback for council in the provision of housing strategies that buffer, respect and include trees and natural habitat.

Planning scheme references to the topic

General planning scheme references are made in the SPPF at Clauses 12, 13 and 14 covering environment, risk, landscape value, natural resource management. Specific references are made in Council's MSS at Clause 21, 21.05, 21.10, 22.01, 22.02, 22.04. Clause 21.07 talks specifically to the residential amalgamation with vegetation and states in the objectives to complementing built form with environmental character and limiting environmental intrusions.

The zones and overlay provisions make general references to vegetation and canopy cover, renewal and maintaining flora and fauna integrity in all areas impacting residential development.



Map 4. Sites of Biological Significance (source: Maroondah City Council)

The nexus with housing

Case Study

To be added

The SPPF and the LPPF, including the MSS Statement and local planning policies in general identify the impact of residential built form on flora and fauna. This includes identifying the nature and significance of the vegetation to be protected and the vegetation protection objective contained in a

schedule to the overlay and any resulting restrictions. It usually involves analysis of the effect of the proposed use, building, works or subdivision on the nature and type of vegetation to be protected. It may involve specifically the role of native vegetation in conserving flora and fauna and as discussed, the need to retain native or other vegetation if it is rare, supports rare species of flora or fauna or forms part of a wildlife corridor.

Council's strategies generally talk to protecting and restoring biodiversity and native habitat for local plants and animals on public and private land. Landscape overlays and built form overlays have significant and ongoing impact in policy adherence and providing permit triggers in development applications. SLOs and particularly VPOs in this instance provide built form and landscaping restrictions with respect to topography, slope, site coverage, height, setbacks, cut and fill, tree removal permit triggers, weeds identification, net gain and renewal strategies. The DDOs limit subdivision and dwelling density in environmentally sensitive residential areas, including the Loughnan and Wicklow ridgelines. When combined with housing in a sensitive way, a rich environmental flora and fauna can be included and blended with housing provision to produce a very desirable living environment.

In terms of further work being undertaken, the Eastern Alliance for Greenhouse Action's (EAGA) project, 'Biodiversity Monitoring in Melbourne's East' is developing and trialling a draft framework for monitoring indicators of biodiversity health. By using the framework, councils will develop a body of information that will inform adaptive practices in the context of climate change, provide an evidence base to inform future investment and capture 'stories' to share with communities.

For the region, municipal wide programs such as Knox City Council's successful 'Gardens for Wildlife', 2008 program is providing residents with skills in building gardens for flora and fauna in habitats and native environments. The idea is to provide habitat linkages through backyards between bushland areas. Derived directly from Knox Council's 2025 Vision, practical support and literature is offered to help teach and demonstrate environmental sustainability. In turn, the residents that sign up become part of a wider network in much the same way as Maroondah Bushlinks, various Friends groups and Croydon Conservation Society advocate for education, indigenous and sustainable landscapes.

Summarise the issues

Many of Council's strategic policies with respect to housing provision and sensitive interfaces with flora and fauna take a management and enhancement role, both on public and private land.

Traditionally, the thrust of policy making has been ostensibly at ensuring new medium density housing is developed on sites and in a manner where there will be minimal loss of canopy vegetation and biologically significant native understorey; preservation and re-establishment of existing communities of indigenous flora and fauna; and protection of sites of natural and biological significance from inappropriate urban development pressures.

HERITAGE

Define and describe the topic

Heritage in local government generally includes culturally significant places defined under the *Burra Charter* (aesthetic, scientific, social, spiritual and historical) 'value'. This can include built form, landscapes, places, objects, trees, etc. It can include pre-white settlement (eg. indigenous peoples' landscapes, objects and trees).



Fig 7. Ringwood Fire Station, an example of adaptive reuse of a significant local and State assessed heritage building (source: Victorian Heritage Database, Heritage Council)

Identify its importance in the community and summarise the existing policy and available evidence guiding its operation and implementation

Given local councils record and protect places of value to the local community, heritage places are important to the local community and are identified within the local planning scheme and protected through a Heritage Overlay (HO). Many heritage buildings in Maroondah are used as dwellings or adapted to a commercial use (eg. Fire Station, Maroondah Hwy, Ringwood).

In Maroondah, heritage places include predominantly post-contact residential built form from the twentieth century. For instance, Californian Bungalows built in the early 20th century in many parts of Ringwood and Croydon reflect early life in Ringwood, particularly during electrification of the railway and reflecting defined settlement patterns.

The overall importance to the community is defined in terms of 'cultural significance' in heritage practice, assessment (including the concept of common attributes for assessment) and resourcing/comparison to provide proof of importance or value. Cultural significance is the sum of the qualities or values that a place has, including the five values already mentioned— aesthetic, historic, scientific, social and spiritual—that are listed in Article 1.2 of the Burra Charter.

Planning scheme references to the topic

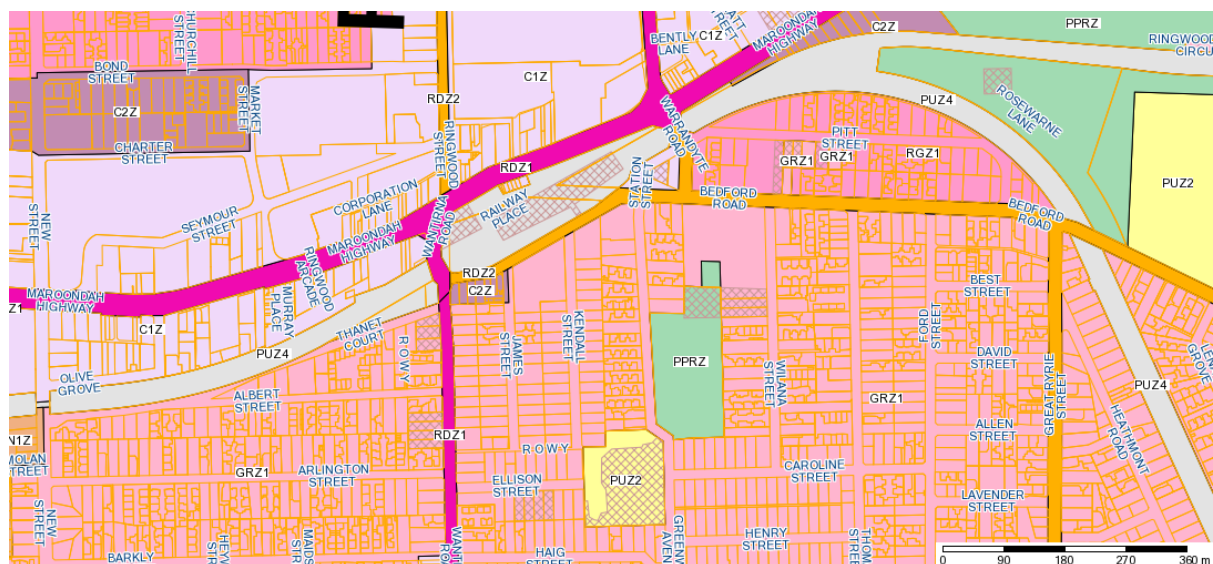
Heritage Overlays are part of local council planning schemes - they help protect the heritage of a local area, a heritage place. Heritage Overlays include places of local significance as well as places included in the Victorian Heritage Register (State significance). General policy is disseminated at the SPPF and LPPF, but overlay provisions provide the scope, building works, use and decision guidelines applicable on an individual basis. Most local heritage places are identified through the Maroondah Heritage Study Stage 2, 2003 carried out by a heritage consultant. Each of Maroondah's 136 citations are assessed - to which assessments usually include a history and description of the place, condition, integrity, and a Statement of Significance.

