

Environment  
Effects Statement

# Technical Report L

## Aboriginal cultural heritage



# **NORTH EAST LINK PROJECT**

**North East Link Environment Effects Statement**

**Technical report L – Aboriginal cultural heritage**

**Prepared for North East Link**

**Authors:** Jonathan Howell-Meurs, David Mathews and Melinda Albrecht

**Date of Completion:** April 2019



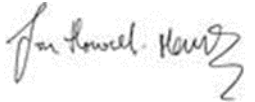
PO Box 2471 Fitzroy BC  
Victoria 3065 Australia

Andrew Long + Associates Pty Ltd  
ACN 131 713 409  
ABN 86 131 713 409

## Quality Information

Document	North East Link Project – Aboriginal cultural heritage assessment
Date	April 2019
Prepared by	Jonathan Howell-Meurs, David Mathews and Melinda Albrecht

## Revision History

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
Final	April 2019	Final	Jonathan Howell-Meurs	

# Table of contents

<b>Executive summary .....</b>	<b>ix</b>
<b>Structure of the EES .....</b>	<b>xii</b>
<b>Abbreviations .....</b>	<b>xiii</b>
<b>1. Introduction.....</b>	<b>1</b>
1.1 Purpose of this report .....	1
1.2 Why understanding Aboriginal cultural heritage is important.....	1
<b>2. EES scoping requirements .....</b>	<b>2</b>
2.1 EES evaluation objectives .....	2
2.2 EES scoping requirements .....	2
2.3 Linkages to other reports.....	3
<b>3. Project description .....</b>	<b>4</b>
3.1 Overview .....	4
3.2 Construction .....	5
3.3 Operation.....	6
3.4 Activities and design considerations relevant to Aboriginal cultural heritage.....	6
<b>4. Legislation, policy, guidelines and criteria .....</b>	<b>7</b>
4.1 Legislation, policy and guidelines .....	7
4.2 Legislation .....	9
4.2.1 Commonwealth legislation.....	9
4.2.2 State legislation .....	9
4.3 Aboriginal cultural heritage criteria .....	11
4.3.1 Construction criteria.....	11
4.3.2 Operational criteria.....	11
<b>5. Method.....</b>	<b>12</b>
5.1 Overview of method.....	12
5.2 Study area .....	13
5.3 Existing conditions.....	15
5.3.1 A review of the landforms or geomorphology .....	15
5.3.2 Historical environment.....	15
5.3.3 Heritage register search.....	15
5.3.4 A review of historical and ethnohistorical accounts of Aboriginal occupation in the region.....	15
5.3.5 Review of reports about Aboriginal cultural heritage – regional studies .....	15
5.3.6 Review of reports about Aboriginal cultural heritage – local studies .....	16
5.3.7 Land use history .....	16
5.3.8 Site survey and preliminary archaeological potential rating.....	17
5.3.9 Subsurface investigation.....	18
5.4 Risk assessment .....	19
5.4.1 Risk assessment process .....	19
5.5 Impact assessment.....	22
5.5.1 Construction assessment method .....	22

5.5.2	Operation assessment method .....	22
5.6	Rationale .....	22
5.7	Limitations, uncertainties and assumptions .....	22
5.7.1	Fieldwork .....	22
5.7.2	Other technical specialist assessments .....	23
5.8	Additional information .....	23
5.9	Stakeholder engagement .....	23
5.10	Community feedback .....	23
<b>6.</b>	<b>Existing conditions .....</b>	<b>26</b>
6.1	A review of landforms or geomorphology .....	26
6.2	Historical environment .....	33
6.2.1	Environment .....	33
6.2.2	Modelled pre-1750 vegetation of the study area .....	34
6.3	Review of historical and ethnohistorical accounts of Aboriginal occupation in the region .....	37
6.3.1	Ethnohistorical Accounts .....	37
6.3.2	Post-contact history .....	39
6.4	Land use history .....	41
6.5	Heritage register searches .....	44
6.5.1	Introduction .....	44
6.6	Review of reports about Aboriginal cultural heritage – regional studies .....	51
6.7	Review of reports about Aboriginal cultural heritage – localised studies .....	53
6.8	Implications of previous archaeological investigations relating to the current study area .....	62
<b>7.</b>	<b>Risk assessment .....</b>	<b>64</b>
<b>8.</b>	<b>Impact assessment .....</b>	<b>65</b>
8.1	Construction impacts .....	65
8.1.1	M80 Ring Road to northern portal .....	66
8.1.2	Northern portal to southern portal .....	67
8.1.3	Eastern Freeway .....	69
8.2	Groundwater impacts .....	71
8.3	Alternative design options .....	72
8.3.1	Manningham Road interchange alternative .....	72
8.3.2	Northern portal launch site .....	72
<b>9.</b>	<b>Environmental Performance Requirements .....</b>	<b>85</b>
<b>10.</b>	<b>Conclusion .....</b>	<b>86</b>
	Impact assessment .....	87
<b>11.</b>	<b>References .....</b>	<b>89</b>

## Tables

Table 2-1: Scoping requirements relevant to Aboriginal cultural heritage .....	2
Table 2-2: Linkages to other technical reports .....	3
Table 4-1: Key legislation and policy.....	7
Table 5-1 Review of reports about Aboriginal cultural heritage – regional studies.....	15
Table 5-2: Review of reports about Aboriginal cultural heritage – local studies .....	16
Table 5-3: Archaeological sensitivity and disturbance ratings.....	18
Table 5-4: APR scale .....	18
Table 5-5: Likelihood of an event occurring .....	21
Table 5-6: Risk matrix .....	21
Table 5-7: Community consultation feedback addressed by Aboriginal cultural heritage .....	24
Table 6-1: Geomorphological units within the activity area .....	27
Table 6-2: Geomorphological units within the study area .....	27
Table 6-3: Geological units within the activity area .....	28
Table 6-4: Geological units within the study area.....	28
Table 6-5: Modelled 1750 EVCs within the activity area .....	35
Table 6-6: Registered Aboriginal places and historical references in the study area .....	45
Table 6-7: Registered Aboriginal places and historical references in the activity area.....	47
Table 7-1: Aboriginal cultural heritage risks .....	64
Table 8-1: Impact assessment – M80 Ring Road to northern portal: Aboriginal cultural heritage places within the study area .....	66
Table 8-2: Impact assessment – Northern portal to southern portal: Aboriginal cultural heritage places within the study area .....	68
Table 8-3: Impact assessment – Eastern Freeway: Aboriginal cultural heritage places within the study area.....	70
Table 9-1: Environmental Performance Requirements .....	85
Table 11-1: Stone artefacts identified at VAHR 7922-1295 (Tucker & MacCulloch, 2016, p. 85) .....	97
Table 11-2: Stone artefacts identified at VAHR 7922-1296 (Tucker & MacCulloch 2016, p. 86) .....	98
Table 11-3: Stone artefacts identified at VAHR 7922-1297 (Tucker & MacCulloch, 2016, p. 83) .....	99
Table 11-4: Stone artefacts identified at VAHR 7922-1297 (Tucker & MacCulloch, 2016, p. 84) .....	100
Table 11-5: Stone artefacts identified at VAHR 7922-1311 (Tucker & MacCulloch, 2016) .....	102
Table 11-6: VAHR 7922-0255 artefact types .....	106
Table 11-7: Stone artefacts identified at VAHR 7922-1429 (Patton & Fiddian, 2016).....	111
Table 11-8: Stone artefacts identified at VAHR 7922-1299 (Freedman <i>et al.</i> , 2016) .....	126
Table 11-9: Stone artefacts identified at VAHR 7922-1300 (Freedman <i>et al.</i> , 2016) .....	127

## Figures

Figure 3-1 Overview of North East Link .....	5
Figure 5-1: Overview of assessment method.....	12
Figure 5-2: Study area for Aboriginal cultural heritage impact assessment .....	14
Figure 5-3: Risk-based approach.....	20
Figure 5-4: Registered Aboriginal Parties (RAPs) in the study area. The non-RAP area is indicated in the inset map. ....	25
Figure 6-1: Photomap of the study area.....	29
Figure 6-2: Geomorphological units in the study area.....	30
Figure 6-3: Geological units in the study area.....	31
Figure 6-4: Named waterways in the study area.....	32
Figure 6-5: Modelled 1750 Ecological Vegetation Classes (EVCs) in the study area .....	36
Figure 6-6: Map of the study area showing registered Aboriginal cultural heritage places .....	49
Figure 6-7: Map of the study area showing areas of cultural heritage sensitivity as detailed on ACHRIS .....	50
Figure 8-1: Impact assessment overview map.....	73
Figure 8-2: Impact assessment, M80 Ring Road to northern portal, Map 1 .....	74
Figure 8-3: Impact assessment, northern portal to southern portal, Map 1 .....	75
Figure 8-4: Impact assessment, northern portal to southern portal, Map 2.....	76
Figure 8-5: Impact assessment, northern portal to southern portal, Map 3.....	77
Figure 8-6: Impact assessment, northern portal to southern portal, Map 4.....	78
Figure 8-7: Impact assessment, northern portal to southern portal, Map 5.....	79
Figure 8-8: Impact assessment, Eastern Freeway, Map 1 .....	80
Figure 8-9: Impact assessment, Eastern Freeway, Map 2.....	81
Figure 8-10: Impact assessment, Eastern Freeway, Map 3.....	82
Figure 8-11: Impact assessment, Eastern Freeway, Map 4.....	83
Figure 8-12: Impact assessment, Eastern Freeway, Map 5.....	84

## Appendices

Appendix A	Aboriginal cultural heritage details.....	93
Appendix B	Risk assessment .....	135

# Executive summary

This technical report is an attachment to the North East Link Environment Effects Statement (EES). It has been used to inform the EES required for the project, and defines the Environmental Performance Requirements (EPRs) necessary to meet the EES objectives.

## Introduction

North East Link ('the project') is a proposed new freeway-standard road connection that would complete the missing link in Melbourne's ring road, giving the city a fully completed orbital connection for the first time. North East Link would connect the M80 Ring Road (otherwise known as the Metropolitan Ring Road) to the Eastern Freeway, and include works along the Eastern Freeway from near Hoddle Street to Springvale Road.

The Major Transport Infrastructure Authority (MTIA) is the proponent for North East Link. The MTIA is an administrative office within the Victorian Department of Transport with responsibility for overseeing major transport projects.

North East Link Project (NELP) is an organisation within MTIA that is responsible for developing and delivering North East Link. NELP is responsible for developing the reference project and coordinating development of the technical reports, engaging and informing stakeholders and the wider community, obtaining key planning and environmental approvals and coordinating procurement for construction and operation.

On 2 February 2018, the Minister for Planning declared North East Link to be 'public works' under Section 3(1) of the *Environment Effects Act 1978*, which was published in the *Victorian Government Gazette* on 6 February 2018 (No. S 38 Tuesday 6 February 2018). This declaration triggered the requirement for the preparation of an EES to inform the Minister's assessment of the project and the subsequent determinations of other decision-makers.

The EES was developed in consultation with the community and stakeholders and in parallel with the reference project development. The reference project has been assessed in this EES. The EES allows stakeholders to understand the likely environmental impacts of North East Link and how they are proposed to be managed.

Andrew Long and Associates was commissioned to undertake an Aboriginal cultural heritage impact assessment for the purposes of the EES.

## Aboriginal cultural heritage context

The scoping requirements for the EES issued by the Minister for Planning set out the specific environmental matters to be investigated and documented in the project's EES, which informs that scope of the EES technical studies. The scoping requirements include a set of evaluation objectives. These objectives identify the desired outcomes to be achieved in managing the potential impacts of constructing and operating the project.

The following evaluation objective is relevant to the Aboriginal cultural heritage assessment:

- To avoid or minimise adverse effects on Aboriginal and historical cultural heritage values.

A summary of the key assets, values or uses potential affected by the project and an assessment of the project's impacts on those assets, values and uses is set out below associated impacts assessment are summarised below.

## Background

This report provides an understanding of the known and previously unregistered Aboriginal cultural heritage within the North East Link study area. The purpose of this report is to present the results of the desktop and field assessment of Aboriginal cultural heritage values, and define the performance requirements necessary to minimise impacts on Aboriginal cultural heritage during construction and operation. The Cultural Heritage Management Plan (CHMP) which is currently being prepared, is the next step in the process of managing the impacts as identified in this assessment.

The Aboriginal cultural heritage assessment involved an assessment of construction activities, based on the reference project. For the purposes of this assessment, a 300-metre buffer has been applied to the CHMP activity area to act as a broad geographic region and to also act as a buffer to consider any nearby Aboriginal cultural places that may extend into the study area or may have been incorrectly mapped on the Victorian Aboriginal Heritage Register (VAHR). This report has assessed the impacts within this area.

With the exception of groundwater drawdown, no assessment of operations activities was undertaken on the basis that impacts on Aboriginal cultural heritage places and associated heritage values are confined to the design and construction of North East Link. Potential indirect impacts on heritage through groundwater drawdown have been considered.

## Methodology

The process to identify, analyse and evaluate potential project impacts involved:

- Establishing project context and the legislation and policy environment
- Establishing existing conditions and creating a predictive model
- Undertaking initial risk assessment
- Undertaking the impact assessment and identifying additional EPRs
- Reassessing the project impacts to determine residual risks
- Developing a list of recommended EPRs for the project.

## Key findings

The greatest risk to Aboriginal cultural heritage relates to the potential impacts on registered places and previously unregistered Aboriginal cultural heritage places during ground-disturbing works associated with the project's construction.

### M80 Ring Road to northern portal

Two previously registered heritage places would be impacted by works in the M80 Ring Road to northern portal element of North East Link. These places have been previously impacted by construction works associated with the M80 Ring Road upgrade but they remain registered places for the purposes of the *Aboriginal Heritage Act 2006*. These places would be impacted by further surface works at the M80 Ring Road interchange.

### Northern portal to southern portal

The majority of the tunnelled section of North East Link comprises construction activities at significant depth, below any potential impacts on previously registered or unregistered Aboriginal cultural heritage places. In the broadest terms there would be impacts on a registered Aboriginal place adjacent to the southern portal from potential ground improvement works and impacts on a further two places which comprise scarred trees within Simpson Barracks. An assessment of these trees has been undertaken in consultation with the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation (WWCHAC) and it has been determined the apparent scarring is not cultural in origin. A process has been initiated to have these trees removed from the Victorian Aboriginal Heritage Register.

Direct physical impacts on two local heritage places on the Manningham Heritage Overlay would also occur through direct construction impacts and or through the potential use of land for a construction compound and flood mitigation infrastructure. Bolin Bolin Billabong would be indirectly impacted due to groundwater drawdown. Impacts associated with groundwater drawdown would have localised impacts insofar as Aboriginal cultural heritage places are concerned. For example, a 0.1 to 0.5-metre reduction in water levels at Bolin Bolin Billabong is anticipated, although measures such as periodical filling and or topping could mitigate this impact. Melbourne Water are actively managing the hydrological regime of the billabong.

#### Eastern Freeway

Impacts on previously registered places would be limited in the Eastern Freeway element of the project and in most cases would involve impacts on places which have previously been impacted by earlier road construction for the Eastern Freeway. Three places identified during the preparation of the CHMP would likely be impacted by construction compounds and flood mitigation infrastructure.

One place, a scarred tree formerly believed to be located within the study area, has been identified to occur outside the study area and would not be impacted.

#### **Response**

The preparation of a standard and complex assessment as part of an approved CHMP will include a program of subsurface investigation to identify the nature, extent and significance of existing and potential Aboriginal cultural heritage in accordance with section 60 (1b) of the *Aboriginal Heritage Act 2006*. Testing areas for the complex assessment will be preferentially selected based on identification of areas with higher archaeological sensitivity and lower disturbance resulting from the preparation of site predictive models and consultation with the RAP with relevant stakeholder groups. An approved CHMP will also provide a process to manage any harm to Aboriginal cultural heritage by construction activities.

# Structure of the EES



# Abbreviations

ACHRIS	Aboriginal Cultural Heritage Register & Information System
BWF	Boon Wurrung Foundation Ltd
BP	Before present
BLCAC	Bunurong Land Council Aboriginal Corporation
CHMP	Cultural Heritage Management Plan
EES	Environment Effects Statement
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
MNES	matters of national environmental significance
MTIA	Major Transport Infrastructure Authority
NELP	North East Link Project
PER	Public Environment Report
RAP	Registered Aboriginal Party
VAHR	Victorian Aboriginal Heritage Register
WSUD	Water Sensitive Urban Design
WWCHAC	Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation
YWEC	Yaluk-Ut Weelam Elders Council



---

# 1.Introduction

## 1.1 Purpose of this report

North East Link ('the project') is a proposed new freeway-standard road connection that would complete the missing link in Melbourne's ring road, giving the city a fully completed orbital connection for the first time. North East Link would connect the M80 Ring Road (otherwise known as the Metropolitan Ring Road) to the Eastern Freeway and include works along the Eastern Freeway from near Hoddle Street to Springvale Road.

The Major Transport Infrastructure Authority (MTIA) is the proponent for North East Link. The MTIA is an administrative office within the Victorian Department of Transport with responsibility for overseeing major transport projects.

North East Link Project (NELP) is an organisation within MTIA that is responsible for developing and delivering North East Link. NELP is responsible for developing the reference project and coordinating development of the technical reports, engaging and informing stakeholders and the wider community, obtaining key planning and environmental approvals and coordinating procurement for construction and operation.

On 2 February 2018, the Minister declared the works proposed for North East Link as Public Works and issued a decision confirming that an Environment Effects Statement (EES) is required for the project due to the potential for significant environmental effects.

Similarly, the project was referred to the Australian Government's Department of the Environment and Energy on 17 January 2018. On 13 April 2018 the project was declared a 'controlled action', requiring assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999* ('EPBC Act'). Separate to this EES, a Public Environment Report (PER) is required to be prepared to satisfy the EPBC Act requirements and assess the impacts of the project on Commonwealth land and matters of national environmental significance (MNES).

The purpose of this report is to assess the potential Aboriginal cultural heritage impacts associated with North East Link of the EES required for the project.

## 1.2 Why understanding Aboriginal cultural heritage is important

Aboriginal cultural heritage places are generally of high value to the community and most specifically to the Aboriginal traditional owners within whose land these places occur. Aboriginal heritage places provide a connection between generations and help create a sense of belonging and interconnection between the landscape and past and current traditional owners. Aboriginal heritage places can speak to the momentous changes which have occurred since contact as well as to the continuities in cultural values and traditions which persist.

Construction of North East Link would involve activities that have the potential to impact Aboriginal cultural heritage. Management of these impacts is essential to ensure that only those impacts which are absolutely essential to the project are undertaken. The management of impacts would also allow the collection of scientific and cultural information from those places which would be impacted, to some degree mitigating the loss of these places.

## 2.EES scoping requirements

### 2.1 EES evaluation objectives

The scoping requirements for the EES issued by the Minister for Planning set out the specific environmental matters to be investigated and documented in the project's EES, which informs the scope of the EES technical studies. The scoping requirements include a set of evaluation objectives. These objectives identify the desired outcomes to be achieved in managing the potential impacts of constructing and operating the project.

The following evaluation objective is relevant to the Aboriginal cultural heritage assessment:

- To avoid or minimise adverse effects on Aboriginal and historical cultural heritage values.

### 2.2 EES scoping requirements

The aspects from the scoping requirements relevant to the Aboriginal cultural heritage evaluation objective is shown in Table 2-1, as well as the location where these items have been addressed in this report.

**Table 2-1: Scoping requirements relevant to Aboriginal cultural heritage**

Aspect	Scoping requirement	Section addressed
Key issues	<ul style="list-style-type: none"> <li>• Potential adverse effects on Aboriginal cultural heritage values.</li> </ul>	Existing conditions: Section 6
Priorities for characterising the existing environment	<ul style="list-style-type: none"> <li>• Review land use history, Aboriginal traditional knowledge, previous studies and relevant registers to identify areas with the potential for Aboriginal and historical cultural heritage values.</li> <li>• Identify Aboriginal cultural heritage sites and values that could be affected by the project.</li> <li>• Identify areas of Aboriginal cultural heritage sensitivity relevant to the project.</li> <li>• Investigate the condition and cultural heritage sensitivity of identified sites and heritage precincts.</li> <li>• Identify the extent, nature and significance of Aboriginal cultural heritage places that could be affected by the project.</li> </ul>	Existing conditions: Section 6
Design and mitigation measures	<ul style="list-style-type: none"> <li>• Describe design, management (harm avoidance and/or minimisation strategies) circumvent or mitigate potential adverse effects on known or potential Aboriginal cultural heritage or historical cultural heritage values.</li> </ul>	Impact assessment: Section 8
Assessment of likely effects	<ul style="list-style-type: none"> <li>• Assess residual effects of the project on identified or potential sites or places of Aboriginal cultural heritage and sites of historical cultural heritage, considering possible impact pathways and significance of any effects</li> </ul>	Impact assessment: Section 8
Approach to manage performance	<ul style="list-style-type: none"> <li>• Describe the environmental performance requirements to set Aboriginal cultural heritage or historical heritage outcomes that the project must achieve including ensuring implementation of the conditions outlined in the Cultural Heritage Management Plan (CHMP).</li> </ul>	Impact assessment: Section 8 Conclusion: Section 10

## 2.3 Linkages to other reports

This report relies on or informs the technical assessments as indicated in Table 2-2.

**Table 2-2: Linkages to other technical reports**

Specialist report	Relevance to this impact assessment
Technical report K – Historical heritage	Provides an assessment of historical heritage places and values within which there exist some overlap with Aboriginal heritage values.
Technical report G – Arboriculture	Provides an assessment of the impacts on trees including some trees within heritage places
Technical report Q – Ecology	Provides an assessment of potential impacts on trees and other vegetation including within heritage places
Technical report N – Groundwater	Provides an assessment of the potential impacts on groundwater resources

## 3. Project description

### 3.1 Overview

The North East Link alignment and its key elements assessed in the Environment Effects Statement (EES) include:

- **M80 Ring Road to the northern portal** – from the M80 Ring Road at Plenty Road, and the Greensborough Bypass at Plenty River Drive, North East Link would extend to the northern portal near Blamey Road utilising a mixture of above, below and at surface road sections. This would include new road interchanges at the M80 Ring Road and Grimshaw Street.
- **Northern portal to southern portal** – from the northern portal the road would transition into twin tunnels that would connect to Lower Plenty Road via a new interchange, before travelling under residential areas, Banyule Flats and the Yarra River to a new interchange at Manningham Road. The tunnels would then continue to the southern portal located south of the Veneto Club.
- **Eastern Freeway** – from around Hoddle Street in the west through to Springvale Road in the east, modifications to the Eastern Freeway would include widening to accommodate future traffic volumes and new dedicated bus lanes for the Doncaster Busway. There would also be a new interchange at Bulleen Road to connect North East Link to the Eastern Freeway.

These elements are illustrated in Figure 3-1.

The project would also improve existing bus services from Doncaster Road to Hoddle Street through the Doncaster Busway and as well as pedestrian connections with the bicycle network through connected shared use paths from the M80 Ring Road to the Eastern Freeway.

For a detailed description of the project, refer to EES Chapter 8 – Project description.

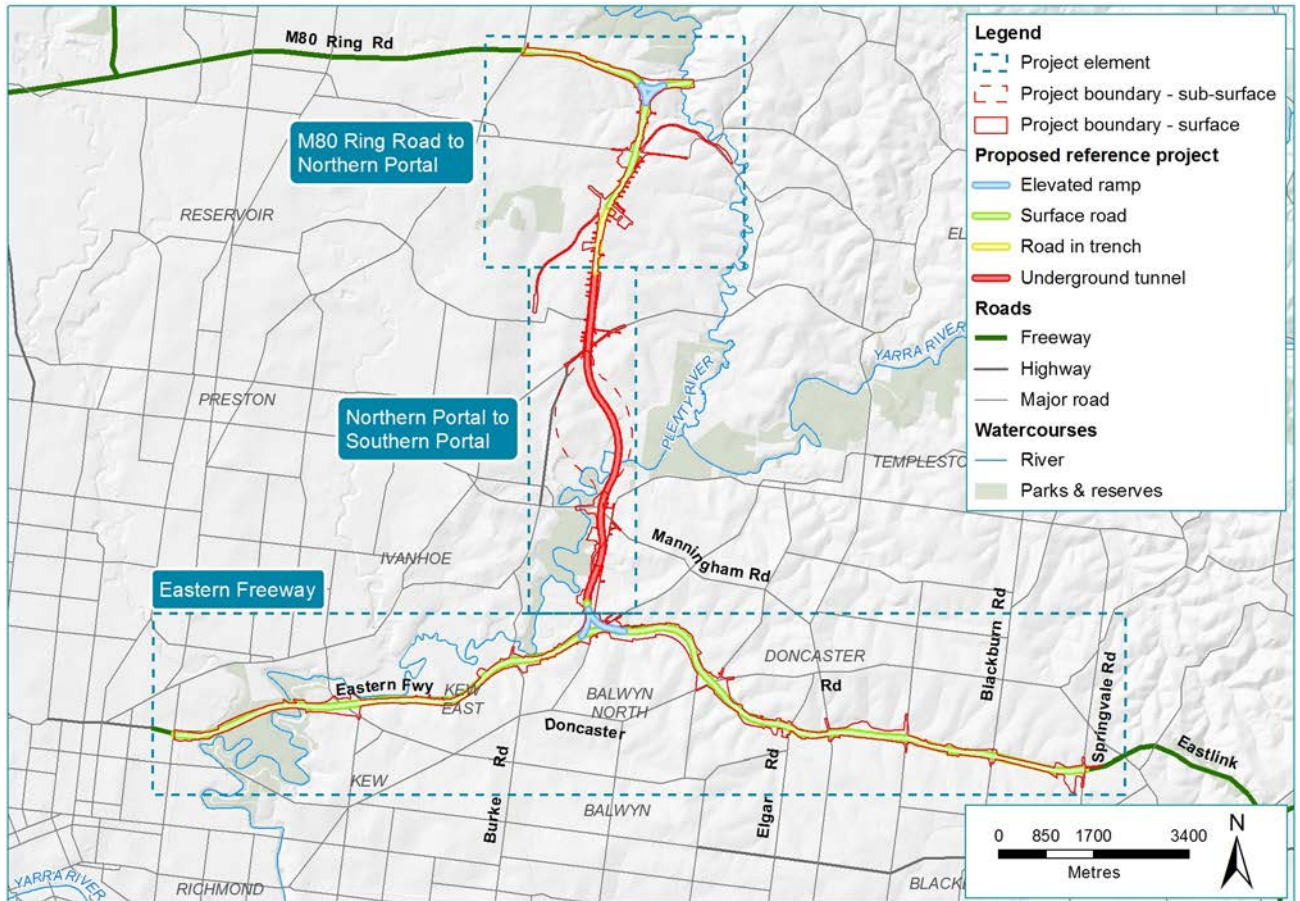


Figure 3-1 Overview of North East Link

### 3.2 Construction

Key construction activities for North East Link would include:

- General earthworks including topsoil removal, clearing and grubbing vegetation
- Relocation, adjustment or installation of new utility services
- Construction of retaining walls and diaphragm walls including piling
- Ground treatment to stabilise soils
- Tunnel portal and dive shaft construction
- Storage and removal of spoil
- Construction of cross passages, ventilation structures and access shafts
- Installation of drainage and water quality treatment facilities
- Installation of a Freeway Management System
- Tunnel construction using tunnel boring machines (TBMs), mining and cut and cover techniques
- Installation of noise barriers
- Restoration of surface areas.

### 3.3 Operation

Following construction of North East Link, the key operation phase activities would include:

- Operation and maintenance of new road infrastructure
- Operation and maintenance of Freeway Management System
- Operation of North East Link motorway control centre
- Operation and maintenance of the tunnel ventilation system
- Operation and maintenance of water treatment facilities
- Operation and maintenance of the motorways power supply (substations)
- Maintenance of landscaping and Water Sensitive Urban Design (WSUD) features.

### 3.4 Activities and design considerations relevant to Aboriginal cultural heritage

Aboriginal heritage artefacts and values are mostly likely to exist in areas previously undisturbed by a variety of activities associated with the urbanisation of much of the study area. Tunnelling has enabled key areas of Aboriginal cultural sensitivity to be avoided, such as the Yarra River and Banyule Flats. Bolin Bolin Billabong has been identified as a no-go zone which has allowed direct impacts on this important feature to be avoided (see Section 6.3). Overall impacts can be minimised by minimising the footprint of project and locating key project elements within previously disturbed areas. Along with potential direct physical impacts on Aboriginal cultural heritage from the project's construction, potential indirect impacts on heritage due to groundwater drawdown are also considered.

## 4. Legislation, policy, guidelines and criteria

### 4.1 Legislation, policy and guidelines

Numerous legislative, policy and guidance documents were found to be relevant to this Aboriginal cultural heritage impact assessment and are discussed further in this report. The key legislation, policy and guidelines that apply to the Aboriginal cultural heritage impact assessment for the project are summarised in Table 4-1. Further detail is provided in Section 4.2.

**Table 4-1: Key legislation and policy**

Legislation/ policy	Key policies/strategies	Implications for this project
<b>Commonwealth</b>		
Native Title Act 1993	To provide recognition and protection of native title for Aboriginal and Torres Strait Islanders.	Determining whether native title exists and compensation for acts affecting native title.
Environment Protection and Biodiversity Conservation Act ('EPBC Act')	<p>The Act provides for the protection of defined Matters of National Environmental Significance (MNES) including World Heritage Properties, National Heritage Places, Ramsar wetlands, nationally listed threatened species and ecological communities and listed migratory species.</p> <p>Details provisions for the protection of Aboriginal and non-Aboriginal cultural heritage places with national heritage value.</p>	<p>In January 2018, NELP submitted a referral to the Commonwealth Department of Environment and Energy (DoEE). On 13 April 2018, a delegate of the Minister for Environment and Energy decided that construction of North East Link is a controlled action under the EPBC Act</p> <p>NELP will be preparing a Public Environment Report (PER) to be assessed by DoEE.</p> <p>The DoEE have advised NELP that the following controlling provisions under the EPBC Act 1999 apply to the PER:</p> <ul style="list-style-type: none"> <li>• Listed threatened species and communities</li> <li>• Listed migratory species</li> <li>• Environment on Commonwealth lands.</li> </ul>
National Heritage List	Lists places of outstanding heritage significance to Australia protected under the EPBC Act.	Requires that approval be obtained before any action takes place that could have a significant impact on the national heritage values of a listed place.
<b>State</b>		
Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations 2018	The Act provides for the protection and management of Victoria's Aboriginal heritage with processes linked to the Victorian planning system. The <i>Regulations</i> set out the circumstances in which a Cultural Heritage Management Plan (CHMP) is required to be prepared, and the standards for the preparation of a CHMP	A CHMP is required if an Environment Effects Statement is required (Part 4 Div 2 s49)
Victorian Aboriginal Heritage Register (VAHR)	Established under the Act, holds the details of all registered Aboriginal cultural heritage places and objects within Victoria	Determine whether the project intersects with registered Aboriginal cultural heritage places

Legislation/ policy	Key policies/strategies	Implications for this project
Planning and Environment Act 1987 (Vic) ('Planning and Environment Act')	<p>Planning schemes of relevance to North East Link and Aboriginal cultural heritage are:</p> <ul style="list-style-type: none"> <li>• Banyule Planning Scheme</li> <li>• Boroondara Planning Scheme</li> <li>• Manningham Planning Scheme</li> <li>• Nillumbik Planning Scheme</li> <li>• Whitehorse Planning Scheme</li> <li>• Yarra Planning Scheme.</li> </ul>	<p>Planning approvals required for the project as detailed in Attachment V – Strategic Assessment Report</p>
Yarra River Protection (Wilip-gin Birrarung murrn) Act 2017 (Vic) ('Yarra River Protection (Wilip-gin Birrarung murrn) Act')	<p>The <i>Yarra River Protection (Wilip-gin Birrarung murrn) Act 2017</i> (Vic) provides an overarching policy and planning framework to coordinate and harmonise planning for the use, development and protection of the Yarra River, its parklands and other land in its vicinity. A purpose of the Act is to protect the Yarra River and the surrounding parcels of public land as one living and integrated natural entity. The Act also recognises the importance of the Yarra River, and its parklands and associated public places, to the economic prosperity, vitality and liveability of Melbourne and the Yarra Valley.</p> <p>The Act acknowledges Aboriginal cultural values, heritage and knowledge of Yarra River land and the importance of the role of traditional owners to be acknowledged through partnership and involvement in policy and decisions making (Part 2, section 12).</p> <p>The Yarra Strategic Plan being developed by Melbourne Water under the Act is required to have regard to the Yarra protection principles, including as related to heritage (<a href="https://www.melbournewater.com.au/about-us/our-customers/yarra-strategic-plan">https://www.melbournewater.com.au/about-us/our-customers/yarra-strategic-plan</a>). The Yarra Strategic Plan is also required to 'recognise and protect Aboriginal tangible and intangible cultural values and other cultural and heritage values (Section 21(d)).</p>	<p>The Act provides for the preparation of a Yarra Strategic Plan in accordance with Yarra Protection Principles to guide future use and development, and areas for protection within the Yarra corridor. An exemption from the provisions of the Act applies for projects declared under the <i>Major Transport Projects Facilitation Act 2009</i> (Vic) (including North East Link). However, NELP has considered the long-term community vision within the Yarra Strategic Plan, and has had regard to the Yarra Protection Principles set out in the Act.</p> <p>One of the directions of the Yarra Strategic Plan is a requirement for a land use framework plan – to create the spatial structure for future use and development and identifies areas for protection. The Yarra River – Bulleen Precinct Land Use Framework Plan is currently in preparation and NELP has been consulted in this process.</p> <p>Other actions stemming from the Action Plan include:</p> <ul style="list-style-type: none"> <li>• The restoration of natural water inflow regimes to and rehabilitation of the Bolin Billabong and environs</li> <li>• Development of the Abbotsford River Structure Plan</li> <li>• Promotion and protection of cultural and heritage values.</li> </ul>

## 4.2 Legislation

This section summarises the key legislation that applies to the Aboriginal cultural heritage impact assessment.

### 4.2.1 Commonwealth legislation

#### Native Title Act 1993

The purpose of the *Native Title Act 1993* is to recognise and protect native title for Aboriginal and Torres Strait Islanders. Essentially, this Act covers:

- Acts affecting native title
- Determining whether native title exists and compensation for actions affecting native title.

The kinds of acts affecting native title are:

- Past acts (mainly acts done before this Act's commencement on 1 January 1994 that were invalid because of native title)
- Future acts (mainly acts done after this Act's commencement that either validly affect native title or are invalid because of native title).

#### Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* ('EPBC Act') details provisions for the protection of Aboriginal and non-Aboriginal cultural heritage places with national heritage value. Places protected under the Act are registered on the National Heritage List, Commonwealth Heritage List or the World Heritage List and include natural, historic and Aboriginal places of outstanding heritage value.

### 4.2.2 State legislation

#### Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations 2018

The Victorian *Aboriginal Heritage Act 2006* forms the framework within which Aboriginal heritage assessment is undertaken in Victoria. The Act provides for the protection and management of Victoria's Aboriginal heritage with processes linked to the Victorian planning system. Cultural Heritage Management Plans (CHMPs) and Cultural Heritage Permits (CHPs) are processes to manage activities that may harm Aboriginal cultural heritage. The Aboriginal Heritage Regulations 2018 set out the circumstances in which a CHMP is required to be prepared, and the standards for the preparation of a CHMP. The regulations also prescribe standards and set fees and charges for CHMP evaluation.

