

# Vineyard



# Discussion Paper

June 2014

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NSW Department of Planning & Environment  
June 2014

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# Glossary

<b>Department</b>	Department of Planning and Environment
<b>TSC</b>	<i>Threatened Species Conservation Act 1995</i>
<b>EPBC</b>	<i>Environment Protection Biodiversity Conservation Act 1999</i>
<b>ENV</b>	Existing Native Vegetation
<b>GFA</b>	Gross Floor Area
<b>OEH</b>	Office of Environment and Heritage (now part of the Department of Planning and Environment)
<b>ILP</b>	Indicative Layout Plan
<b>RTRF</b>	Rapid Transit Rail Facility (Stabling Yard)



# 1. Introduction

## 1.1. Purpose of the Discussion Paper

The Vineyard Precinct is part of the North West Growth Centre, a key location for new urban development to meet housing demand in the Sydney Metropolitan Region. In August 2013, the Minister for Planning announced the formal start of planning investigations to rezone the Precinct for urban development. Since then, the Department of Planning and Environment (DPE) has commissioned consultants to assess the social, economic and environmental opportunities and constraints to development within the Precinct.

The purpose of this Discussion Paper is to inform the community of the findings from investigations completed to date. This information will enable more informed participation in community workshops to be held in June 2014. The Discussion Paper summarises the preliminary findings of the consultant studies and the implications of those findings for future urban development in the Precinct.

At the workshops, landowners will be updated on the progress of technical studies for the Precinct will be gathered. Input from landowners to develop a vision and planning direction for the future Vineyard Precinct. The workshops will explore issues such as:

- The kinds of development that might be suited to different parts of the Precinct;
- Where schools, shops and employment land could be located;
- How best to plan for open space and community facilities to meet the needs of future residents;
- How constraints such as flooding and remnant vegetation affect the development potential of some land, and what options might be available for the future use of constrained land;
- What local and state funded infrastructure is required to make development possible and manage environmental impacts;
- The interface of land within the Precinct with surrounding land; and
- The character of different parts of the Precinct near the railway and the Riverstone Precinct, and adjacent to the Box Hill Precinct.

Input gathered from the community will be used to contribute to the planning process and inform the preparation of a draft Indicative Layout Plan (ILP) by the master planner. The draft ILP will identify where homes, roads, infrastructure and public areas are best located. The draft ILP will in turn inform the preparation of new draft planning controls, and these will be on public exhibition later in 2014.

The outcomes from the workshops will be made public and presented on the Department's website and the community will continue to receive newsletters informing them of the progress of Precinct Planning.

## 1.2. Precinct Planning Process

Involvement by the community is an important part of the Precinct Planning Process. At this stage in the planning process, we are seeking community input on the preliminary results of technical studies and the constraints and opportunities understood to exist within the Precinct. **Figure 1** identifies where the process is up to.

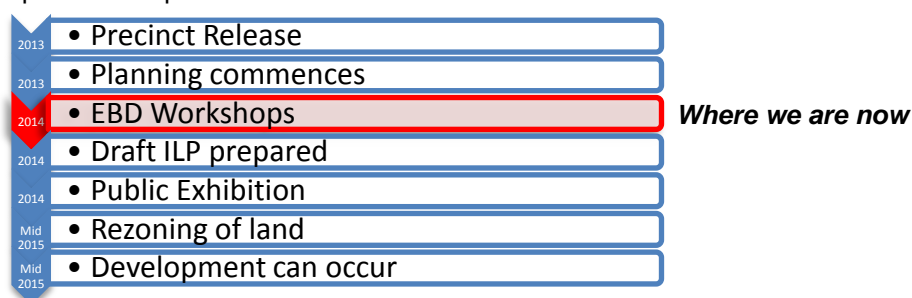
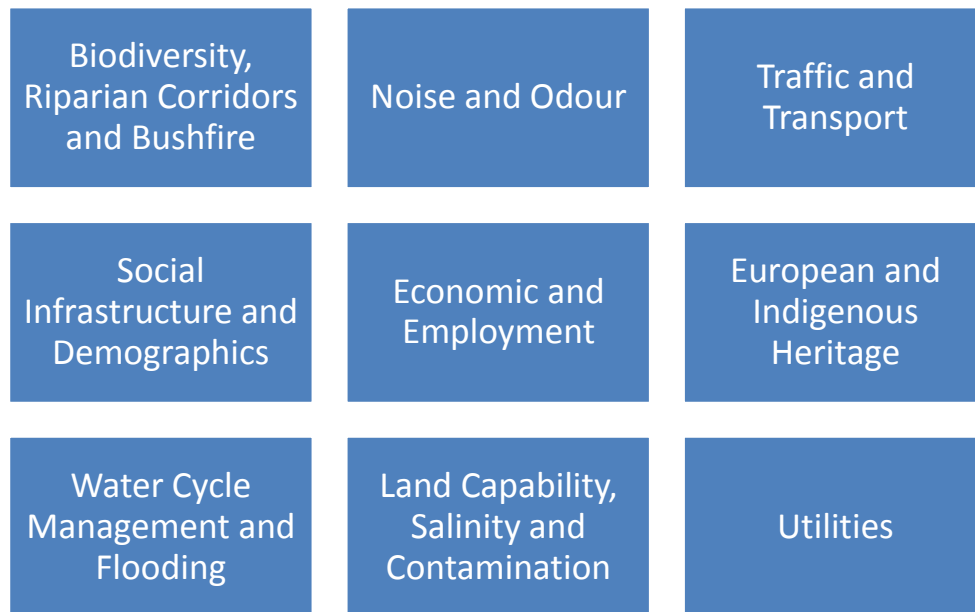


Figure 1 Precinct Planning Process

Since the release of the Precinct in August 2013, the Department has engaged a number of technical specialists to investigate a range of technical issues including:



**Figure 2 List of studies undertaken by consultants**

### 1.3. Context of the Vineyard Precinct

The Vineyard Precinct is located in the Hawkesbury local government area in the North West Growth Centre. The Precinct is bordered by Commercial Road and Menin Road to the north, Boundary Road to the east, Windsor Road and Bandon Road to the south, and portions of lots to the west (as shown in **Figure 3**). The Precinct is about eight kilometres from Windsor and is the only Precinct in the Hawkesbury local government area that is in the North West Growth Centre. The precinct is around 590 hectares in size and there are currently approximately 270 land owners.