The Statement of Significance generally identifies 'what' is important, 'why' it is important and 'how' it is significant, then sorted and added by Council to the Heritage Overlay. Additional places do require assessment and existing places need re-assessment sometimes given impact of time and works on integrity, fabric, etc.

Usually, the community and local historical societies are also invited to nominate places of potential heritage significance. These places are then assessed to determine whether the place is significant and warrants state or local heritage protection.

The specific purposes of the Heritage Overlay are to conserve and enhance heritage places of natural or cultural significance; conserve and enhance those elements which contribute to the significance of heritage places; ensure that development does not adversely affect the significance of heritage places; and conserve specifically identified heritage places by allowing a use that would otherwise be prohibited if this will demonstrably assist with the conservation of the significance of the heritage place.

Some sites are significant at State level and these are noted in the Heritage Overlay but managed by State heritage policy provision via Heritage Victoria. An example is part of the Ringwood Railway Station, requiring a separate permit and administration system.



Map 5. HO sites identification around the Ringwood MAC (source: Maroondah City Council)

The nexus with housing

Case Study

To be added

Councils are responsible for issuing planning permits for the use and development of heritage places under the Planning and Environment Act, 1987. Under the Heritage Overlay, a planning permit is required from the council to:

- subdivide land
- demolish or remove a building (including part of a building)
- construct a building (including part of a building or a fence)
- externally alter a building (sometimes internal, outbuildings, etc)
- construct or carry out works
- construct or display a sign
- externally paint an unpainted surface
- externally paint a building if the painting constitutes an advertisement.
- Undertake internal alterations (sometimes)
- administer tree controls/landscape plans (sometimes, eg. replacement with 'like for like')

The overall implications on housing provision for Maroondah in the future is such that there are provisions that require planners to consider the heritage significance of a place on proposed works and use (eg. works to a dwelling, adaptive re-use). Given Maroondah has relatively few heritage places, the onus remains to protect and enhance what remains and to ensure proposed future housing is sensitively designed incorporating or abutting heritage places.

Summarise the issues

Heritage assets, whether it is a building, precinct, garden or tree are inherited from our previous generations and we have duty to ensure they are protected for future generations. Heritage assets provide a sense of belonging to our community and help us to understand the development of our municipality. The best way to conserve a heritage asset is to ensure its continued use. Places that lose relevance can become vulnerable to neglect, decay or demolition. The adaptive reuse of heritage buildings is therefore an essential component of protecting our special character.

CULTURAL SENSITIVITY

Define and describe the topic

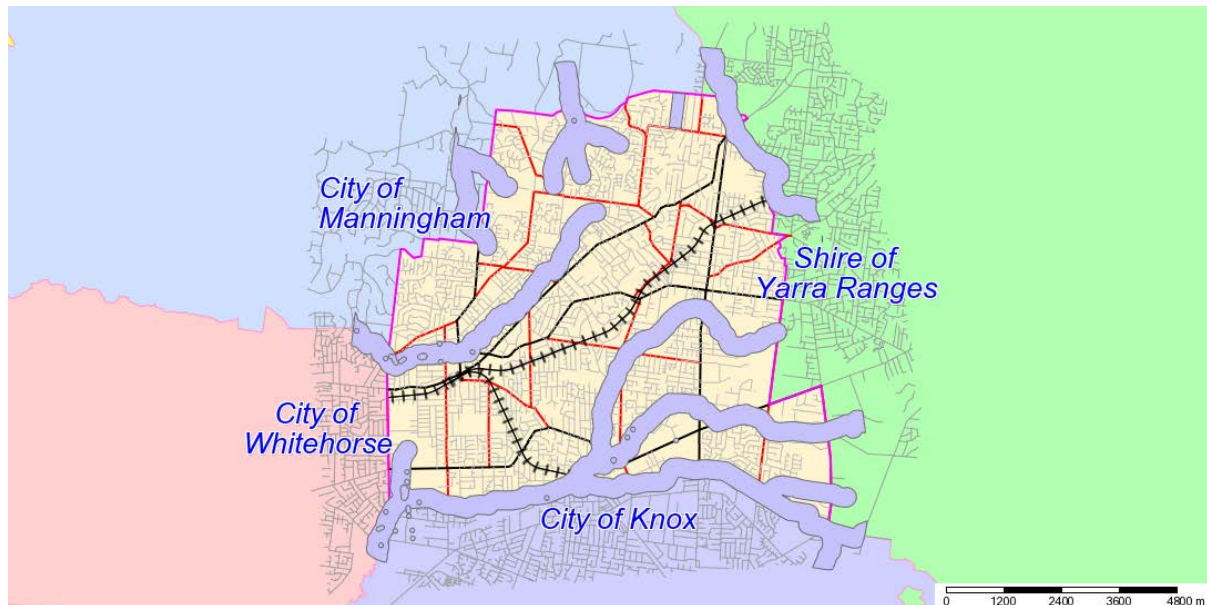
Areas of cultural sensitivity have to do with culturally significant archaeological artefacts, specifically with reference to indigenous peoples and the *Aboriginal Heritage Act 2006*. They include registered cultural heritage places, named waterways, coastal land, parks, stony rises, volcanic cones, caves, dunes, and land within specified distances of these areas of cultural heritage sensitivity.

Identify its importance in the community and summarise the existing policy and available evidence guiding its operation and implementation

The *Aboriginal Heritage Act 2006* places an onus on planners, applicants and developers to prepare a Cultural Heritage Management Plan with respect to significant ground disturbance in development matters, including residential development in identified areas within the municipality. The aim is to

carefully assess the contribution of indigenous history in Maroondah and through the Act provide for management plans.

Planning scheme references to the topic



Map 6. Areas of Cultural Sensitivity in Maroondah (source: Maroondah Planning Scheme)

A responsible authority must check whether a Cultural Heritage Management Plan is required prior to determining a planning permit application, referred to as a statutory authorisation as per the SPPF - Clause 15.03-2 as follows:

Objective

- *To ensure the protection and conservation of places of Aboriginal cultural heritage significance.*

Strategies

- *Identify, assess and document places of Aboriginal cultural heritage significance, in consultation with relevant Registered Aboriginal Parties, as a basis for their inclusion in the planning scheme.*
- *Provide for the protection and conservation of pre- and post-contact Aboriginal cultural heritage places.*
- *Ensure that permit approvals align with recommendations of a Cultural Heritage Management Plan approved under the Aboriginal Heritage Act 2006.*

Maroondah's GIS system has areas of cultural sensitivity highlighted for referral.

The nexus with housing

Case Study

To be added

Circumstances related to building (ground disturbance) give rise to the need to investigate cultural sensitivity, usually around or near waterways, creeks, rivers and significant indigenous landscapes. A Cultural Heritage Management Plan is required if all or part of the subject of the proposed development is in an area of cultural heritage sensitivity – land within 200m of a named waterway - that has not previously been significantly disturbed; and all or part of the activity is a high impact activity. Examples of high impact activities include certain construction or building works and subdivisions into three or more lots if a dwelling may be constructed on each of the lots.

A Cultural Heritage Management Plan is not required for exempt activities, such as building alterations, demolitions or removals; extensions to a dwelling; construction of one or two dwellings; construction of buildings ancillary to a dwelling such as a storage shed, garage, pool, fence or water tank; certain emergency works; subdivision of an existing building; sea-bed development and minor works.

The impact of these requirements is purely functional but the greater good for the municipality in preserving its aboriginal heritage and therefore important historical artefacts remains an important pursuit for future generations. Once it is undertaken successfully, it will not preclude development of housing usually.

Maroondah Arts and Cultural Development Strategy 2014–2018

On a macro scale and more recently combined with Maroondah's arts programs, Maroondah's recent Arts and Cultural Development Strategy notes that Maroondah's *'demographics are changing. The population is increasing, diversifying and aging. The arts provide a platform for all members of the community – young and old, of all abilities and diverse cultures, from long-standing residents to new arrivals – to share cultural and local heritages, and to create new stories and contemporary cultural experiences'*.