The Aboriginal Heritage Act recognises Aboriginal people as the primary guardians, keepers and knowledge holders of Aboriginal cultural heritage. Registered Aboriginal Parties (RAPs) are Aboriginal organisations recognised under the Act with responsibilities for the management and protection of Aboriginal cultural heritage. At the time of writing this report there was one RAP within the study area, the WWCHAC. The WWCHAC is the RAP for the majority of the project area.

There is a small section of land at the western end of the study area, south of the Eastern Freeway at Yarra Bend Park which is outside the RAP area, as shown in Figure 5-4 at the end of Section 5 of this report. There is currently a single RAP Application from the Bunurong Land Council Aboriginal Corporation (BLCAC) for that part of the study area outside the WWCHAC RAP area. Traditional Owner Groups<sup>1</sup> with a stated interest in the study area also include the WWCHAC and the Boon Wurrung Foundation Ltd (BWF).

The triggers and issues which would affect the study area in relation to the Aboriginal Heritage Act and Aboriginal Heritage Regulations include:

#### When is a cultural heritage management plan (CHMP) required?

A CHMP is required if an Environment Effects Statement is required (Part 4 Div 2 s49) –

- (1) This section applies if a proponent or other person is required to prepare an *Environment Effects Statement under the Environment Effects Act 1978* in respect of any works.
- (2) The proponent or other person must, before commencing the works, also prepare a cultural heritage management plan for the area in which the works are to be carried out.
- (3) In this section—

‘Environment Effects Statement’ and ‘proponent’ have the same meanings as in the Environment Effects Act

‘works’ includes ‘public works’ within the meaning of the Environment Effects Act.

#### **Victorian Aboriginal Heritage Register (VAHR) listings**

The VAHR established under the *Aboriginal Heritage Act 2006* holds the details of all registered Aboriginal cultural heritage places and objects within Victoria, including their location and description. The Register also holds information of each RAP, their area of responsibility and contact details.

Section 5 of the Aboriginal Heritage Act defines an Aboriginal place as:

#### What is an Aboriginal place?

- (1) For the purposes of this Act, an Aboriginal place is an area in Victoria or the coastal waters of Victoria that is of cultural heritage significance to the Aboriginal people of Victoria.
- (2) For the purposes of sub-section (1), ‘area’ includes any one or more of the following—
  - (a) an area of land
  - (b) an expanse of water
  - (c) a natural feature, formation or landscape
  - (d) an archaeological site, feature or deposit
  - (e) the area immediately surrounding anything referred to in paragraphs (c) and (d), to the extent that it cannot be separated from the thing without diminishing or destroying the cultural heritage significance attached to the thing by Aboriginal people
  - (f) land set aside for the purpose of enabling Aboriginal human remains to be re-interred or otherwise deposited on a permanent basis
  - (g) a building or structure.

<sup>1</sup> <http://www.dpc.vic.gov.au/index.php/aboriginal-affairs/registered-aboriginal-parties/applications-currently-before-council> (accessed on 10 October, 2018). RAP applications relating to the current project area by these four groups have been declined by the Victorian Aboriginal Heritage Council (VAHC). In their determination, the VAHC acknowledged these groups as representing Traditional Owners.

### Traditional Owner Settlement Act 2010

The purpose of the *Traditional Owner Settlement Act 2010* is to advance reconciliation and promote good relations between the State and traditional owners and to recognise traditional owner groups based on their traditional and cultural associations to certain land in Victoria. This includes recognising traditional owner rights and conferring rights on traditional owner groups in relation to access to, ownership or management of certain public land. Additionally, the act provides for decision making rights and other rights that may be exercised in relation to the use and development of land or natural resources on land.

## **4.3 Aboriginal cultural heritage criteria**

### **4.3.1 Construction criteria**

The majority of potential impacts on Aboriginal cultural heritage would occur during the project's construction, and so the impact assessment focused on that phase. The Aboriginal cultural heritage study is largely driven by clear statutory controls which essentially afford an equal level of protection for Aboriginal cultural heritage places of all types. That being said, a relative significance scale based on community expectations and place type and frequency of occurrence has informed the assessment.

### **4.3.2 Operational criteria**

The operation of North East Link is not expected to impact Aboriginal cultural heritage impacts. As such, only limited consideration has been given to the potential for impacts to occur once North East Link is open. The principal exception to this is the potential for delayed and indirect impacts associated with groundwater drawdown which has the potential to impact particular Aboriginal cultural heritage place types. These impacts have been considered as part of the assessment. Any impacts from groundwater drawdown would be a continuation of an impact that would have started during the project's construction.

## 5.Method

### 5.1 Overview of method

This section describes the method that was used to assess the potential impacts of North East Link. A risk-based approach was applied to prioritise the key issues for assessment and inform measures to avoid, minimise and offset potential effects. Figure 5-1 shows an overview of the assessment method.

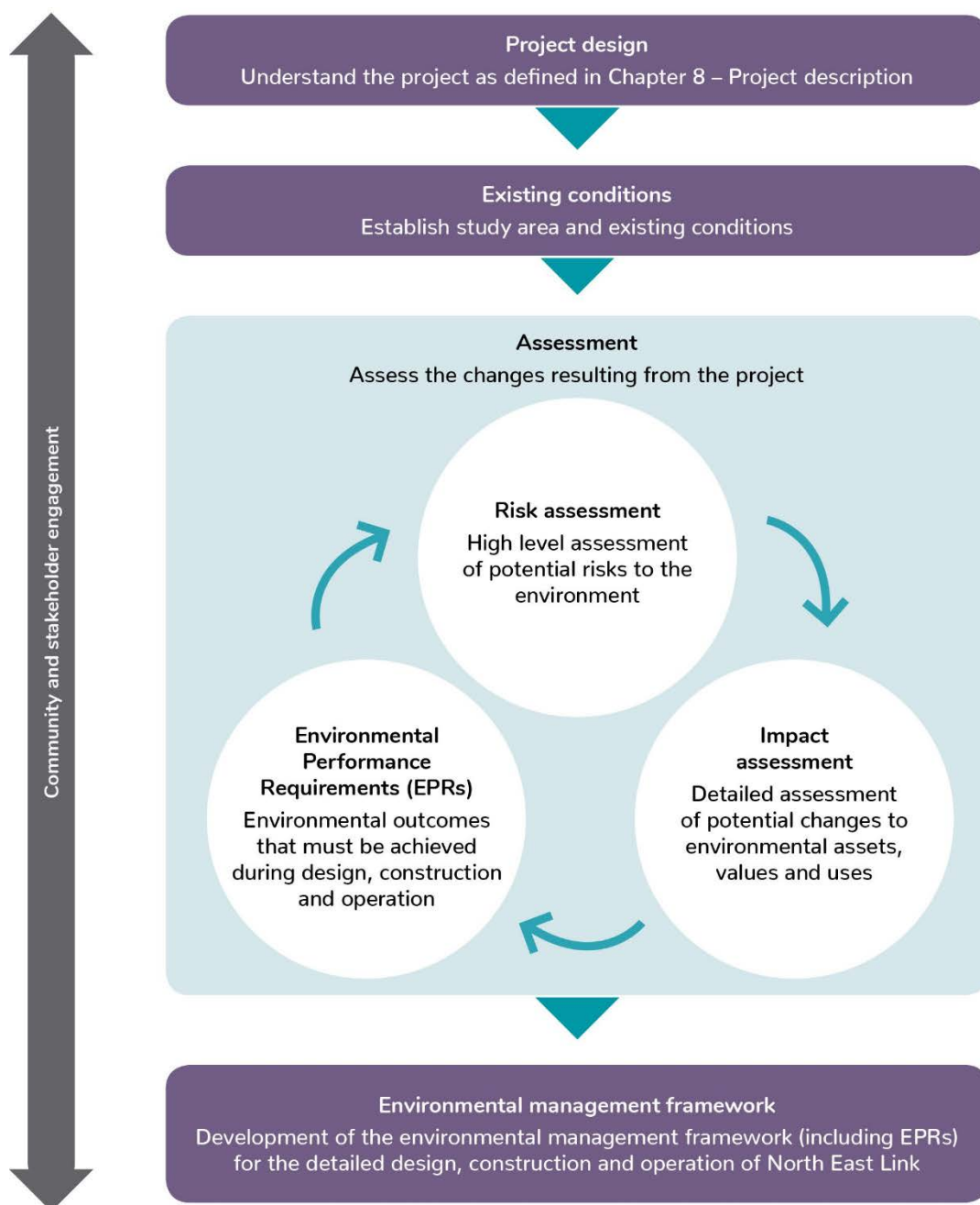
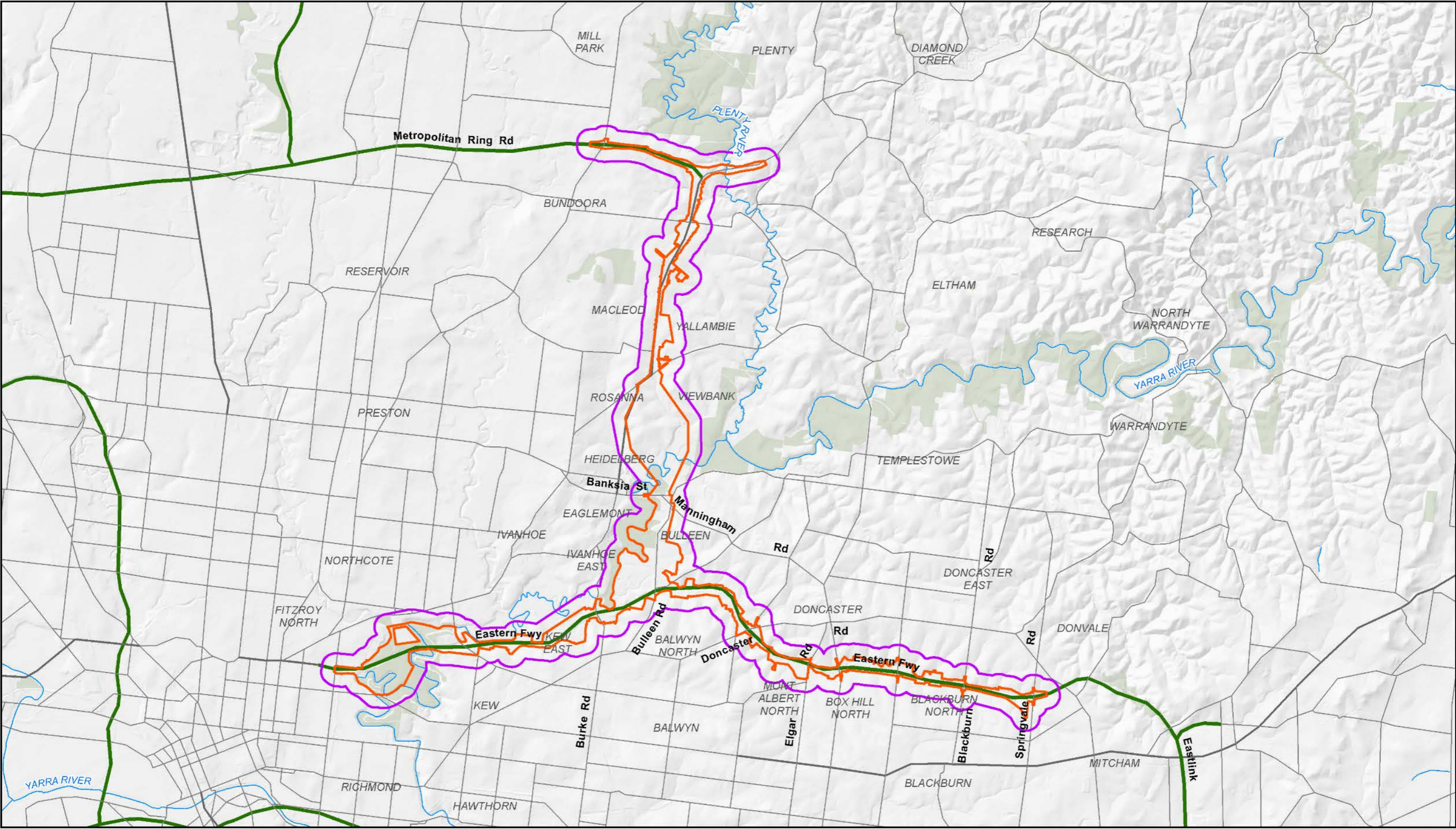


Figure 5-1: Overview of assessment method

The following sections outline the method adopted for the Aboriginal cultural heritage impact assessment.

## **5.2 Study area**

The study area for the Aboriginal heritage impact assessment is based on the project area established by NELP for the reference project. A 300-metre buffer has been added to the project area to act as a broad geographic region for the preparation of this assessment and the Cultural Heritage Management Plan (CHMP). The study area is shown in Figure 5-2. The report has assessed impacts within this area.



## 5.3 Existing conditions

### 5.3.1 A review of the landforms or geomorphology

The geographic context of the study area provides an understanding of the possible resources available to Aboriginal people before European contact. In addition, this provides information as to whether natural environmental processes such as weathering of land surfaces may have impacted Aboriginal cultural heritage.

### 5.3.2 Historical environment

The environmental context of the study area and the possible resources available to Aboriginal people before European contact provides an understanding of what parts of the study area may have served as a focus for Aboriginal use and occupation. A review of environmental datasets was undertaken to provide insight into the environment utilised by hunter-gather groups within the region.

### 5.3.3 Heritage register search

A review of the relevant registers is necessary to identify known heritage and characterise heritage site types and locations likely to be present within the study area. The review undertaken included examination of the following registers:

- Victorian Aboriginal Heritage Register (Aboriginal Victoria)
- Victorian Aboriginal Heritage Register Supplementary Lists – Aboriginal Historic Places and Action File (Aboriginal Victoria)
- National Heritage List (Australia).

A search was undertaken of the Australian National Heritage List and the VAHR, accessed through the Aboriginal Cultural Heritage Register & Information System (ACHRIS) on 7 March, 2018.

### 5.3.4 A review of historical and ethnohistorical accounts of Aboriginal occupation in the region

A review of available ethnohistorical and historical information relating to Aboriginal people in the study region assists in formulating a model of Aboriginal subsistence and occupation patterns in the study area. In conjunction with an analysis of the documented archaeological record of the region, the ethnohistorical information also assists in the interpretation of archaeological sites in the wider area, and in predicting the potential location of archaeological site types within the study area.

### 5.3.5 Review of reports about Aboriginal cultural heritage – regional studies

Previous archaeological regional studies assist in characterising the general pattern of archaeological site distribution across a broad regional environment. The reports that have been reviewed are listed in Table 5-1.

**Table 5-1 Review of reports about Aboriginal cultural heritage – regional studies**

Report title
Archaeological survey, Yarra Valley area (Witter and Upcher, 1977)
The Melbourne Metropolitan Area archaeological study (Presland, 1983)
Merri Creek Parklands Archaeological survey (Hall, 1989)
The Lower Plenty River Archaeological Survey (Weaver, 1991)
City of Doncaster and Templestowe Archaeological Survey (Ellender, 1991)
Aboriginal Archaeological Sensitivities Study of the Waterways and Floodplains Greater Melbourne (du Cros and Rhodes, 1998)

### 5.3.6 Review of reports about Aboriginal cultural heritage – local studies

A series of local studies have been reviewed to assist with understanding the level of previous archaeological investigation of the study area and to characterise the likely archaeological and cultural heritage values. The reports that have been reviewed are listed in Table 5-2.

**Table 5-2: Review of reports about Aboriginal cultural heritage – local studies**

CHMP/Report ID	Title and author
3738	M1048 Watermain Replacement, Watsonia to Yallambie (Matic, 2006)
10702	Rehabilitation works at Koonung Creek Lower, Bulleen (Ricardi, et al., 2009)
11068	Four-lot subdivision at 60 Buckingham Drive, Heidelberg (Hyett, 2010)
10252	Wurundjeri Spur, Yarra Bend Park (Howell-Meurs, 2010)
11088	Dights Falls CHMP (Berelov et al., 2010)
11606	Yarra Bend Park Main Yarra Trail (Berelov et al., 2011)
11708	71 Banyule Road, Rosanna, Multi-Unit Development (Barker, 2011a)
11262	Kew North Branch Sewer Upgrade and North Yarra Main Sewer Replacement (Barker, 2011b)
11990	6 Borlase Street Yallambie (O'Connor, 2012)
11713	Water Treatment, Harvesting and Redistribution Project at the Bolin Bolin Billabong and Wetlands (Freedman et al., 2012)
12723	East West link Eastern Section (Howell-Meurs, Walker & Lever, 2014)
13286	Alphington Sewer Project Additional Works – Sewer Reticulation, Chandler Highway, Kew (Chamberlain, 2014)
14116	Residential Development, 314 Lower Plenty Road, Rosanna (Patton & Fiddian, 2016)
14148	Residential Subdivision, 8 Maleela Grove, Rosanna (Falvey, 2016)
12190	Darebin/Yarra Trail Link (Stage 3) (Jones, 2016)
13793	Yarra Valley Country Club Bulleen (Berelov & Vines, 2016)
12190	M80 Upgrade, Greensborough Highway interchange to Plenty Road (Tucker & MacCulloch, 2016)
14445	North Eastern Program – Initial works package for the Level Crossing Removal Authority (Spry & Green, 2017)
14563	Banyule Flats Reserve, Banyule (Green & Albrecht 2017, in prep.)
15455	69-71 Banyule Road, Rosanna, Residential Subdivision (Welsh & Janson, 2018)
15156	19-35 Graham Road, Viewbank, Residential Development
15457	Yarra Bend Park, Kew, Pole Replacement Works
14598	Six dwellings, 27-29 Brindy Crescent, Doncaster East (Burch, 2017)
14677	Mountain View Road Balwyn North (Matic, 2017)

### 5.3.7 Land use history

Land use activities have the potential to significantly affect the preservation and condition of surface and subsurface archaeological deposits. A review of the land use history provided an overview of the key periods of European activity in the study area and the impacts of these developments had on ground surfaces. This report has relied on information provided in Appendix C of Technical report K – Historical heritage.

#### 5.3.8 Site survey and preliminary archaeological potential rating

A formal standard assessment as part of the preparation of the CHMP is in preparation. The field work program is guided by consultation with the Registered Aboriginal Party representing the primary approval authority for this piece of work. Initial survey in select locations commenced in April 2018 with a total of six days of standard assessment currently completed. Observations were made at numerous points within the study area where vehicle or pedestrian access was attainable. The inspections undertaken to date provide a broad overview of the study area.

The aims of the field survey were:

- To undertake a general assessment of the archaeological sensitivity and level of ground disturbance and thereby determine the archaeological potential across the study area
- To inspect a sample of the study area through pedestrian survey and at these locations to examine areas with ground surface visibility for Aboriginal archaeological sites within the study area
- To characterise parts of the study area through a vehicle survey
- Involve representatives of the RAP and provide an opportunity to discuss any broader cultural values or oral information relating to the study area.

The field survey methodology has been determined by the need to examine the study area and confirm the results of the desktop assessment. Given the large size and urban nature of much of the study area it is not possible or necessary to undertake a comprehensive pedestrian survey of the entire study area. The field survey was undertaken by both systematic pedestrian transects that were generally walked and supplemented by vehicle survey/reconnaissance.

Where pedestrian survey occurred, each member of the field team was spaced approximately two metres apart. This spacing enabled each individual to examine all surface exposures within the study area in accordance with archaeological practice outlined in Burke & Smith (2004, pp 65-69).

Pedestrian spacing was sufficient to identify any areas of significant ground exposure. According to regulation 63 (3) of the Aboriginal Heritage Regulations, which stipulates what a standard assessment must include, where pedestrian survey occurred, the field survey involved the examination for potential mature trees, caves, rock shelter or cave entrances within the study area. There were occasional mature eucalyptus trees growing within the accessed part of the study area and these were all inspected for cultural scarring, with no previously unregistered culturally scarred trees identified to date.

Detailed information in relation to these assessments will be available in the CHMP.

#### Archaeological potential rating (APR)

The preliminary archaeological potential rating (APR) indicates the relative likelihood for archaeological deposits to occur within the study area, given the intensity of Aboriginal use of the landscape and the probability that any evidence is likely to have survived past and current land uses.

The APR is based on a combination of the archaeological sensitivity rating (from low to high) and the disturbance rating (from high to none – with the ratings values sequence reversed, as shown in Table 5-3. Archaeological sensitivity ratings range from negligible (0.5) to high (5) and were based on a variety of factors including proximity to water, landform (geology and geomorphology), elevation, slope, modelled 1750 Ecological Vegetation Classes, the presence or absence of known Aboriginal cultural heritage and feedback provided by the RAP.

Disturbance ratings considered the results of the desktop assessment, an assessment of historical aerial images and observations of ground conditions during the standard assessment and Dial Before You Dig results and were based on a range from complete/very high (0.5) to very low (5). The resulting values for each of these ratings were multiplied to determine an investigation area with an associated overall ARP.

The disturbance rating is particularly useful when considering the likelihood of the presence of *in situ* archaeological deposits. It is important to note that archaeological sites (especially stone artefact sites) can survive a variety of impacts from prior land use activities with only their structure and condition affected rather than the artefact content.

**Table 5-3: Archaeological sensitivity and disturbance ratings**

Archaeological sensitivity	Rating	Disturbance
Low	1	High
Low-moderate	2	Moderate-high
Moderate	3	Moderate
Moderate-high	4	Low
High	5	None

The resultant values of the archaeological sensitivity and disturbance ratings are multiplied to achieve an overall APR for the study area, provided in Table 5-4.

**Table 5-4: APR scale**

APR rating	Archaeological sensitivity and disturbance value
Low	0-6
Low-moderate	>6 – 8
Moderate	>8 – 12
Moderate-high	>12 – 15
High	>15 – 25

The development of the APR is still in process in parallel with the completion of the standard assessment (field survey). Detailed information in relation to these assessments will be available in the CHMP and will inform the complex assessment.

### 5.3.9 Subsurface investigation

Subsurface investigation is currently being undertaken as part of the CHMP in a number of locations throughout the study area and where consultation with the RAP has indicated the potential for Aboriginal cultural heritage.

Although still in preparation the specific aims of the subsurface testing program are:

1. Initially establish the stratigraphy through controlled hand-excavation
2. Determine the presence/absence of subsurface archaeological deposits and gather more information on the nature of soil deposits through a program of test pits
3. Conduct a detailed analysis of all Aboriginal cultural heritage material collected from subsurface excavations
4. Determine the nature and significance of any identified Aboriginal cultural heritage places
5. Determine the extent of any identified Aboriginal cultural heritage places within the study area, through the targeted excavation of test pits (phase 2 testing)

### Archaeological excavation method

Archaeological testing as part of the complex assessment (currently being undertaken) involves the excavation of pits measuring 1 X 1 metre and 0.5 x 0.5 metre.

Detailed information in relation to this assessment and any future subsurface testing will be available in the CHMP.

## 5.4 Risk assessment

An environmental risk assessment has been completed to identify environmental risks associated with construction and operation of North East Link. The risk-based approach is integral to the EES as required by section 3.1 of the Scoping Requirements and the *Ministerial guidelines for assessment of the environmental effects under the Environment Effects Act 1978*.

Specifically the EES risk assessment aimed to:

- Systematically identify the interactions between project elements and activities and assets, values and uses
- Focus the impact assessment and enable differentiation of significant and high risks and impacts from lower risks and impacts
- Inform development of the reference project to avoid, mitigate and manage environmental impacts
- Inform development of EPRs that set the minimum outcomes necessary to avoid, mitigate or manage environmental impacts and reduce environmental risks during delivery of the project.

This section presents an overview of the EES risk assessment process. EES Attachment III Environmental risk report describes each step in the risk assessment process in more detail and contains a consolidated risk register.

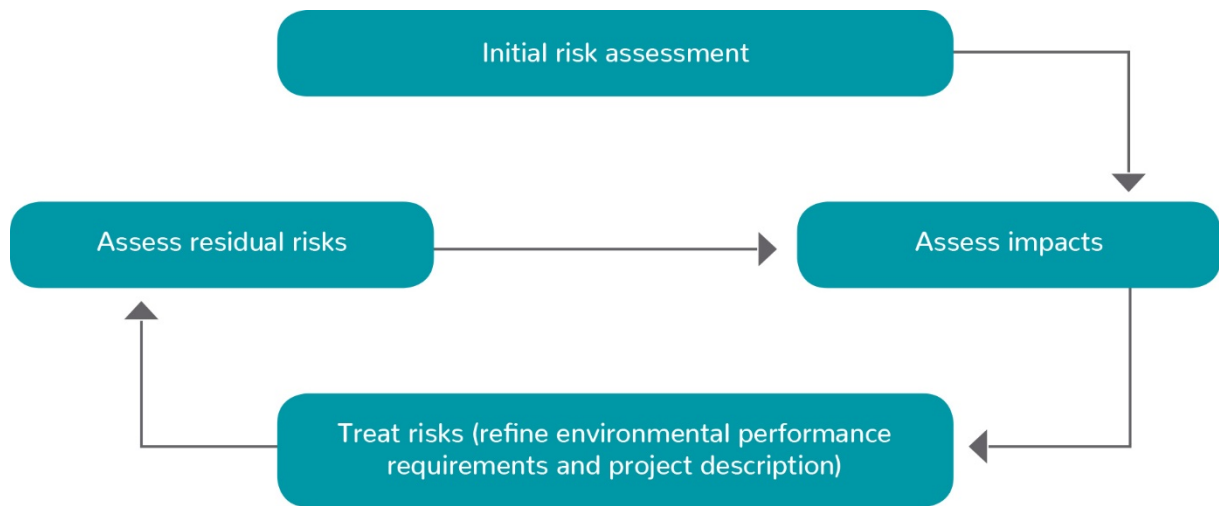
This technical report describes the risks associated with the project on Aboriginal cultural heritage. Wherever risks relating to this study are referred to, the terminology 'risk AH01' is used. Wherever EPRs relating to this study are referred to, the terminology 'EPR AH1' is used. The risk assessment completed for this study is provided as Appendix B.

### 5.4.1 Risk assessment process

The risk assessment process adopted for North East Link is consistent with AS/NZS ISO 31000:2009 Risk Management Process. The following tasks were undertaken to identify, analyse and evaluate risks:

- Use existing conditions and identify applicable legislation and policy to establish the context for the risk assessment
- Develop likelihood and consequence criteria and a risk matrix
- Consider construction and operational activities in the context of existing conditions to determine risk pathways
- Identify standard controls and requirements (Environmental Performance Requirements (EPRs)) to mitigate identified risks
- Assign likelihood and consequence ratings for each risk to determine risk ratings considering design, proposed activities and standard EPRs.

While there are clear steps in the risk process, it does not follow a linear progression and requires multiple iterations of risk ratings, pathways and EPRs as the technical assessments progress. Demonstrating this evolution, a set of initial and residual risk ratings and EPRs are produced for all technical reports. Figure 5-3 shows this process.



**Figure 5-3: Risk-based approach**

### Rating risk

Risk ratings were assessed by considering the consequence and likelihood of an event occurring. In assessing the consequence, the extent, severity and duration of the risks were considered. These are discussed below.

### Assigning the consequences of risks

‘Consequence’ refers to the maximum credible outcome of an event affecting an asset, value or use. Consequence criteria as presented in Chapter 4 – EES assessment framework, were developed for the North East Link EES to enable a consistent assessment of consequence across the range of potential environmental effects. Consequence criteria were assigned based on the maximum credible consequence of the risk pathway occurring. Where there was uncertainty or incomplete information, a conservative assessment was made on the basis of the maximum credible consequence.

Consequence criteria have been developed to consider the following characteristics:

- Extent of impact
- Severity of impact
- Duration of threat.

Severity has been assigned a greater weighting than extent and duration as this is considered the most important characteristic.

Each risk pathway was assigned a value for each of the three characteristics, which were added together to provide an overall consequence rating.

Further detail on the consequence criteria are provided in Chapter 4 – EES assessment framework.

### Assigning the likelihood of risk

Likelihood’ refers to the chance of an event happening and the maximum credible consequence occurring from that event. The likelihood criteria are presented in Table 5-5.

**Table 5-5: Likelihood of an event occurring**

Planned	The event is certain to occur
Almost certain	The event is almost certain to occur one or more times a year
Likely	The event is likely to occur several times within a five-year timeframe
Possible	The event may occur once within a five-year timeframe
Unlikely	The event may occur under unusual circumstances but is not expected (ie once within a 20-year timeframe)
Rare	The event is very unlikely to occur but may occur in exceptional circumstances (ie once within a 100-year timeframe)

### Risk matrix and risk rating

Risk levels were assessed using the matrix presented in Table 5-6.

**Table 5-6: Risk matrix**

Likelihood	Consequence				
	Negligible	Minor	Moderate	Major	Severe
Rare	Very low	Very low	Low	Medium	Medium
Unlikely	Very low	Low	Low	Medium	High
Possible	Low	Low	Medium	High	High
Likely	Low	Medium	Medium	High	Very high
Almost certain	Low	Medium	High	Very high	Very high
Planned	Planned (negligible consequence)	Planned (minor consequence)	Planned (moderate consequence)	Planned (major consequence)	Planned (severe consequence)

### Planned events

North East Link would result in some planned events, being events with outcomes that are certain to occur (ie planned impacts such as land acquisition), as distinct from risk events where the chance of the event occurring and its consequence is uncertain. Although planned events are not risks, these were still documented in the risk register as part of Attachment III – Risk report for completeness and assigned a consequence level in order to enable issues requiring further assessment or treatment to be prioritised.

These planned events were assessed further through the impact assessment process.

### Risk evaluation and treatment

The risk assessment process was used as a screening tool to prioritise potential impacts and the subsequent level of assessment undertaken as part of the impact assessment. For example, an issue that was given a risk level of medium or above, or was identified as a planned event with a consequence of minor or above, would go through a more thorough impact assessment process than a low risk.

Where initial risk ratings were found to be 'medium' or higher, or were planned events with a consequence of 'minor' or higher, options for additional or modified EPRs or design changes were considered where practicable. It should be noted that the consequence ratings presented in the risk register are solely based on the consequence criteria presented in Attachment III – Risk report. Further analysis and evaluation of the impacts potentially arising from both risks and planned events and information on how these would be managed is provided in Section 8.

## 5.5 Impact assessment

### 5.5.1 Construction assessment method

This study has assessed the potential Aboriginal cultural heritage impacts during construction of the project on the assets and values to be protected.

Impact assessment included the following:

- Review of the reference project
- Identifying impacts on Aboriginal places
- Identifying EPRs to define the performance outcomes to be achieved to avoid, minimise or mitigate impacts.

An impact assessment was undertaken for all places where it was considered there would be the potential for an impact associated with the project.

### 5.5.2 Operation assessment method

Once the project was operating there may be potential impacts on Aboriginal cultural heritage places due to ongoing changes to groundwater conditions. Impacts associated with groundwater drawdown have been considered as part of the assessment.

## 5.6 Rationale

The Aboriginal cultural heritage assessment has been undertaken in accordance with the scoping requirements and accordingly, is focused on identifying the potential adverse effects of North East Link on Aboriginal cultural heritage values.

Consistent with the scoping requirements, the focus of the research and fieldwork for existing conditions has been on identifying and reviewing registered places of Aboriginal cultural heritage value that are 'potentially affected' (scoping requirements, priorities for characterising the existing environment). No fieldwork has been undertaken within the sections of the study area where tunnel boring machines (TBMs) would be used to construct the tunnels as there would be no direct impact on Aboriginal cultural heritage within these areas. For example, the Banyule Flats and Heide Museum of Modern Art were not subject to field work as there would be no surface impacts in these areas. Moreover, these locations have been designated as no-go zones for the project (where surface works are not permitted). It should be noted that tunnel portals have been considered as locations for field assessment due to the potential for surface impacts on Aboriginal cultural heritage.

## 5.7 Limitations, uncertainties and assumptions

The Aboriginal cultural heritage study has involved a combination of desktop investigations, stakeholder consultation historical research and fieldwork.

The following limitations, uncertainties and assumptions are identified:

### 5.7.1 Fieldwork

As previously noted, a mandatory Cultural Heritage Management Plan (CHMP) is being prepared for North East Link. Due to the size and complexity of the project, this process is a lengthy and iterative one. As such, at this point in time fieldwork for the CHMP is ongoing and so assessment results of fieldwork have not been included in this study. However, it should be noted that where the CHMP assessment has identified Aboriginal cultural heritage, these results have been incorporated into the impact assessment.

### 5.7.2 Other technical specialist assessments

The principal issue relating to assessments by other technical specialists in relation to potential impacts of tunnelling works is the issue of groundwater drawdown. Groundwater drawdown may impact vegetation, including Aboriginal scarred trees. These impacts have been considered as part of the assessment.

## 5.8 Additional information

The CHMP currently being prepared is the next step in the process of managing the impacts identified in this assessment. As a part of the CHMP process, consultation with the primary stakeholder for the study area, the WWCHAC is ongoing. The CHMP involves standard assessment (field survey) and complex assessment (sub-surface testing) undertaken across the CHMP activity area.

Running parallel to the CHMP is a cultural values mapping exercise which will provide for a greater appreciation of Aboriginal cultural heritage values in addition to those values more formally covered by the relevant legislative framework. This cultural values mapping exercise is being undertaken with WWCHAC and is ongoing. The outcomes of the cultural values mapping may be sensitive to Wurundjeri and as such, the use and public availability of information would be subject to the consent of WWCHAC.

## 5.9 Stakeholder engagement

Stakeholders and the community were consulted to support the preparation of the North East Link EES and to inform the development of the project and understanding of its potential impacts. Consultation with the RAP, the WWCHAC is ongoing as an integral component of the preparation of the CHMP. This ongoing consultation has fed directly into the preparation of this assessment. Consultation with Aboriginal Victoria has fed directly into the preparation of this assessment and the preparation of the CHMP.

Figure 5-4 shows the RAP area for the WWCHAC in relation to the study area.