Precinct Planning for the site will need to take into account the character of the precinct due to its location in relation to rural and industrial land surrounding the area, and its close proximity to rezoned areas such as the Box Hill & Box Hill Industrial Precincts and the Riverstone Precinct.

Land uses and specific requirements for the Precinct will be established through the Precinct Planning Process. The North West Growth Centre Structure Plan identifies the majority of the Precinct for urban residential development, including the potential for **2,500 new dwellings** for **7,000 new residents**. Dwelling and population numbers will be refined and confirmed as planning progresses.

Detailed work is presently being undertaken to determine the land capability of the Precinct, taking into account issues such as significant vegetation, creeks, roads, noise and odour generating operations, water, sewer, electricity and gas services, and land subject to flooding. This Discussion Paper presents the preliminary finding of these studies and also refers to recommendations for open space, schools, shops and employment land that are needed to meet the needs of future residents.



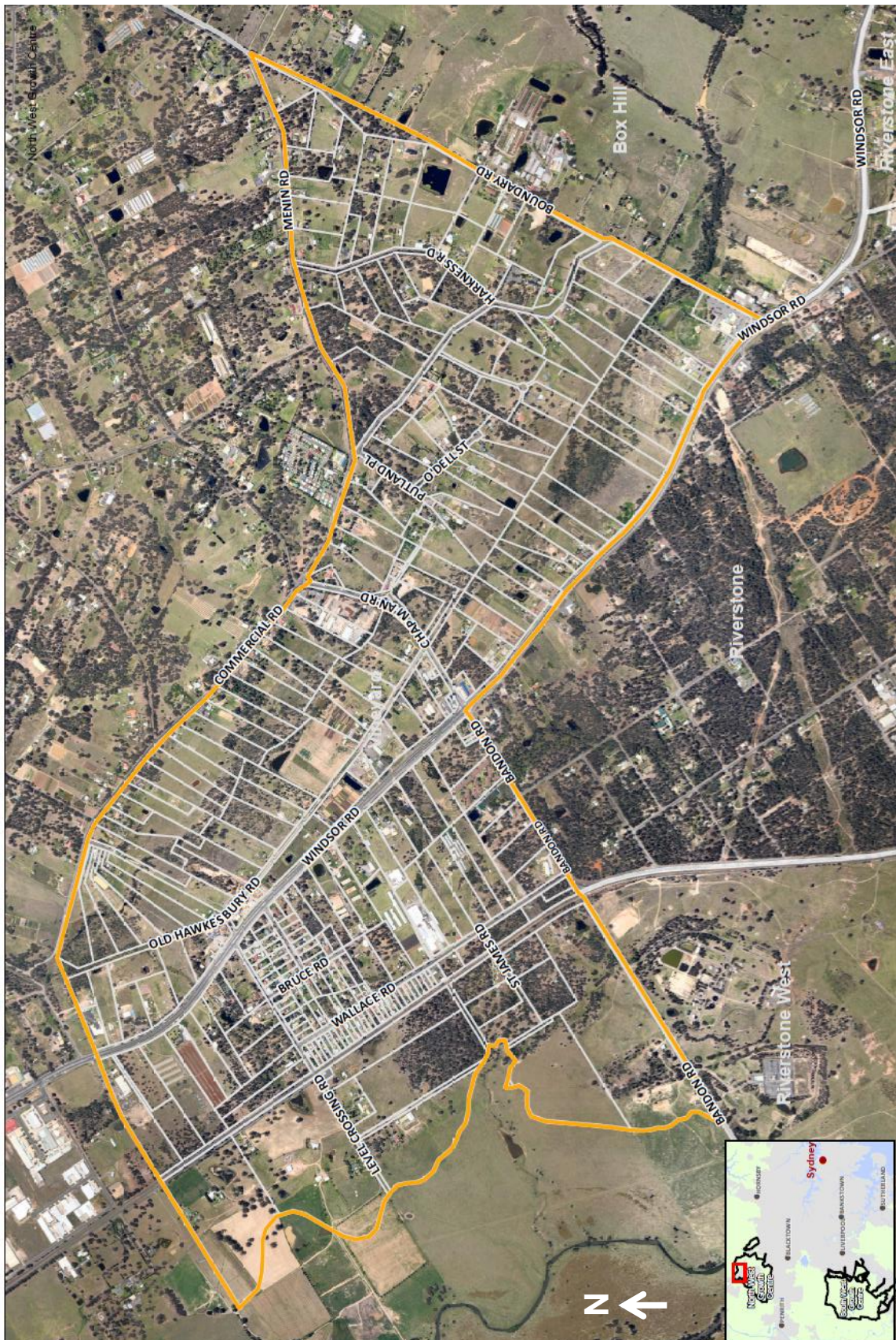


Figure 3 Map of Vineyard Precinct



## 2. Constraints

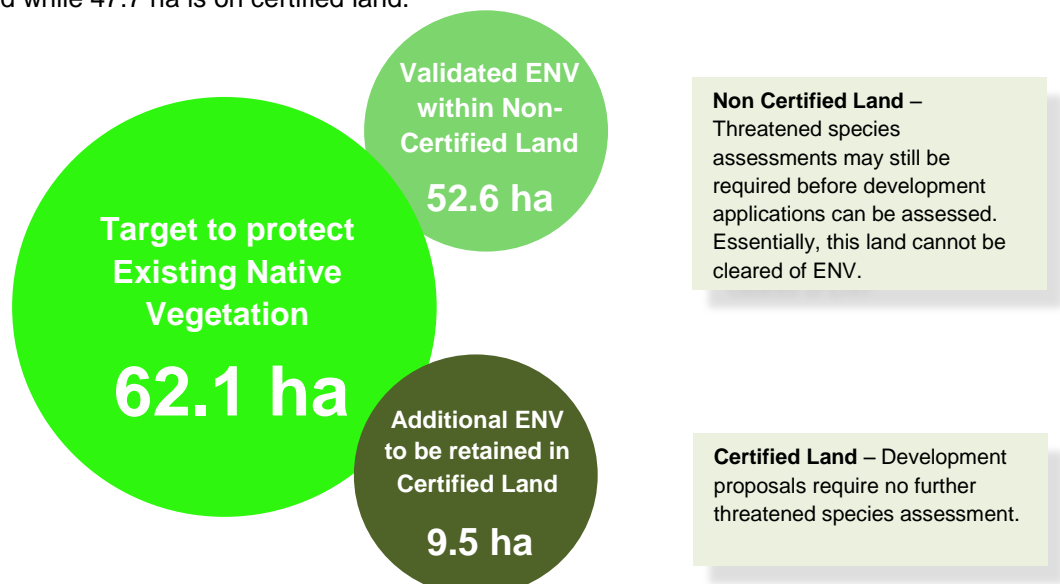
### 2.1. Biodiversity, Riparian & Bushfire