'In today's interconnected world, culture's power to transform societies is clear. Its diverse manifestations – from our cherished historic monuments and museums to traditional practices and contemporary art forms – enrich our everyday lives in countless ways'.

(Source: UNESCO, PROTECTING OUR HERITAGE AND FOSTERING CREATIVITY)

As part of this initiative, this includes reviewing Council's MSS Statement and Maroondah Planning Scheme to ensure that it supports a creative Maroondah including encouraging cultural precincts which support creative and cultural activity and acknowledgement and celebration of Maroondah's built and cultural heritage. The planning and provision of housing in the future needs to be aware of this and planned sensitively so as not to impact on this important initiative.

Summarise the issues

The trigger and provision of Cultural Heritage Management Plans in the statutory planning system provides an important function in preserving archaeological artefacts at an individual lot level and therefore the history of a specific area. For Maroondah, a variety of sites require investigation and

report during development for such a purpose. Some discovered items/places of significance are currently recorded in Maroondah's HO Schedule (eg. William Barak memorial plaque at Brushy Park recognises the birthplace of the head person of the Wurundjeri people)

CONTAMINATED LAND

Define and describe the topic

Contaminated land is a considerable issue for local government. It is defined in *Ministerial Direction No. 1 – Potentially Contaminated Land*, as land used or known to have been used for industry, mining or the storage of chemicals, gas, wastes or liquid fuel (if not ancillary to another use of land). It may also include land that may have been contaminated by other means such as by ancillary activities, contamination from surrounding land, fill using contaminated soil or agricultural uses.

Identify its importance in the community and summarise the existing policy and available evidence guiding its operation and implementation



Fig 8. CMA Recycling Centre, Heatherdale Road, Ringwood fire - December 2012 (source: The Age newspaper)

The 'Potentially Contaminated Land' General practice Note', June 2005 issued by the Department of Environment, Land, Water and Planning was designed to provide guidance for planners and applicants about identification of land that is potentially contaminated; the appropriate level of assessment of contamination for a planning scheme amendment or planning permit application f appropriate conditions on planning permits; and circumstances where the Environmental Audit Overlay (EAO) should be applied or removed.

Many potential uses at local government level and under the auspices of planning scheme definitions in Victoria require an environmental audit - to ensure that potentially contaminated land is suitable for a use which could be significantly adversely affected by any contamination. These include uses such as 'high potential impact':

- Oil or gas production/refining
- Abattoir
- Abrasive blasting
- Airport
- Asbestos production/disposal
- Asphalt manufacturing
- Automotive repair/engine works
- Battery manufacturing/recycling
- Bitumen manufacturing
- Boat building/maintenance
- Breweries/distilleries
- Brickworks
- Compost manufacturing
- Concrete batching
- Landfill sites/waste depots
- Iron and steel works
- Railway yards

For Maroondah, the most relevant of these is highlighted in the Case Study example in this section.

Planning scheme references to the topic

The Planning and Environment Act 1987 requires a planning authority when preparing a planning scheme or planning scheme amendment to *'take into account any significant effects which it considers the scheme or amendment might have on the environment or which it considers the environment might have on any use or development envisaged in the scheme or amendment'*.

Clause 15.06 of the SPPF contains State Planning Policy for soil contamination. Clause 15.06-2 refers to *Direction No. 1* and also states that in considering applications for use of land used or known to have been used for industry, mining or the storage of chemicals, gas, wastes or liquid fuel, responsible authorities should require applicants to provide adequate information on the potential for contamination to have adverse effects on the future land use.

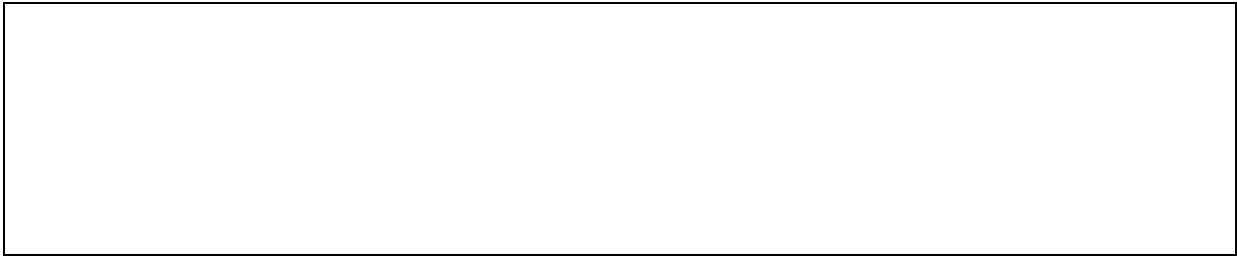
Generally speaking, many references are made to issues of amenity in Clauses 21 and 22 (MSS and Local policy provisions) in the Maroondah Planning Scheme – these apply to contaminated land in addition to other amenity concerns. The importance for the community is determining how to identify whether land is potentially contaminated and applying an appropriate level of assessment of contamination for a planning scheme amendment or planning permit application. To this end, appropriate conditions on planning permits may control contaminated land issues.

In some circumstances, the Environmental Audit Overlay (Certificate of Environmental Audit) should be applied - a mechanism provided in the *Victoria Planning Provisions* and planning schemes to ensure the requirement for an environmental audit under *Direction No.1* is met before the commencement of the sensitive use or any buildings and works associated with that use. Maroondah has an EAO overlay for specific sites in the municipality.

The nexus with housing.

Case Study

To be added



The greatest impact for housing provision and planning for sites with an Environmental Audit Overlay (EAO) in Maroondah is complying with audit requirements (eg. cleaning) of sites prior to development and in conjunction with State environment policies. From an amenity perspective and in pursuit of responsible planning, site remediation performs an important function prior to development.

Summarise the issues

The Maroondah Planning Scheme provides a mechanism through the statutory planning system for audit of the condition of a site. It will generally result in the issue of either:

- a Certificate of Environmental Audit that indicates the auditor is of the opinion that the site is suitable for any beneficial use and that there is no restriction on use of the site due to its environmental condition; or
- a Statement of Environmental Audit that indicates that the auditor is of the opinion that there is, or may be, some restriction on use of the site due to its environmental condition. A Statement may include conditions that require remediation works to be undertaken or places ongoing requirements on the site. A Statement might also indicate that a site is not suitable for any use, in which case the EPA will usually issue a Notice to require clean up or management of that site.

CLIMATE PROOFING

Define and describe the topic

Climate proofing in this context involves mitigating and adapting the effects of climate change on housing design, planning and provision.

Identify its importance in the community and summarise the existing policy and available evidence guiding its operation and implementation

Climate change adaptation and mitigation measures help reduce the implications of climate change. Climate change is usually associated with weather pattern changes, flood risk, water impact, and broadly significant changes to ecosystems and micro-climates. The potential for impact on Maroondah's housing provision is extensive and long lasting as climate change implications are likely to worsen overall if not mitigated. Housing in Maroondah accounts for between 20%-40% of carbon emissions.

It should be noted that Plan Melbourne is currently under review in regard to its commentary and direction on how to address climate change.

Planning scheme references to the topic

Maroondah 2040, MSS Statement, Maroondah Planning Scheme, ESD policies and national construction codes will currently address climate impact.

Whilst this topic is somewhat new in planning circles, the Maroondah 2040 long term strategy is helping to provide policy commitment to sustainable practices in the hope of mitigating long term impact - Sustainable Design Assessment in the Planning Process (SDAPP) was developed by the Council Alliance for a Sustainable Built Environment (CASBE) to provide a framework for consideration and addressing of sustainability issues early in the planning application process and encourage a consistent approach across municipalities.