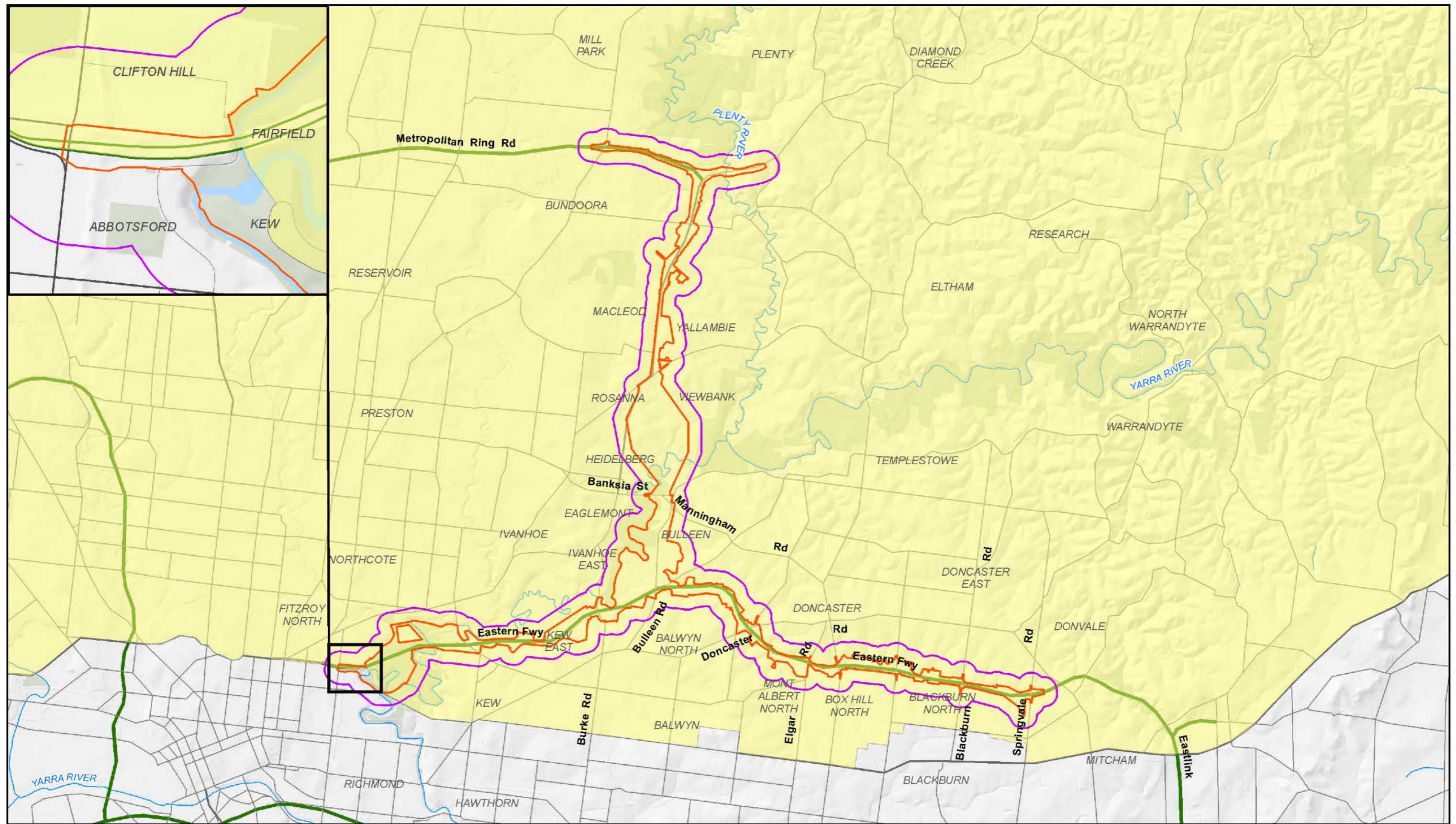
To date fieldwork has only occurred with the WWCHAC. The WWCHAC supplied representatives for both the standard and complex assessments. These representatives were present and were consulted during the field assessment. This consultation took the form of informal discussions that were undertaken throughout the standard and complex assessments of the CHMP. These discussions included consultation in relation to the testing methodology and the testing results, as well as issues relating to any oral history information known about the geographic region. Feedback received during community consultation sessions is summarised in 5.10.

## 5.10 Community feedback

In addition to consultation outlined in Section 5.9, consultation has been ongoing with the community throughout the design development and the EES process. Feedback relevant to the Aboriginal cultural heritage assessment is summarised in Table 5-7 along with where and how these topics have been addressed in this report.

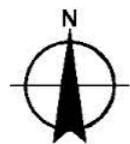
**Table 5-7: Community consultation feedback addressed by Aboriginal cultural heritage**

Issues raised during community consultation	How it's been addressed
Requests for NELP to consult with Traditional Owners.	<p>NELP has engaged with Wurundjeri during the planning, project planning, development and design through briefings, meetings, site visits and membership of the TRG.</p> <p>As the project is almost entirely on Wurundjeri Country, approval of the CHMP will be required from WWCHAC and Aboriginal Victoria. Work has been ongoing throughout 2018 and 2019 on standard and complex assessments for the CHMP.</p> <p>In addition, a series of workshops and field visits with Wurundjeri Elders have been undertaken for the cultural values mapping exercise for the project and to prepare the project's Urban Design Strategy.</p> <p>This work has informed this Aboriginal cultural heritage assessment, CHMP and EES Attachment II – Urban Design Strategy.</p>
Concerns about temporary impacts on Bolin Bolin Billabong from tunnelling.	Potential indirect impacts on heritage through groundwater drawdown have been considered and are discussed in Section 8.2.
Requests to celebrate Aboriginal culture in the project design such as through incorporating sculptural elements into tunnel and other structures.	Oral and written information collected as part of the CHMP and cultural values mapping exercise, and the preparation of this report has informed the project's Urban Design Strategy. This includes performance requirements and benchmarks to guide the contractor in the design of project elements.
Requests for Bolin Bolin Billabong and the surrounding area to be better managed including through topping water levels up, new native planting and better weed management.	<p>Melbourne Water is currently undertaking a program of works in partnership with Parks Victoria, Manningham City Council and Wurundjeri to undertake major rehabilitation works at Bolin Bolin Billabong, improving its ecological health for future generations.</p> <p>Further information is provided at &lt;<a href="https://www.melbournewater.com.au/what-we-are-doing/works-and-projects-near-me/all-projects/bolin-bolin-billabong-rehabilitation">https://www.melbournewater.com.au/what-we-are-doing/works-and-projects-near-me/all-projects/bolin-bolin-billabong-rehabilitation</a>&gt;</p>



Paper Size A4  
0 750 1,500 3,000  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



#### Legend

- Study area
- Activity area
- Wurundjeri RAP area
- Highway
- Major road
- Watercourses
- River
- Roads
- Freeway
- Parks & reserves



North East Link Project  
Environment Effects Statement (EES)

Job Number 31-35006  
Revision B  
Date 26/02/2019

Registered Aboriginal Parties (RAPs)  
in the study area

Figure 5-4

## 6. Existing conditions

It is important to understand the geographic and environmental context of the study area to gain a better understanding of the possible resources available to Aboriginal people and European settlers which may have influenced past human activity. This information also assists in determining the degree to which environmental such as natural erosion of landforms as well as human processes such as land clearance and cultivation have impacted Aboriginal cultural heritage places.

For the purposes of this report, the study area has been defined as an approximate 300-metre radial buffer centred on the activity area of the Cultural Heritage Management Plan (CHMP). This area also doubles as the geographic region for the CHMP. This region neatly captures the dominant topographic features and underlying geological formations relevant to North East Link, as well as a number of Aboriginal cultural heritage places and historical references. It is deemed sufficient to adequately capture information relating to relevant landforms, geology and soils, fauna and flora, and past evidence for Aboriginal occupation relating to the study areas, including all relevant Aboriginal cultural heritage place types.

The existing conditions of the assets, values and uses being considered throughout this assessment are described in the following sections.

### 6.1 A review of landforms or geomorphology

The study area shown in Figure 6-1. It is predominantly located within the Victorian Eastern Uplands geomorphic land system and contains three dominant geomorphological units listed in Table 6-1 and Table 6-2 and shown in Figure 6-2:

- Terraces, fans and floodplains (1.3.3)<sup>2</sup> associated with the major waterways
- Low relief landscapes at low elevation (1.3.1) associated with the southern portion of the study area
- Moderately dissected ridge and valley landscapes associates with the northern part of the study area (1.4.5).

A small section of the study area is also located in the Western Uplands geomorphic land system, and includes a small section of the following geomorphological unit:

- Stony rises (Mt. Eccles, Pomborneit, Mt. Rouse) (6.1.2).

<sup>2</sup> Victorian Geomorphological Framework (VGF) –  
<[http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/landform\\_geomorphological\\_framework](http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/landform_geomorphological_framework)>

**Table 6-1: Geomorphological units within the activity area**

Geomorphology		
GMU	Area (sqm)	% area
1.4.3: Escarpments, gorges (Mt. Buffalo escarpment/gorge, Erinundra escarpment; Genoa, Mitchell, Moroka gorges and Snowy River gorges)	27,216	0.22
1.3.3: Terraces, fans and floodplains (Kiewa Valley, Wonnangatta Valley)	4,498,716	36.75
6.1.2: Stony rises (Mt. Eccles, Pomboineit, Mt. Rouse)	516,908	4.22
1.4.5: Moderately dissected ridge and valley landscapes (Alexandra, Yea, Baranduda)	3,373,572	27.56
1.3.1: Low relief landscapes at low elevation (Cann River south, Silvan, Templestowe)	3824445	31.24
<b>Grand total</b>	<b>12,240,857</b>	<b>100.00</b>

**Table 6-2: Geomorphological units within the study area**

Geomorphology		
GMU	Area (sqm)	% area
1.4.3: Escarpments, gorges (Mt. Buffalo escarpment/gorge, Erinundra escarpment; Genoa, Mitchell, Moroka gorges and Snowy River gorges)	493,961	1.41
1.3.3: Terraces, fans and floodplains (Kiewa Valley, Wonnangatta Valley)	7,899,404.	22.57
6.1.2: Stony rises (Mt. Eccles, Pomboineit, Mt. Rouse)	1,879,042	5.37
1.4.5: Moderately dissected ridge and valley landscapes (Alexandra, Yea, Baranduda)	10,879,461	31.09
1.3.1: Low relief landscapes at low elevation (Cann River south, Silvan, Templestowe)	13,842,306	39.56
<b>Grand total</b>	<b>34,994,174</b>	<b>100.00</b>

There are three dominant geological units within the study area, which are listed in Table 6-3 and Table 6-4 and shown in Figure 6-3:

- Quaternary alluvium (Qa1) sediments are associated with the major waterways. Alluvium deposits are located in active larger channels and floodplains and comprise unconsolidated deposits of poorly to moderately sorted silt, sand, and gravel (Doelling & Ross, 1988)
- Melbourne Formation (Sxm) sedimentary deposits of mudstone and very fine-grained sandstone associated with the north, west and centre-east of the study area
- Anderson Creek Formation (Sxa) a marine mudstone (deposited during fast flow currents).

**Table 6-3: Geological units within the activity area**

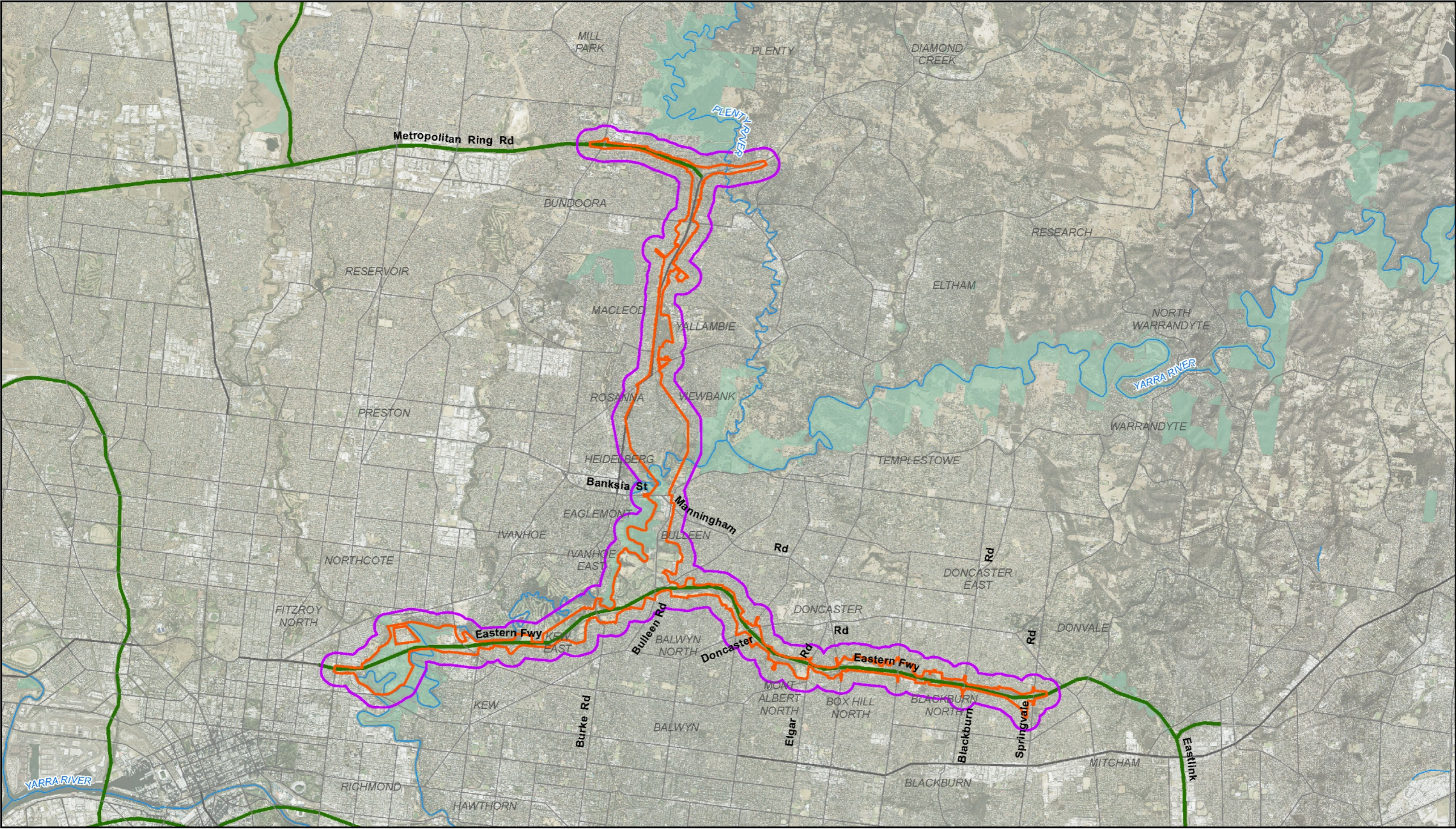
Geology 1:50K		
Geological unit	Area (sqm)	% area
Colluvium (Qc1)	1,213,628	9.91
Melbourne Formation (Sxm)	3,111,282	25.42
Red Bluff Sandstone (Nbr)	196,392	1.60
Anderson Creek Formation (Sxa)	2,386,073	19.49
Alluvial terrace deposits (Qa2)	55,076	0.45
Newer Volcanic Group – basalt flows (Neo)	620,959	5.07
Alluvium (Qa1)	4,415,023	36.07
Greensborough Basalt (Nug)	151,032	1.23
Sub-basaltic sediments (Nxp): Sediments under Miocene basalts	91,393	0.75
<b>Grand total</b>	<b>12,240,857</b>	<b>100.00</b>

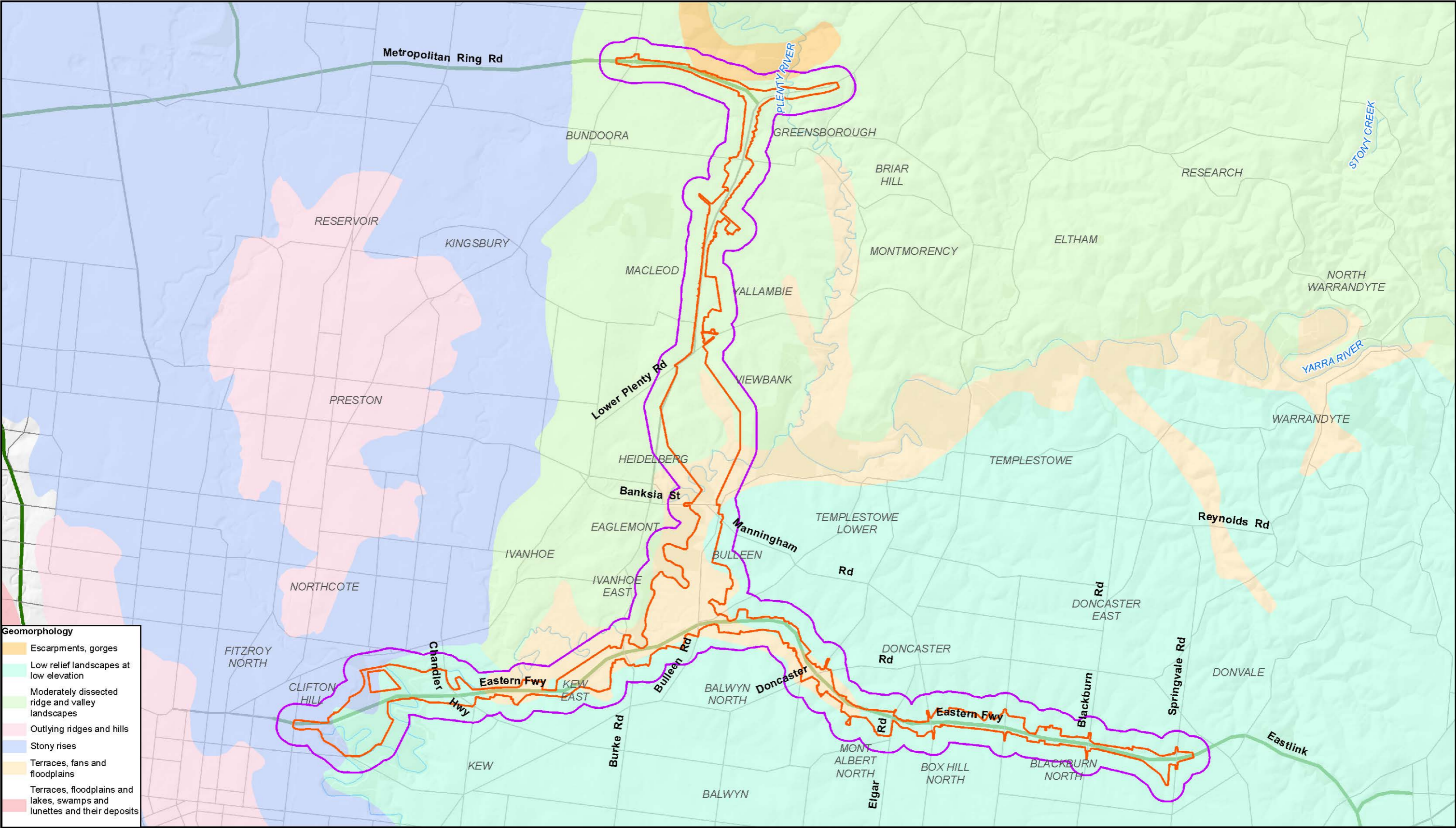
**Table 6-4: Geological units within the study area**

Geology 1:50K		
Geological unit	Area (sqm)	% area
Newer Volcanic Group – stony rises basalt (Neo2)	18,844	0.05
Colluvium (Qc1)	1,973,052	5.64
Melbourne Formation (Sxm)	10,947,014	31.28
Red Bluff Sandstone (Nbr)	303,785	0.87
Anderson Creek Formation (Sxa)	10,491,109	29.98
Alluvial terrace deposits (Qa2)	152,661	0.44
Newer Volcanic Group – basalt flows (Neo)	2,114,958	6.04
Alluvium (Qa1)	7,615,759	21.76
Greensborough Basalt (Nug)	933,496	2.67
Sub-basaltic sediments (Nxp): Sediments under Miocene basalts	443,496	1.27
<b>Grand total</b>	<b>34,994,174</b>	<b>100.00</b>

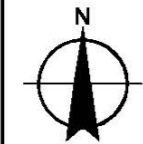
The study area includes or intersects with a number of waterways including:

- Yarra River
- Merri Creek
- Koonung Creek
- Banyule Creek
- Plenty River, shown in Figure 6-4.





Paper Size A4  
0 625 1,250 2,500  
Metres  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55

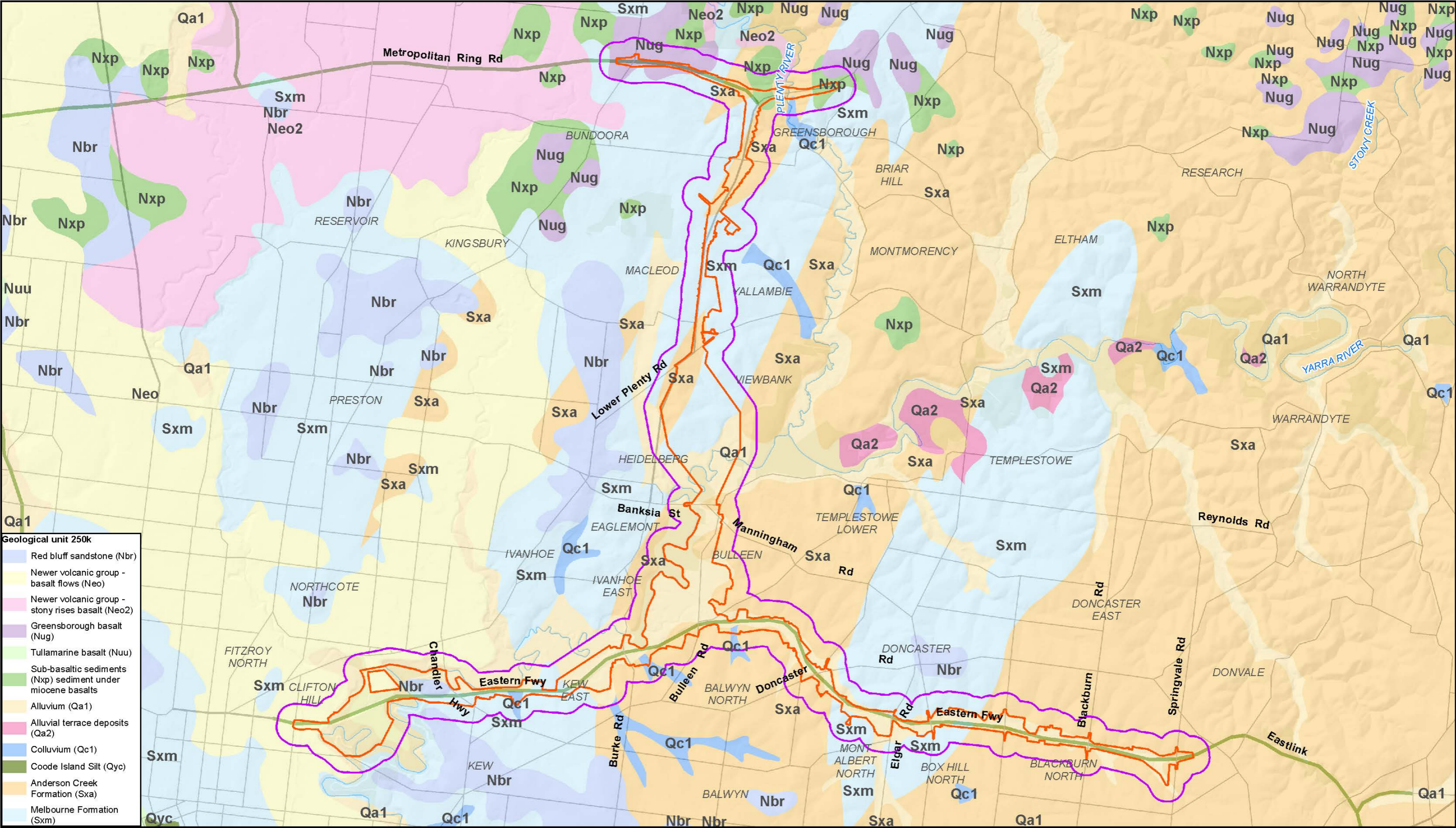


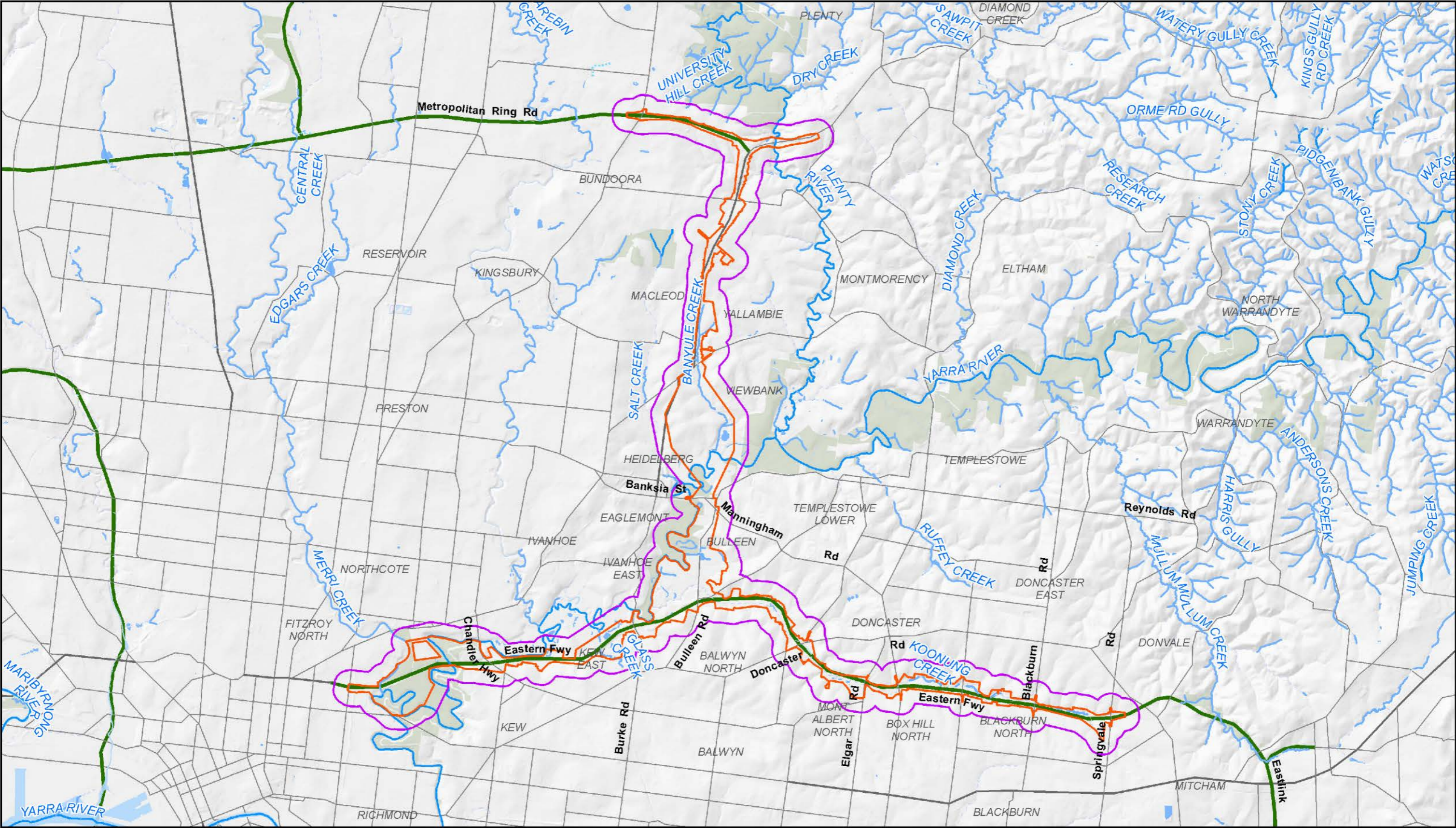
**Legend**  
Study area  
Activity area  
Roads  
Freeway  
Highway  
Major road  
Watercourses  
River  
Parks & reserves



North East Link Project  
Environment Effects Statement (EES)  
Job Number 31-35006  
Revision C  
Date 27/02/2019

Geomorphological units in the study area **Figure 6-2**





## 6.2 Historical environment

### 6.2.1 Environment

This section describes the general context to the environment of the current study area.

The climate of Australia has altered and fluctuated since the time of earliest human occupation within the Pleistocene period around 40,000-60,000 years ago. The Pleistocene period is conventionally dated from two million to 10,000 years ago (Mulvaney & Kamminga, 1999, 103; Aguirre & Pasini, 1985; Lourens, 2008, 239). During the Pleistocene, lower sea levels were present across Australia, and the southern coastline extended southwards, connecting Tasmania to the Australian mainland (Cosgrove, 1999, 362). During the Late Pleistocene to Early Holocene (Holocene period generally dates from around 10,000 years ago to the present day, Mulvaney and Kamminga, 1999, p 103) sea levels began to rise in response to post-glacial marine transgression resulting from the melting of Late Pleistocene ice sheets (Lambeck & Nakada, 1990, p 143). This rise in sea levels separated Tasmania from the mainland and reduced the Australian coastline. Victorian sea levels stabilised and reached modern levels before around 6,000 years BP (Lambeck & Nakada, 1990, 149).

During the period of Aboriginal occupation of the Melbourne region, the climatic conditions varied greatly regarding temperature and rainfall levels. During the Last Glacial Maximum of the Pleistocene period (21,000-15,000 years BP), temperatures were approximately 6-10 degrees lower than today (Mulvaney & Kamminga 1999, 116). During the late Pleistocene period, there was less rainfall and less precipitation throughout the continent, reducing the woodland forest areas of southern Australia and resulting in a predominance of grasslands. Within this time, there is evidence for dry/shallow lakes with conditions likely to have been too dry to support swamp or open-water environments (Bowler, 1981, 436-437; Aitken & Kershaw, 1993, 76). The inland of Australia was characterised by arid and dry conditions and it is likely that Aboriginal people during this period would have experienced severe drought. Within southern Victoria these climatic conditions generally discouraged tree growth, although some trees survived in particularly sheltered and watered areas (Mulvaney & Kamminga, 1999, 116).

In the late Pleistocene to early Holocene (around 12,000-9,000 BP), warmer temperatures and increased precipitation resulted in the expansion of woodland and forest areas dominated by Eucalypts (Aitken & Kershaw, 1993, 67). During this time, the Tadpole Swamp (now located within the Cranbourne botanic gardens) was formed, possibly supported directly by precipitation or, as is more likely, a rise in the regional water table caused by wetter conditions (Aitken & Kershaw, 1993, 76). At Tadpole Swamp, pollen and charcoal sample analysis of sediment cores indicate that permanent wet conditions in the Cranbourne area were in existence after 8,500BP. The highest moisture levels occurred between 7,000 and 5,000 years ago as evidenced by the expansion of wet sclerophyll taxon *Pomaderris* in the understorey (Aitken & Kershaw, 1993, 77). Similar peaks in *Pomaderris* also occurred in data from the Gippsland Lakes and with the period of highest lake levels in the volcanic crater lakes from the Western Plains (Aitken & Kershaw, 1993, 77; Kershaw *et al.*, 2004, 154).

The analysis from Cranbourne also displays the fluctuating environmental conditions of the Holocene, with data indicating that after 5,000 years ago, vegetation in the Cranbourne area became more diverse with an increased representation of understorey vegetation relating to *Eucalyptus* (& and Kershaw, 1993, 78). Aitken & Kershaw suggest that it is likely that the eucalypt canopy became more open with an understorey mosaic of heath, bracken and grassland, possibly resulting from climatic variability with lower rainfall experienced in the Late Holocene, and the possible result of increased burning indicated by relatively high levels of charcoal (Aitken & Kershaw, 1993, 78). Palaeoecological studies of the Gippsland Lakes also indicate that lower levels of moisture were available during the late Holocene, with fluctuating fresh water conditions experienced at Lake Wellington (Reid, 1989, 48). Data from crater lakes in south western Victoria also show a decline in water levels during the mid-Holocene, with a more substantive decline after approximately 5,000 years, and water levels oscillating perhaps a result of fluctuating temperatures until the later Holocene from around 1.8-1.3 thousand years ago (Wilkins *et al.*, 2013, 8, 10). Aitken & Kershaw's investigations at Cranbourne also highlight vegetation changes during the period of European occupation, with analysis from Tiger Snake Swamp within the Cranbourne botanic gardens revealing the addition of exotic vegetation including pines, docks and sorrels, plantains and asters/daisies, and an increase in shrub understories of woodland vegetation or the replacement of woodlands by shrubland and heath vegetation (Aitken & Kershaw, 1993, 78). This general increase in grasses is partially a response to vegetation clearance activities, with bracken and *Casuarina* showing a marked decline.

#### 6.2.2 Modelled pre-1750 vegetation of the study area

The modelled pre-1750 vegetation of the study area provides insight into the environment utilised by hunter-gather groups within the region, and the resources available prior to European land clearance and development. Modelled 1750 EVCs are listed in Table 6-5 and shown in Figure 6-5. The 1750s EVCs within the study area are dominated by Plains woodlands or forests (37.32 per cent), Riverine Grassy Woodlands or Forests (31.33 per cent), Dry Forests (14.54 per cent) and Riparian Scrubs or Swampy Scrubs and Woodlands (12.51 per cent).

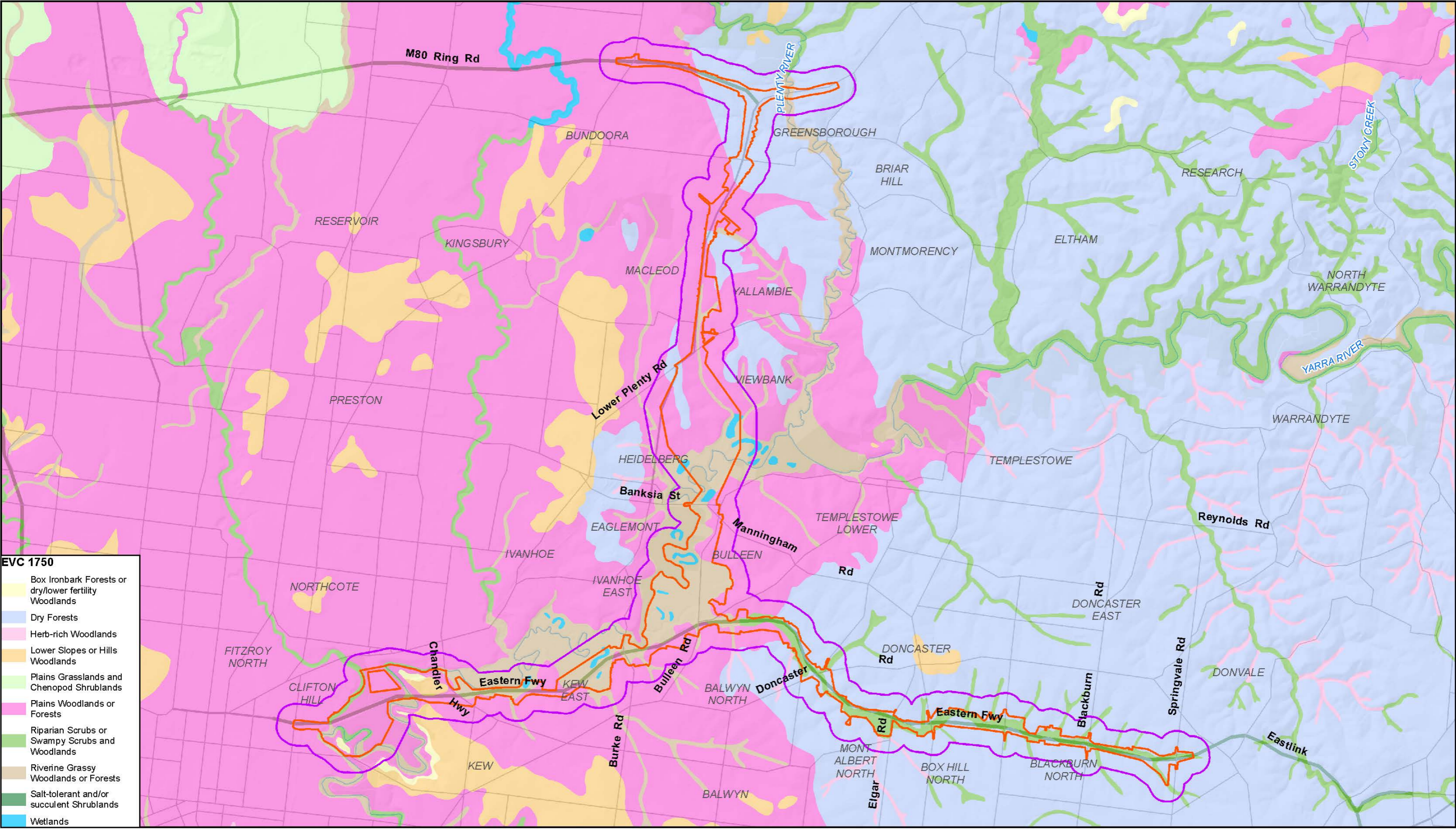
Aboriginal occupation often focused on waterways and areas adjacent to water sources, including swamps. These areas would have provided a wide range of food and material resources for Aboriginal people. The study area contains a number of water sources, including major water courses such as the Yarra River, Plenty River and major creeks such as Merri Creek, sections of Darebin Creek and Salt Creek. These water sources would have contained a variety of food and medicinal resources that would have been utilised by Aboriginal people. The resources would have included aquatic birds, fish, eels and supporting animals such as kangaroos, wallabies and emu.