#### *Description of findings to date*

Assessment of the Biodiversity, Riparian corridors and Bushfire risk within the Vineyard Precinct to date has included field work and data analysis to identify important vegetation and endangered species habitats, and the alignment and hierarchy of streams within the area. Bushfire risk assessment and areas of vegetation to be retained will be further refined as precinct planning progresses.

The Growth Centres Biodiversity Certification Order defines areas of vegetation that need to be conserved, and enables development to occur on most land in the Growth Centres without the need for assessment and approvals under the Threatened Species Conservation Act. To meet the certification requirements, 62.1 hectares (ha) of Existing Native Vegetation (ENV) needs to be protected within the Vineyard Precinct, mostly within land that is flood prone.

As part of the study, the ecologist carried out site visits to validate the existence of vegetation and confirmed 100.3 ha of ENV is present within the Precinct. Of this amount, 52.6 ha is within non-certified land while 47.7 ha is on certified land.



**Figure 4 Amount of Existing Native Vegetation identified within the Vineyard Precinct**

The following points relate to **Figure 5**.

- 1 Existing Native Vegetation – shown in green. The blue hatching shows areas of ENV that have been field validated by this study.
- 2 Riparian Corridors – The Killarney Chain of Ponds is a significant constraint within the Vineyard precinct, creating a second barrier parallel to Windsor Road. The watercourses are shown with the required corridor buffers related to the stream order.
- 3 Additional High Conservation Validated Vegetation (AHCVV) – this form of vegetation shown by red hatching is not recognised as Existing Native Vegetation (ENV), meaning there are no conservation mechanisms to retain it, however it has similar qualities and biodiversity value to ENV and therefore is valuable when retained where possible.
- 4 Non-certified land is shown by the area highlighted in blue. Threatened species assessments are still applicable to this land prior to development.
- 5 Condition 12 of the Biodiversity Conservation Assessment applies to a very small area in the southern portion of the Precinct and prevents clearing within this part unless it is in accordance with strict conditions.