Maroondah has been implementing SDAPP informally since participating in the SDAPP pilot in 2011/12. This pilot focused on the Ringwood MAC to implement the ESD requirements of Local Planning Policy – Clause 22.07. Part of the policy platform included In Clause 22.07 is to:

‘encourage innovative, high quality architecture and streetscape design that incorporates principles of Environmentally Sustainable Design, Crime Prevention through Environmental Design and Water Sensitive Urban Design that sets a benchmark for future design standards across the whole municipality’.

Maroondah Planning Scheme is in its infancy in promoting mitigation strategies and changes in behaviour such as promoting energy and water efficiency, sustainable land management practices, incorporating efficient energy use in buildings, and including climate change information in environmental assessments. Some start has been made at Maroondah with the introduction of Sustainable Design Assessment in the Planning Process.

The Eastern Alliance for Greenhouse Action (EAGA) is provided as part of the Eastern Alliance for Greenhouse Action (EAGA) Climate Adaptation Roadmap project. The Climate Change Adaptation Roadmap Project is funded through a Victorian Adaptation and Sustainability Partnership (VASP) grant. It has recently produced a risk assessment for the regional area as it affects the planning and development sector - strategic planning, statutory planning and development approvals processes, open space planning, urban design, local laws, building compliance, and major projects. It is a formal collaboration of seven Councils in Melbourne’s east, working together on regional programs that reduce greenhouse gas emissions and facilitate regional adaptation. The Alliance implements joint initiatives that provide economies of scale and enable projects typically beyond the reach of individual Councils. The project work is complimented by targeted advocacy, capacity building activities and regional partnerships.

The nexus with housing

EAGA’s ‘Adapting to Climate Change in Melbourne’s East 2014’ risk report notes increasingly hotter drier conditions with:

- Increased frequency, duration and severity of heat waves
- Decreased average rainfall and more severe, prolonged drought conditions
- Less regular but more intense rainfall and storm events
- Significant increase in bushfire danger days
- Hotter drier conditions combined with an increase in the frequency, severity and extent of extreme weather events is likely to multiple existing risks faced by Councils.

Implications include:

- Reduced service delivery and loss of business continuity
- Increased demand on council facilities and resources
- Increased damage to council assets
- Unbudgeted financial impacts from cumulative impacts of climate change
- Decreased public health and safety and mental and physical wellbeing
- Loss of environmental amenity and biodiversity values
- More frequent energy, transport and communications disruptions
- Reduced regional economic development
- Reduced food, water and energy security
- Increase in liability issues

Case Study

To be added

The impacts with housing and housing provision in Maroondah are encapsulated in environmental performance standards:

- Maroondah's population is predicted to increase by up to 20% by 2040. An increase of this magnitude will require increases in new dwellings and services. It is estimated that an increase in new housing connections to the electricity and gas grid will lead to an increase in energy consumption and associated emissions.
- In a municipality that is increasing in population and density greater volumes of waste are likely to be created. Waste volumes within the municipality remained steady over the life of the previous strategy. In the past multi unit dwellings have proved challenging in terms of the management of waste and recycling.
- Council and the community are faced with the increasing costs of energy and have the challenge of integrating energy efficiency into everyday decision making. Increased peak loading is bringing local substations to capacity within five years.
- Overall, the essence of the problem relates to strategic failure to adequately plan for climate change impacts into the future including housing
- Current building design standards not adequate for projected climate conditions
- Urban design and land use planning exacerbating climate change impacts such as the 'heat island' effect and flooding impacts
- Resource strain and development approvals slow from more stringent climate change planning laws

- Inadequate water planning exacerbates flooding and requires new infrastructure
- Lack of understanding and guidance for considering climate change impacts by Council – education process

Summarise the issues

Housing design, planning and provision provide upcoming mitigation and adaptation challenges for Maroondah. EAGA membership, strengthening SDAPP and clarifying the climate change message are seen as overall strategies in mitigation/adaptation against climate change and housing. This is an emerging and important issue for Council's Housing Strategy and attention will need to be made to the outcomes of the review of Plan Melbourne in this regard.

CONCLUDING COMMENTS

The objective of the current project is to develop a comprehensive body of knowledge on current and future housing needs in Maroondah to support the development of a Housing Strategy for the municipality. Part of the imperative is to consider the housing and environmental sensitivities with respect to future housing planning and provision in Maroondah and specifically as a potential sensitivity or impact (particularly in light of the Maroondah Housing Strategy 1997 where many of the 'sensitivities' are identified).

We have discussed the sensitive issues around housing provision (both current and feasibly more evident or likely to be intensified and pronounced in the future) that are linked to land use and addressed by Council's various policies in some capacity, long term vision and the Maroondah Planning Scheme. We have also established that the statutory planning framework in the Maroondah Planning Scheme has addressed the sensitivity exclusively in a policy provision, zone or overlay control at some level, sometimes endorsed in precedent at VCAT or referred to secondary policy provisions in Practice and Advisory Notes provided by the State Planning regime.

This discussion is centred on a consistent format and enquiring set of questions:

- systematically describing each of the potential sensitivities in description/definition
- identifying the importance in the community and summarising the existing policy and available evidence guiding its operation/implementation
- identifying VCAT references where appropriate
- identifying the nexus/considerations with housing (both as a constraint and how it can enhance housing growth)

It was found that 'Neighbourhood Character', 'Ridgelines', 'Views' (to and from) 'Flooding', 'Water Quality', 'Trees and Natural Habitat' (both flora and fauna), 'Heritage', 'Cultural sensitivity', 'Contaminated Land' and 'Climate Proofing' all make varied and critical impacts on housing design, planning and provision in Maroondah and should be considered in any Housing Strategies produced by Council.

Of these sensitivities, 'Neighbourhood Character', 'Flooding', 'Trees and Natural Habitat' and 'Climate Proofing' have and are likely to develop into the most important of these sensitivities for a variety of existing and developing reasons (ie. importance, value, climate change, etc).

Ironically and in closing, many of the sensitivities described and analysed are opportunities for good planning outcomes, better blending, careful incorporation and inclusion in housing planning and provision, making for an interesting and diverse Maroondah. The question becomes one of balance, design, smart and sustainable planning.