John Helder Wedge explored and surveyed lands purchased by the Port Phillip Association and studied at land around Plenty River in the east, and the lower reaches of the Yarra River (Forster, 1968, 3). Wedge noted that wildlife in the more open country included emus and kangaroos with wild ducks, geese, cranes and black swans as well as wild native dogs around the swamps and water courses. Wedge also noted that Aboriginal people utilised the following native foods: kangaroos, kangaroo rat, fish, edible roots from various plants, black swans, ducks, birds and various reptiles including snakes (Forster, 1968, 3-4).

Water rushes and marsh vegetation as well as plant-food resources important to Aboriginal people would have grown in nearby watercourses and swamps. The rivers, creeks, lagoons and swamp areas, would have supported various species of fish, eel, frogs, tortoises and other aquatic species as well as various birds, kangaroos, wallabies, wombat, possums and emu inhabiting the plains of the wider geographic region. Plants were used for non-culinary purposes; such as making nets, baskets, and ornaments. Grasses such as Kangaroo Grass (*Themeda triandra*), were used in the manufacture of fishing nets (Zola & Gott, 1992, 58), while tussock grass fibres were used to make string for bags, baskets and mats.

**Table 6-5: Modelled 1750 EVCs within the activity area**

1750 EVCs				
EVC group name	EVC	EVC name	Area (sqm)	% area
Box Ironbark Forests or dry/ lower fertility Woodlands	<b>Total</b>		<b>118,049</b>	<b>0.34</b>
	61	Box Ironbark Forest	118,049	0.34
Dry Forests	<b>Total</b>		<b>10,491,339</b>	<b>29.98</b>
	22	Grassy Dry Forest	2,295,151	6.56
	47	Valley Grassy Forest	3,364,687	9.61
	127	Valley Heathy Forest	4,831,501	13.81
Herb-rich Woodlands	<b>Total</b>		<b>72,080</b>	<b>0.21</b>
	164	Creekline Herb-rich Woodland	72,080	0.21
Lower Slopes or Hills Woodlands	<b>Total</b>		<b>253,969</b>	<b>0.73</b>
	175	Grassy Woodland	253,969	0.73
Plains Woodlands or Forests	<b>Total</b>		<b>14,567,696</b>	<b>41.63</b>
	55	Plains Grassy Woodland	14,433,697	41.25
	895	Escarpment Shrubland	134,005	0.38
Riparian Scrubs or Swampy Scrubs and Woodlands	<b>Total</b>		<b>2,168,940</b>	<b>6.20</b>
	18	Riparian Forest	7,390	0.02
	126	Swampy Riparian Complex	1,667,261	4.76
	641	Riparian Woodland	156,473	0.45
	851	Stream Bank Shrubland	145,944	0.42
	937	Swampy Woodland	191,872	0.55
Riverine Grassy Woodlands or Forests	<b>Total</b>		<b>6,942,828</b>	<b>19.84</b>
	56	Floodplain Riparian Woodland	6,430,468	18.38
	68	Creekline Grassy Woodland	512,360	1.46
Wetlands	<b>Total</b>		<b>379,273</b>	<b>1.08</b>
	172	Floodplain Wetland Aggregate	379,273	1.08
<b>Grand total</b>			<b>34,994,174</b>	<b>100.00</b>



- EVC 1750**
- Box Ironbark Forests or dry/lower fertility Woodlands
  - Dry Forests
  - Herb-rich Woodlands
  - Lower Slopes or Hills Woodlands
  - Plains Grasslands and Chenopod Shrublands
  - Plains Woodlands or Forests
  - Riparian Scrubs or Swampy Scrubs and Woodlands
  - Riverine Grassy Woodlands or Forests
  - Salt-tolerant and/or succulent Shrublands
  - Wetlands

Paper Size A4

0 625 1,250 2,500

Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55

**Legend**

- Study area
- Activity area
- Watercourses
- Roads
- Freeway
- Highway
- Major road
- River
- Parks & reserves

North East Link Project  
Environment Effects Statement (EES)

Job Number 31-35006  
Revision C  
Date 27/02/2019

Modelled 1750 Ecological Vegetation  
Classes (EVCs) in the study area

**Figure 6-5**

### 6.3 Review of historical and ethnohistorical accounts of Aboriginal occupation in the region

Archaeological evidence within the Melbourne metropolitan region suggests an extensive history of human occupation dating at least over 31,000 years Before Present (BP). The Keilor archaeological area, located approximately 16 kilometres north-west of Melbourne (and outside the study area), lies near the confluence of the Maribyrnong River and Dry Creek. Contained within the site are Aboriginal stone artefacts of the Australian Small Tool tradition (no older than 5-6000 y.a.) overlying deeper deposits containing older technological classes and a myriad of megafauna remains. The stratigraphic profile of the site is reflective of gradual geomorphological and fluvial processes that have shaped the area over thousands of years and is divisible into four distinct depositional layers: the Ploughzone; overlying Doutta Galla Silt (Keilor Terrace); overlying D Clay (Arundel Terrace); overlying ODCA (Arundel Terrace) (Duncan, 2001). The river terraces formed by these processes were clearly important to the human occupants in the area, as demonstrated by the wealth of archaeological material uncovered within the site.

Radiometric dating has elucidated this evidence of human occupation in the area as one of the oldest in Victoria. The Keilor archaeological site is most famously known for the discovery of a human cranium in 1940 during quarrying works in the area, the dating of which was calculated to be around 14,700 BP, via the utilisation of radiocarbon dating and flourine-phosphate analysis.<sup>3</sup> Radiocarbon dates of charcoal samples obtained from hearths within the Doutta Galla Silt depositional layer revealed a date of 13,300 +1100/-900 BP (Munro, 1997, 30), demonstrating at least a Late Pleistocene occupation of the area. These dates have been pushed back even further with radiocarbon dating of D Clay (Arundel Terrace) deposits containing lithic artefacts illustrating dates of 31,600 + 1100 -1300 BP (Gallus, 1983). The dates obtained from river terrace deposits in Keilor are some of the oldest documented evidences of the antiquity of human occupation within Victoria.

The lives of Aboriginal groups in the Melbourne area were severely disrupted by the establishment and expansion of a European settlement. As a result, little information is available regarding the pre-contact lifestyle of Aboriginal people in the area. A full ethnographic search was outside the scope of this assessment and the following section summarises major syntheses previously undertaken on Aboriginal associations with the Melbourne area in general in the pre-contact and post-contact period (Clark, 1990; Clark & Heydon, 1998; Presland, 1985).

There are several problems concerned with correctly identifying and describing 19th century Aboriginal groups within the geographic region. This is largely a result of discrepancies in early European accounts and the difficulties early settlers had in understanding Aboriginal languages and social systems. Furthermore, the devastating effects on Aboriginal people of European presence such as loss of traditional lands and resources, spread of disease, social breakdown and removal of groups and individuals to reserves and mission stations compounded the difficulties associated with accurately recounting an early ethnohistory of the Aboriginal people of the Melbourne region (Barwick, 1984, 13).

#### 6.3.1 Ethnohistorical Accounts

At the time of European colonisation, central and north-eastern Victoria was occupied by a collection of peoples known as the *Kulin*, who shared certain cultural, social and language characteristics (Barwick, 1998, 13, 28). The *Kulin* were in turn divided by distinctive language variations and organisational attributes, resulting in the definition of individual groups by contemporary observers as 'tribes'. Today they are more consistently defined by ethnohistorians as groups linked by commonalities of language, or 'language groups'. In contemporary Aboriginal society in the Melbourne region, the terms 'tribe', 'people' or 'nation' are more commonly used by Aboriginal people to demonstrate a traditional identity or allegiance, beyond the strictly academic term 'language group'.

---

<sup>3</sup> Gary Presland, *Keilor Archaeological Site* – <http://www.emelbourne.net.au/biogs/EM00792b.htm> – Sourced 27th May 2016

A language group consisted of independent groups of closely related kin, or 'clans', who were spiritually linked to designated areas of land through their association with topographic features connected to mythic beings or deities. Clan lands were inalienable and clan members had religious responsibilities such as conducting rituals to ensure 'the perpetuation of species associated with the particular mythic beings associated with that territory' (Berndt, 1982, 4). Unfortunately, there is no available information at this level of study regarding mythic associations with landscape features within the study area.

According to Clark (1990), at the time of European contact clans from two language groups, the *Bun wurrung* and the *Woi wurrung* (spelling according to Clark, 1990, 364 although numerous variants exist) are believed to have occupied land in the study region. The *Woi wurrung* occupied the basins of the Yarra and Maribyrnong Rivers, and the *Bun wurrung* were located between the Yarra River and Western Port, extending west to the Werribee River (Clark, 1990, 363). Most of the current study area is located within the traditional lands of the *Woi wurrung*, with the far western section of the study area potentially intersecting with the traditional lands of the *Bun wurrung*.<sup>4</sup>

The *Woi wurrung* are part of the Kulin Nation language group, and the *Woi wurrung* clan most closely associated with the study region were the *Wurundjeri willam*, who identified with the Yarra and Plenty rivers (Clark, 1990, 385). Barwick identifies three sub-groups of the *Wurundjeri willam*; Jacky Jacky's group from the south bank of the Yarra, from Gardiner's creek upstream to Yarra Flats and north slopes of Dandenong mountains; Billibellary's group on the north bank of Yarra 'about Kew', at Melbourne, west of Darebin Creek to east bank of Saltwater (Maribyrnong) River and Jackson's Creek, north near Mt William Quarry; and Bebejan's group 'at Hydleburg', up Yarra to Mt Bawbaw, about Yering (Barwick, 1984, 123-124). Barwick bases these divisions on Howitt's information (1904, 309) about the *Wurundjeri willam*, whom he calls 'Kurnaje-berring'.

Clan boundaries were defined by mountains, creeks and rivers, and clans were very familiar with the geography of their territory and the seasonal availability of resources within it. At European settlement, Bebejan was a *ngurungaeta* (clan head) of the *Wurundjeri willam* whose territory included the area around Darebin Creek (Howitt, 1904, 309). Bebejan was the father of William Barak (Clark, 1990, 365). Most references to *Wurundjeri willam* describe Aboriginal associations with either the Yarra River or Mount William, west of Kilmore (Presland, 1985). The *Wurundjeri willam* had an extensive network of political, economic and social relations with neighbouring clans, including those from other language groups. Marriage was sought from the *Bunjil* moieties of the *Bun wurrung* (spelling according to Clark, 1990, 364) to the south, the *Taungurong* to the north and a clan near Mount Macedon and Lancefield (Barwick, 1984, 104).

The two *Bun wurrung* clans listed by Clark as being most closely associated with the study area were the *Yalukit willam*, located east of Werribee River, Williamstown, Sandridge and St. Kilda, and *Ngaruk willam* located at Brighton, Mordialloc, Dandenong and between Mount Eliza and Mount Martha (Clark, 1990, 365). According to Barwick (1984, 119), the *Arweet* (head men) of *Yalukit willam* was Derremart/Derrimot/Derrahmart/King Derrimut/Deremaroke born c. 1807/14 and dying in 1864, whose mother was Dindo/Dendru. Another head man was Eurernowel/King Ningerranaro/Mingartagon/Mungarer/Old Mr Man/Benbow, born c. 1771 and dying October 1847. Eurernowel was described in 1839 as 'a man of some importance...seldom visits the settlement, unless something of importance is going on that requires the whole of the Tribe (Thomas, in Barwick, 1984, 119). The *Arweet* of *Ngaruk willam* was Tulowing/Tooglooim/Tukulneen/Tukulveau/Old George the King (ca1770-1839); sons Nunnuptune/Nalnaptune/Mr Langhorne (1821/4-1849) in the Native Police Corps (Barwick, 1984, 117).<sup>5</sup>

<sup>4</sup> It should be noted that the WWCHAC dispute the view that the Bun wurrung traditional lands intersect with the project area. WWCHAC is currently claimant for the area, a claim which is being assessed as part of the *Wurundjeri/Woiwurrung Traditional Owner Settlement Act 2010* Threshold Statement, Part A.

<sup>5</sup> See previous footnote.

### 6.3.2 Post-contact history

After the establishment of Melbourne and the rapid dispersal of pastoralists around Port Phillip in search of quality grazing and water for stock, the *Woi wurrung* and *Bun wurrung* were swiftly excluded from traditional food resources and the more reliable water sources in the region. In particular, the yam daisy or myrrnong, a staple food found in swamps, was rapidly destroyed by introduced grazing animals. Access to the woodlands, swamps and billabongs became difficult following the establishment of station homesteads at significant locations. In addition to the dislocation and social breakdown caused by this conflict, the limited resource diversity available to each group became critical, forcing the survivors increasingly to dependence on government and station supplied rations.

The development of Melbourne and its hinterland during the mid-19<sup>th</sup> century resulted in the rapid loss of traditional lands and resources as well as the spread of diseases including venereal disease, social breakdown and the removal of Aboriginal groups and individuals to reserves and mission stations (Caldere & Goff, 1991, 3).

The close proximity of the mass of urban settlers to these Aboriginal groups inevitably caused problems for the Colonial administration, and consequently a Government Mission was set up in 1837 on an 895-acre site at South Yarra, close to an established camping area on the site of the Botanical Gardens. George Langhorne was responsible for its management. Rather than resolving Aboriginal grievances, the objective of the mission was to 'civilise' Aboriginal people and those who decided to live at the mission were provided with rations in exchange for agricultural endeavours. Children were also provided with rations for attending school classes. *Woi wurrung* people were mainly associated with the mission although a few *Bun wurrung* individuals and members of other language groups were noted as being affiliated to the mission in 1838 (Clark & Heydon, 1998, 27). The mission was short-lived, and alternative locations were sought away from the 'influence' of Melbourne.

Various reserves were subsequently established as refuges for Aboriginal people around Port Phillip and Westernport by Assistant Protector William Thomas during 1839-1843 in an attempt to move the remaining Aboriginal people further away from Melbourne. These included Arthurs Seat, Merri Creek, Mordialloc Creek and most importantly the Westernport Protectorate Station on the Dandenong Creek at Narre Warren (Clark & Heydon, 1998, 28; Barwick, 1998, 31). Thomas hoped that the stations would encourage Aboriginal people to take up an agricultural lifestyle, but he spent most of his time unsuccessfully trying to keep Aboriginal people out of Melbourne. One of the major problems was the way in which the *Woi wurrung* and *Bun wurrung* were frequently treated as the same group, leading to internal dissent and dissatisfaction. The Westernport Protectorate Station, for instance, was located on *Woi wurrung* land, which was not acceptable to the *Bun wurrung*, who were treated like strangers.

In 1839 a census requested by George Robinson, the Chief Protector of Aborigines in the Port Phillip Protectorate, of Aboriginal people living in and around Melbourne found that the probable Aboriginal population at this time consisted of 140 *Woi wurrung*, 50 *Wada wurrung* and 12 *Bun wurrung* people (Lakic & Wrench, 1994, 110, 113). However, it is likely the number of Aboriginal people in Melbourne varied greatly throughout this period and was subject to the influx of various groups and individuals.

From the 1830s onwards, Aboriginal people continued to camp in the vicinity of the township of Melbourne. Mostly they were Aboriginal people belonging to *Woi wurrung* and *Bun wurrung* clans, and their preferred camping places were along the south bank of the Yarra River, opposite the settlement of Melbourne, and Government Paddocks (between Princess Bridge and Punt Road) (Clark & Heydon, 1998, 25). *Woi wurrung* and *Bun wurrung* people camped from the falls (near Princess Bridge) for approximately 1.5 kilometres south-east along the river.

A particularly favoured location for camping was on the hill overlooking 'Tromgin', a swamp south of the Yarra River. Robinson and Thomas, an Assistant Protector, reportedly spent much time throughout the late 1830s to mid-1840s attempting to 'break up' Aboriginal camps by the Yarra River and discouraging Aboriginal people from visiting the township itself (Clark & Heydon, 1998, 34–5, 40, 49). In 1840, Thomas noted that:

By what I can learn, long ere the settlement was formed the spot where Melbourne now stands and the flats on which we are now camped [on the south bank of the Yarra was the regular rendezvous for the tribes known as *Warorangs*, *Boonurongs*, *Barrabools*, *Nilunguons*, *Gouldburns* twice a year or as often as circumstances and emergencies required to settle their grievances, revenge deaths...(Thomas, in Presland, 1985, 35).

The population of *Woi wurrung* and *Bun wurrung* people declined steeply in 1847, caused by an influenza epidemic, leading to deaths and the dispersal of Aboriginal people from camps by the Yarra River (Clark & Heydon, 1998).

Throughout the 1840s there are numerous historical references to Aboriginal people camping at the Bolin Bolin Billabong as well as other locations along the Yarra River in close proximity to the study area. Thomas refers to people collecting eels and camping at the billabong in 1841. Previous to this in 1840 he records people from two groups (the Yarra Aboriginal people and the Boonurung (sic) camping there. Again in 1845 and 1848, Aboriginal people were noted camping at the billabong. In 1846 and 1848 a number of groups were noted camping at the confluence of the Plenty River and Yarra River and the confluences of Darebin Creek and Merri Creek and the Yarra River as well as further north in Heidelberg Road. Groups present included many from outside the immediate area and were noted as 'of the Devil River', 'Goulbourns', 'Western Port', 'Mount Macedon' and 'NW Blacks'. The historical observations from this time indicate frequent movements of people, both Wurundjeri and other groups, throughout the region – movements between Melbourne and more distant camps along the Yarra River as well as to places further afield such as Thomas's former camp at Narre Warren. Although much of Thomas's time was spent attempting to control these movements and to address the perceived grievances of white settlers, he did at times note 'the quality of the eels in the great swamp Bolin' which led to Aboriginal groups remaining for some length of time in that neighbourhood. Unfortunately, this situation led to further interaction and 'conflict' with white settlers as Aboriginal people ventured onto lands which had recently become 'private property'. These observations of population concentration and movements noted by Thomas came at a time when the presence of white settlement was already altering the use and movement through land formerly accessible to Aboriginal groups in the region. While locations such as Bolin Bolin Billabong were obviously rich in resources it must be noted they formed but a part of a much larger pattern of landscape use which was rapidly being strained and modified following white settlement. Thomas notes in 1841 in relation to the movement of Aboriginal people to Bolin in response to the depletion of eel stocks elsewhere that 'when Bolin and the ...lagoon adjacent becomes private property it will be one of the most serious...to the survival...of the Blacks' (VPRS 11 Unit 7 Item 375, Thomas to Robinson 12/3/1841).

Through the influence of the government, missionary societies and the new 'landowners', the number of Aboriginal people in the area dwindled due to high mortality rates and forced movement out of the township. Complaints from settlers who wanted to exclude Aboriginal people from their newly acquired land and move them further into the 'bush' and requests by Aboriginal people themselves for a 'station' of their own, led to the establishment of an Aboriginal reserve known as Coranderrk, near Healesville in 1863. The majority of *Woi wurrung* people lived at Coranderrk from 1863 to the early 1900s when the introduction of the *Aborigines Act 1909* requiring all 'half castes' to leave mission stations, resulted in Aboriginal people moving back to Melbourne, attracted by work opportunities (Rhodes *et al.*, 1999, 88-89).

## 6.4 Land use history

This section provides a brief summary of available local historical records relating to information about the European occupation of the Banyule Flats region, and specific information regarding the European history of the study area. These activities are likely to have impacted the study area in terms of historical archaeological materials as well as disturbance to Aboriginal cultural materials. The European land use history of the wider study area provides context to the information presented about the land use history of the study area.

European interest in the Port Phillip region was initiated by reports from Hamilton Hume and William Hilton Hovell who explored the area in 1824. Following these reports, John Batman, a small landholder in Van Diemens Land, set up the Port Phillip Association to explore and settle the Port Phillip hinterland (Payne, 1975, 1-2).

Joseph Gellibrand, ex-Attorney General of Van Diemen's Land, first ventured into the Heidelberg district in 1835-6, on behalf of the Port Phillip Association. The long-term presence of Europeans settlers in the Banyule area began in 1837-1838 with the Heidelberg region one of the first areas of Melbourne to be subdivided, with the fertile land along the rivers near Heidelberg highly sought after (Dyke, Neylon, Paul & Holt, 2014, 17). In 1837, Edward Willis took up the pastoral lease at the junction of the Plenty River and Yarra River. This area was surveyed by William Wedge Darke and Robert Hoddle in preparation for sale, and the land encompassing Banyule Flats was demarcated as Section 6, Parish of Keelbundoora, County of Bourke (Garden, 1972, 6; Dyke *et al.*, 2014, 17). In 1838, this land was auctioned in Sydney and largely purchased by Sydney-based speculators with Section 6 bought by Richard H. Browne. Browne called his estate Heidelberg and the locality was possibly named after his estate (Garden, 1972, 20).

While discussing the establishment of Heidelberg, Rolf Boldrewood mentioned R. H. Browne as a social celebrity of the day, 'fashionable and distinguished' (Boldrewood, 1969, 100). Boldrewood described the Heidelberg of R. H. Browne as follows:

The flats and bends of the Yarra were composed of a deep, black, fertile loam, eminently suited for orchards, cereals, and root crops. Taking into consideration the quality of the soil, the proximity to the river, the variety of the landscape, no suburb would have equalled Heidelberg in attractiveness had it not been handicapped by distance from the metropolis (Boldrewood, 1969, 162-163).

In 1839, Section 6 was subdivided, with Joseph Hawdon one of the main purchasers, establishing Banyule Estate on 657 acres, with Banyule Homestead built around 1847 (Dyke *et al.*, 2014, 18). The name 'Banyule' came from a 264-acre property purchased by Arthur Hogue from R. H. Browne around 1839 (Garden, 1972, 36). This land was leased to Archibald Thom, most likely until Hogue sold it in 1843. Banyule contained an excellent ring fence with about 50 acres under regular cultivation, and much money had been spent on clearing the land, stumping, fencing draining and erecting buildings. The residence consisted of a two-storeyed veranda cottage containing seven rooms and was surrounded by a substantial garden and orchard (Garden, 1972, 37).

During the 1850s most of the Banyule Estate was utilised for six tenant farms. Market gardens, orchards and crops were grown on the flats, and produce was sold to people working the gold fields. These types of land uses were common in the wider Heidelberg district during this period. In the late nineteenth century, Chinese-run market gardens were operating on the river flats at places such as Ivanhoe and Heidelberg, where vegetable crops were watered using pumps direct from the Yarra (Doyle & Neylon, 2018, 15).

In 1853, Hawdon subdivided into smaller holdings, clearing much of the native vegetation to grow orchards and market gardens. Land near the Yarra River was utilised for industries such as dairying, and fruit orchards. In the late 1850s and early 1860s, most of the fruit trees which had grown along the bend of the Yarra River were decimated by drought and floods in 1861 and 1863 (Garden, 1972, 107; Dyke *et al.*, 2014, 21). After the flood damage to this area, changes were made to the land uses of the river flats with grazing of dairy cows, sheep, chickens and pigs predominating, and dairies being established, with dairying becoming the main local industry from the early 1860s into the twentieth century (Garden, 1972, 119). Farming and market gardening of these areas continued until the 1920s, when severe flooding during 1924 and 1934 caused widespread damage (Dyke *et al.*, 2014, 22). In the late 1800s, land around Banyule Flats and in the Heidelberg area was represented within the artwork of the Heidelberg school of painters (Garden, 1972, 156). These paintings depicted rural scenes showing the early landscape of these areas.

In 1903, Banyule Estate was leased to Gordon Lyon who established a successful Jersey cow herd which operated until 1942. In 1942, the 275 acre property was purchased by Herbert Allen who developed a cattle stud farm, selling the land in the late 1950s to Stanhill Pty Ltd (Dyke *et al.*, 2014, 22). During the late 1950s and early 1960s, proposed residential subdivision of the former Banyule Estate brought about a concern to protect open space around the Yarra Valley and river areas. In 1967, the ownership of Banyule Flats was transferred to the local Council to provide public open space. During the 1970s, two recreational ovals were built at Banyule Flats along with a native garden (Dyke *et al.*, 2014, 30). In addition, conservation groups became involved in the revegetation of the Warringal swamp that had been reconstructed by the Heidelberg Council in 1972. In the 1980s, Banyule Swamp was fenced off from cattle grazing and converted to a wildlife sanctuary. Until 1992, the land containing Banyule flats (including the current study area) was utilised for grazing pasture (Dyke *et al.*, 2014, 22). In 1991 the Yarra walking and cycling trail that traverses Warringal Parklands and Banyule flats was opened (Dyke *et al.*, 2014, 30). Throughout the 1990s and into the 2000s, conservation projects and improvements took place across Banyule Flats.

Sections of the current study area around Banyule were originally part of the former Banyule Estate, with the existing Banyule homestead located on the top of the escarpment overlooking the area of open parkland below as well as the Yarra River. Banyule Flats contains historic features relating to the former pastoral occupation of this area, including drainage channels, stone dam, fences and posts and a former stockyard site that had been relocated from the homestead when the area was subdivided in the early 1960s (Dyke *et al.*, 2014, 45). The Banyule flats area also contains the site of the former cottage of Arthur Hogue. The site does not contain any physical remains although there is a mound and a number of mature trees that were part of the gardens (Dyke *et al.*, 2014, 45).

Other industries that were prevalent within the study region included quarrying, brickworks and timbercutting. In 1909, the Warringal quarry commenced operation, and in the late 1900s a series of quarries were established north of Greensborough to assist with works on the Watts River (Maroondah) aqueduct (Doyle & Neylon, 2018, 21). Several quarries were also situated in Heidelberg.

From an early date following the founding of Melbourne many of the sections of the study area that focus on the Yarra River around areas such as Abbotsford and Kew had been reserved for a variety of purposes. For instance, the Yarra Bend Park area had been viewed as a potential site for a prison or asylum, a purpose for which parts of the site was later used by the Kew Lunatic Asylum which was operational from 1871 to 1988. In 1877, Studley Park was permanently reserved for recreational purposes, although in a bid to raise funds the park was leased for grazing. Grazing continued in the park until at least the 1930s (Clark & Heydon, 1998, 98). Following the closure of the Yarra Bend Lunatic Asylum in 1926, both the north and south sides of the river came to be used primarily for recreational purposes (Clark & Heydon, 1998, 101). In 1863 the Studley Park Boathouse (formerly Riversdale Boat House) was established and during the 19th century the area was a popular picnic ground (Parks Victoria, 1998).

The earliest routes from Heidelberg to Melbourne largely follow the course of the Yarra River and would likely have been based on Aboriginal paths (Doyle & Neylon, 2018, 18). Infrastructure such as roads and bridges were an early focus of European settlers in the Heidelberg district. Heidelberg Road was completed in 1842 and was the first major road in the district. By the mid-1840s a coach service operated from Melbourne and was run by Greenways who traversed areas from Melbourne to Heidelberg as well as to other nearby locations such as Templestowe (Doyle & Neylon, 2018, 18). Road boards emerged and roadways gradually increased in quantity and quality. Other early roads included the Lower Plenty Road in 1856, and a road through the Rosanna Estate, which was agitated for in 1857 but not opened until 1861. In 1881 Studley Road was constructed to improve access between Ivanhoe and Heidelberg. In 1901 the railway between Collingwood and Heidelberg was opened, extending to Eltham by 1904 and Hurstbridge by 1912 (Doyle & Neylon, 2018, 19). In the 1920s, the railway continued to Greensborough.

While areas such as Heidelberg was well established by the early 1900s, the country to the north was generally sparsely settled comprising open paddocks. By the 1920s the pressure of suburban growth was being felt and a number of subdivisions took place in areas such as Rosanna, Montmorency and Greensborough, heralded by the arrival of the electric train (Doyle & Neylon, 2018, 26).

Although without connections to water, sewerage and gas, house blocks were advertised for sale and many people acquired an affordable block in areas that would soon be new suburbia. Post-war prosperity enabled dramatic suburban expansion in the outlying suburbs of Melbourne, including sections of the study area. New land opened up in the then outer-ring suburbs of Melbourne, areas including Rosanna, Montmorency and Lower Plenty. These areas gradually transformed from orchards and paddocks into suburbia (Doyle & Neylon, 2018, 27).

The current study area contains several major road ways including the Eastern Freeway and the Western Ring Road. During the 1970s, the Eastern Freeway was constructed, and includes sections of the current study area. Construction of the Eastern Freeway significantly impacted the environment and landforms around the confluence of the Merri Creek and Yarra River. One of the bends of the Yarra River was shortened through the cutting of a new course and the resulting 'island' was significantly altered for the construction of the abutment for the Merri Creek crossing of the freeway. Part of the former course of the river was filled and now lies underneath the Eastern Freeway immediately east of the Merri Creek (Howell-Meurs *et al.*, 2014, 49). Construction of the M80 Western Ring Road began in 1989. This freeway was initially planned in 1929 as a way to facilitate stock transport routes that would bypass Melbourne's CBD (Tucker & MacCulloch, 2016, 38). The roadway was situated 3km from residential development that was increasingly expanding outwards from Melbourne. By 1954 residential subdivision was increasing and the State Electricity Commission reserved land for transmission lines that would also form the road reserve for the M80 freeway. It was initially thought that these SEC reservations would be adequate for a new freeway however after engineering design commenced it became apparent that available land was insufficient to accommodate intersections, noise barriers, and the roadway. The first carriage of the M80 (originally the Western Ring Road) that ran from Plenty Road to Greensborough was opened in 1994 (Tucker & MacCulloch, 2016, 38). The first road reserve for the Greensborough Bypass was indicated in the Melbourne Planning Scheme in 1962 (Tucker & MacCulloch, 2016, 38). Construction of the bypass was announced in 1974 in the Country Roads Board's 'plan of intentions' and was then confirmed in 1976 as a list of major projects that were to be investigated. Construction of the bypass commenced in 1984 and the bridge over the Plenty River was built in 1988. The bypass was duplicated in 2005 with major alterations occurring at the intersection with the M80 roadway. Construction techniques used at that time would have resulted in significant ground disturbance within the carriage way (Tucker & MacCulloch, 2016, 38).

## 6.5 Heritage register searches

### 6.5.1 Introduction

At the time of the VAHR search, a total of 53 registered Aboriginal cultural heritage places and four historical references were registered within the study area. These are listed in Table 6-7 and shown in Figure 6-6, and are summarised below. Of these places, 28 registered Aboriginal cultural heritage places and three historical references were registered within the study area. Note an additional historical reference likely extends into the activity area and is also discussed, along with two artefact scatters in the activity area that are currently listed as non-sites on the VAHR.

It should be noted that only those places situated within the activity area will be dealt with as part of the impact assessment (given that other places located in the broader study area are some distance from the works).

Note: The spatial details of a number of these places are in the process of being revised and updated as part of the CHMP standard and complex assessment. The information provided below is based on available data on relevant site cards from the Victorian Aboriginal Heritage Register (VAHR) and may be subject to change as the CHMP process continues.

The study area contains a number of areas of cultural heritage sensitivity as defined in the *Aboriginal Heritage Regulations* 2018. These are shown in Figure 6-7 and include:

#### Regulation 25 – Registered cultural heritage places

- (1) A registered cultural heritage place is an area of cultural heritage sensitivity.
- (2) Subject to subregulation (3), land within 50 metres of a registered cultural heritage place is an area of cultural heritage sensitivity.
- (3) If part of the land within 50 metres of a registered cultural heritage place has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.

#### Regulation 26 – Waterways

- (1) Subject to subregulation (2), a waterway or land within 200 metres of a waterway is an area of cultural heritage sensitivity.
- (2) If part of a waterway or part of the land within 200 metres of a waterway has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.

A search of the National Heritage List, Commonwealth Heritage List and World Heritage List (Australia) did not reveal any listings in the study area.

Note there are three places listed on Manningham City Council's Planning Scheme Heritage Overlay which are noted as having Aboriginal cultural heritage values.

Details for each of the places listed below are provided in Appendix A.