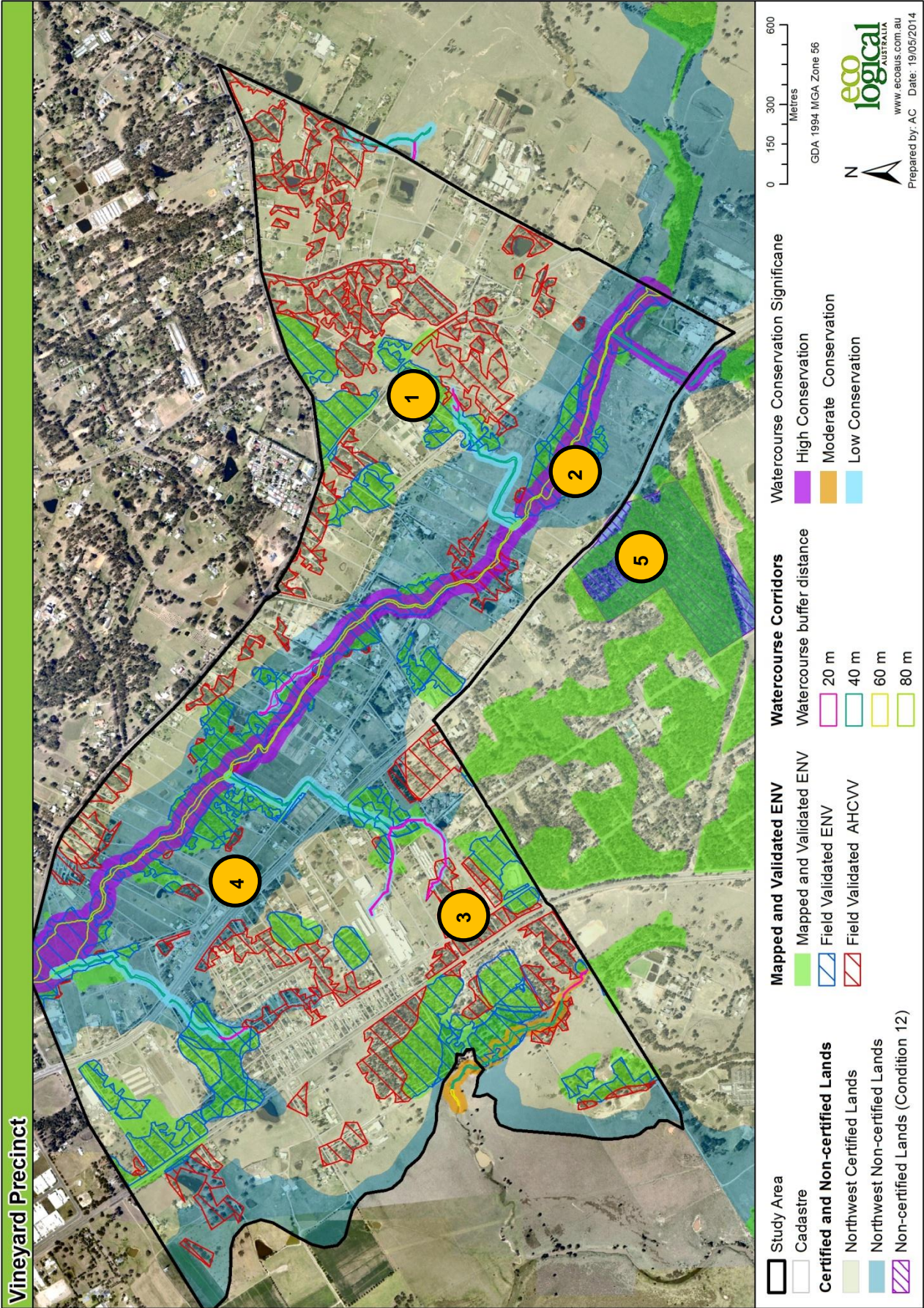


Figure 5 Biodiversity and Riparian Corridors Assessment findings



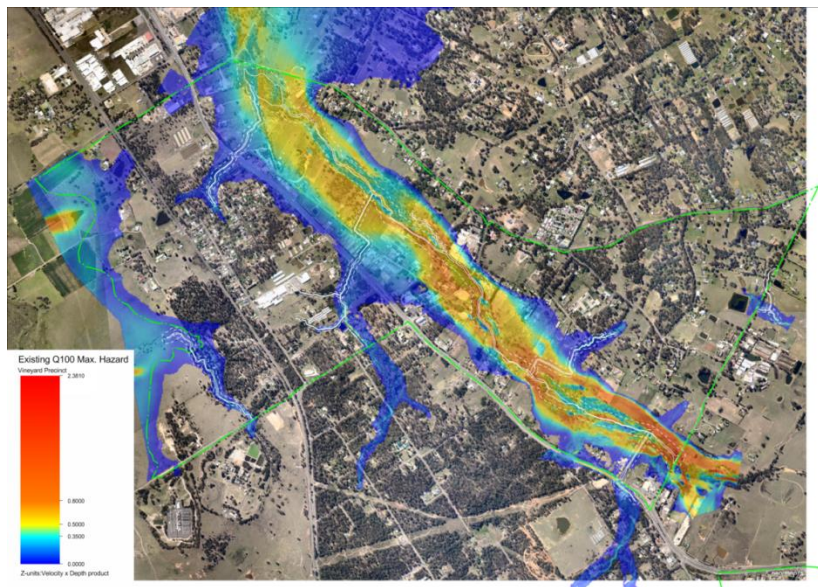
### *Implications for urban development*

All existing native vegetation on certified land can be removed. As mentioned previously, an additional 9.5 ha of ENV are required to be protected within the Vineyard Precinct, (within certified land), which is shown on **Figure 5**. The Department will now be considering where those 9.5 ha of vegetation can be protected and the best ways to offer that protection. Options include incorporating those areas of vegetation into local open space or retaining in private ownership while still allowing for development potential on land that does not contain ENV.

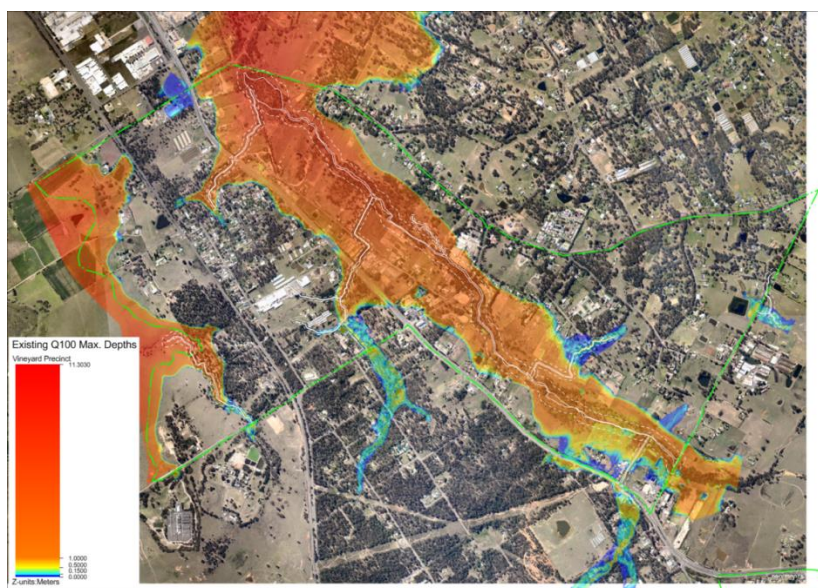
## **2.2. Water Cycle Management & Flooding**

### *Description of findings to date*

The Department has commissioned a consultant to undertake a study of management of water flows and flood prone land within the Precinct. In conjunction with the study for water management, modelling was used to understand the impacts of flooding throughout the creek system within the Vineyard Precinct.



**Figure 6 Flooding hazard within the Vineyard Precinct**



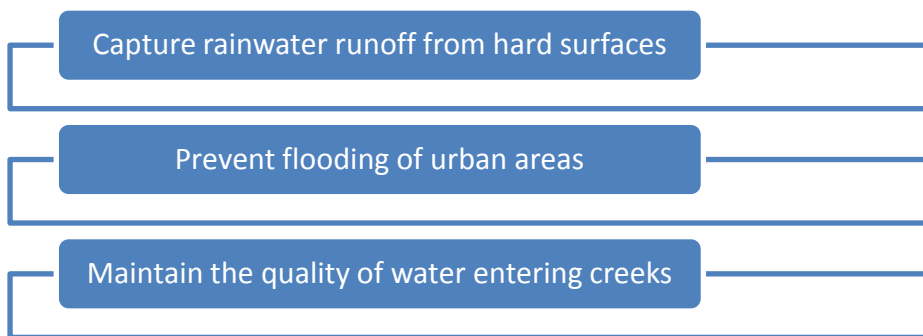
**Figure 7 Flooding depth within the Vineyard Precinct**

**Figure 6** shows how hazardous the flooding will be, using a calculation based on the depth of water and the velocity at which the water will move. The blue indicates a lower hazard due to low depth of flooding and little velocity. The orange and red show areas of higher impact with deeper and/or faster flowing water.

**Figure 7** shows the depth of that flooding in a 1 in 100 year event. The yellow indicates depths of up to 1.5 metres, with the orange and red reaching up to 11 metres in depth.

#### *Implications for urban development*

The priorities in planning for urban development in the context of managing flooding and water management are to:



The next steps involve the Department working with the water cycle management consultant and the master planner to identify where drainage basins need to be located. Drainage basins are considered to be fixed elements in that they must be located at low points where drainage channels meet the major creeks. Other aspects to be considered include the following:

- The basins should be sized to capture the runoff that would occur in a 1 in 100 year storm. This means that the basins need to be large enough and deep enough to hold that volume of water, before discharging the water to the creek. This modelling approach aims to prevent flooding of urban areas that would result from a typical storm event once every one hundred years.
- Install filtering devices to trap pollutants and filter nutrients from water before it enters the creek system. This can be done in a number of ways, including vegetated areas (otherwise known as rain gardens) or artificial pollutant traps.