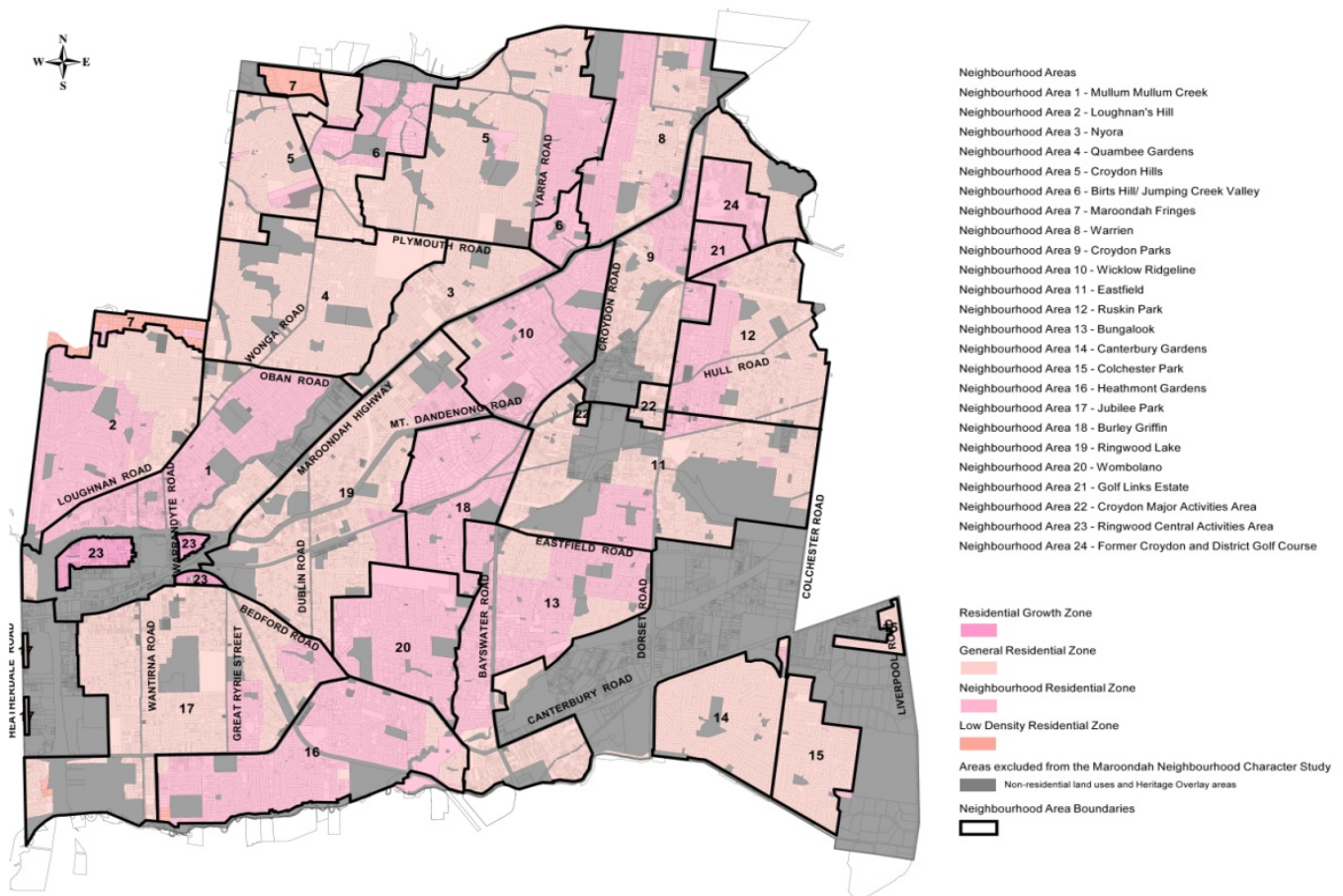
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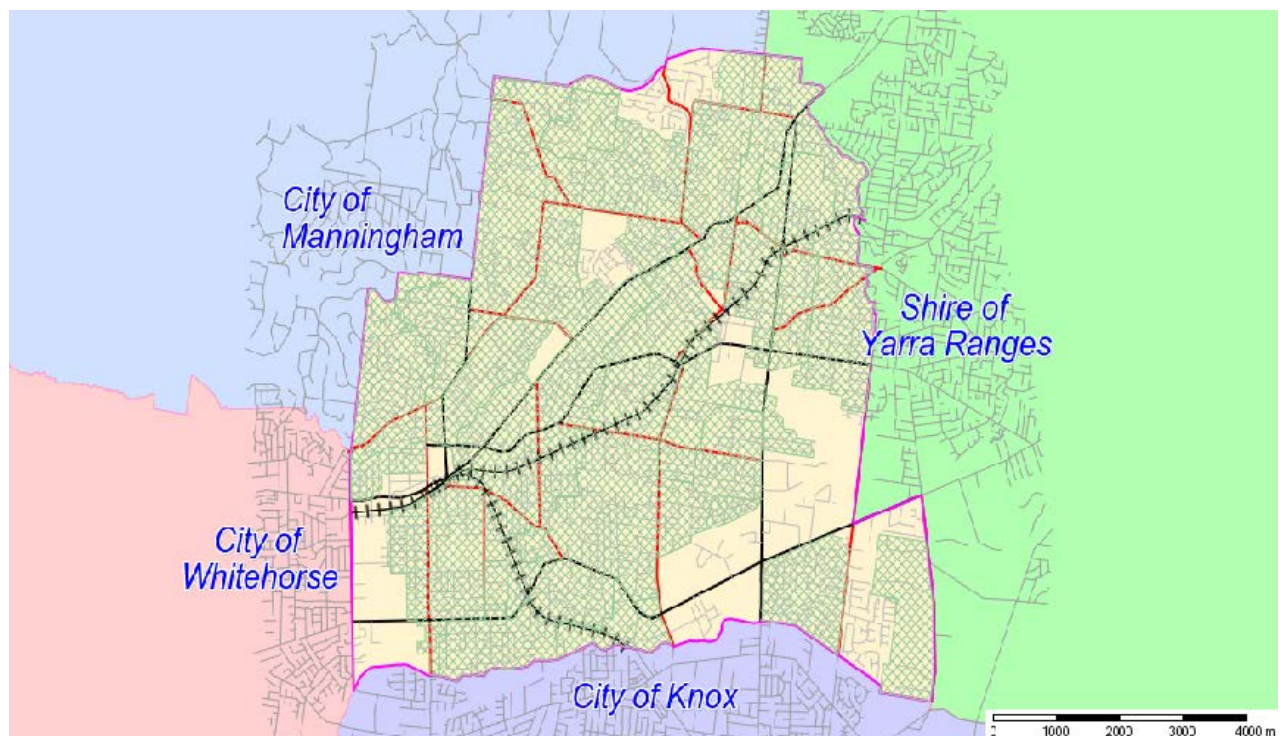
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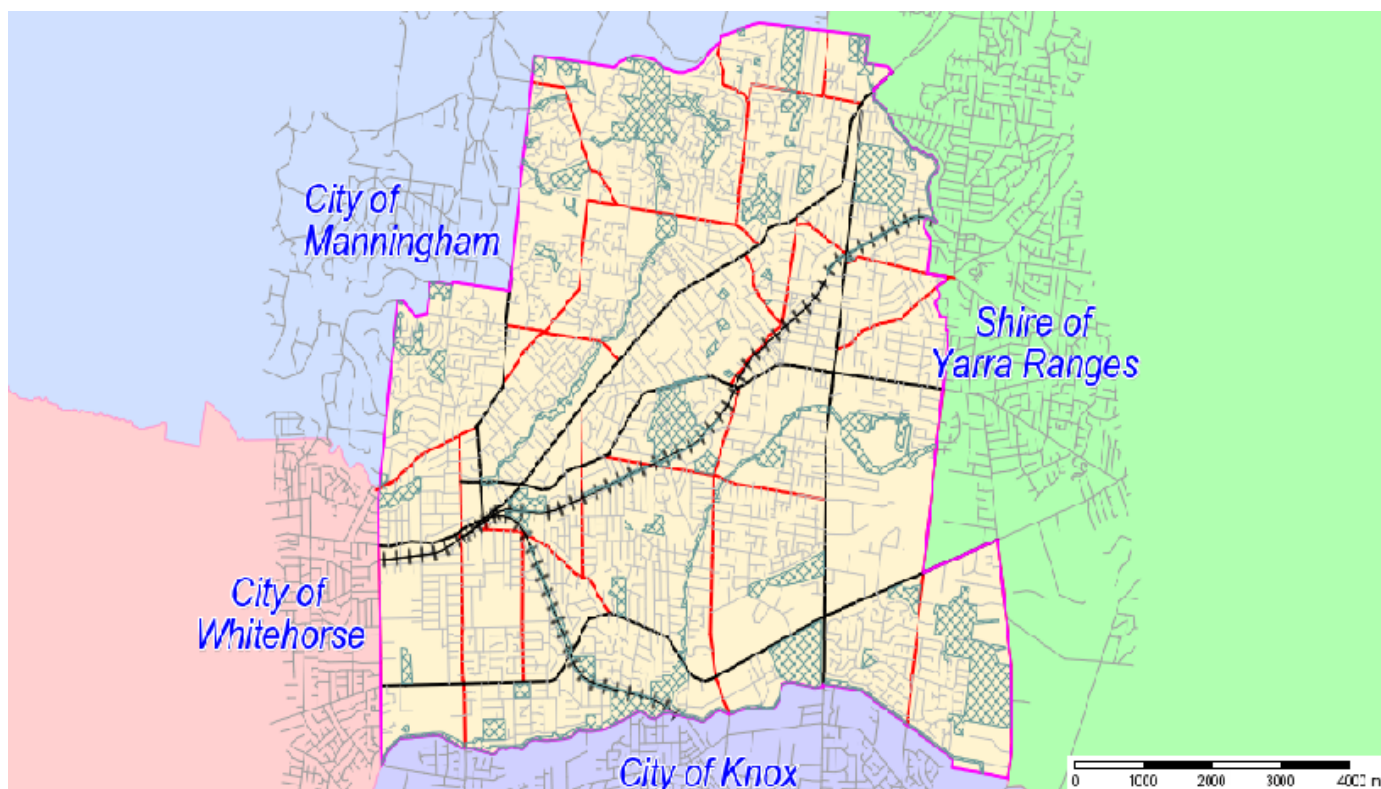
APPENDICES