**Table 6-6: Registered Aboriginal places and historical references in the study area**

VAHR	Name	CompType
12.7-12	Heidelberg to Healesville Travelling Route	Historical reference
4.5-2	Bulleen Lagoon	Historical reference
5.1-12	Yarra River Protectorate Station	Historical reference
7.1-11	Merri Creek School Reserve	Historical reference
7922-0019	KEW	Scarred tree
7922-0022	ROSANNA	Scarred tree
7922-0028	BULLEEN SCARRED TREE	Scarred tree
7922-0052	TEMPLESTOWE 4	Artefact scatter
7922-0083	RUDDERGRANGE 1	Scarred tree
7922-0084	RUDDERGRANGE 2	Scarred tree
7922-0132	WILLSMERE TREE A	Scarred tree
7922-0133	WILLSMERE TREE B	Scarred tree
7922-0135	WILLSMERE TREE D	Scarred tree
7922-0202	KOONUNG 1	Artefact scatter
7922-0203	KOONUNG 2	Artefact scatter
7922-0232	KALPARRIN GARDENS 4	Artefact scatter
7922-0255	BOLIN BILLABONG 1	Artefact scatter
7922-0256	YARRA FLATS 1	Scarred tree
7922-0266	YARRA FLATS 2	Scarred tree
7922-0267	YARRA FLATS 3	Scarred tree
7922-0341	JANEFIELD 7	Scarred tree
7922-0540	BORONIA GROVE 1	Scarred tree
7922-0582	SAB 6	Scarred tree
7922-0584	SAB 8	Scarred tree
7922-0585	SAB 9	Scarred tree
7922-0586	SAB 10	Scarred tree
7922-0593	WILLSMERE B	Scarred tree
7922-0778	JANEFIELD 9	Artefact scatter
7922-0799	STUDLEY PARK TOE-HOLD TREE	Scarred tree
7922-0812	GREENSBOROUGH BYPASS IA1	Artefact scatter
7922-0826	HEIDE 1	Artefact scatter
7922-0828	JANEFIELD IA1	Artefact scatter
7922-1008	UNIVERSITY HILL AS1	Artefact scatter
7922-1009	UNIVERSITY HILL AS2	Artefact scatter
7922-1014	KANES BRIDGE 1	Artefact scatter
7922-1103	YARRA BEND PARK 2	Artefact scatter
7922-1105	YARRA BEND PARK 4	Artefact scatter
7922-1106	YARRA BEND PARK 5	Artefact scatter
7922-1107	YARRA BEND PARK 6	Artefact scatter

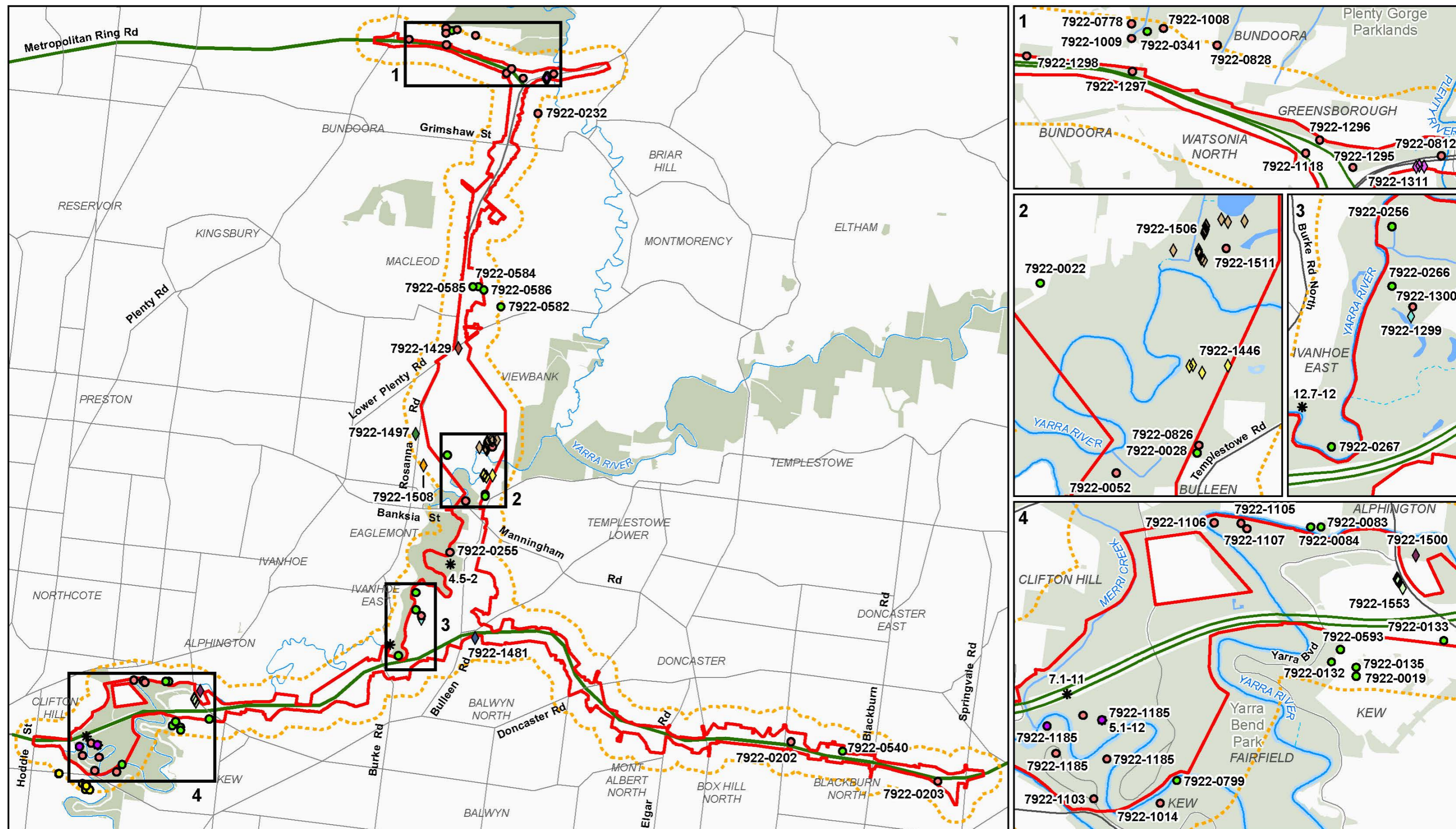
VAHR	Name	CompType
7922-1118	M80 GREENSBOROUGH HIGHWAY INTERCHANGE	Artefact scatter
7922-1185	DIGHTS FALLS 1	Aboriginal historical place; Artefact scatter
7922-1295	M80 Greensborough Highway Interchange 2	Artefact scatter
7922-1296	Goolgung Grove 1	Artefact scatter
7922-1297	Worcester Crescent 1	Artefact scatter
7922-1298	Enterprise Drive 1	Artefact scatter
7922-1299	Yarra Flats 4	Low-density artefact distribution
7922-1300	Yarra Flats 5	Artefact scatter
7922-1311	Greensborough Bypass 2	Low-density artefact distribution
7922-1429	Lower Plenty Rd IA1	Low-density artefact distribution
7922-1446	Bulleen LDAD	Low-density artefact distribution
7922-1481	160 Mountain View Road LDAD	Low-density artefact distribution
7922-1497	117 Rosanna Road, Heidelberg LDAD	Low-density artefact distribution
7922-1500	Chandler Highway LDAD (unprovenanced)	Low-density artefact distribution
7922-1506	Banyule Flats Reserve LDAD 01	Low-density artefact distribution
7922-1508	Heidelberg park LDAD 1	Low-density artefact distribution
7922-1511	Banyule Flats Reserve 01	Artefact scatter
7922-1553	Chandler Highway 2 LDAD	Low-density artefact distribution

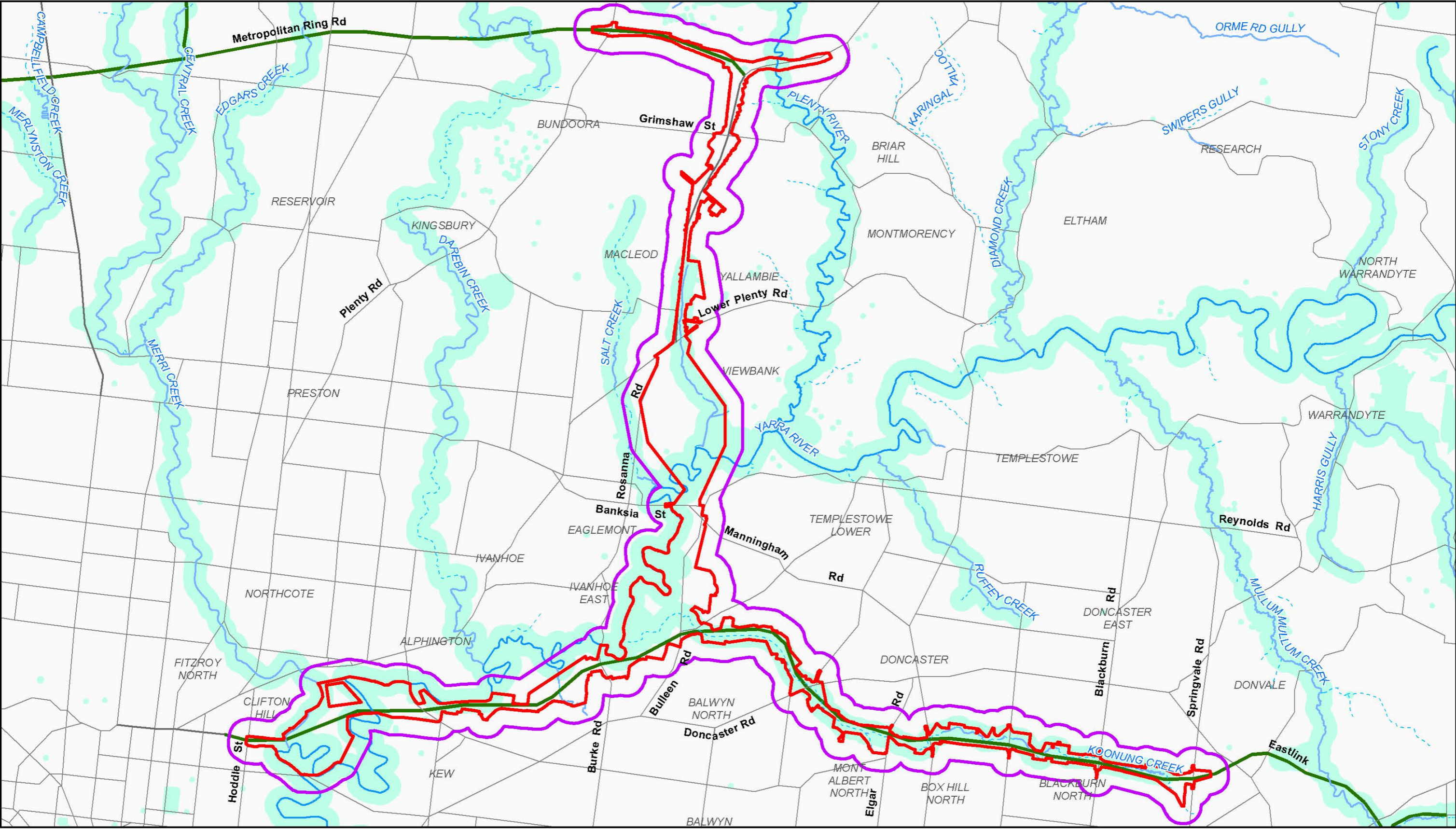
**Table 6-7: Registered Aboriginal places and historical references in the activity area**

VAHR	Name	Component number	Component type
<b>M80 Ring Road to northern portal</b>			
7922-0812	GREENSBOROUGH BYPASS IA1	7922-0812-1	Artefact scatter
7922-1118	M80 GREENSBOROUGH HIGHWAY INTERCHANGE	7922-1118-1	Artefact scatter
7922-1295	M80 Greensborough Highway Interchange 2	7922-1295-1	Artefact scatter
7922-1296	Goolgung Grove 1	7922-1296-1	Artefact scatter
7922-1297	Worcester Crescent 1	7922-1297-1	Artefact scatter
7922-1298	Enterprise Drive 1	7922-1298-1	Artefact scatter
7922-1311	Greensborough Bypass 2	7922-1311-1	Low-density artefact distribution
<b>Northern portal to southern portal</b>			
4.5-2	Bulleen Lagoon	4.1 Living camps away from towns & properties	Historical reference
7922-0022	ROSANNA	7922-0022-1	Scarred tree
7922-0052	TEMPLESTOWE 4	7922-0052-1	Artefact scatter
7922-0255	BOLIN BILLABONG 1	7922-0255-1	Artefact scatter
7922-0256	YARRA FLATS 1	7922-0256-1	Scarred tree
7922-0584	SAB 8	7922-0584-1	Scarred tree*
7922-0585	SAB 9	7922-0585-1	Scarred tree*
7922-1429	Lower Plenty Rd IA1	7922-1429-1	Low-density artefact distribution
7922-1446	Bulleen LDAD	7922-1446-4	Low-density artefact distribution
7922-1506	Banyule Flats Reserve LDAD 01	7922-1506-19	Low-density artefact distribution
7922-1511	Banyule Flats Reserve 01	7922-1511-1	Artefact scatter
HO24	River Red Gum, Bridge Street	HO24 (Manningham)	Tree
HO30	Bolin Bolin Billabong	HO30 (Manningham)	Archaeological place
HO72	Bullen Drive-in (former)	HO72 (Manningham)	Archaeological place
<b>Eastern Freeway</b>			
5.1-12	Yarra River Protectorate Station	5.1 Protectorates	Historical reference
7.1-11	Merri Creek School Reserve	1.1 Properties where initial contact with pastoralists occurred	Historical reference
7922-0133	WILLSMERE TREE B	7922-0133-1	Scarred tree
7922-0202	Koonung 1	7922-0202	Artefact scatter
7922-0203	Koonung 2	7922-0203	Artefact scatter
7922-0266	YARRA FLATS 2	7922-0266-1	Scarred tree
7922-0540	BORONIA GROVE 1	7922-0540-1	Scarred tree
7922-1103	YARRA BEND PARK 2	7922-1103-1	Artefact scatter
7922-1105	YARRA BEND PARK 4	7922-1105-1	Artefact scatter

VAHR	Name	Component number	Component type
7922-1106	YARRA BEND PARK 5	7922-1106-1	Artefact scatter
7922-1107	YARRA BEND PARK 6	7922-1107-1	Artefact scatter
7922-1185	DIGHTS FALLS 1	7922-1185-1 – 5	Artefact scatter and Aboriginal historical places
7922-1299	Yarra Flats 4	7922-1299-1	Low-density artefact distribution
7922-1300	Yarra Flats 5	7922-1300-1	Artefact scatter
7922-1553	Chandler Highway 2	7922-1553-1	Low-density artefact distribution
HO181	Archaeological site (Ref. VAS 7922/202) – Wetherby Road eastern Cnr Eastern Freeway, Doncaster East	HO181 (Manningham)	Archaeological place

\*Please note that on the basis of ongoing assessments these items will likely be de-registered as non-cultural items.





Paper Size A4

0 500 1,000 2,000

Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55

**Legend**

- Activity area
- Study area
- Area of cultural heritage sensitivity

Roads	Watercourses
Freeway	River
Highway	Stream
Major road	Drain/channel/other

**NORTH EAST LINK**  
PROJECT

Job Number | 31-35006  
Revision | A  
Date | 09 Feb 2019

**Areas of cultural heritage sensitivity in the study area**

Figure 6-7

## 6.6 Review of reports about Aboriginal cultural heritage – regional studies

Previous archaeological regional studies assist in characterising the general pattern of archaeological site distribution across a broad regional environment.

### Archaeological survey, Yarra Valley area (Witter & Upcher, 1977)

Witter & Upcher conducted an archaeological survey of parkland on the Yarra River between Burke Road bridge, in the west, to Pound Bend at Warrandyte in the east. Following a pedestrian survey of the land 24 Aboriginal cultural heritage places were identified. The majority of those places (n=19) were scarred trees, with the other four sites being comprised of four lithic scatters and one ground stone axe. The survey strategy was twofold. The first approach, which was undertaken in 1976, comprised of a pedestrian survey following the course of the river. This was supplemented in 1977 by a targeted survey of Pleistocene terraces along the courses of the activity area. As a consequence, very large parts Banyule Flats Reserve was not subject to detailed investigation. Due to a poor surface visibility and constraints in the extent of land subject to survey, Witter & Upcher (1977, 11) argued there was not enough evidence to glean any meaningful patterns of settlement within the activity area. The stone assemblages were found to be comprised primarily of chert, with quartz and quartzite making up the remainder of the assemblages (Witter & Upcher, 1977, 10).

### The Melbourne Metropolitan Area (Presland, 1983)

Presland undertook an archaeological study of the Melbourne Metropolitan area in 1983. Presland divided the study area into five landscape units consisting of Flat Plains, Undulating Plains, Low Hills, Hills and Coastal Margin.

The current study area is located primarily in landscape unit 2, defined as undulating land north of the Yarra River and west of the Plenty River (Presland, 1983, 49). Landscape unit 2 comprises an area of 1,025 km<sup>2</sup>, of which 161.5 hectares with an effective coverage of 7.6 per cent were subject to survey. Contemporary use of the landscape north of the Yarra River and west of the Plenty River, being primarily urban at the time of the survey, constrained the effectiveness of survey near the activity area. As a consequence, pedestrian surveys focused on the waterways, including the Yarra River and Plenty River.

A total of 27 Aboriginal cultural heritage places were identified by Presland in landscape unit 2 (1983, 57). The majority of those places (n=23) were comprised of lithic scatters. Nineteen of the sites were located along water courses, with the Kororoit Creek being a particular focal point. Four scarred trees were also located 'in areas of reasonable proximity to permanent water sources' (Presland, 1983, 58).

Presland argued that the results of the study reflected the general use by Aboriginal people of all landscape units present in the study area. He concluded the limited survey coverage and lack of literature information on specific aspects of Aboriginal life did not allow for the definition of any clear patterns of subsistence behaviour and Aboriginal occupation (Presland, 1983, 69-74).

### Merri Creek Parklands (Hall, 1989)

Hall (1989) conducted a survey of the Merri Creek corridor from the Yarra River in Collingwood to Craigieburn Road East, Craigieburn. The survey examined the entire corridor, including adjacent open spaces, generally extending to at least 50 metres beyond the interface of the creek valley and the plain (Hall, 1989, 21). The effective coverage was relatively high, estimated at 17 per cent of the total survey area (Hall, 1989, 24).

Twenty-one stone artefact scatters, 32 isolated stone artefacts and five scarred trees were identified during the field survey (Hall, 1989, 26, 46-7). The 32 isolated stone artefacts were not included in an analysis of site distribution. The stone artefact scatters were located in a range of localised landforms including: creek banks, peninsula or promontory formed by a bend in the creek, and the side of the creek valley. Seven scatters were located at the interface of these localised landforms (Hall, 1989, Table 2). A total of 406 stone artefacts were identified during the survey, these predominantly comprised flakes or fragments (77 per cent), with cores (5 per cent) and tools (18 per cent) making up the remainder of the assemblage. Fine-grained silcrete dominated the assemblage (44 per cent), followed by coarse-grained silcrete (30 per cent) and quartz (24 per cent). Basalt and chert made up the remaining 2 per cent of the assemblage (Hall, 1989, 41, 43).

In addition, Hall noted a text reference to an artefact scatter site on the south bank of the Yarra River, immediately opposite the confluence of the Merri Creek and Yarra River (1989, 13).

Hall (1989) interpreted these results as reflecting Aboriginal occupation patterns, which focused on the Merri Creek rather than the adjacent plain. In particular, higher ground within the Merri Creek corridor was a focus of Aboriginal occupation (Hall, 1989, 46). The archaeological potential of areas to the south of Mahoneys Road was restricted to those places where sites were actually located. Outside these areas, the archaeological potential was considered to be low due to the extent of land modification that has taken place (Hall, 1989, 2). Hall (1989, 95) collectively rated the sites along Merri Creek as having medium significance.

#### The Lower Plenty River Archaeological Survey (Weaver, 1991)

Weaver undertook a pedestrian survey of the Plenty River on behalf of the Melbourne Metropolitan Board of Works in 1991. Survey of the study area was hampered by poor surface visibility, and it is thought that cattle ringbarking trees had hampered the identification of Aboriginal scarred trees.

Throughout Weaver's (1991, 33) study area, a total of 23 archaeological sites were identified, the majority of which (n=13) were scarred trees. Only one artefact scatter was identified (VAHR 7922-0227, Yando Street 1), with the remainder (n=9) of the Aboriginal cultural heritage places identified being comprised of isolated stone artefacts.

The scarred trees were primarily River Red Gum (*E. Camaldulensis*), and geographically located in the lower third of the study area and within 10m of the Plenty River (Weaver, 1991, 62).

However, Weaver (1991, 27) also remarks that European alteration of the landscape, which includes land clearing practices, has possibly resulted in the loss many scarred trees throughout the general landscape. As such, they may have once been more ubiquitously distributed throughout the landscape, whether near a river or not.

The stone artefacts were comprised of silcrete, chert and some quartz. Silcrete was the preferred raw material, and most of the stone artefacts had been subject to sufficient reduction so as to completely remove any traces of their cortex.

#### City of Doncaster and Templestowe Archaeological Survey (Ellender, 1991)

Ellender (1991) conducted an archaeological survey of the City of Doncaster and Templestowe in 1991. The study area is located on the south side of the Yarra River capturing both riverine and terrestrial landscapes. Ellender (1991) explored the relationship between topographic setting and Aboriginal place distribution. In doing so, Ellender (1991, 28-30) identified three different topographic settings throughout the study area: river flood plains, steep dissected country and gentle undulating country.

Following targeted surveys, six Aboriginal places were identified in the river flood plains, nine places were identified in the steep country, and no places were identified in the gentle undulating country (Ellender, 1991, 33). Ellender (1991, 45) argues the absence of Aboriginal places being identified in the gentle country is likely the result of urban redevelopment and agricultural activities destroying evidence of past Aboriginal land use rather than an avoidance of the landscape by Aboriginal people. There was little difference in place distribution between steep country and river flood plains. Eight of the places identified by Ellender (1991) are scarred trees. Artefact scatters were identified at five locations, and the final two places are isolated artefacts. The dominant raw materials utilised in the stone artefact assemblages was silcrete and quartz.

In building a predictive model for the location of Aboriginal cultural heritage places within Doncaster and Templestowe, Ellender (1991) concludes that river banks have a high potential of containing scarred trees, and flat land, regardless of landform context, would have a high potential of containing artefact scatters.

#### **Aboriginal Archaeological Sensitivities Study of the Waterways and Floodplains Greater Melbourne (du Cros & Rhodes, 1998)**

A study of Aboriginal archaeological sensitivities of the waterways and floodplains of greater Melbourne was undertaken by du Cros and Rhodes (1998). The study noted that many of the waterways within and around Melbourne had been historically altered, either resulting in the complete loss of waterways, or modification of their original channels, leading to a loss of cultural material along many waterways. However, the study also notes that wherever a permanent source of water existed there is a high probability that it was visited by Aboriginal people in the past. Du Cros & Rhodes (1998, 20) also note that the limited number of surface archaeological sites being identified near waterbodies is more likely due to either limitations in survey, such as poor ground visibility, or alternatively disturbance due to flooding and the reworking and deposition of alluvium by rivers. It is also possible that floodplains adjacent to waterways were subject to ploughing to grow crops. It is also likely that land clearance has removed most scarred trees, with exception of along river banks, which were not subject to land clearing practices.

### **6.7 Review of reports about Aboriginal cultural heritage – localised studies**

Previous archaeological reports include localised studies, which assist in developing an understanding of archaeological sensitivity and the extent and scope of prior investigation in a relatively limited area or environment. These reports have been undertaken within and in the vicinity of the current activity area and contain similar landforms and geology to the current project.

#### **Proposed M1048 Watermain Replacement, Watsonia to Yallambie (Matic, 2006)**

Biosis Research commissioned by GHD Services to conduct a cultural heritage assessment of proposed water main replacement between Bundoora and Yallambie. This study area is four kilometres in length, consists of road reserve on both sides along Grimshaw Street from Dendaryl Drive, then along Watsonia Road, to Greensborough Highway and continues to Drysdale Street. No new Aboriginal archaeological sites were identified during the survey although one area of low archaeological potential was identified at the southern end of the proposed water main alignment. The cultural heritage assessment recommended monitoring during works in sensitive area by the RAP

### Rehabilitation works at Koonung Creek Lower, Bulleen (Ricardi *et al.*, 2009)

CHMP 10702 was prepared by Australian Cultural Heritage Management Pty Ltd on behalf of Melbourne Water with regards to the landscaping works along the banks of the Koonung Creek at its confluence with the Yarra River. No Aboriginal cultural heritage places were identified following a standard and complex assessment of the study area, and areas of significant previous disturbance were noted, including creek realignment activities.

### Four-lot subdivision at 60 Buckingham Drive, Heidelberg (Hyett, 2010)

TerraCulture prepared CHMP 11068 on behalf of Banyule Management Pty Ltd with regard to the four-lot subdivision of the property at 60 Buckingham Drive. Despite bordering the Banyule Flats Reserve this activity area is in fact located on the elevated upland above the Yarra River floodplain. No Aboriginal cultural heritage places were identified on the property following standard and complex assessments, and previous disturbance was noted with imported materials present, as well as evidence of disturbance from car park construction.

### Wurundjeri Spur, Yarra Bend Park (Howell-Meurs, 2010)

Howell-Meurs completed a CHMP in 2010 for a proposed walking path upgrade at Wurundjeri Spur, Yarra Bend Park. The activity area was located within 200m of the Yarra River. There were no registered Aboriginal places located within the activity area at the commencement of the CHMP. A standard assessment was undertaken with generally low ground surface visibility noted off of an existing track. One Aboriginal place was identified (7922-1107, Yarra Bend Park 6). This place is represented by a single silcrete artefact that was identified on an un-maintained management track along the track exposure. The location of the site had been heavily disturbed as result of track construction and continuing use and associated erosion (Howell-Meurs, 2010, 51). A complex assessment then took place and a 1 x 1-metre test pit was excavated, along with a transect of nine 40x 40 centimetres STPs. These test pits were excavated to a maximum depth of 400 millimetres. No subsurface Aboriginal cultural heritage material was identified. Howell-Meurs concluded the Aboriginal place, 7922-1107 was considered to be in a disturbed context and had likely derived from further upslope. Management conditions included the collection of the Aboriginal cultural heritage material representing 7922-1107, and reburial, as well as interpretive signage about the history of Aboriginal occupation, the use of resources and significance of the Yarra River. A cultural induction was also recommended.

### Dights Falls (Berelov *et al.*, 2010)

A voluntary CHMP was prepared in 2010 for the proposed works at Dights Falls as part of Melbourne Water's 'Waterway Improvement Strategy' which include the installation of a fish-way and the removal and replacement of the existing weir. The standard assessment comprised a systematic pedestrian survey of the entire activity area and ground surface visibility averaged 50 per cent. Berelov, McMillan & Thiele (2010) note that the entire activity had been extensively disturbed by previous civil works and industrial and commercial activities and consequently there was no potential for sub-surface archaeological remains. No Aboriginal cultural heritage was recorded during the assessment and it was determined that no complex assessment was required. Despite this, during the assessment a new Aboriginal cultural heritage place (VAHR 7922-1185) was registered, consisting of the combination of five previously registered places (Historic Place 7.1-11, VAHR 7922-0724, 7922-1102, 7922-1104 and 7922-1108) into a single registration. These components included two low density artefact scatters (VAHR 7922-1102 and 7922-1108) and an isolated artefact (VAHR 7922-1104) along with what is thought to be the site of the former Yarra River Protectorate Station (VAHR 7922-0724) and Merri Creek School Reserve (Historic Place 7.1-11).

### **Yarra Bend Park Main Yarra Trail (Berelov *et al.*, 2011)**

A CHMP was prepared in 2011 for the proposed upgrade and widening of a 500-metre section of the Main Yarra Trail. The desktop assessment identified one previously recorded Aboriginal cultural heritage place (VAHR 7922-1185) within the activity area. This place resulted from the consolidation of five previously registered places into a single registration; the contents of which lay outside the activity area.

The standard assessment comprised a systematic pedestrian survey of the entire activity area, walked in transects spaced two metres apart. Across the entire activity area, heavy disturbance was observed resulting from the construction of the Eastern Freeway, pedestrian bridges, the existing trail and the resultant reconfiguration of the Merri Creek in these areas. No Aboriginal cultural heritage was located during the assessment and Berelov *et al.*, (2011: 36, 43) suggested it was unlikely the activity area contained subsurface archaeological deposits and consequently it was determined that no complex assessment was required for the assessment.

### **71 Banyule Road, Rosanna, Multi-Unit Development, CHMP 11708 (Barker, 2011a)**

Barker (2011) prepared a complex CHMP for the proposed residential development at 71 Banyule Road, Rosanna, approximately 0.3-hectares in size. The desktop assessment identified no previously registered Aboriginal places within the activity area, and highlighted that Banyule Drain adjacent to the activity area was a manmade artificial drainage line.

The standard assessment recorded poor ground surface visibility (20 per cent) owing to grass coverage and existing infrastructure. The complex assessment comprised of a single 1 x 1-metre test pit and four 0.4 x 0.4-metre shovel test pits, with a homogenous stratigraphic profile of disturbed clayey silt to depths of 100 millimetres directly overlying a dark yellowish-brown basal clay to 300 millimetres. It was concluded that previous ground disturbance had entirely removed or disturbed the natural A horizon. No Aboriginal cultural heritage was identified, and no specific management conditions were required by the CHMP.

### **Kew North Branch Sewer Upgrade and North Yarra Main Sewer Replacement (Barker, 2011b)**

Barker (2011) completed a complex CHMP (11262) for the proposed construction of the Kew North Branch Sewer Upgrade and North Yarra Main Sewer Replacement, which comprised open trench as well as tunnel boring. The desktop assessment identified no previously registered Aboriginal places within the activity area. A site prediction model for the activity area indicated that Aboriginal cultural heritage in the form of surface stone artefact scatters was most likely to occur in higher densities in proximity to waterways and on elevated rises adjacent to waterways.

The standard assessment recorded poor ground surface visibility (1 per cent) across the activity area, owing to thick grass coverage. A highly modified and landscaped landform was identified, with invasive tree species identified in proximity to the Yarra River. No Aboriginal cultural heritage was identified.

The complex assessment comprised of one 1 x 1-metre test pit excavated by hand and seven 2-metre mechanical test trenches. A homogenous, shallow stratigraphic profile was identified across all excavated test pits and consisted of a dark grey silty to sandy loam with clay nodules between 130-360 millimetres where present. High levels of disturbance including multiple fill layers/events were identified across each excavated test pit. No Aboriginal cultural heritage was identified.

No specific management conditions were required by the CHMP.

## 6 Borlase Street, Yallambie (O'Connor, 2012)

O'Connor (2012) prepared a complex CHMP (11990) for the proposed residential subdivision and development at 6 Borlase Street, Yallambie. The desktop assessment identified no previously registered Aboriginal places within the activity area. The standard assessment recorded low GSV across the activity area (24.5 per cent) owing to dense grass coverage and multiple existing structures obscuring any natural ground surface. The complex assessment comprised of a single 1 x 1-metre stratigraphic test pit and 10 shovel test pits and identified a homogenous stratigraphic profile of dark brown silt overlying compacted clay deposits to a maximum depth of 600 millimetres. Moderate to high levels of disturbance were recorded across the activity area, associated with the construction of the existing residential dwelling and features. No Aboriginal cultural heritage was identified, and no specific management conditions were required by the CHMP.

## Water Treatment, Harvesting and Redistribution Project at the Bolin Bolin Billabong and Wetlands (Freedman *et al.*, 2012)

Biosis prepared CHMP 11713 in 2012 on behalf of Manningham City Council with regards to a water treatment, harvesting and redistribution project through the Bolin Bolin Billabong and wetlands. A desktop assessment indicated that Aboriginal archaeological material may remain in the terraces elevated above the floodplain. Following a standard and complex assessment of the study area two Aboriginal cultural heritage places were identified, an isolated quartz artefact identified as VAHR 7922-1299 and subsurface artefact scatter of silcrete material identified as VAHR 7922-1300.

## East West link Eastern Section (Howell-Meurs, Walker & Lever, 2014)

Howell-Meurs, Walker & Lever completed a CHMP in 2014 for the East West link Eastern Section Road construction. Two registered Aboriginal places were located in the activity area, 7822-3635 (represented by a single Aboriginal stone artefact) and 7922-1185 (created through the amalgamation of five previously identified sites, being four VAHR and two related Historical Places). The activity area traversed a variety of landforms and geomorphological units including stony rises and volcanic plains, low relief landscapes focusing around the confluence of the Yarra River and Merri Creek, ridges and moderately sloping hills, terraces, floodplains lakes, swamps and lunettes around the Moonee Ponds Creek corridor.

A standard assessment was undertaken with three principal investigation areas to be assessed including Merri Creek Crossing, Royal Park and Moonee Ponds Creek. Poor ground surface visibility was noted during the assessment. The consultants noted the activity area is located within a highly urbanised environment with little or no potential for the presence of Aboriginal cultural heritage and or ground surface visibility (Howell-Meurs *et al.*, 2014, 64). A complex assessment took place across the Royal Park section of the activity area with the excavation of two 1 x 1-metre test pits and a series of shovel test pits. Many of the shovel test pits across all sections of the activity area contained evidence of previous disturbance, with minimal topsoil overlying orange-brown compacted clay. The soil deposits across the entire activity area were relatively shallow, with compact, generally dry clay reached at a depth range of approximately 200 to 500 millimetres. No new Aboriginal cultural heritage places were identified as a result of the complex assessment. Clear subsurface evidence for disturbance of the Royal Park section of the activity area were detected in the form of post-contact European materials in a number of excavations.

No additional Aboriginal cultural heritage places were identified during the CHMP assessments.

### **Alphington Sewer Project Additional Works Chandler Highway, Kew (Chamberlain, 2014)**

Chamberlain prepared a complex CHMP (13286) in 2014 for the proposed sewer reticulation construction at Chandler Highway, Kew. The desktop assessment identified no previously registered Aboriginal places within the activity area and indicated that land use history was likely to have significantly affected any intact subsurface deposits. A site prediction model for the activity area indicated that the landscape surrounding the Yarra River has previously been highly modified, and there was a low potential for buried archaeological deposits.

The standard assessment recorded poor ground surface visibility owing to thick grass coverage, with some areas of exposure identified at the base of trees and along the fringes of access tracks. Little natural ground surface was observed owing to land modification and introduced fill material.

The complex assessment comprised of a single 1 x 1-metre test pit and seven 0.4 x 0.4-metre shovel test pits, and identified a homogenous stratigraphic profile consisting of clayey silt to silt A horizons, overlying basal clay at 400 to 800 millimetre depth. The profile demonstrated that disturbance was limited to the uppermost horizons and overlaid various natural silts with increasing clay content. No Aboriginal cultural heritage was identified, and no specific management conditions were required by the CHMP.

### **Residential Development, 314 Lower Plenty Road, Rosanna (Patton and Fiddian, 2016)**

Patton and Fiddian (2016a) completed a complex CHMP (14116) for the proposed residential subdivision and development at 314 Lower Plenty Road, Rosanna. The desktop assessment identified no previously registered Aboriginal places within the activity area and identified a moderate to high level of previous ground disturbance associated with existing residential dwellings and associated structures in the activity area. The standard assessment recorded moderate GSV (30 per cent) across the activity area, owing to thin grass coverage outside areas occupied by existing buildings. The complex assessment comprised a single 1 x 1-metre stratigraphic test pit and seven 0.4 x 0.4-metre shovel test pits, with maximum depths ranging 140 to 200 millimetres. Modern inclusions such as glass, slate, pottery and road base were identified across all excavated test pits, with a stratigraphic profile consisting of alluvial silty clay overlying basal clay. A single silcrete backed blade (VAHR 7922 1429) was identified during the complex assessment at approximately 110 millimetres depth. Given the low density and significance of the Aboriginal place, no specific management conditions were required by the CHMP.

### **Residential Subdivision, 8 Maleela Grove, Rosanna (Falvey, 2016)**

Falvey (2016) prepared a complex CHMP (14148) for the proposed residential subdivision and development at 8 Maleela Grove, Rosanna. The desktop assessment identified that it was highly unlikely for Aboriginal cultural heritage to be present, given the construction of an existing dwelling and outbuildings in the mid-1950s. The standard assessment recorded poor GSV, owing to <20 per cent of the activity area demonstrating visible ground surface. The complex assessment comprised a single 1 x 1-metre stratigraphic test pit and five 0.4 x 0.4-metre shovel test pits, with all excavated test pits displaying a relatively homogenous and highly disturbed stratigraphic profile. The stratigraphy of the activity area comprised a silty loam to silty clay upper horizon, overlying basal clay to a maximum depth of 290 millimetres. A high degree of modern disturbance was observed across all excavated A1 horizons, and included glass, plastic and basalt. No Aboriginal cultural heritage was identified during the preparation of the CHMP, and no specific management conditions were required by the report.

### M80 Upgrade, Greensborough Highway interchange to Plenty Road (Tucker and MacCulloch, 2016)

In 2016 Tucker & MacCulloch completed CHP 12190 for the M80 Upgrade, Greensborough Highway interchange to Plenty Road. There were two existing Aboriginal Places within the activity area at the commencement of this CHMP, M80 Greensborough Highway Interchange VAHR 7922-1118 located in a drainage channel on a wide median strip between two running lanes of the M80 Ring Road roadway, and Greensborough Highway IA 1 VAHR 7922-0812 identified during monitoring works for bridge construction across Plenty River. The artefact representing this place was a broken un-retouched quartz flake and it was collected at the time (Tucker & MacCulloch, 2016, 3). A standard assessment was undertaken, and generally poor ground surface visibility was noted. Four newly identified Aboriginal places were recorded (7922-1295, -1296, -1297 and -1298) and three areas of potential archaeological sensitivity were also noted. These areas were located near Enterprise Drive, Booyan Crescent and south of Hakea Street and were assessed as potentially retaining some remnant landform.

The results of the standard assessment indicated the activity area has been substantially disturbed as a result of the road works involved with the construction of the M80 Ring Road and Greensborough Bypass. However, owing to the presence of the four Aboriginal places and the areas of potential sensitivity subsurface testing was recommended.

A complex assessment was undertaken with six 1 x 1-metre test pits and 102 40 x 40-centimetre shovel probes excavated. A total of five of the seven Aboriginal places in the activity area were investigated at this time. One new Aboriginal place was identified during the complex assessment at Enterprise Drive, a low-density artefact scatter with poor archaeological integrity (7922-1311). The results of the complex assessment indicated the activity area has very poor subsurface contextual integrity with no in situ archaeologically sensitive deposits. Original topsoil deposits were absent and substantial landscaping had occurred including the use of introduced soil for planting purposes. Large amounts of fill were encountered that directly overlay rock deposits, indicating there was an absence of original soil profiles that may contain archaeological material (Tucker & MacCulloch, 2016). Management conditions included a cultural awareness induction, RAP inspections, fencing around 7922-1295, -1296, -1297, -1298, and surface salvage at 7922-1118 and -1311.