### **2.3. Utilities**

#### *Description of findings to date*

A consultant has been engaged by the Department to undertake a study of the services that will be required within the Vineyard Precinct. Each future dwelling will need to be connected to the services listed below. The Department is working with Sydney Water, Endeavour Energy and Jemena to determine the capacity of existing infrastructure that supplies these services, and their plans to upgrade their infrastructure.





Figures 8 and 9 show the indicative timing that services will be available.

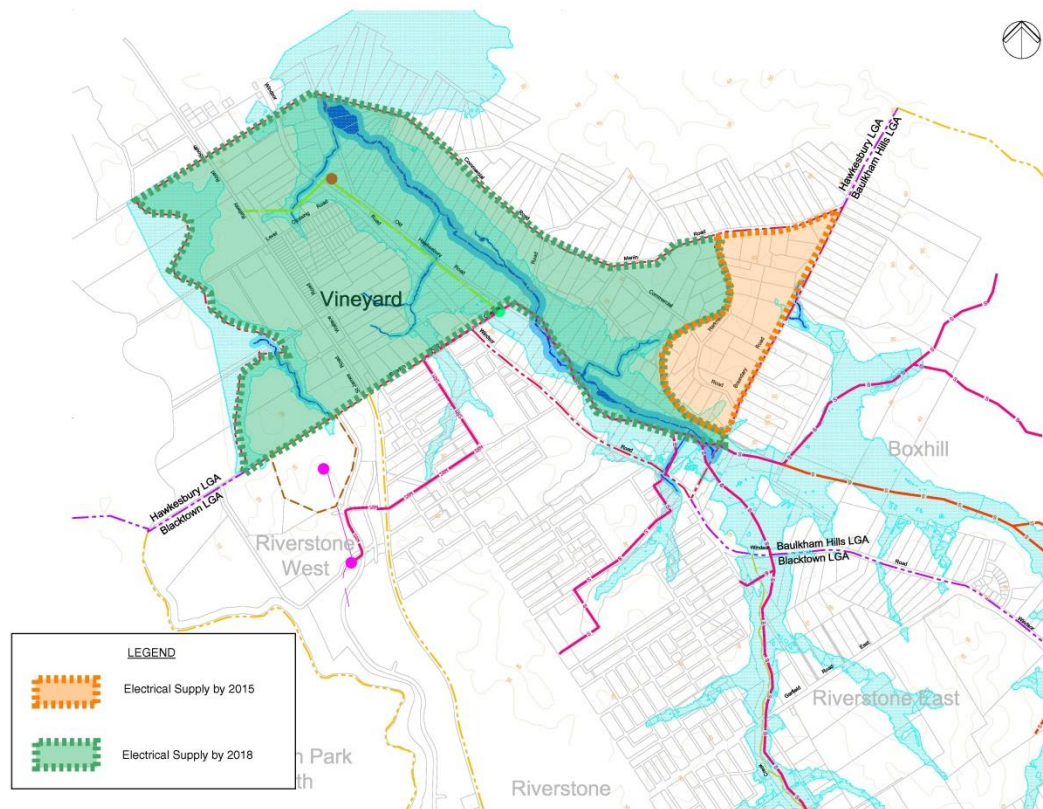


Figure 8 Indicative electrical service delivery timing for the Vineyard Precinct

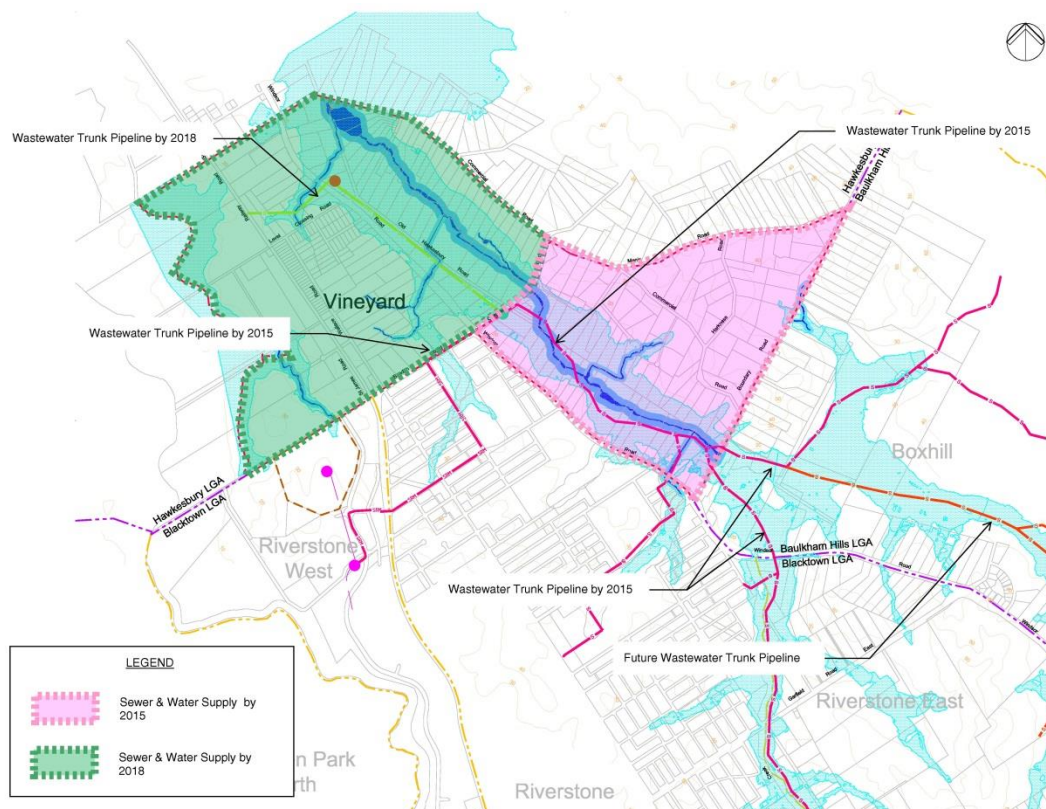


Figure 9 Indicative water and sewer service delivery timing for the Vineyard Precinct

*Implications for urban development*

The Department will be investigating in more detail when parts of the Precinct will be available for development to better inform landowners about their options. As can be seen from **Figures 8** and **9**, the part of the Precinct east of Windsor Road will be serviced by 2015. This means that the various utilities will have installed their infrastructure to the area. Anyone who wishes to develop land will need to pay for services (water, sewer, electricity and possibly gas) to be brought to the development site.