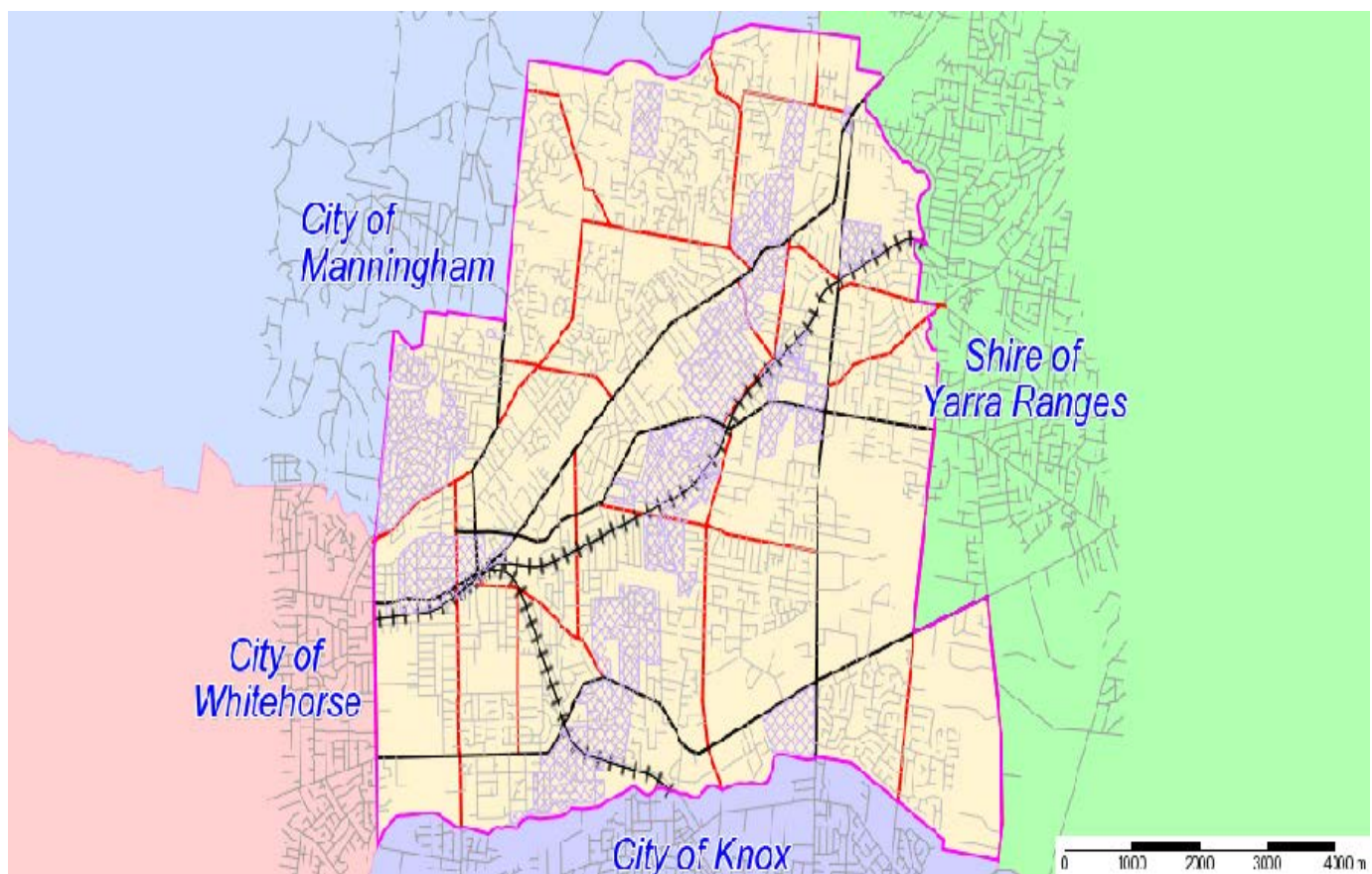
Map 7. Neighbourhood Character Areas (source: Maroondah City Council)



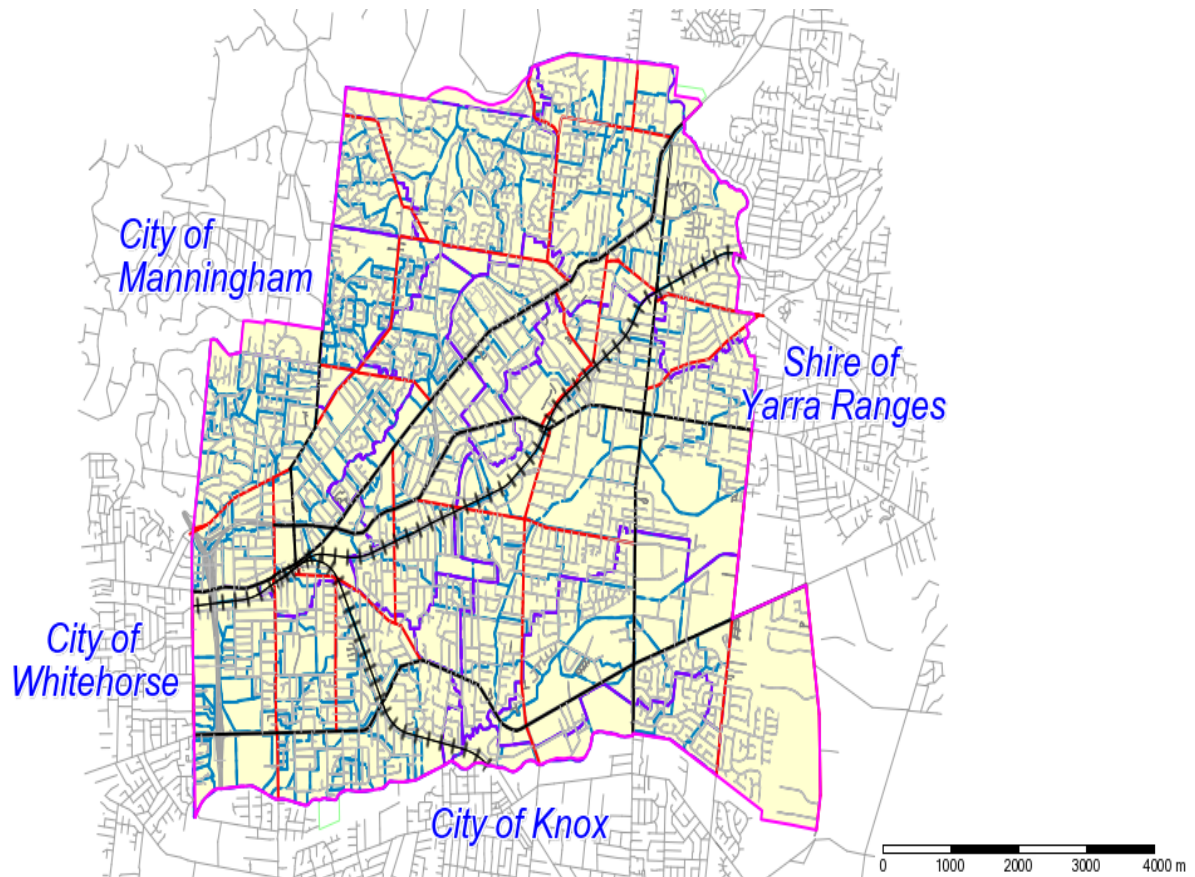
Map 8. Significant Landscape Overlay coverage (source: Maroondah Planning Scheme)