### Darebin/Yarra Trail Link (Stage 3) (Jones, 2016)

Andrew Long and Associates prepared CHMP 14138 in 2016 with regard to the construction of a shared path within Willsmere Park, Kew East, on behalf of VicRoads. A desktop review of the region suggested that due to the study area's proximity to fresh water (the Yarra River and Darebin Creek), it was highly likely that Aboriginal cultural heritage places would be found within the study area. The most likely place types would comprise scarred trees and stone artefact scatters. However, the potential to locate sites within the study area was mitigated by the long history of modern land use in the area, resulting in disturbance of topsoil and clearing of land for a variety of reasons. No Aboriginal cultural heritage places were identified during a standard and complex assessments of the activity area. The excavations include a 1 x 1-metre pit which was mechanically excavated to a depth of 2.65 millimetres. It was comprised of a single stratigraphic unit, being a mid-brown compact clayey silt with occasional charcoal inclusions. Historical artefacts were recovered up to 400 millimetres depth.

## Yarra Valley Country Club Bulleen (Berelov & Vines, 2016)

Berelov and Vines prepared CHMP 13793 in 2016 for the proposed redevelopment of the Yarra Valley Country Club in Bulleen. Geotechnical investigations of the activity area were undertaken. The results indicated that while large sections of the activity area had been subject to previous ground disturbance which would have substantially impacted on any potential Aboriginal cultural heritage, soils within other sections of the activity area were relatively intact (Berelov & Vines, 2016, 36). A standard assessment was conducted, and the frontage of the activity area was noted to have been subject to previous disturbance with levelled and sealed carpark, a substantial club housed and terraced sporting facilities (Berelov & Vines, 2016, 41). Further inspection revealed the entire plateau fronting Templestowe Road is an artificial feature created through the dumping on fill, including bricks, bluestone, metals and general waste, with much of this demolition fill dating no earlier than the 1960s, and most likely imported to the activity area. The floodplain landform comprising the mid and northern sections of the activity area contained small sections that were possibly more natural.

A complex assessment was then undertaken, with three initial 1 x 1-metre test pits excavated on each landform identified during the standard assessment; a potential raised terrace, the alluvial floodplain and an elevated Silurian area. Aboriginal cultural heritage was identified on the alluvial floodplain landform where a 1 x 1-metre test pit had been positioned on a small rise. Three shovel test pits also contained Aboriginal cultural heritage material, and additional test pits were then excavated. A total of 5 Aboriginal artefacts were identified and registered as the LDAD, VAHR 7922-1446. This Aboriginal material consisting of silcrete and quartz artefacts was located at a depth range of 30-200 millimetres (Berelov & Vines, 2016, 66). Salvage excavation in the vicinity of locations of the Aboriginal cultural heritage material was recommended, with at least two square metres proposed at each of the three salvage locations (Berelov & Vines, 2016, 74).

## North Eastern Program – Initial works package for Level Crossing Removal Authority (Spry & Green, 2017)

Spry & Green conducted CHMP 14445 in 2017 on behalf of the Level Crossing Removal Authority. The southern section of the activity area commences in Clifton Hill, approximately four kilometres north-east of the Melbourne CBD. The activity area terminates at Keon Park and Diamond Creek, approximately 17 kilometres north-east and 23 kilometres north-east of the Melbourne CBD.

A standard assessment was undertaken, and it was noted the greater majority of the ground surface within the activity area was obscured by ground cover or sealed surfaces, with 1-5 per cent of the total activity area containing effective ground surface visibility. No Aboriginal cultural heritage places were identified during the standard assessment.

A complex assessment comprising a total of eight hand excavated 1 x 1-metre test pits and 38 0.5 x 0.5-metre shovel test pits (STPs) was undertaken across the activity area (Spry & Green, 2017, 105). The majority of test pits included fill inclusions and building debris such as gravel, rail ballast and asbestos which confirmed a high level of disturbance across the activity area. A total of thirteen artefacts were identified in five pits at a depth range of 50 to 850 millimetres. The excavation results demonstrated a high level of disturbance across the entire activity area, primarily derived from the construction and maintenance of the rail corridor and associated rail reserve, as well as train stations, carparks, utilities, pathways, water crossings, and vehicle access tracks. On the basis of the testing program and its results it was determined there was a low potential for dense or stratified deposits of stone artefacts or other Aboriginal cultural materials outside the known occurrence to be disturbed by the proposed activity.

#### Banyule Flats Reserve, Banyule (Green & Albrecht, 2017, in prep.)

Green & Albrecht conducted a CHMP (14563) in 2017 on behalf of Banyule City Council for the proposed construction of a shared trail at Banyule Flats reserve. There were no registered Aboriginal places within the activity area for this CHMP at the commencement of the project, although the desktop assessment revealed that there were a number of previously registered Aboriginal places in the vicinity of the activity area, primarily comprising scarred trees and artefact scatters, with low density artefact distributions also recorded, as well as an object collection, a quarry and an earth feature (Green & Albrecht, 2017 in prep., 31). A standard assessment was undertaken, and the area was assessed as containing a single landform of flat to gently inclined floodplain associated with the Yarra River (Green & Albrecht, 2017 in prep. 53). The activity area was assessed as having low-moderate to moderate previous disturbance, with moderate to high archaeological potential. A complex assessment was then undertaken, and a total of two 1 x 1-metre test pits and 66 50 x 50 centimetre shovel test pits were excavated. A sampling methodology was utilised, focusing on areas of apparent least disturbance. Initial subsurface testing revealed relatively high concentrations of Aboriginal cultural heritage, and after meeting with the RAP and Sponsor, the subsurface testing methodology was refined, and additional excavations were scheduled. During the second phase of testing, additional test pits were excavated including a total of 33 50 x 50-centimetre STPs to define the nature and extent of the Aboriginal cultural heritage material identified. A total of 204 Aboriginal stone artefacts were identified in 32 pits. The artefacts were located at various depths including shallow depths ranging from 0-200 millimetres as well as depths below this to a maximum depth of 800-900 millimetres. Approximately 92 per cent of the artefacts were located at depths above 500 millimetres with fewer artefacts identified below 500 millimetres (Green & Albrecht, 2017 in prep. 68). This Aboriginal cultural heritage material has been recorded as a low density artefact distribution and registered as VAHR 7922-1506 (Banyule Flats LDAD 01) and also as an artefact scatter, 7922-1511 (Banyule Flats Reserve 01) represented by 162 Aboriginal stone artefacts.

#### 27-29 Brindy Crescent, Doncaster East (Burch, 2017)

Burch conducted CHMP 14598 in 2017 at Brindy Crescent in Doncaster East. The activity area was located adjacent to Koonung Creek, sloping north to south towards the creek. A standard assessment was undertaken, and no Aboriginal places or areas of Aboriginal archaeological sensitivity were identified. Due to the low ground surface visibility at the time of the standard assessment, it was not possible to determine the presence of Aboriginal places, therefore a complex assessment was undertaken. During the complex assessment one 1 x 1-metre test pit and six shovel test pits were excavated. There was no Aboriginal cultural heritage identified. Management conditions included a cultural induction, and a compliance inspection.

#### 19-35 Graham Road, Viewbank, Residential Development, CHMP 15156 (Holzheimer, 2017)

Holzheimer undertook a complex CHMP in 2017 for the proposed residential development at 19-35 Graham Road, Viewbank, approximately 0.94-hectares in size. The desktop assessment identified no previously registered Aboriginal places within the activity area and stated that it was likely extensive previous development across the activity area had disturbed or destroyed any *in situ* Aboriginal cultural heritage.

The standard assessment recorded poor ground surface visibility (<5 per cent) owing to thick grass coverage and existing infrastructure. A high level of previous ground disturbance was also recorded, as the result of residential dwelling, ancillary building and structure construction and subsurface utility installation. The complex assessment consisted of a two 1 x 1-metre test pits and 15 0.5 x 0.5-metre shovel test pits. The stratigraphic profile varied across the activity area as the result of previous disturbance, with evidence of stripping and levelling identified in the absence of A1 horizons in a number of excavated test pits. Where upper horizons remained intact, the stratigraphic profile comprised of silty clay overlying cemented clay and siltstone and ranged between 110-450 millimetres depth. Siltstone, gravel inclusions and clay content generally increased with depth, consistent with the predicted underlying geology of the activity area.

No Aboriginal cultural heritage was identified during the standard or complex assessments, and no specific management conditions for the activity area were required.

#### **160-162 Mountain View Road Balwyn North (Matic, 2017)**

Matic conducted CHMP 14677 in 2017 for a proposed residential development at Balwyn North. The activity area comprised sloping land containing existing structures and dwellings. A standard assessment identified that large sections of the activity area had undergone previous disturbance through construction works and landscaping. Matic identified the grasses open space and garden beds as areas of archaeological potential. A complex assessment was undertaken, and the results confirmed that while the activity area has undergone some previous disturbance, there were still relatively undisturbed subsoils present. A total of two 1 x 1-metre test pits and eight shovel test pits were excavated as well as the enlargement of one shovel test pit to create a 1 x 1-metre test pit and three radial shovel test pits that were excavated once Aboriginal cultural heritage was identified (Matic, 2017, 27). One Aboriginal cultural heritage place was identified during the complex assessment, a low density artefact distribution, VAHR 7922-1481 (160 Mountain View Road LDAD). This LDAD is represented by a complete quartzite flake and a complete silcrete flake that were identified in a subsurface context on sloping land overlooking Koonung Creek. Management conditions included a cultural heritage induction, compliance inspections and repatriation of the Aboriginal cultural heritage material.

#### **Yarra Bend Park, Kew, Pole Replacement Works, CHMP 15457 (Holzheimer, 2018)**

Holzheimer completed a complex CHMP in 2018 for the proposed removal and replacement of a single utility pole in Yarra Bend Park, Kew, and included an area approximately 0.2 hectares in size. The desktop assessment identified no previously registered Aboriginal places within the activity area and considered there to be a high likelihood for scarred trees based on remnant native vegetation in the activity area.

The standard assessment recorded poor ground surface visibility (3.9 per cent) owing to leaf litter and surface gravels, in addition to existing bitumen and gravel-lain pedestrian and cycling tracks accounting for most of the activity area. The complex assessment comprised of a single 1 x 1-metre test pit, excavated at the precise location of the proposed pole replacement. The stratigraphic profile comprised of a shallow, friable to firm silty A horizon, underlay by a siltstone bedrock base at approximately 150 millimetres depth. From 100 millimetres depth, broken siltstone or bedrock pieces were present and increased in size and quantity with depth consistent with descriptions of the Melbourne Formation (Sxm) geology underlying the activity area. As per previous archaeological investigations in proximity to the activity area, it was concluded the stratigraphy represented an absence of dynamic alluvial soils, owing to geomorphic, natural and anthropogenic causes of erosion.

No Aboriginal cultural heritage was identified during the standard or complex assessments, and no specific management conditions for the activity area were required.

#### **69-71 Banyule Road, Rosanna, Residential Subdivision, CHMP 15455 (Welsh & Janson, 2018)**

Welsh & Janson undertook a standard CHMP in 2018 for the proposed residential subdivision at 69-71 Banyule Road, Rosanna, approximately 0.7-hectares in size and incorporating the land adjacent to 71 Banyule Road, Rosanna previously addressed by CHMP 11708 (Barker, 2011). The standard assessment recorded poor ground surface visibility (20 per cent) across the entire activity area, and identified the modification of 69 Banyule Road, Rosanna as including previous terracing and levelling by cutting and filling of a naturally sloped landform.

It was agreed that no further assessment of 69 Banyule Road, Rosanna was required, and that no specific management conditions for the activity area were required.

## 6.8 Implications of previous archaeological investigations relating to the current study area

By comparing the results of the background research and the archaeological investigations previously undertaken within the geographic region, the following conclusions can be drawn regarding the nature of Aboriginal archaeological material within the activity area:

- The study area is located within the traditional language area of the *Woi wurrung* language group and the *Woi wurrung* clan most closely associated with the study region were the *Wurundjeri willam*, who identified with the Yarra River and Plenty River.
- According to some sources the western part of the study area potentially overlaps with the *Bun wurrung*. The two *Bun wurrung* clans listed by Clark as being most closely associated with the study area were the *Yalukit willam*, located east of Werribee River, Williamstown, Sandridge and St. Kilda, and *Ngaruk willam* located at Brighton, Mordialloc, Dandenong and between Mount Eliza and Mount Martha (Clark, 1990, 365).
- The study area contains a number of water sources, including major water courses such as the Yarra River, Plenty River and major creeks such as Merri Creek, sections of Darebin Creek and Salt Water Creek. These water sources would have contained a variety of food and medicinal resources that would have been utilised by Aboriginal people.
- The study area and geographic region are situated predominantly within the Eastern Uplands geomorphological unit and include the following subunits:
  - Terraces, fans and floodplains associated with the major waterways
  - Low relief landscapes at low elevation
  - Moderately dissected ridge and valley landscapes.
- Inside the broader region that comprises the study area, there are a total of 217 previously registered Aboriginal cultural heritage places. Most of these places consist of artefact scatters (41.5 per cent) followed by scarred trees (25.3 per cent) and historical references (21.2 per cent). There are also smaller quantities of Low density artefact distributions (LDADs), Aboriginal historical places, scarred tree and object collection Aboriginal places, Aboriginal cultural place and Aboriginal historical place.
- At the time of the desktop study there were 30 registered Aboriginal places within the study area. These places comprise 14 artefact scatters, seven scarred trees, five LDADs, three historical references and one Aboriginal historical place/artefact scatter multi-component.
- Aboriginal places have been recorded on a range on landforms including:
  - Hills, moderately inclined slopes or crest (n=10)
  - Floodplain, riverbank or terrace (n=7)
  - Flats/Flat land (n=6)
  - A number of places have no landform information recorded.
- Where artefact numbers have been recorded (from Aboriginal stone artefact places) they are generally low.
- There is a wide range of raw materials recorded within Aboriginal artefact assemblages including silcrete, quartz and quartzite.
- Previously registered Aboriginal places have often been found on landforms associated with water courses including river terraces and elevated land in proximity to water.
- Previous archaeological investigations within the study region have indicated that despite the modifications that have taken place to many of the waterways in and around Melbourne, there is a high likelihood of Aboriginal cultural heritage being found in proximity to permanent watercourses.

- The results of previous archaeological investigations have suggested that landforms away from water courses have lower archaeological potential often due to land modification. Urban development and modification that has taken place in vicinity of watercourses has likely been responsible for the destruction and loss of Aboriginal cultural heritage places.
- Localised archaeological studies have indicated that land that has been highly modified by activities such as ground preparation for urban development are unlikely to contain Aboriginal cultural heritage material.
- Localised archaeological studies have also indicated that it is possible that Aboriginal cultural heritage may be present in areas that contain previous disturbance particularly in areas that contain sensitive landforms associated with water courses.
- The current study area has been impacted by previous and current activities such as works associated with major roadway construction, industrial, commercial and residential construction.
- The activity area comprises landforms that may be sensitive for Aboriginal cultural heritage material including volcanic plains, river and creek margins, river terraces and elevated landforms associated with water courses. Buried deposits consisting of stone artefacts may survive within undisturbed landforms present within the activity area, depending upon the effects of disturbance from historical and modern land uses.

## 7. Risk assessment

A risk assessment of project activities was performed in accordance with the methodology described in Section 5.4. The risk assessment has been used as a screening tool to prioritise the focus of the impact assessments and development of EPRs. The risk pathways link project activities (causes) to their potential effects on the environmental assets, values or uses that are considered in more detail in the impact assessment. Risks were assessed for the construction and operation phases of the project.

The identified risks and associated residual risk ratings are listed in Table 7-1. The likelihood and consequence ratings determined during the risk assessment process and the adopted EPRs are presented in Appendix A. There are no planned events within the Aboriginal heritage impact assessment.

**Table 7-1: Aboriginal cultural heritage risks**

Risk ID	Potential threat and effect on the environment	Risk rating
<b>Construction</b>		
Risk AH01	Disturbance/destruction of registered Aboriginal cultural heritage place(s) and/or associated cultural values in a deteriorated condition with a high degree of disturbance evident and some cultural heritage remaining.	Medium
Risk AH02	Disturbance/destruction registered Aboriginal cultural heritage place(s) and/or associated cultural values of common occurrence with a limited range of cultural materials, in fair to good condition with some degree of disturbance evident.	Medium
Risk AH03	Disturbance/destruction of registered Aboriginal cultural heritage place(s) and/or associated cultural values of rare occurrence and/or with a large number and diverse range of cultural materials and/or stratified deposits.	Medium
Risk AH04	Disturbance/destruction of registered Aboriginal cultural heritage place(s) and/or associated cultural values of exceptional value as identified by the RAP and/or Aboriginal Victoria and/or Traditional Owners, for example, a burial site.	Medium
Risk AH05	Disturbance/destruction of previously unregistered Aboriginal cultural heritage place(s) and/or associated cultural values of exceptional value as identified by the RAP and/or Aboriginal Victoria and/or Traditional Owners, for example, a burial site.	Medium

---

## 8. Impact assessment

The impact assessment has been separated into the project's three elements (shown in Figure 3-1 of Section 3.1 of this report).

- M80 Ring Road to northern portal – extends east along the M80 Ring Road at Plenty Road and Greensborough Bypass at Plenty River Drive to the northern portal near Blamey Road.
- Northern portal to southern portal – extends from the northern portal into twin cut and tunnels that would connect to Lower Plenty Road via new interchange before travelling under residential areas, Banyule Flats and the Yarra River in mined tunnels to a new interchange at Manningham Road. The tunnels would then continue to the southern portal location south of the Veneto Club.
- Eastern Freeway – extends from around Hoddle Street in the west through to Springvale Road in the east, with modifications to the Eastern Freeway and a new interchange at Bulleen Road to connect North East Link to the Eastern Freeway.

The impact assessment deals, with few exceptions, with direct impacts on Aboriginal cultural heritage places – either a place is impacted, or it is not.

Due to the public nature of this report, detailed maps and plans showing the extents of impacted Aboriginal cultural heritage places have not been included. These maps will be included within the final CHMP.

### 8.1 Construction impacts

This section describes the potential impacts on Aboriginal cultural heritage assets and values from the construction of North East Link. The impacts are discussed below and the locations of potential impacts are shown in the maps in Figure 8-1 to Figure 8-12.

For the purposes of the following sections, a place has been determined not to be impacted where the place is remote from project works and there would be no direct or indirect (that is, through groundwater drawdown) physical impact. Where surface impact is indicated, this means there is a likely direct physical impact through construction activities. Where indirect impact is indicated, this means that impacts associated with groundwater drawdown may occur.

Likely pathways of construction impacts on Aboriginal cultural heritage relate primarily to land clearance and excavation for the project. The magnitude of these impacts would likely vary depending on the nature of the infrastructure being constructed. For example, trenching for the cut and cover tunnels section would result in the complete removal of any places registered or otherwise within the works area. In contrast, areas which may be used for construction compounds may experience only limited subsurface impacts to level these sites for use. On this basis, it may be possible that heritage in subsurface deposits below the level of impact at such locations may not be impacted. Similarly, the construction of infrastructure such as shared use paths would in general have a very shallow subsurface impact and in some case would entail the building up of ground levels through the introduction of compacted fill.

EPRs would also be implemented for shared Aboriginal cultural and historical heritage values. Through detailed design, the works and permanent infrastructure would be undertaken to minimise impacts on heritage values where practicable (EPR HH1). Where works would involve subsurface disturbance, an Archaeological Management Plan would be required to guide appropriate investigation and management of the site to the satisfaction of the Executive Director, Heritage Victoria.

The plan would detail measures to minimise, mitigate and manage disturbance of archaeological sites and values impacted by the works (EPR HH2).

### 8.1.1 M80 Ring Road to northern portal

In the M80 Ring Road to northern portal element of the project, works would mainly involve widening the existing road corridor above and at surface level, with new road interchanges at the M80 Ring Road and Grimshaw Street. Construction would generally involve surface works with some open cut construction methods and much of the work would be carried out along and within land surrounding the existing road corridor.

In this element of the project, there are eight Aboriginal cultural heritage places which are listed in Table 8-1. Six of these places would not be impacted by the project, including artefact scatters primarily located in proximity to the M80 Ring Road and Greensborough Bypass but outside the carriage ways of these roads (risk AH01, risk AH02 and risk AH03). A Low Density Artefact Distribution, Grimshaw Street LDAD1, identified during the preparation of the CHMP would not be impacted by the project. A place has been determined not to be impacted where the place is remote from project works and there would be no direct or indirect (that is, through groundwater drawdown) physical impact.

**Table 8-1: Impact assessment – M80 Ring Road to northern portal: Aboriginal cultural heritage places within the study area**

VAHR	Name	Type	Impact
7922-0812	Greensborough Bypass IA1	Artefact scatter	No Impact
7922-1118	M80 Greensborough Highway Interchange	Artefact scatter	Surface Impact
7922-1295	M80 Greensborough Highway Interchange 2	Artefact scatter	Surface Impact
7922-1296	Goolgung Grove 1	Artefact scatter	No Impact
7922-1297	Worcester Crescent 1	Artefact scatter	No impact
7922-1298	Enterprise Drive 1	Artefact scatter	No impact
7922-1311	Greensborough Bypass 2	Low-density artefact distribution	No Impact
7922-####	Grimshaw Street LDAD1	Low-density artefact distribution	No impact

A number of these places have been previously impacted through the construction of the M80 Ring Road and Greensborough Bypass and have likely been completely destroyed as a consequence. Notwithstanding, the project does have the potential to directly impact two artefact scatters at the M80 Ring Road and Greensborough Road interchange (risk AH01).

The preparation of a CHMP will allow for an appropriate level of assessment of the affected places and provide appropriate management recommendation to minimise, avoid or mitigate the impact on these places (EPR AH1). A CHMP will provide for an appropriate level of investigation which would to some degree mitigate the impacts of the project. While in some case harm to Aboriginal cultural heritage cannot be avoided, the CHMP will redress this harm to some degree by allowing the collection of scientific and cultural data that may otherwise be unrealised. The preparation of a CHMP will similarly allow for the implementation of management strategies to protect those places which will not be impacted by the proposed works from inadvertent harm.

## Unregistered Aboriginal heritage

The assessment considered the potential for the project to impact unregistered Aboriginal heritage places (risk AH04).

The potential for impacts on unidentified Aboriginal cultural heritage places is under assessment through the CHMP (EPR AH1). This archaeological potential will be fully developed through the completion of the standard and complex assessments of the CHMP process as well as the parallel cultural values mapping exercise.

The CHMP will provide management measures and contingences in the event that previously unknown items of Aboriginal cultural heritage are uncovered during project works.

### 8.1.2 Northern portal to southern portal

## Registered Aboriginal heritage

In the northern portal to southern portal element, the project works would mainly involve tunnelling works which would largely have no direct impact on heritage within this section except for portal locations. The majority of tunnelling works would be bored although cut and cover techniques would be required in the southern part of this section. Due to ground conditions, some ground improvement works would also be required where the tunnel construction methodology changes from bored tunnel to cut and cover tunnel. A new road interchange would be required at Manningham Street.

In this element of the project there are 11 registered Aboriginal cultural heritage places. A further two places have been identified during the preparation of the CHMP. In addition, three places listed on Manningham City Council's Planning Scheme Heritage Overlay are also present within this element, all of which would likely be impacted. These are listed in Table 8-2.

Of the 11 formally registered Aboriginal cultural heritage places, only one place would be directly impacted by ground improvement works within Banksia Park. A place has been determined not to be impacted where the place is remote from project works and there would be no direct or indirect (that is, through groundwater) physical impact. As a consequence, eight of the 11 registered places, located directly over the bored tunnel section of the project or outside the proposed works area would not be subject to impacts.

Two registered scarred trees within Simpson Barracks, which will likely be de-registered and thus become non-sites, would be subject to direct (SAB9) and indirect impacts associated with changes to groundwater levels associated with groundwater drawdown (SAB 8). Until the de-registration of these places is confirmed they will continue to be included in the impact assessment, albeit in a qualified manner.

It should be noted the veracity of the registration of the scarred trees at Simpson Barracks has been questioned and is currently the subject of consultation with the WWCHAC as part of the CHMP process. An inspection of these trees undertaken as part of the cultural values mapping exercise undertaken with the WWCHAC determined these scarred trees are not cultural in origin and steps are currently underway to have these trees removed from the Victorian Aboriginal Heritage Register.

Of the two places identified during the preparation of CHMP 15576, Banyule Creek LDAD 1 (7922-####)<sup>6</sup> would likely be impacted by works associated with the northern portal of the project. Banyule Creek Artefact Scatter 1 (7922-####) would not be impacted.

---

<sup>6</sup> These places have not been formally registered on the Victorian Aboriginal Heritage Register and have not been issued places numbers as yet.

Two of the three places listed by Manningham City Council, being HO24 (River Red Gum, Bridge Street) and HO72 (former Bulleen Drive-in) would be directly impacted by the project. The place HO24 (River Red Gum, Bridge Street) was subject to an assessment as part of the preparation of the CHMP and the cultural values mapping exercise undertaken with Elders from the WWCHAC. There was broad agreement between the Elders present that while this tree represents an important remnant landscape element there was nothing inherently culturally significant about the tree.

As a consequence of the construction no-go zone there would be no direct impacts on HO30 (Bolin Bolin Billabong), although there would likely be impacts through groundwater drawdown to this place. This is discussed in Section 8.2.

**Table 8-2: Impact assessment – Northern portal to southern portal: Aboriginal cultural heritage places within the study area**

VAHR/HO	Name	Type	Impact
4.5-2	Bulleen Lagoon	Historical reference	No Impact
7922-0022	Rosanna	Scarred tree	No Impact
7922-0052	Templestowe 4	Artefact scatter	Surface Impact
7922-0255	Bolin Billabong 1	Artefact scatter	No Impact
7922-0256	Yarra Flats 1	Scarred tree	No Impact
7922-0584	SAB 8	Scarred tree	Indirect Impact*
7922-0585	SAB 9	Scarred tree	Surface Impact*
7922-1446	Bulleen LDAD	Low-density artefact distribution	No Impact
7922-1429	Lower Plenty Rd IA1	Low-density artefact distribution	No impact
7922-1506	Banyule Flats Reserve LDAD 01	Low-density artefact distribution	No Impact
7922-1511	Banyule Flats Reserve 01	Artefact scatter	No Impact
7922-####	Banyule Creek LDAD 1	Low-density artefact distribution	Surface impact
7922-####	Banyule Creek Artefact Scatter 1	Artefact scatter	No impact
HO24	River Red Gum, Bridge Street	Tree	Surface Impact
HO72	Bulleen Drive-in (former)	Archaeological place	Surface impact
HO30	Bolin Bolin Billabong	Archaeological place	Indirect impact

\*Please note that on the basis of ongoing assessments these items will likely be de-registered as non-cultural items.

The majority of the Aboriginal cultural heritage places within this element of North East Link would not be impacted by the proposed works. One place which would likely be impacted by the project's construction, 7922-0052 – Templestowe 4, would be impacted by ground improvement works at or around the southern portal.

The preparation of a CHMP will allow for an appropriate level of assessment of the affected places and will provide appropriate management recommendations to minimise, avoid or mitigate the impact on these places. A CHMP will provide for an appropriate level of investigation which would to some degree mitigate the impacts of the project. While in some case harm to Aboriginal cultural heritage cannot be avoided the CHMP will redress this harm to some degree by allowing the collection of scientific and cultural data that may otherwise be unrealised. The preparation of a CHMP will similarly allow for the implementation of management strategies to protect those places which would not be impacted by the proposed works from inadvertent harm.

## Unregistered Aboriginal heritage

The assessment considered the potential for the project to impact unregistered Aboriginal heritage places (risk AH04).

The potential for impacts on unidentified Aboriginal cultural heritage places is under assessment through the CHMP (EPR AH1). This archaeological potential would be fully developed through the completion of the standard and complex assessments of the CHMP process as well as the parallel cultural values mapping exercise.

The CHMP will provide management measures and contingences in the event that previously unknown items of Aboriginal cultural heritage are uncovered during project works.

### 8.1.3 Eastern Freeway

## Registered Aboriginal heritage

Within the Eastern Freeway element of the project, the works would mainly involve widening the existing road corridor above and at surface level, with new road interchanges at Bulleen Road and Springvale Road. Construction would generally involve surface works within land surrounding the existing road corridor. A number of sites are also tagged as potential construction sites and laydown areas.

Within this project element there are 15 formally registered Aboriginal cultural heritage places. In addition to these registered places, there are three places which have been identified during the preparation of the CHMP and which are considered here within the impact assessment. These are listed in Table 8-3.

Thirteen of the 15 registered places would not be impacted by the project. At this stage of the assessment only two of these places would potentially be impacted. Mapping on ACHRIS for the Merri Creek School Reserve places the primary coordinate for this place within the westbound carriageway of the Eastern Freeway, although other evidence suggests the likely locations of structures associated with this place to the north of the current alignment the Eastern Freeway. As such it is unclear whether there is in fact a potential or likely impact this place.

Impacts on the place 7922-1185 – Dights Falls are similarly unclear. The registration for this place is extensive and consists of a conglomeration of a number of previously registered places. These component places are widely distributed to the north and south of the Eastern Freeway, although none of the components would actually likely be impacted by the works.

It is noted that initially it was considered there may be impacts on a third registered place, Willsmere Tree B (7922-0133). However, an inspection undertaken as part of the CHMP investigations determined this place has been erroneously mapped on ACHRIS and the tree in question is actually located outside the study area and would not be impacted by the project. This place has been retained within the impact assessment although it should be noted that steps are currently being taken to have the ACHRIS mapping corrected.

In addition to the above, three places identified during the preparation of the CHMP would also likely be impacted. These three places are all located in open space which is proposed to be used as construction compounds or as the location of a flood mitigation infrastructure.

A local heritage place HO181, Archaeological site (Ref. VAS 7922/202), listed on the Manningham Planning Scheme marginally extends into the study area but would not be impacted.

**Table 8-3: Impact assessment – Eastern Freeway: Aboriginal cultural heritage places within the study area**

VAHR	Name	Type	Impact
5.1-12	Yarra River Protectorate Station	Historical reference	No Impact
7.1-11	Merri Creek School Reserve	Historical reference	Surface Impact
7922-0133	Willsmere Tree B	Scarred Tree	No impact*
7922-0202	Koonung 1	Artefact scatter	No Impact
7922-0203	Koonung 2	Artefact scatter	No Impact
7922-0266	Yarra Flats 2	Scarred tree	No Impact
7922-0540	Boronia Grove 1	Scarred tree	No Impact
7922-1103	Yarra Bend Park 2	Artefact scatter	No Impact
7922-1105	Yarra Bend Park 4	Artefact scatter	No Impact
7922-1106	Yarra Bend Park 5	Artefact scatter	No Impact
7922-1107	Yarra Bend Park 6	Artefact scatter	No Impact
7922-1185	Dights Falls 1	Aboriginal historical place	Surface Impact
7922-1299	Yarra Flats 4	Low-density artefact distribution	No Impact
7922-1300	Yarra Flats 5	Artefact scatter	No Impact
7922-1553	Chandler Highway2	Low-density artefact distribution	No impact
7922-####	Kampman Street LDAD1	Low-density artefact distribution	Surface Impact
7922-####	Koonung Trail LDAD1	Low-density artefact distribution	Surface Impact
7922-####	Koonung Trail LDAD2	Low-density artefact distribution	Surface Impact
HO181	Archaeological site (Ref. VAS 7922/202) – Wetherby Road eastern Cnr Eastern Freeway, Doncaster East	Archaeological places	No impact

\* Location of place has been confirmed outside the study area

The preparation of a CHMP will allow for an appropriate level of assessment of the affected places and will provide appropriate management recommendation to minimise, avoid or mitigate the impact on these places (EPR AH1). A CHMP will provide for an appropriate level of investigation which will to some degree mitigate the impacts of the project. While in some case harm to Aboriginal cultural heritage cannot be avoided the CHMP will redress this harm to some degree by allowing the collection of scientific and cultural data that may otherwise be unrealised. The preparation of a CHMP will similarly allow for the implementation of management strategies to protect those places which will not be impacted by the proposed works from inadvertent harm.

### Unregistered Aboriginal heritage

The assessment considered the potential for the project to impact unregistered Aboriginal heritage places (risk AH04).

The potential for impacts on unidentified Aboriginal cultural heritage places is under assessment through the CHMP (EPR AH1). This archaeological potential will be fully developed through the completion of the standard and complex assessments of the CHMP process as well as parallel cultural values mapping exercise.

The CHMP will provide management measures and contingences in the event that previously unknown items of Aboriginal cultural heritage are uncovered during project works.

## 8.2 Groundwater impacts

While the majority of the groundwater risks occur during the project's construction phase, some risks manifest during the operation, as groundwater levels re-equilibrate after construction dewatering, and from the influence of water tight structures within regional groundwater flow paths. Disturbance to the groundwater environment occurs where the project is below grade, which occurs mostly within the northern portal to southern portal element (incorporating the Yarra River Crossing).

A calibrated numerical groundwater model was used to predict changes in groundwater levels as a result of the project construction and operation. Disturbance to groundwater, ie drawdown, occurs during the construction and extends to Bolin Bolin Billabong. While significant water level recovery occurs following the completion of construction, the numerical modelling indicated that the (near) water tight structures disrupt regional flow resulting in a longer-term 0.1 to 0.5-metre groundwater level reduction at the deep pool at Bolin Bolin Billabong.

The ecological assessment undertaken for North East Link (refer Technical report Q – Ecology) notes the ecological values of Bolin Bolin Billabong are threatened more by the current lack of hydrological connectivity with the Yarra River than by the effects of groundwater drawdown. Moreover, it is anticipated the potential variation in the depth of the deep pool brought about by groundwater level changes would be relatively minor when compared with annual (seasonal) hydrological variability within the billabong. The ecological assessment also advises the dominant terrestrial vegetation at the billabong, while likely accessing groundwater, would unlikely be impacted by the anticipated changes in groundwater levels. Accordingly, the assessment determined that lowered groundwater levels are likely to be negligible in terms of the impact on ecological significance of the billabong.

The principle measure for minimising disturbance of the groundwater environment is the project design philosophy of adopting water tight structures where the project is below the water table. A number of additional environmental performance requirements have also been proposed to manage disturbance to groundwater and resulting potential impacts to sensitive dependent environments:

- The on-going development and refinement of a numerical groundwater model to predict changes in groundwater levels and the development of mitigation strategies (EPR GW1).
- The implementation of a groundwater monitoring program during and after construction until an acceptable restoration of groundwater has occurred (EPR GW2).
- The design of the tunnel drainage and selection of construction methods would be undertaken to minimise changes to groundwater. Measures would be implemented to manage, mitigate and minimise any impacts (EPR GW3 and EPR GW4).

In addition to these requirements proposed by groundwater technical assessment, the ecology technical assessment recommends the preparation and implementation of a groundwater dependent ecosystem monitoring and mitigation plan (EPR FF6). Measures such as periodical filling and or topping can mitigate this impact. Melbourne Water are actively managing the hydrological regime. It is noted that negotiation with Melbourne Water (and Southern Rural Water, if groundwater is involved) would be required to establish suitable mitigation measures.

The ecological assessment indicated that managed water levels may be required to maintain the condition of the billabong, presumably regardless of whether the anticipated groundwater level occurs or not. Melbourne Water are actively managing the hydrological regime of the billabong.

### 8.3 Alternative design options

Although the reference design for North East Link has largely been finalised, there are currently two design options being considered for the arrangement of the Manningham Road interchange. For information on the design options, refer to EES Chapter 9 – Project description.

This section explains how the potential impacts associated with the alternative Manningham Road interchange would differ from the impacts associated with base case scenario assessed in Section 8.1 and Section 8.2 above.

#### 8.3.1 Manningham Road interchange alternative

The potential Aboriginal cultural heritage impacts of the alternative design for the Manningham Road interchange have been reviewed.