In addition to this work, the Department's consultant is also investigating the existing alignment of overhead electricity transmission lines. These lines provide electricity from substations to properties and there is often a restriction of use underneath these lines, which are known as easements. These easements restrict the type of development that can occur beneath them. For example, houses, shops and schools cannot be built within these easements, however roads, car parks and backyards can exist within the space under these easements.



**Figure 10** Example of an overhead transmission line

## 2.4. Traffic & Transport

### *Description of findings to date*

A draft traffic and transport study has been undertaken to understand the required road network to manage the projected traffic flows generated by the future population of the Vineyard Precinct and its surroundings. This includes the identification of a road hierarchy which categorises roads from a Principal Arterial road (Windsor Road), to a Transit Boulevard which will include dedicated bus lanes, Sub-Arterial Roads, Collector Roads and then Local Roads (residential streets).

Crucial road planning principals include considering the use of existing roads and transport infrastructure, ensuring good connectivity to adjacent precincts and providing high quality access to public transport.

The issues below have been identified in the study so far and will continue to be investigated further during the Precinct Planning Process. **Figure 11** shows the road hierarchy as identified in the draft traffic study.

### *Implications for urban development*

A road network will be required to provide access for future residents not only to Windsor Road and Boundary Road, but also to where shops, schools and parks will be located. Maintaining an intersection with Windsor Road that provides access between the east and west of the Vineyard Precinct is important to ensure both areas remain connected and that access to facilities and services is available. In addition, allowing for good circulation to Windsor to the north, as well as toward the North West Rail Link to the south, and Richmond Road to the west are being considered by the traffic consultant.

The consultant is currently modelling the expected traffic volumes to determine the location of and type of roads that will be needed. The results will be incorporated into the draft ILP and will help to inform where key land uses such as a small retail neighbourhood centre, school and parks could be located.

The following points relate to **Figure 11**.

- 1 Bandon Road rail crossing and management of future traffic volumes particularly into the Riverstone West Precinct
- 2 Level Crossing Road rail crossing
- 3 Traffic modelling is underway to understand the capability of the road network to manage future traffic volumes.



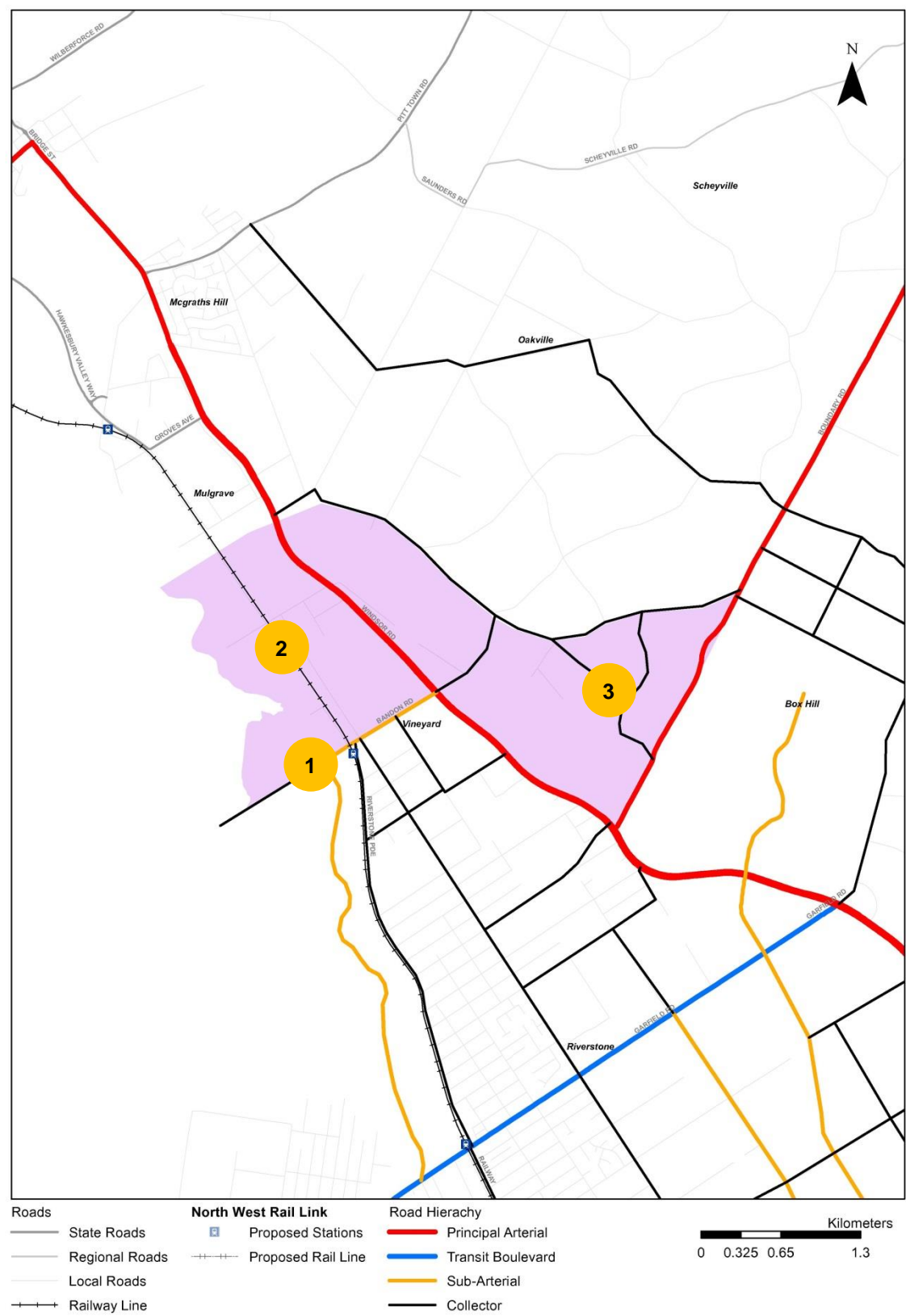


Figure 11 Map of Proposed Road Hierarchy

## 2.5. Odour

### *Description of findings to date*

The first stage of an Odour impact assessment has been completed to identify potential sources of odour and develop an understanding of the nature of the odour producing activities that may impact future development within the Vineyard Precinct.