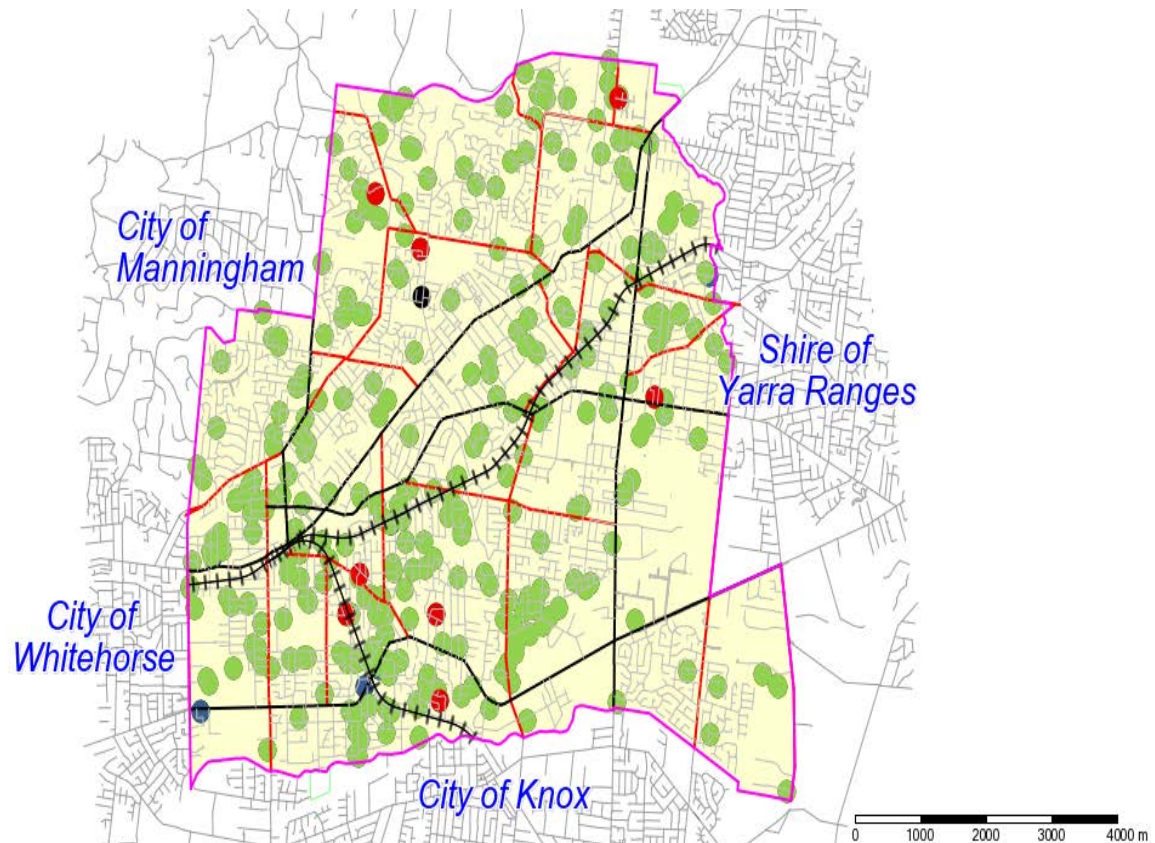
Map 9. Vegetation Protection Overlay coverage (source: Maroondah Planning Scheme)



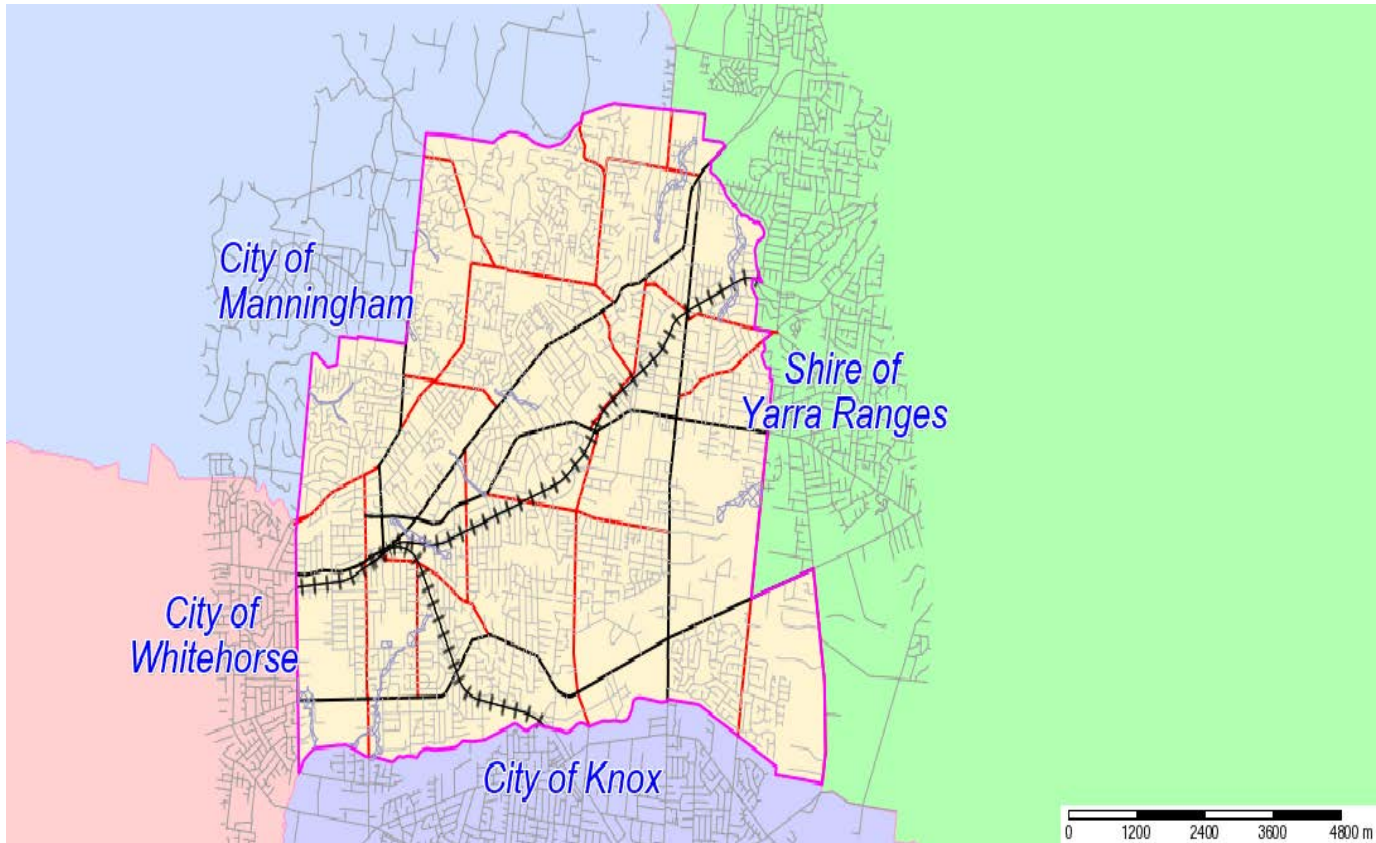
Map 10. Design and Development Overlay coverage (source: Maroondah Planning Scheme)