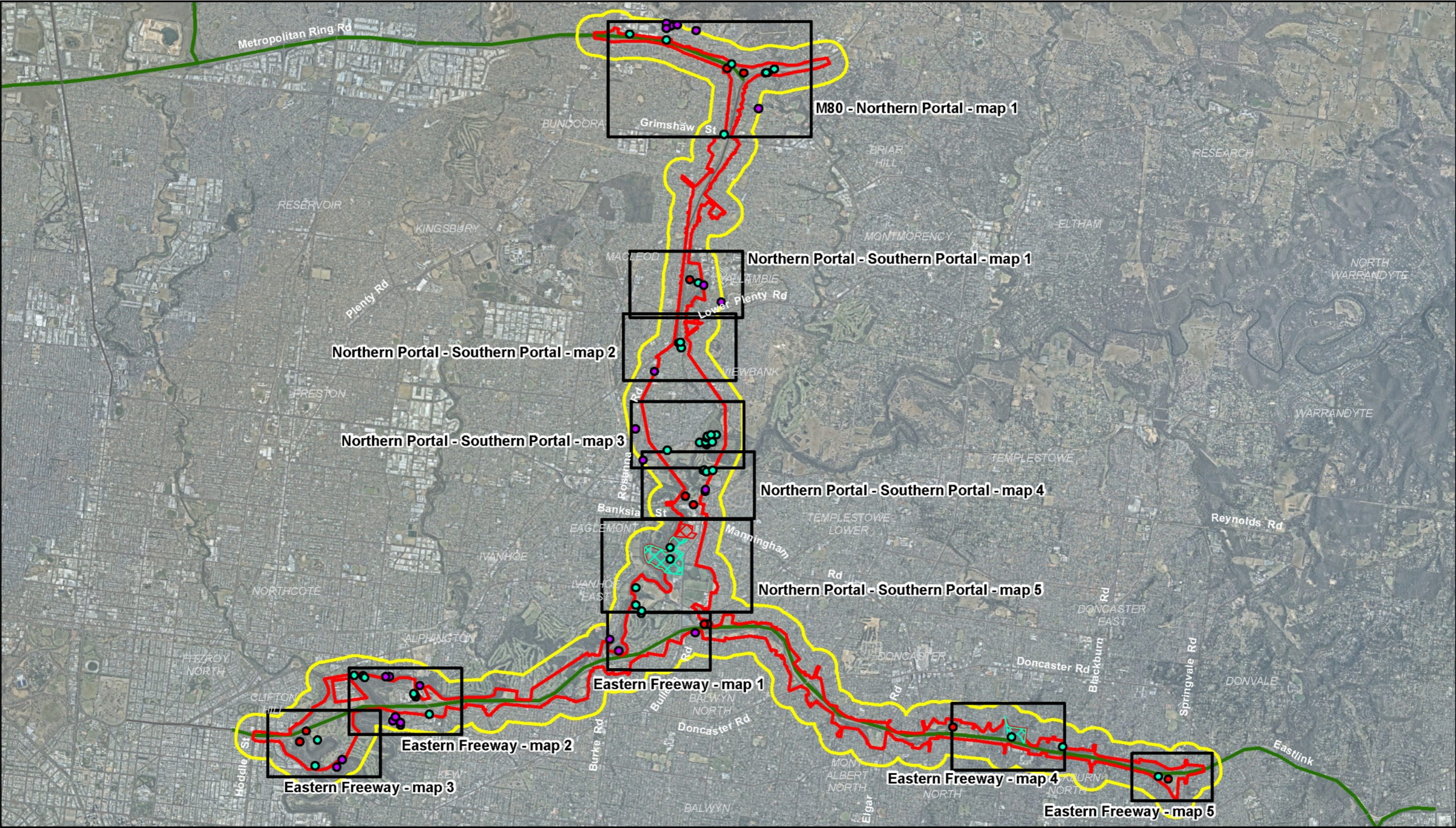
This would result in minor changes to the footprint of the project but this would not result in any changes to the impact on Aboriginal cultural heritage values because at this point in time there are currently no known values in this area.

#### 8.3.2 Northern portal launch site

The potential impacts on Aboriginal cultural heritage from the alternative design for the northern portal launch site have been reviewed. The alternative design would result in minor changes to the footprint of the project but would not result in any changes to the impact on Aboriginal cultural heritage values because at this point in time there are currently no identified values in this area. The proposed alternative northern portal launch site has been subject to archaeological investigations as part of the preparation of the CHMP for the project and these investigation did not identify any Aboriginal cultural heritage.

The southern TBM retrieval site associated with the northern portal launch option introduces another element of potential impact within Banksia Park immediately north of Bridge Street.

It is noted however, that this area is currently considered as potentially likely to be subject to ground improvement works and so the location of the TBM retrieval site and associated site compound would not increase the overall impact at this location.



Paper Size A4

0 500 1,000 2,000

Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55

**Legend**

Activity area

Study area

**Aboriginal cultural heritage**

- Heritage place in activity area, no impact
- Heritage place in activity area, impact
- Heritage place in study area, no impact

Heritage Overlay with Aboriginal values, impact

Heritage Overlay with Aboriginal values, no impact

**Roads**

- Freeway
- Highway
- Major road

Photomap of the activity area and study area showing Aboriginal cultural heritage places by impact type

Job Number | 31-35006  
Revision | A  
Date | 09 Feb 2019

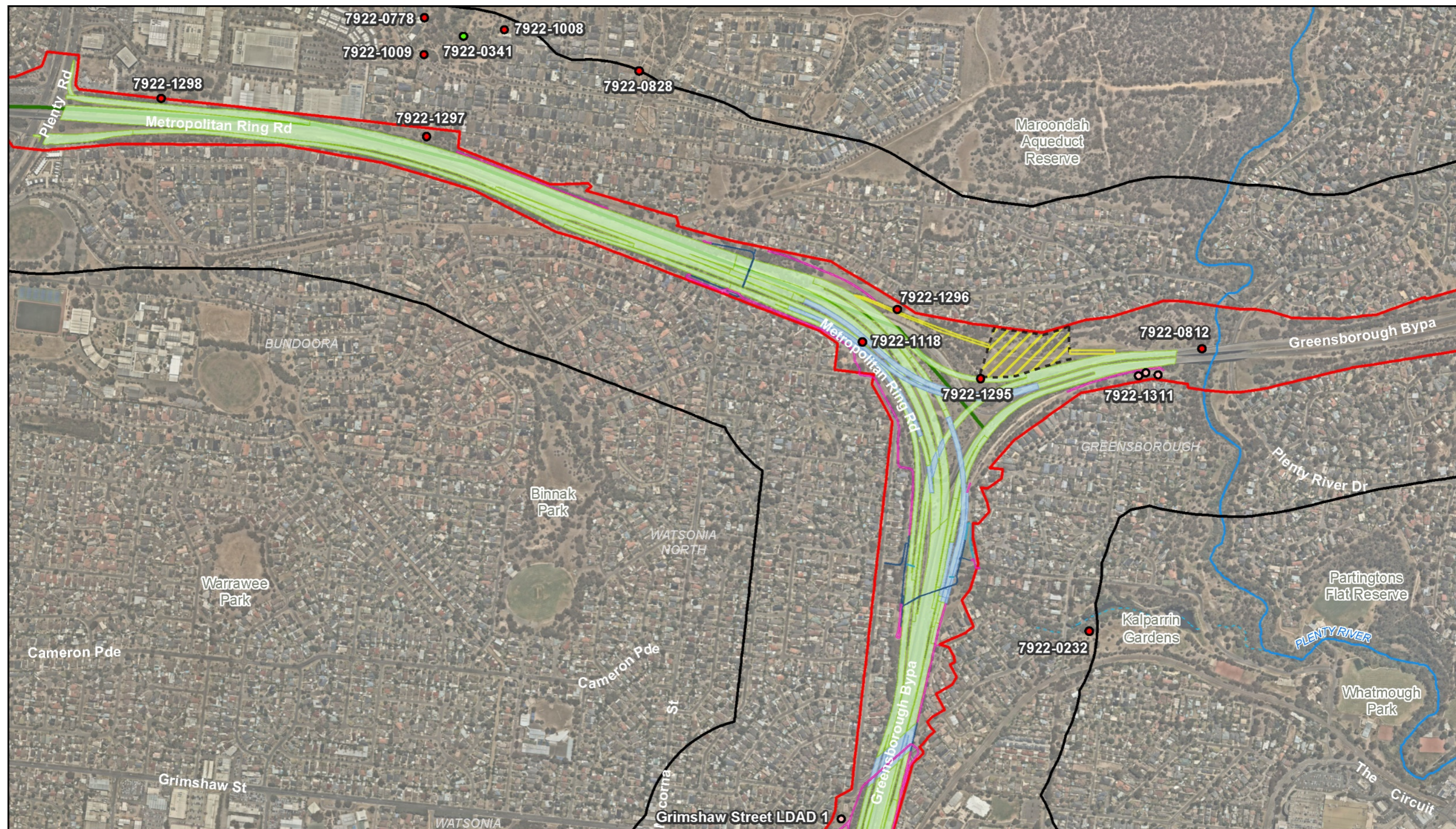
Figure 8-1

H:\VIC\MultiRegion\WELP\_2711\GIS\ArcMap\EES\_NELATemplate\EES\_Technical\_Reports\_A4L\_Fig13.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

© 2019. Whilst every care has been taken to prepare this map, GHD (and DATA CUSTODIAN) make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: VAHR data - AV - 2018. Aerial photo - Nearmap - 2019. Created by:delange



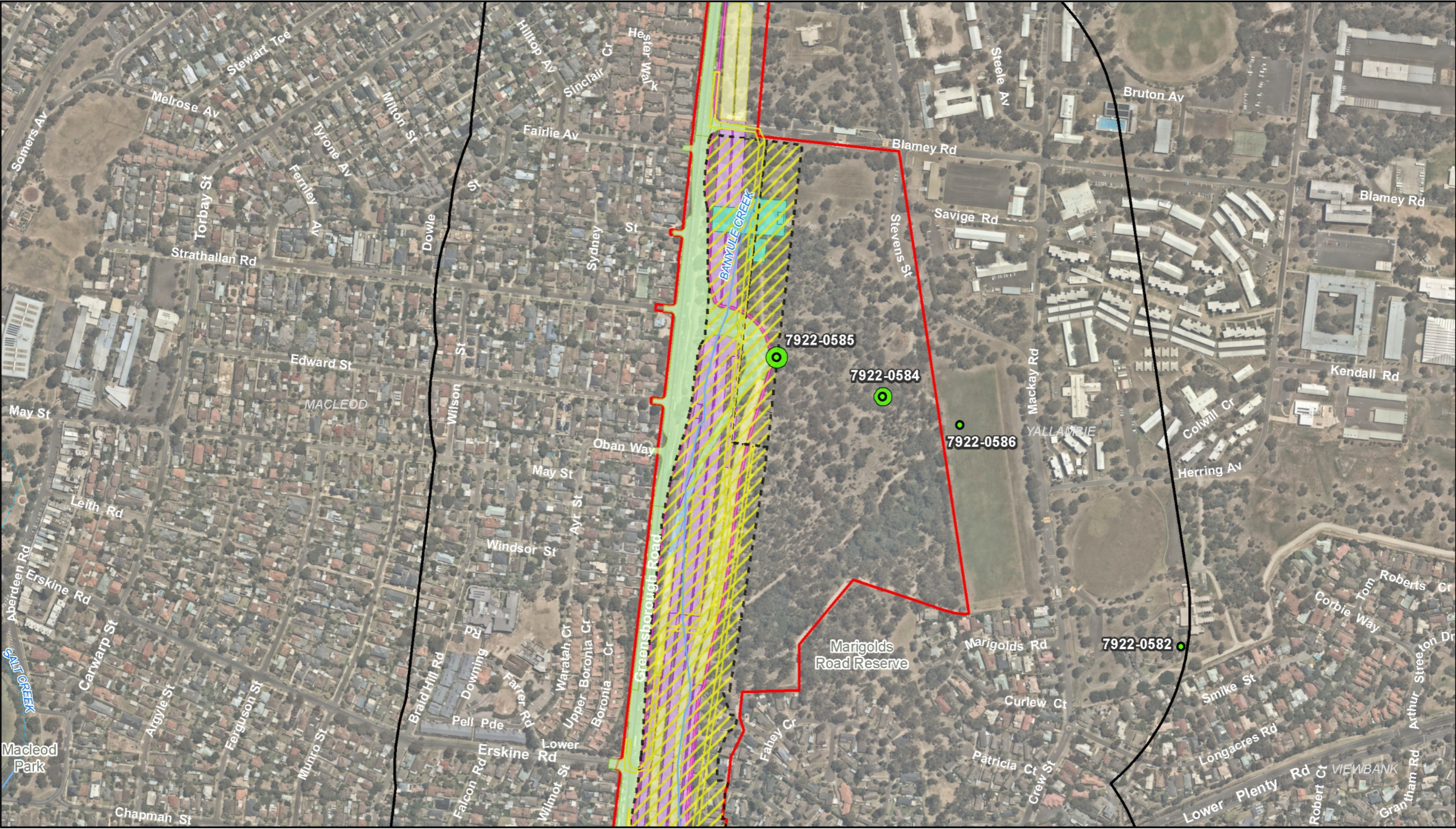
H:\VIC\MultiRegion\WELP\_2711\GIS\ArcMap\EES\_NELATemplate\EES\_Technical\_Reports\_A4L\_Fig14.mxd

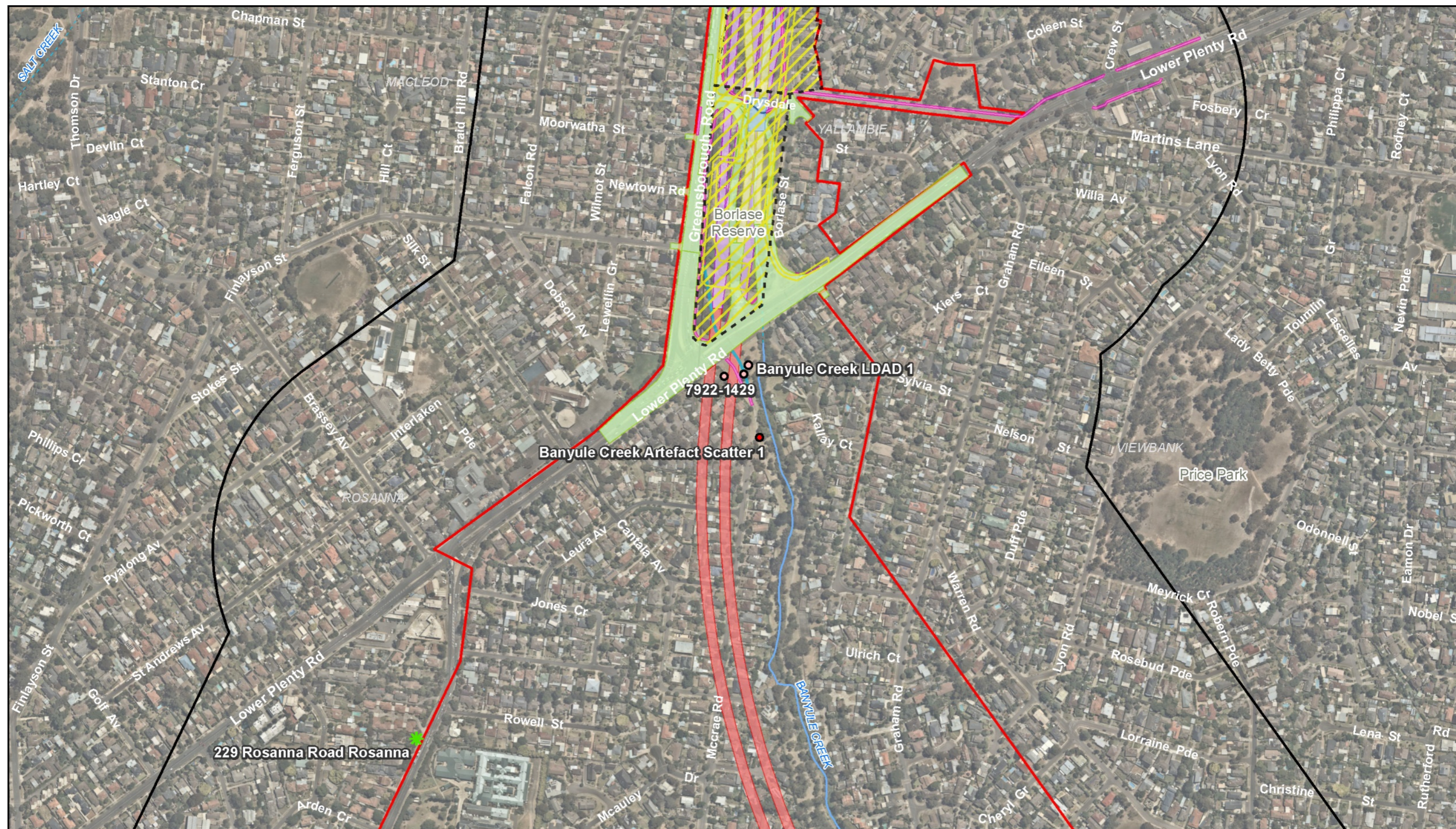
© 2019. Whilst every care has been taken to prepare this map, GHD (and DATA CUSTODIAN) make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: VAHR data - AV - 2018. Aerial photo - Nearmap - 2019. Created by: jdelange

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Figure 8-2





Paper Size A4  
0 50 100 200  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



#### Legend

- Activity area
- Study area

#### Aboriginal cultural heritage

- Artefact scatter
- Low-density artefact distribution
- Significant tree

#### Project design

- SUP Overpass
- SUP Surface
- Structure Viaduct
- Open Cut
- Cut and Cover
- Surface
- SUP Underpass
- Tunnel
- Temporary Construction Compound
- Compound Access

#### Roads

- Highway
- Major road

#### Watercourses

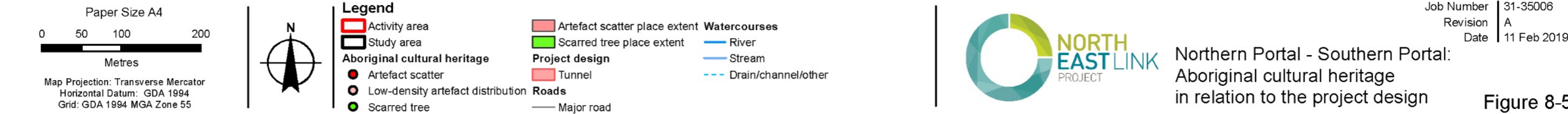
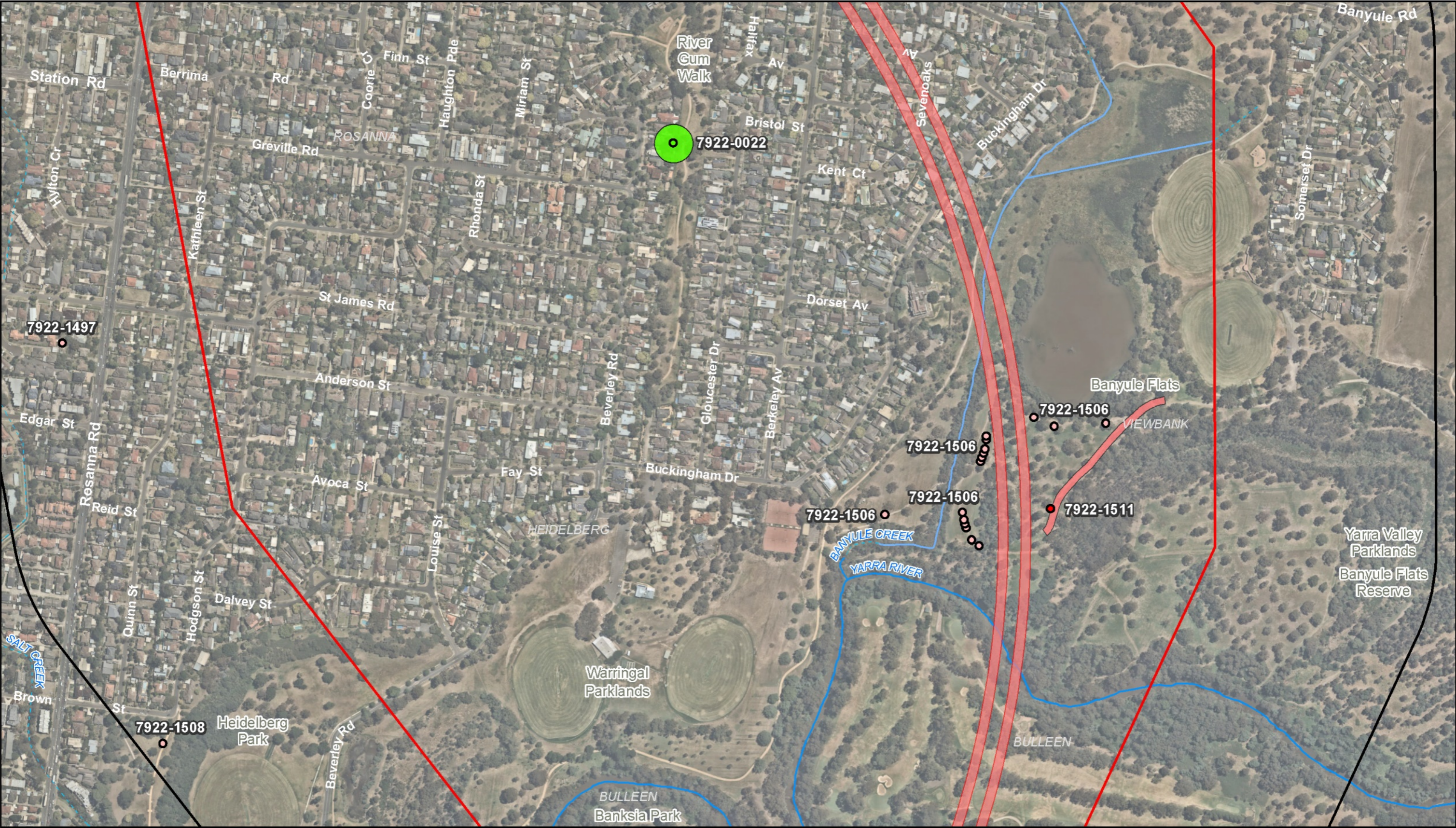
- Stream
- Drain/channel/other

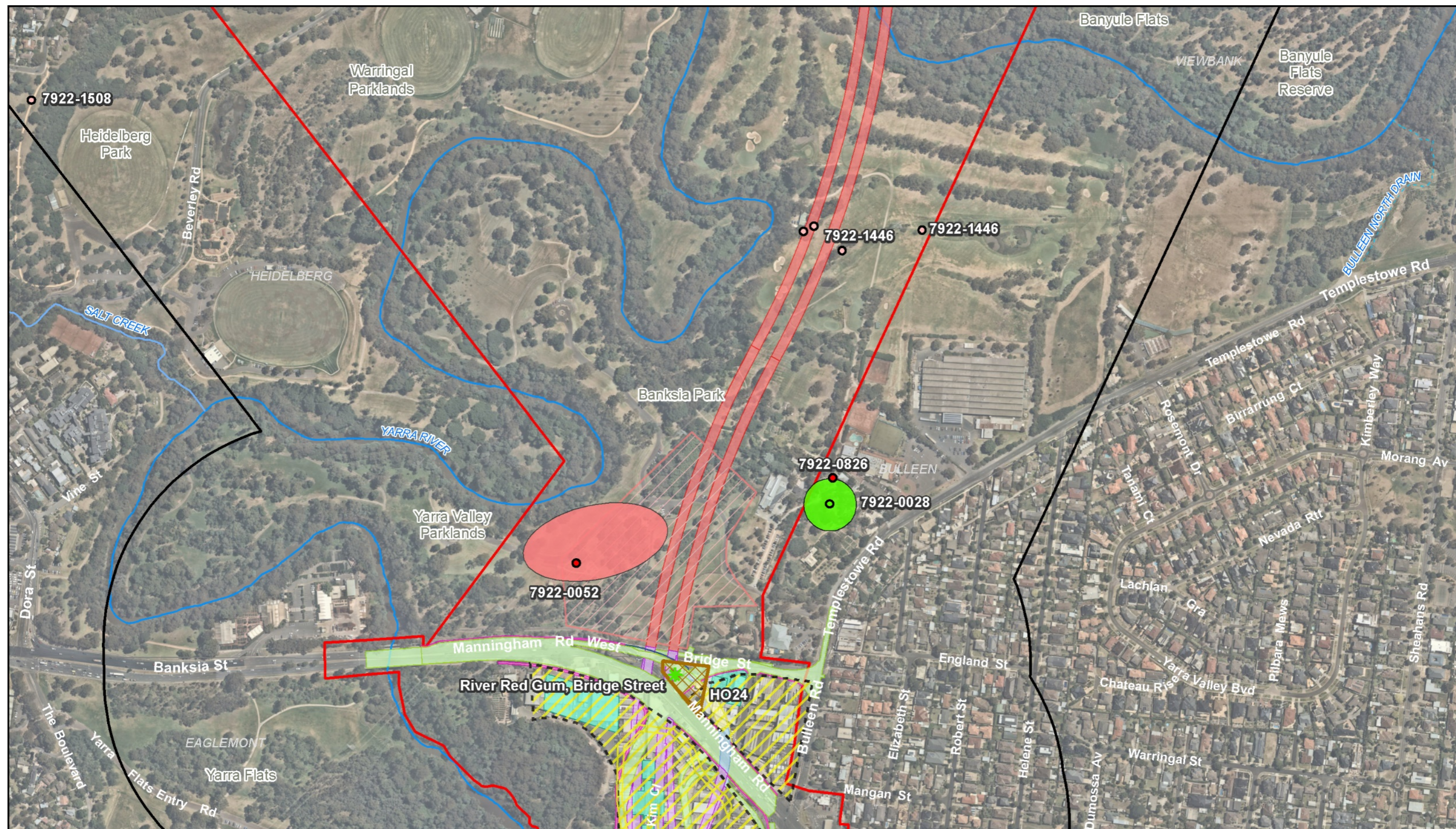


Northern Portal - Southern Portal:  
Aboriginal cultural heritage  
in relation to the project design

Job Number | 31-35006  
Revision | A  
Date | 11 Feb 2019

Figure 8-4





Paper Size A4  
0 50 100 200  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



#### Legend

Activity area  
Study area

#### Aboriginal cultural heritage

Artefact scatter  
Low-density artefact distribution  
Scarred tree  
Significant tree

Artefact scatter place extent  
Scarred tree place extent  
HO24

#### Project design

SUP Overpass  
SUP Surface  
Substation  
Structure Viaduct

Open Cut  
Cut and Cover  
Surface  
Tunnel  
Temporary Construction Compound  
Potential Ground Improvement  
Compound Access

#### Roads

Major road

#### Watercourses

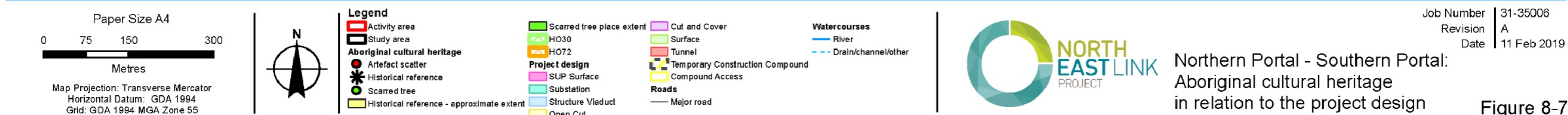
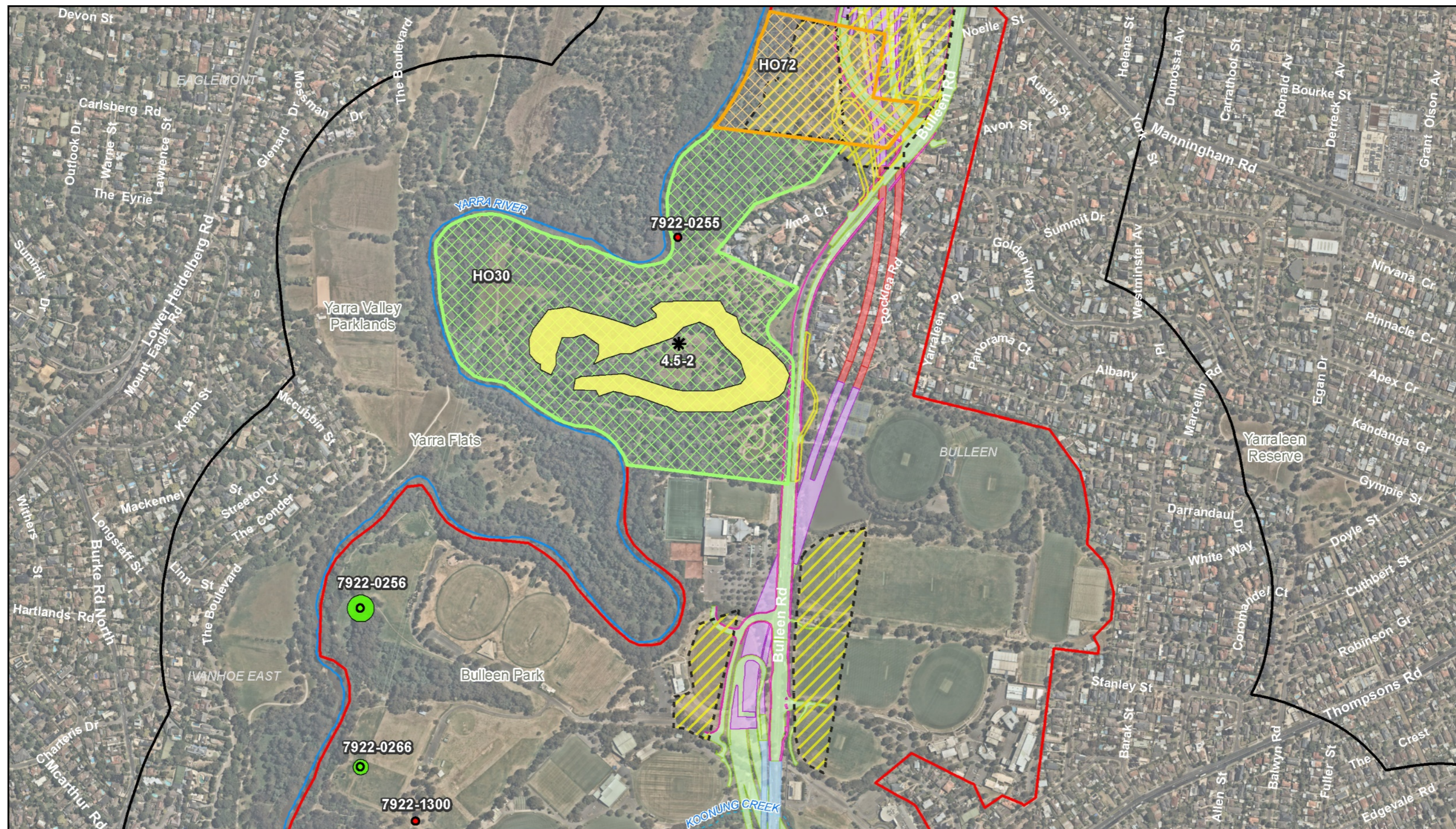
River  
Stream  
Drain/channel/other



Northern Portal - Southern Portal:  
Aboriginal cultural heritage  
in relation to the project design

Job Number 31-35006  
Revision A  
Date 11 Feb 2019

Figure 8-6

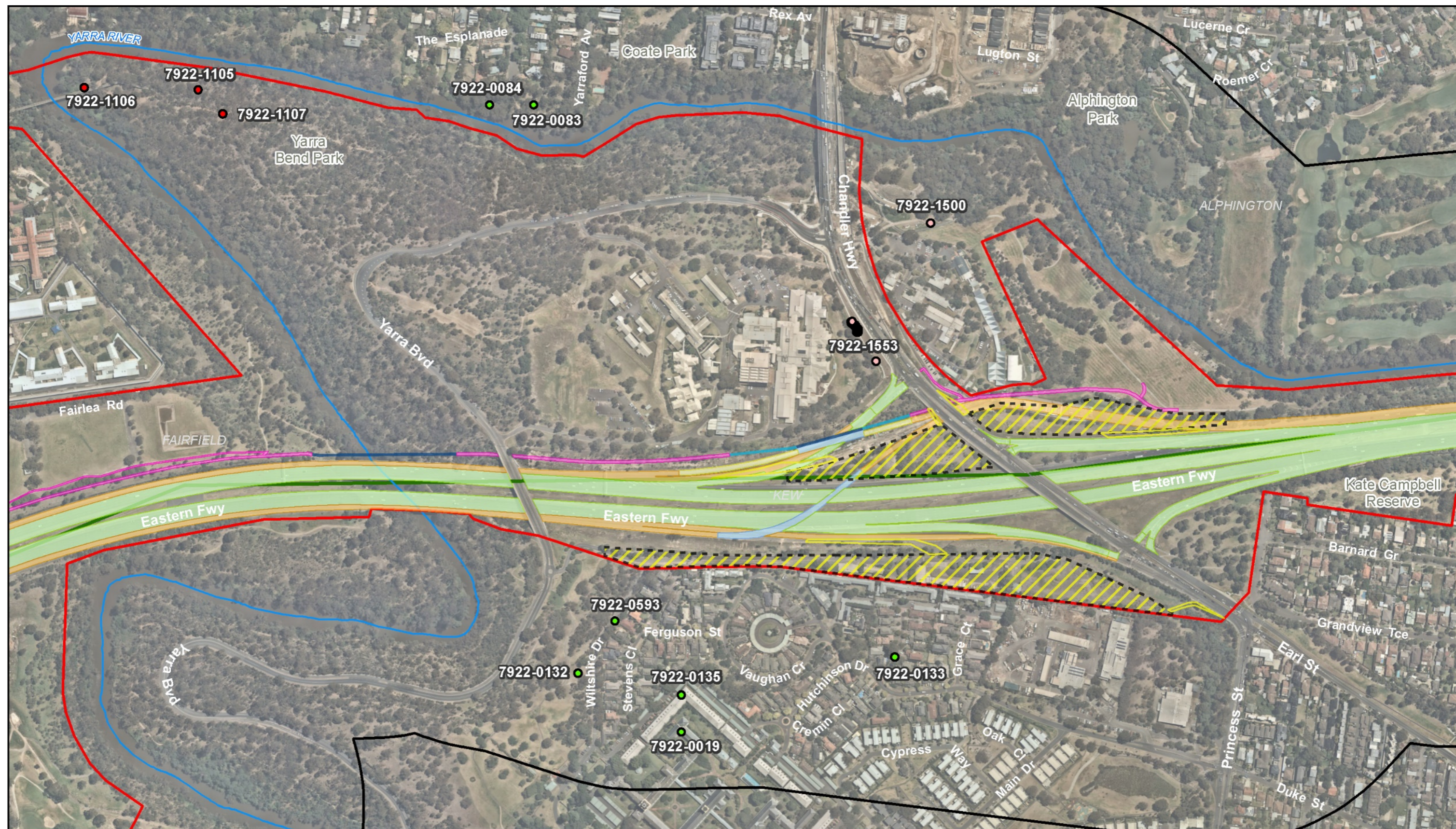


H:\VIC\MultiRegion\WELP\_2711\GIS\ArcMap\EES\_NELATemplate\EES\_Technical\_Reports\_A4L\_Fig19.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

© 2019. Whilst every care has been taken to prepare this map, GHD (and DATA CUSTODIAN) make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.  
Data source: VAHR data - AV - 2018. Heritage Overlay data: HV, 2018; Aerial photo - Nearmap - 2019. Created by jdelange





Paper Size A4  
0 55 110 220  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



#### Legend

- Activity area
- Study area
- Aboriginal cultural heritage**
  - Artefact scatter
  - Low-density artefact distribution
  - Scarred tree