There are a number of odour generating facilities identified in the study including poultry and mushroom growing operations. To mitigate impacts from odour, there are recommended separation distances for varying odour generators and these buffers are calculated by taking into account the kind of odour and intensity, the topography of the land and factors such as weather and wind patterns.

### *Implications for urban development*

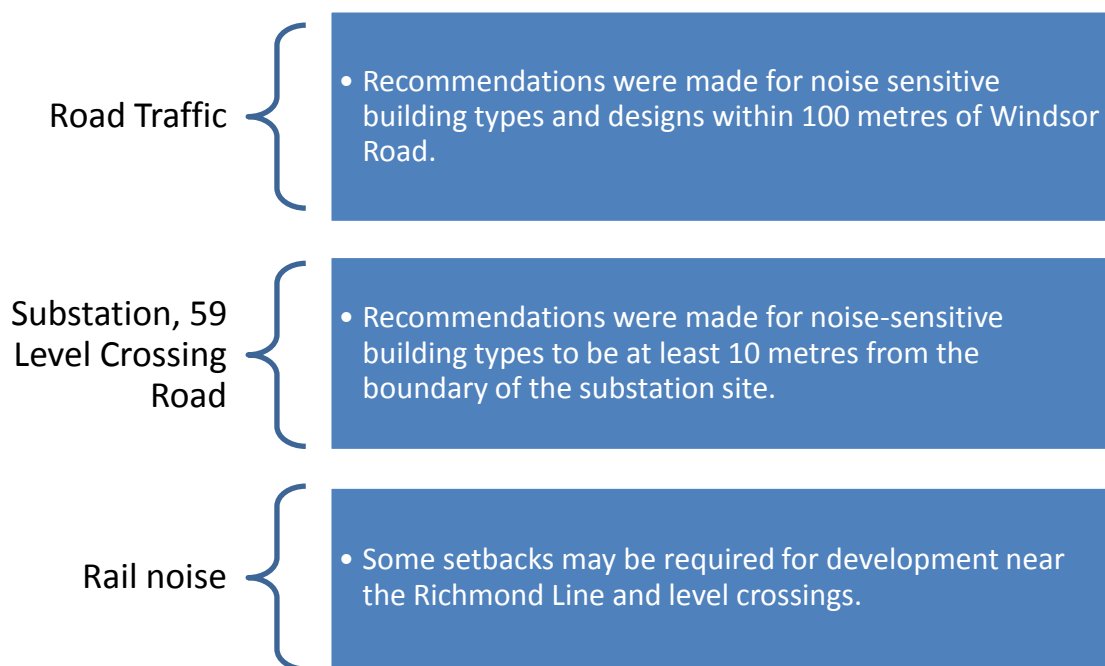
The results of the first stage of the odour study have highlighted the need for a more refined model to be utilised. This will help to identify the radial area of potential impact of those operations. This work is currently being undertaken and will inform where certain land uses could be located.

It is important to note that the entire Precinct is being considered for future urban land uses. However, under existing use rights, lawfully commenced operations may continue operating.

## 2.6. Noise

### *Description of findings to date*

The Department's noise specialist has identified a number of noise-generating uses within and near the Vineyard Precinct. These include:



Examples of sensitive building types include townhouses and residential flat buildings which can easily incorporate the following urban design principles:

- Locating living areas such as bedrooms away from busy roads
- Locating internal spaces such as bathrooms and laundries closer to busy roads

*Implications for urban development*

Using the results of the noise assessment, the Department will identify areas of the Precinct that require specific urban land use responses. For example:

- Land fronting Windsor Road requires buffering from road traffic noise, as mentioned above. Suitable responses could be to consider medium density residential development such as townhouses which can be orientated to have living and bedroom areas built on the far side to Windsor Road.
- Similarly, large lots with appropriate front setbacks could be suitable.
- Landscaping along the frontage can help to provide screening.

The Department will work with the master planner to look at these options and where the suggested land uses could be located.

**2.7. Heritage***Description of findings to date*

The Department has engaged a heritage specialist to investigate Indigenous and Non-Indigenous Heritage within the Precinct.

The Indigenous Heritage study is underway and consultation with Aboriginal stakeholders is occurring. The study will rely on a combination of background research and fieldwork to determine the presence of Indigenous heritage which can be in the form of stone artefacts, items and cultural association with places. The results of the study are ongoing and not yet available, but will be made publicly accessible during exhibition of the draft Precinct Plan.

The Non-Indigenous Heritage study is also ongoing. There are no items within the Precinct that are listed under the State Heritage Register; however, the Hawkesbury Local Environmental Plan 2012 has one item listed within it. The study will identify conservation values of that item which will inform the Department's consideration of uses for that site and its surroundings.

*Implications for urban development*

The Indigenous Heritage study will investigate the conservation significance of all identified sites and make recommendations for their protection, as warranted. Specific conditions will apply at development application stage to require an Aboriginal Heritage Impact Permit (AHIP) under the National Parks and Wildlife Act 1974 where harm to an Aboriginal object or Aboriginal place cannot be avoided. The Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW sets out the requirements for archaeological investigation in NSW where an application for an AHIP is likely to be made. Any excavation that can be carried out in accordance with the Code will not need an AHIP. However, excavations that are not consistent with the Code, or are in areas where the Code does not apply, will need an AHIP for any harm to Aboriginal objects or Aboriginal places.

A draft Development Control Plan will be prepared and exhibited and will identify areas that may be subject to the need for further investigation.

The Department will investigate the location and conservation significance of the non-indigenous heritage site in the context of their potential use, as well as suitable surrounding development.



### 3. Social Infrastructure Recommendations

#### *Description of findings to date*

The Department's Social Infrastructure and Recreation consultant has identified the need for land for parks and sports fields as noted below (based on preliminary population estimates):



**Open Space** (including Playing Fields)

**19.8ha**

Incorporating...