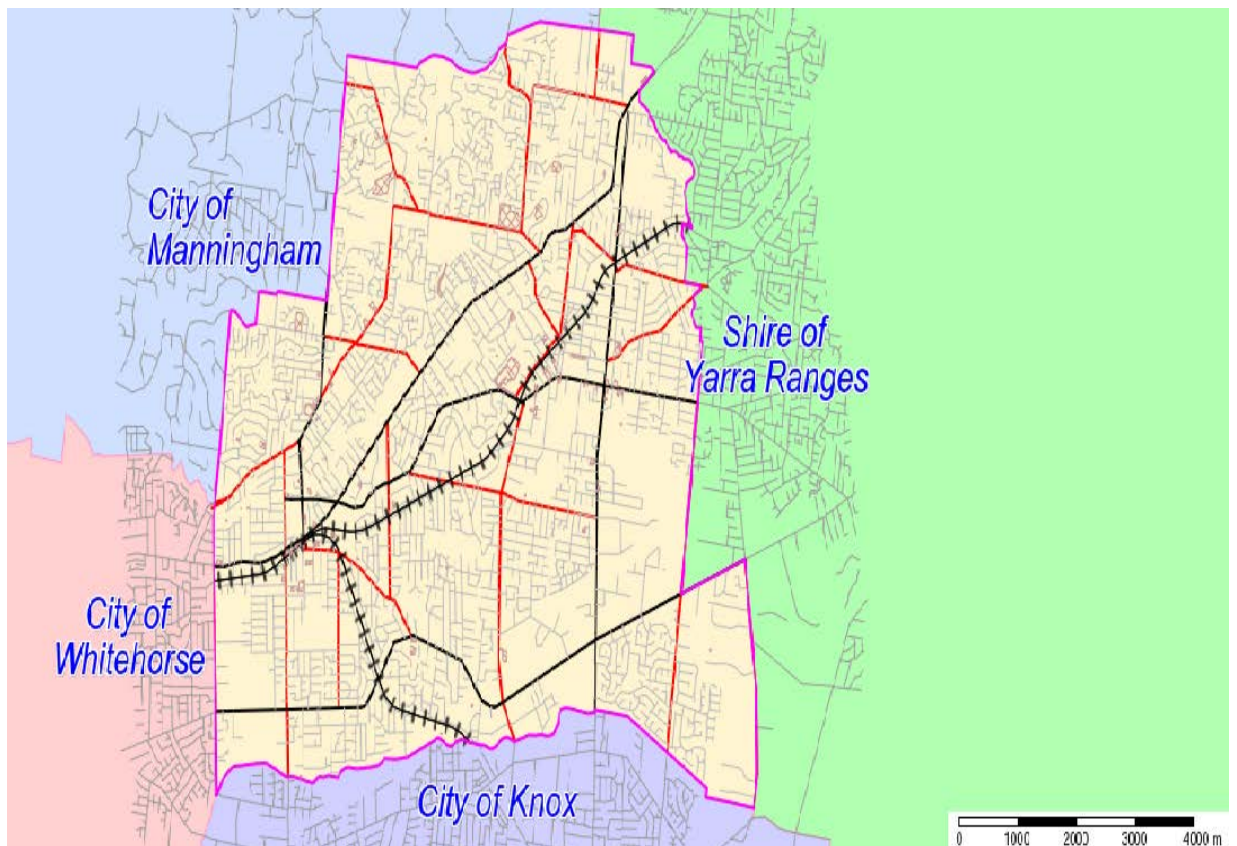
Map 11. Drainage infrastructure coverage (source: Maroondah City Council)



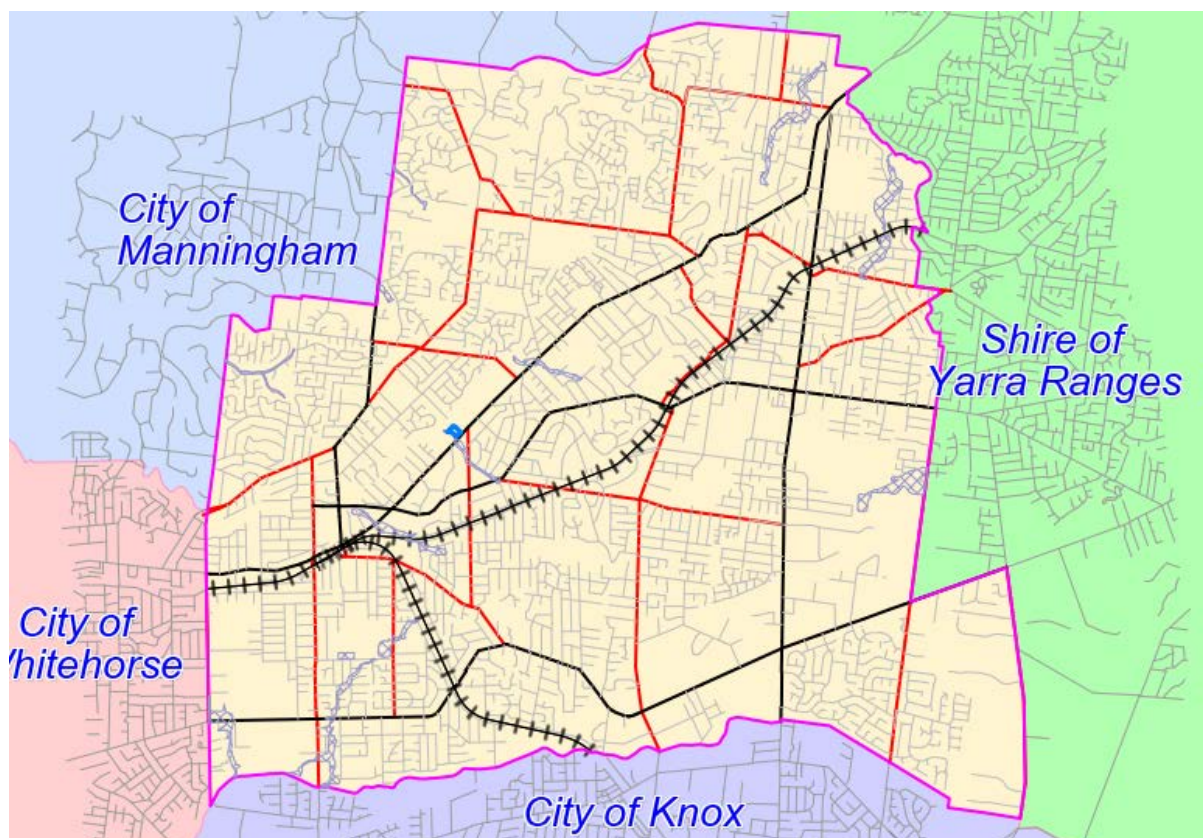
Map 12. Council drainage and Melbourne Water infrastructure coverage (source: Maroondah City Council)



Map 13. Council drainage and sub drainage catchment coverage (source: Maroondah Planning Scheme)



Map 14. Heritage Overlay coverage (source: Maroondah Planning Scheme)



Map 15. Special Building Overlay coverage (source: Maroondah Planning Scheme)