**Playing Fields**

**2 double playing fields**

= 10 ha

In addition, there will be a need for a school:



**Schools**

**1 Primary School**

= 3 ha

NB. 1 hectare (ha) = 10,000m<sup>2</sup>

#### *Implications for urban development*

The Department will be working with the master planner, and talking to Hawkesbury City Council about the possible locations for open space. Council will ultimately own land that is zoned for open space. Typically open space is land that is made suitable for playing fields, tennis courts and netball courts (known as active open space) or for walking and more passive forms of recreation (passive open space). The amount of active and passive open space that will be needed for future residents will be informed by the Social Infrastructure and Recreation consultant and through discussions with Council.

Land that is zoned for open space will be zoned RE1 Public Recreation and will be identified to be acquired by Council when it is needed, which is usually when there is demand by future residents.

The Department of Education and Communities has specific criteria in relation to where schools should be located which include:

- not on a main road
- access to two streets preferably
- flat land
- not vegetated or bushfire prone
- of a minimum size to meet the needs of a primary school

The Department will work with the master planner to investigate possible locations for a school that meet the abovementioned criteria.

It is preferable to group uses such as open space, schools and retail centres. Clustering such uses provides a local community hub where residents can meet multiple needs at the one time, activates local areas and creates a sense of community. This will be considered during development of the draft ILP.

## 4. Economic and Employment Recommendations

### *Description of findings to date*

The consultant engaged by the Department to undertake the Economic and Employment Study has identified the need for a small neighbourhood centre which would contain a mix of local retail shops that service the convenience shopping needs of future residents. In addition, there would be some demand for non-retail uses within the neighbourhood centre which could be offices which benefit from passing trade and activated areas.



#### Retail

Neighbourhood centre

1,500m<sup>2</sup> land demand (1100m<sup>2</sup> GFA)



#### Employment

Non retail in Neighbourhood centre

1,600m<sup>2</sup> land demand (1230m<sup>2</sup> GFA)

### *Implications for urban development*

Two potential locations for a neighbourhood centre are shown in Section 5 of this Discussion Paper. The locations have been selected because they:

- are on existing roads which means they can be constructed without the need to build new roads and can benefit from passing trade; and
- are near possible locations for a school and open space, creating opportunities to cluster these uses.

The locations are suggestions and will be subject to further assessment prior to preparing a draft ILP. Suggestions for other locations are welcomed. Land for the neighbourhood centre will be zoned to allow for business and retail uses. This will facilitate its development when sufficient demand for it exists.



## 5. Constraints and Opportunities overlay

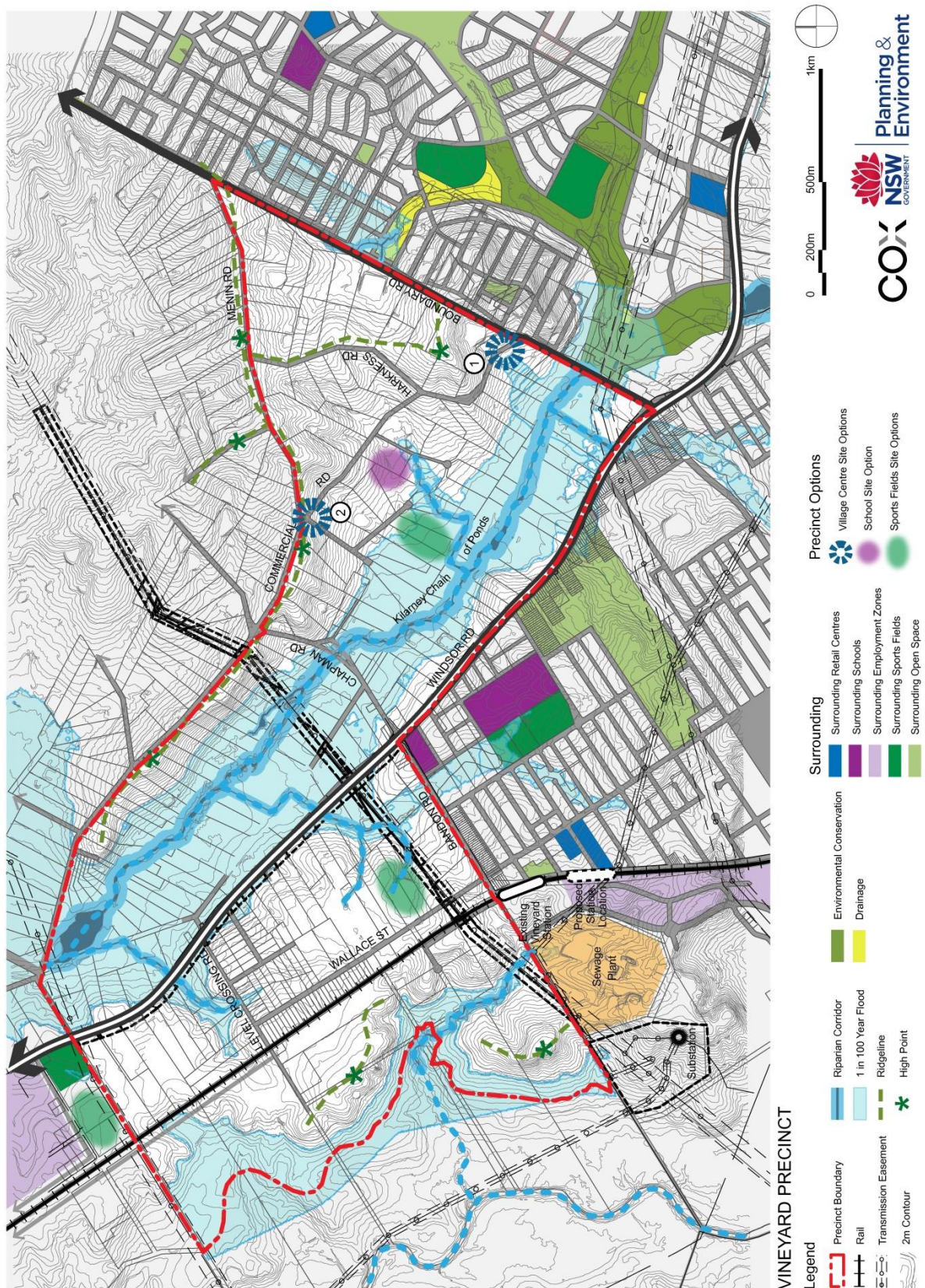


Figure 12 Vineyard Precinct constraints and opportunities map



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