#### Project design

- SUP Overpass
- SUP Surface
- Public transport infrastructure upgrade
- Structure Viaduct
- Open Cut
- Surface

#### Roads

- SUP Underpass
- Temporary Construction Compound
- Compound Access
- Freeway
- Major road

#### Watercourses

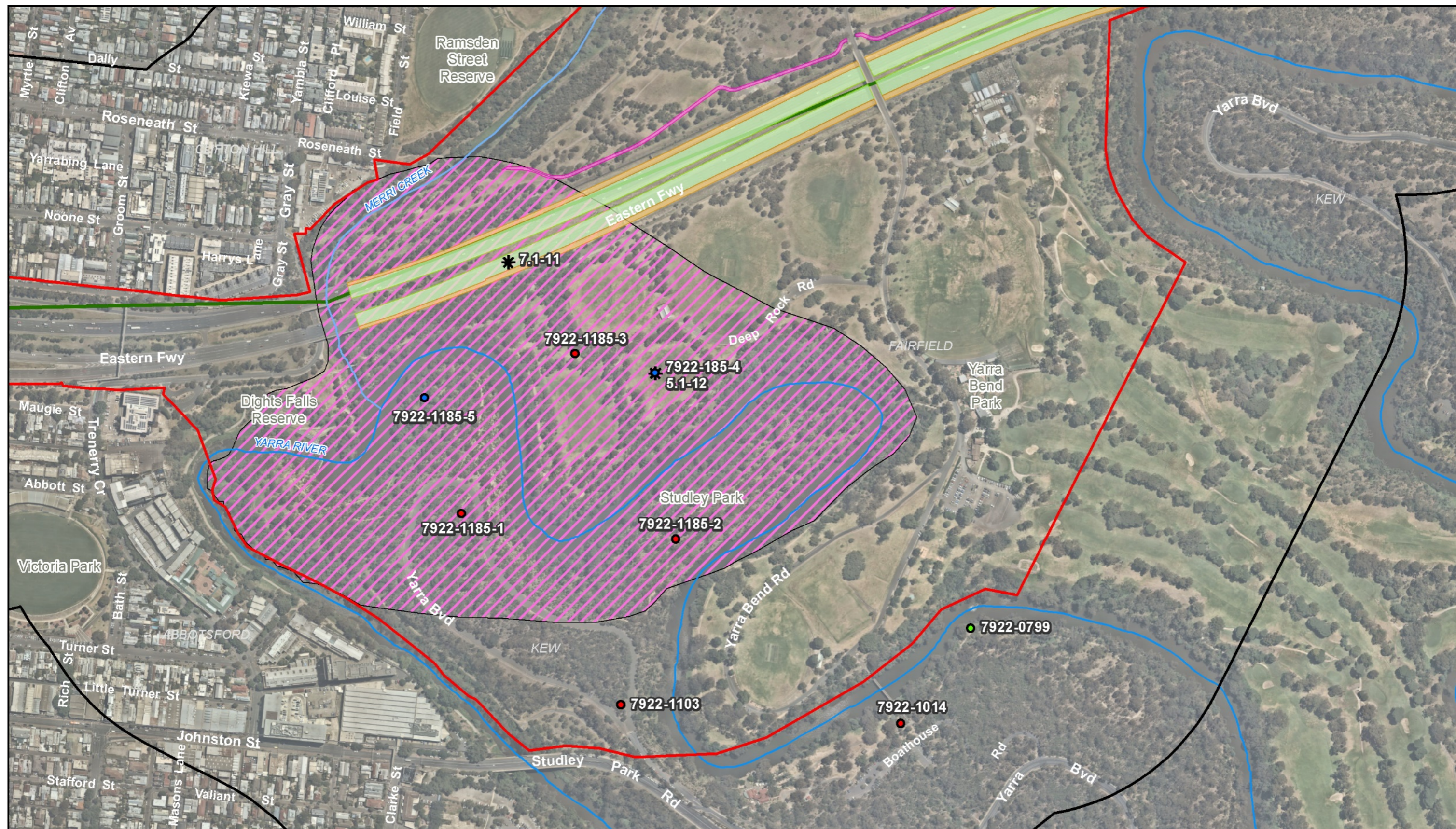
- River



Eastern Freeway:  
Aboriginal cultural heritage  
in relation to the project design

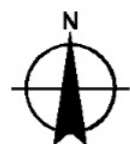
Job Number | 31-35006  
Revision | A  
Date | 11 Feb 2019

Figure 8-9



Paper Size A4  
0 50 100 200  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



#### Legend

Activity area  
Study area

**Aboriginal cultural heritage**  
Aboriginal historical place  
Artefact scatter

Historical reference  
Scarred tree

Multi-component place - place extent  
**Project design**  
SUP Surface

Public transport infrastructure upgrade  
Surface  
**Roads**  
Freeway  
Major road

**Watercourses**  
River  
Stream



Eastern Freeway:  
Aboriginal cultural heritage  
in relation to the project design

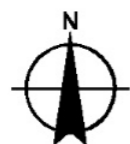
Job Number 31-35006  
Revision A  
Date 11 Feb 2019

Figure 8-10



Paper Size A4  
0 50 100 200  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



#### Legend

- Activity area
- Study area

#### Aboriginal cultural heritage

- Artefact scatter
- Low-density artefact distribution

- Scarred tree
- Scarred tree place extent
- HO181

#### Project design

- SUP Overpass

- SUP Surface
- Structure Viaduct
- Surface
- Roads
- Freeway

- Major road

#### Watercourses

- Stream
- Drain/channel/other



Eastern Freeway:  
Aboriginal cultural heritage  
in relation to the project design

Job Number 31-35006  
Revision A  
Date 11 Feb 2019

Figure 8-11



## 9.Environmental Performance Requirements

Table 9-1 lists the recommended Environmental Performance Requirements (EPRs) relevant to the Aboriginal cultural heritage assessment.

**Table 9-1: Environmental Performance Requirements**

EPR ID	Environmental Performance Requirement
EPR AH1	<b>Comply with the Cultural Heritage Management Plan</b> Implement and comply with the Cultural Heritage Management Plan (CHMP) approved under the <i>Aboriginal Heritage Act 2006</i> .

In addition to the above EPRs specific to Aboriginal cultural heritage the following additional EPRs drawn from other technical reports are relevant:

- Groundwater particularly where these address groundwater drawdown (EPRs GW1, GW2, GW3 and GW4)
- Historical Heritage particularly where these address management of places with multiple or shared values (EPRs HH1 and HH2)
- Flora and Fauna particularly where these relate to groundwater ecosystems (EPR FF6).

## 10. Conclusion

The purpose of this report is to provide an Aboriginal cultural heritage impact assessment to inform the preparation of the EES required for the project.

A summary of the key assets, values or uses potential affected by the project, and the associated impacts assessment are summarised below.

### Existing conditions

The existing conditions assessment has identified the presence of a number of registered Aboriginal heritage places within each of the broad sections of the project.

### M80 Ring Road to northern portal

A total of eight Aboriginal cultural heritage places are present within the M80 Ring Road to northern portal element of the project. The majority of these places are associated with the M80 Ring Road and Greensborough Bypass and comprise stone artefact scatters or Low Density Artefact Distributions. Many of these places were identified during assessments undertaken ahead of the construction of these roads and have as a consequence undergone a level of prior impacts during the construction of those projects.

### Northern portal to southern portal

There are 16 places present within this project element. These comprises 11 formally registered Aboriginal cultural heritage places, two unregistered places identified during the preparation of the CHMP and three items listed on local government planning scheme heritage overlays.

A total of 11 formally registered Aboriginal cultural heritage places are present within the northern portal to southern portal project element. The majority of these places comprise stone artefact scatters or Low Density Artefact Distributions. In general, these places are located in areas which have undergone limited substantial disturbance, occurring for the most part in public open space. A further place comprises an Aboriginal scarred tree situated close to the Yarra River and at a substantial distance from the current proposed project alignment. A further two scarred trees situated within Simpsons Barracks. However, the veracity of the registration of these places has been called into question and consultation is currently ongoing with a view to removing these trees from the Victorian Aboriginal Heritage Register.

A historical reference relates to the early European records noting the use of Bolin Bolin Billabong as a camping place by Aboriginal people in the area. This place is likely associated with a formally registered Aboriginal artefact scatter in close proximity to the billabong. The precise extent of this reference has yet to be established. It should be noted the Manningham City Planning Scheme Heritage Overlay also includes a listing for Bolin Bolin Billabong.

In addition to the above, two additional places listed on the Manningham City Planning Scheme Heritage Overlay, which also have some potential to have Aboriginal heritage values associated with them would also be impacted. The actual values associated with one of these places, the former Bulleen Drive-in HO72 are yet to be established.

Two places identified during the preparation of CHMP are also present within this section, one of which will be impacted. These places are awaiting formal registration.

## Eastern Freeway

Nineteen places are located within this project element, consisting of 14 formally registered heritage places, two historical references, one item listed on a local government planning scheme heritage overlay and three currently unregistered places identified during the preparation of the CHMP.

A total of 14 registered Aboriginal cultural heritage places are present within the Eastern Freeway project element. Again, the majority of these places comprise stone artefact scatters in general recorded along walking and maintenance tracks within Yarra Bend Park.

Several of these places have been combined into a larger registration which covers these places as well as two historical references associated with the area around the confluence of the Yarra River and Merri Creek. This larger consolidated place is bisected by the Eastern Freeway.

Three Aboriginal places identified during the preparation of the CHMP are also present within the study area.

Lastly, three Aboriginal scarred trees are nominally located within study area. It is clear that two of these trees are indeed located within the study area but at some distance from the proposed works. The status of a third tree, while previously unclear, has since been resolved and determined to be outside the study area.

## Impact assessment

### M80 Ring Road to northern portal

The impact assessment has determined that at present there is potential for impacts associated with the proposed works to two of the eight places located in this project element. The places likely to be impacted comprise artefacts scatters which have been previously heavily impacted by construction of the M80 Ring Road.

### Northern portal to southern portal

The impact assessment has determined that at present there is potential for impacts associated with the proposed works to seven of the 16 places located in this project element. One place would likely be impacted by ground improvement works at the southern portal and comprises an artefact scatter distributed across a large extent which extends outside the study area. While the impact on this place cannot be avoided at this stage, the fact the place extent extends outside the study area means that a substantial proportion of the place could be protected from harm, mitigating to some degree the overall impact on the place.

Direct physical impacts on three other places including two local heritage places on the Manningham Heritage Overlay would also occur. The place HO24 River Red Gum, would be removed as it lies entirely within the proposed Manningham Road interchange. HO72, the former Bulleen Drive-in would likely be used as a construction compound in the first instance and subsequently would potentially be used for flood mitigation infrastructure, North East Link on and off ramps, and a shared use path.

A third local heritage place, Bolin Bolin Billabong would also experience impacts due to groundwater drawdown.

A further two places comprise Aboriginal scarred trees situated within Simpsons Barracks which would either be directly impacted or subject to indirect impacts derived from changes to groundwater level. However, the veracity of the registration of these places has been called into question and consultation is currently ongoing with a view to removing these trees from the Victorian Aboriginal Heritage Register.

## Eastern Freeway

The impact assessment has determined that at present there is potential for impacts associated with the proposed works to five of the 19 places located in this project element. Two of the places counted separately are in actual fact captured by the overall registration of 7922-1185. The impacts on these two places are nominal only and essentially constitute the coincidence of the registered extent of the place extent with the alignment of the Eastern Freeway. As noted above the proposed surface works with the freeway reservation would likely not result in an overall increased impact on these places which have already been substantially modified within the freeway reservation.

Three places identified during the preparation of the CHMP are located within land which is currently proposed to be used for construction compounds and or flood mitigation infrastructure and so it is considered likely these places would be impacted.

Finally, a scarred tree, was previously believed to be located within the study area and would likely be impacted. Investigations undertaken as part of the CHMP preparation have since determined that this tree is actually located outside the study area and would not be impacted.

---

## 11. References

- Aguirre E & Pasini G 1985, 'The Pliocene-Pleistocene Boundary', in *Episodes*, Vol. 8, No. 2, pp. 116-120.
- Aitken DL & Kershaw P 1993, Holocene vegetation and environmental history of Cranbourne Botanic Garden, Victoria, *Proceedings of the Royal Society of Victoria* 105 (1): 67-80.
- Barker M 2011a, 71 Banyule Road, Rosanna, Multi-Unit Development, CHMP 11708, unpublished report submitted to Pilot Land (Aus) P/L by Heritage Insight.
- Barker M 2011b, Kew North Branch Sewer Upgrade and North Yarra Main Sewer Replacement: CHMP 11262. Unpublished report submitted to Capacity JV trading as Pipelines Alliance by Heritage Insight.
- Barwick DE 1984, 'Mapping the Past: An Atlas of Victorian Clans, 1835-1904', *Aboriginal History* 8(2), 100-130.
- Barwick D 1998, *Rebellion at Coranderrk*, Aboriginal History Monograph 5, Melbourne, Aboriginal Affairs Victoria.
- Berelov I & Vines G 2016, Yarra Valley Country Club redevelopment Bulleen, Cultural Heritage Management Plan 13793 for Linked Solutions Pty Ltd.
- Berelov I, McMillan R & Thiele F, 2011, Cultural Heritage Management Plan for the Yarra Bend Park Main Yarra Trail Eastern Freeway Underpass Upgrade, CHMP 11606 to Parks Victoria.
- Berelov I, McMillan R & Thiele F, 2010, Voluntary Cultural Heritage Management Plan for the new Dights Falls Weir and Fishway Dights Falls, Trenerry Crescent, Abbotsford, Victoria, CHMP 11088 Melbourne Water.
- Berndt R 1982, 'Traditional Concepts of Aboriginal Land' in Berndt R (ed.) *Aboriginal Sites, Rights and Resource Development. Academy of Social Sciences in Australia, Fifth Academy Symposium, 11th November 1981, Proceedings*, University of Western Australia Press, Perth, 1-11.
- Boldrewood R 1969, *Old Melbourne Memories*, William Heinemann, Melbourne.
- Bowler JM 1981, Australian salt lakes – a palaeohydrologic approach, *Hydrobiologia* 82: 431-444.
- Burke H & Smith C 2004, *The Archaeologists Field Handbook*, Allen & Unwin, Crows Nest.
- Caldere DB & DJ Goff 1991, *Aboriginal reserves & missions in Victoria*, Aboriginal Lands Group, Dept. of Conservation and Environment.
- Clark I 1990, *Aboriginal Languages and Clans: an Historical Atlas of Western and Central Victoria, 1800-1900*, Monash Publications in Geography, No. 37.
- Clark I & Heydon T 1998, The Confluence of the Merri Creek and Yarra River: A History of the Western Port Aboriginal Protectorate and the Merri Creek Aboriginal School, unpublished report to Aboriginal Affairs Victoria.
- Cosgrove R 1999, Forty-two degrees south: the archaeology of Late Pleistocene Tasmania. *Journal of World Prehistory*, Vol. 13 No. 4: 357-402.
- du Cros H & Rhodes D 1998, Aboriginal Archaeological Sensitivities study of the waterways and floodplains of Greater Melbourne a report to Melbourne Water Corporation.
- Duncan, J. 2001. Megafauna at Keilor and the timing of their extinction. *Australian Archaeology* 53.

- Dyke J, Neylon A Paul A & Holt L 2014, Warringal Parklands and Banyule Flats: cultural heritage assessment, report for Banyule City Council.
- Ellender I 1991, The City of Doncaster and Templestowe: The Archaeological Survey of Aboriginal Sites, Department of Conservation & Environment, Victoria Archaeological Survey.
- Ellender I 1994, The Aboriginal Heritage of the Shire of Eltham, report for the Shire of Eltham.
- Falvey, L. 2016. Cultural Heritage Management Plan for a Residential Subdivision at 8 Maleela Grove, Rosanna. Unpublished report to Joseph Falcone
- Ford, A., Venosta, M., Tepper, L. 2017. Heritage Assessment for Simpson Barracks. Unpublished report to Department of Defence.
- Forster, H.W. 1968. *Preston; Lands & People*. F.W. Cheshire, Melbourne.
- Freedman D, Cavanagh T, Lawler M, Berelov I, Vick S 2012, Water Treatment, Harvesting & Redistribution Project at the Bolin Bolin Billabong and Wetlands – 191 Bulleen Road, Bulleen, Victoria: Cultural Heritage Management Plan 11713, BIOSIS.
- Garden DS 1972, Heidelberg the land and its people 1838-1900, Melbourne University Press.
- Gallus, A. 1983. Excavations at Keilor, Victoria. Report No.3. Excavation in the 'D' Clay. *The Artefact* 8.
- Hall R, Merri Creek Parklands Aboriginal and Historical Heritage Survey, report for Merri Creek Bicentennial committee.
- Hyett J 2010, A Four-lot Subdivision at 60 Buckingham Drive, Heidelberg, Cultural Heritage Management Plan 11068, TerraCulture Pty Ltd.
- Hiscock P & Mitchell S 1990, Type Profiles: Stone Artefact Quarries, Stone Reduction Sites and Ochre Quarries, unpublished report to the Australian Heritage Commission.
- Holzheimer C 2018, Yarra Bend Park, Kew, Pole Replacement Works, CHMP 15457, Unpublished report submitted to Powercor by Andrew Long and Associates.
- Holzheimer C 2017, 19-35 Graham Road, Viewbank, Residential Development, CHMP 15156, unpublished report submitted to Landmarc Graham Developments Pty Ltd by Andrew Long and Associates.
- Howell-Meurs, J. 2010. Wurundjeri Spur (Yarra Bend Park) Walking path upgrade. Unpublished report to Parks Victoria.
- Howitt, A.W. 1904. *The Native Tribes of South-East Australia*. MacMillan and Co., London
- Jones Z 2016, Darebin/Yarra Trail Link (Stage 3) Willsmere Park, Kew East, Cultural Heritage Management Plan 14138, Andrew Long and Associates Pty Ltd.
- Kershaw AP, Tibby J, Penny D, Yezdani H, Walkley R, Cook E & Johnston R 2004, Latest Pleistocene and Holocene vegetation and environmental history of the Western Plains of Victoria, Australia, *Proceedings of the Royal Society of Victoria*, Vol. 116, No. 1, pp. 139-161.
- Lambeck K & Nakada, M 1990, 'Late Pleistocene and Holocene sea-level change along the Australia coast', in *Palaeogeography, Paleoclimatology, Paleoecology* (Global and Planetary Change Section), 89, pp. 143-176.
- Lawler M & Vick S 2013, Birrarung Park Outfall Drain Remediation Works, Lower Templestowe, Victoria: Complex Cultural Heritage Management Plan 12446, Biosis.
- Lakic M & Wrench R (eds.) 1994, *Through Their Eyes: An Historical Record of Aboriginal People of Victoria as Documented by the Officials of the Port Phillip Protectorate 1839-1841*, Museum of Victoria, Melbourne.
- Lourens LJ 2008, 'On the Neogene-Quaternary Debate' in *Episodes*, Vol. 31 no. 2, pp. 239-242.

- Matic A 2006. An archaeological survey of the proposed M104B Water Main Replacement, Watsonia to Yallambie, unpublished report to GHD Services Pty. Ltd.
- Matic, A. 2017. 160-162 Mountain View Road, Balwyn North: Residential Development. Unpublished report to Insuk David Song & Tuanh Thanh Nguyen.
- Mulvaney D & Kamminga J 1999, *Prehistory of Australia*, Allen & Unwin Pty Ltd., St Leonards.
- Munro, M. 1997. An analysis of stone material from the Keilor site. Unpublished B.A. (Hons.) Thesis, Department of Archaeology, La Trobe University.
- O'Connor, A. 2012. 6 Borlase Street, Yallambie Cultural Heritage Management Plan. Unpublished report to Nick Vassiliou, Alcyn Pty Ltd
- Patton, K. and Fiddian, J. 2016. 314 Lower Plenty Road, Rosanna – Residential Development. Unpublished report to Richard De Silva
- Payne JW 1975, *The Plenty: A Centenary History of the Whittlesea Shire*, Prahran.
- Presland G 1983, *An Archaeological Survey of the Melbourne Metropolitan Area*, Occasional Reports 15, Victorian Archaeological Survey.
- Presland G 1985, *Aboriginal Melbourne: The Lost Land of the Kulin People*, McPhee Gribble, Ringwood.
- Presland G 1994, *Aboriginal Melbourne: The Lost Land of the Kulin People*, McPhee Gribble Publishers, Victoria.
- Reid M 1989, *Palaeoecological changes at Lake Wellington, Gippsland Lakes Victoria, during the late Holocene: a study of the development of a coastal lake ecosystem*. Honours thesis, Department of Geography and Environmental Science, Monash University.
- Rhodes D, Debney T & M Grist 1999, *Maribyrnong Aboriginal Heritage Study*, unpublished report to the City of Maribyrnong.
- Ricardi P, Flynn V & Thiele F 2009, Cultural Heritage Management Plan for the Rehabilitation Works at Koonung Creek Lower, Bulleen, Victoria, CHMP 10702, Australian Cultural Heritage Management Pty Ltd.
- Spry, P. and Green, M. 2017. North Eastern Program – Initial Works Package for the Level Crossing Removal Authority Cultural Heritage Management Plan. Unpublished report to Level Crossing Removal Authority.
- Stone T 2008, Proposed Banksia Street Wetland, Heidelberg, Cultural Heritage Management Plan 10533, report for the Melbourne Water Corporation.
- Sullivan M & Simmons S 1979, 'Silcrete: A Classification for Flaked Stone Assemblages', *The Artefact*.
- Tucker C & MacCulloch J 2016, M80 Upgrade, Greensborough Highway interchange to Plenty Road Victoria, Cultural Heritage Management Plan 12190 for Vic Roads.
- Weaver F 1991, *The Lower Plenty River Archaeological Survey: A Survey for Aboriginal and Historical Archaeological Sites, forming the Heritage Component of the Lower Plenty River Concept Plan*, report to the Melbourne and Metropolitan Board of Works.
- Weaver F 1992, *The Lower Darebin Creek Archaeological Survey: A Survey for Aboriginal and Historical Archaeological Sites, forming the Heritage Component of the Darebin Creek Concept Plan*, report to Melbourne Water, Practical Archaeology Services.
- Welsh L & Janson S 2018, 69-71 Banyule Road, Rosanna, Residential Subdivision, CHMP 15455, unpublished report submitted to Rosanna Village Pty Ltd by Extent.
- Wilkins D, Gouramanis C, De Deckker P, Keith Fifield, L & Olley J 2013, *Holocene lake-level fluctuations in Lake Keilambete and Gnotuk, southwestern Victoria, Australia*, The Holocene, published online 6 February 2013, pp. 1-12.

Witter DC & Upcher M 1977, An Archaeological Survey Yarra Valley Area, Melbourne: a report to the Melbourne and Metropolitan Board of Works.

Zola, N and Gott, B 1992. *Koorie plants, Koorie people: traditional Aboriginal food, fibre and healing plants of Victoria*. Koorie Heritage Trust, Melbourne

# Appendix A    Aboriginal cultural heritage details

## A1    M80 Ring Road to northern portal

### 7922-0584 – SAB 8

#### Nature

SAB 8 (VAHR 7922-0584) is comprised of a single scarred Box eucalypt. The tree is described as being in good health with a girth of 1.4-metres at breast height. The tree has a single scar.

#### Registration history (reference other CHMPs and reports)

- Place registered in 1998 by D. Wines, V. Nicholson & P. Schell
- The place was likely registered during the preparation of the *Banyule City Council Aboriginal Heritage Study* report by Marshall (1999).

#### Type of testing and level of testing and how the place extent was established

There is no information available regarding the circumstance in which the tree was identified, except to say that it was identified during archaeological survey (Marshall, 1999). This place was reidentified as part of the CHMP standard assessment and place inspection form will be lodged to update the location and extent information of the place.

#### Site discussion including discussion of soils and disturbance

There is no information regarding the soils and level of disturbance around the place. However, the tree was recorded to be in good health.

#### Documented condition and referenced scientific significance

Due to the tree's setting within a public reserve, the condition of the place is unlikely to have changed since being recorded. No prior assessments have been made regarding the significance of the place.

#### Discussion of management conditions that have or may have been applied

No specific management conditions have been put forward for the place in the past. However, Marshall (1999, p. 69) has recommended that scarred trees in the area, such as VAHR 7922-0584, be revisited every five to 10 years to monitor their condition and integrity.

A recent inspection of this tree and consultation with the WWCHAC has determined that the scarring on this tree is not cultural in origin and steps are currently underway to have the tree removed from the Victorian Aboriginal Heritage Register.

## 7922-0585 – SAB 9

Nature

SAB 9 (VAHR 7922-0585) is comprised of a single culturally scarred tree. The tree species has not been identified. The tree is described as being in good health with a girth of 1.55-metres at breast height. The tree has a single scar.

Registration history (reference other CHMPs and reports)

- Place registered in 1998 by D. Wines, V. Nicholson & P. Schell
- The place was likely registered during the preparation of the *Banyule City Council Aboriginal Heritage Study* report by Marshall (1999).

Type of testing and level of testing and how the place extent was established

There is no information available regarding the circumstance in which the tree was identified, except to say that it was identified during archaeological survey (Marshall, 1999). This place was reidentified as part of the CHMP standard assessment and place inspection form will be lodged to update the location and extent information of the place.

Site discussion including discussion of soils and disturbance

There is no information regarding the soils and level of disturbance around the place. However, the tree was recorded to be in good health.

Documented condition and referenced scientific significance

Due to the tree's setting within a public reserve, the condition of the place is unlikely to have changed since being recorded. No prior assessments have been made regarding the significance of the place.

Discussion of management conditions that have or may have been applied

No specific management conditions have been put forward for the place in the past. However, Marshall (1999, p. 69) has recommended that scarred trees in the area, such as VAHR 7922-0285, be revisited every five to 10 years to monitor their condition and integrity.

A recent inspection of this tree and consultation with the WWCHAC has determined that the scarring on this tree is not cultural in origin and steps are currently underway to have the tree removed from the Victorian Aboriginal Heritage Register.

## 7922-0812 – Greensborough Bypass IA1

### Nature

VAHR 7922-0812 is comprised of a single quartz unretouched broken flake.

### Registration history (reference other CHMPs and reports)

- Place registered in 2004 by Melanie Thomson
- The place was registered during monitoring works of the Greensborough Bypass (Thomson, 2005)
- The place was inspected in 2016 (Tucker & MacCulloch) during the preparation of CHMP 12190

### Type of testing and level of testing and how the place extent was established

The place was identified by Thomson (2005) during monitoring of works pertaining to construction of the Greensborough Bypass. The quartz artefact was located on the western side of a bridge footing. While recorded as a subsurface artefact, it was found on the surface eroding from a natural embankment on the west side of the track. Thomson (2005, p. 12) has suggested that 'recent rain may have washed material across the face of the slope'. The underlying soil is comprised of a medium grey brown silty clay.

Despite being recorded as an artefact scatter, no discussion regarding the extent of the place was presented by Thomson (2005). While the place was revisited by Tucker & MacCulloch (2016), they were unable to identify any new cultural heritage materials at the place location. Due to the place being destroyed by the prior roadworks, Tucker & MacCulloch (2016) were not able to provide any further insight into the extent or nature of the place.

As the place is comprised of a single artefact, and in absence of further information, the extent of the place is considered to be constrained to the primary coordinate.

### Site discussion including discussion of soils and disturbance

The place was destroyed during the construction of the Greensborough Bypass. On visiting the place during the preparation of CHMP 12190, Tucker & MacCulloch (2016) have commented that the roadworks have completely altered the landscape at the place location, making it impossible to review the prior work undertaken by Thomson (2004).

### Documented condition and referenced scientific significance

The place has been destroyed as a result of the Greensborough Bypass construction. Consequently, the place is of low archaeological significance, as established by Thompson (2005) and Tucker & MacCulloch (2016).

### Discussion of management conditions that have or may have been applied

At the recommendation of Thomson (2005, p. 18) a permit to disturb VAHR 7922-0812 was obtained by VicRoads from the Wurundjeri.

As the place was destroyed no specific management measures were listed in CHMP 12190 (Tucker & MacCulloch, 2016, p. 104). It was only condition listed by Tucker & MacCulloch (2016, p. 104) is that the place be specifically mentioned during a Cultural Awareness Induction.

## 7922-1118 – M80 Greensborough Highway Interchange

### Nature

M80 Greensborough Highway Interchange (VAHR 7922-1118) is comprised of one silcrete flake and one quartz flake that was identified along a shallow drain at the top of a road cutting during archaeological survey.

### Registration history (reference other CHMPs and reports)

- Place registered in 2008 by John Hyett
- CHMP 10613 (the place was identified during the preparation of CHMP 10613. CHMP 10613 was discontinued and is not available for review on ACHRIS)
- CHMP 12190 (Tucker & MacCulloch, 2016)

### Type of testing and level of testing and how the place extent was established

The place was identified during archaeological survey by Hyett in 2008, at which time two artefacts were identified on the ground surface near a shallow drain. Hyett did not collect the artefacts. During the preparation of CHMP 12190 (Tucker & MacCulloch, 2016) six pits were excavated within the vicinity of VAHR 7922-1118 to further investigate the extent of the place. As a result of the subsurface excavation, Tucker & MacCulloch (2016, p. 65) concluded the original topsoil had been removed. Further to which, it is entirely possible the artefacts had been displaced by the flow of water through the drainage channel (Tucker & MacCulloch, 2016, p.65). The artefacts recorded by Hyett were not reidentified during the preparation of CHMP 12190. No additional artefacts were identified during the subsurface testing program.

### Site discussion including discussion of soils and disturbance

The place is located along a drainage channel in an area in which the original topsoil has been removed. Tucker & MacCulloch (2016) have established through survey and sub-surface testing that the place is highly disturbed. The underlying stratigraphy observed by Tucker & MacCulloch (2016) is comprised of a gravelly silt which overlay a mudstone.

### Documented condition and referenced scientific significance

Place extent should be updated.

### Discussion of management conditions that have or may have been applied

Management recommendations put forward in CHMP 12190 are:

- Collection and analysis of the artefacts with reburial of the artefact after the activity finished.

## 7922-1295 – M80 Greensborough Highway Interchange 2

### Nature

VAHR 7922-1295 (M80 Greensborough Highway Interchange 2) is comprised of a surface stone artefact scatter of four artefacts. The artefacts are situated on the crest of hill not far from a telecommunications tower. The hill overlooks the Plenty River. The area in which the artefacts are located was utilised as a construction area during prior works to the Greensborough Highway in 2005. Tucker & MacCulloch (2016, p. 99) have assessed the place as being substantially disturbed.

**Table 11-1: Stone artefacts identified at VAHR 7922-1295 (Tucker & MacCulloch, 2016, p. 85)**

Location	Material	Artefact type	Termination type	Platform type	Dimensions (L x W x T mm)	Cortex
331889E/ 5826555N	Silcrete	Scraper	N/A	N/A	18 x 15 x 5	None
331890E/ 5826554N	Quartz	Core	N/A	N/A	22 x 18 x 16	None
331892E/ 5826556N	Silcrete	Medial Flake	N/A	N/A	11 x 9 x 3	None
331898E/ 5826556N	Silcrete	Expanded Flake	Feather	Single	11 x 22 x 8	None

#### Registration history (reference other CHMPs and reports)

- Place registered in 2012 by Catherine Tucker
- CHMP 12190 (Tucker & MacCulloch, 2016)

#### Type of testing and level of testing and how the place extent was established

The place was identified by Tucker & MacCulloch (2016) during archaeological survey undertaken in accordance with the preparation of CHMP 12190. While subsurface testing was undertaken within the immediate vicinity of the surface artefact no cultural heritage materials were found in subsurface contexts. The extent of the place is defined by an irregularly shaped polygon, the vertices of which are the locations of the four stone artefacts.

#### Site discussion including discussion of soils and disturbance

Tucker & MacCulloch (2016, p.67) excavated a 1 x 1-metre test pit not far from the location of VAHR 7922-1295. The underlying stratigraphy was found to be comprised of the following stratigraphic units:

- 0-50 millimetres: Mixed clay, soil and rock
- 50-150 millimetres: Fill
- 150-250 millimetres: Silt and crushed mudstone
- 250-300 millimetres: Mudstone with silt
- 300 millimetres+: Mudstone base.

Tucker & MacCulloch (2016, p.66) were unable to expose a natural soil profile during subsurface testing within the vicinity of VAHR 7922-1295. In consideration of the underlying introduced fill and presence of subsurface utilities, Tucker & MacCulloch (2016, p.66) argue the place is a highly dispersed surface scatter with poor contextual integrity.

#### Documented condition and referenced scientific significance

The condition of the place is unlikely to have changed since being recorded. In consideration of the poor place integrity, and poor place representativeness, Tucker & MacCulloch (2016) assess the place as being of low scientific significance.

#### Discussion of management conditions that have or may have been applied

Management recommendations put forward in CHMP 12190 are:

- Protective fencing was to be established around the place to ensure its protection during works
- A cultural heritage awareness induction should specifically mention the place.

## 7922-1296 – Goolgung Grove 1

### Nature

VAHR 7922-1296 (Goolgung Grove 1) is a surface stone artefact scatter identified by Tucker & MacCulloch (2016) during archaeological survey undertaken in accordance with the preparation of CHMP 12190. The artefacts were found within a modified landform near the southern end of Goolgung Grove, next to a bike path. Optical Fibre cable passes through the extent of the place.

**Table 11-2: Stone artefacts identified at VAHR 7922-1296 (Tucker & MacCulloch 2016, p. 86)**

Location	Material	Artefact type	Termination type	Platform type	Dimensions (L x W x T mm)	Cortex
331687E/5826723N	Quartzite	Scraper	N/A	N/A	47 x 44 x 15	None
331697E/5826716N	Silcrete	Complete Flake	Stepped	Single	26 x 33 x 7	None
33169E/5826716N	Silcrete	Core	N/A	N/A	50 x 44 x 38	Yes

### Registration history (reference other CHMPs and reports)

- Place registered in 2012 by Catherine Tucker
- CHMP 12190 (Tucker & MacCulloch 2016)

### Type of testing and level of testing and how the place extent was established

The place was identified by Tucker & MacCulloch (2016) during archaeological survey undertaken in accordance with the preparation of CHMP 12190. While subsurface testing was undertaken within the immediate vicinity of the surface artefact no cultural heritage materials were found in subsurface contexts. The extent of the place is defined by an irregularly shaped ellipse, the vertices of which are the locations of the stone artefacts.

### Site discussion including discussion of soils and disturbance

No subsurface testing was undertaken within the vicinity of VAHR 7922-1296 by Tucker & MacCulloch (2016) due to the presence of Optical Fibre cable within the extent of the place. As the artefacts are situated within a modified landform, inclusive of the service trench through which the Optical Fibre passes, Tucker & MacCulloch (2016), assess the place as having poor integrity.

### Documented condition and referenced scientific significance

The condition of the place is unlikely to have changed since being recorded. In consideration of the poor place integrity, and poor place representativeness, Tucker & MacCulloch (2016) assess the place as being of low scientific significance.

### Discussion of management conditions that have or may have been applied

Management recommendations put forward in CHMP 12190 are:

- Protective fencing was to be established around the place to ensure its protection during works
- A cultural heritage awareness induction should specifically mention the place.

## 7922-1297 – Worcester Crescent 1

### Nature

VAHR 7922-1297 (Worcester Crescent 1) is comprised of a surface artefact scatter of four stone artefacts that were identified by Tucker & MacCulloch (2016) during archaeological survey. The artefacts were situated upon an artificial mound adjacent to the M80 Ring Road roadway. A pedestrian/bicycle pathway has been cut through the mound and passes by the place.

**Table 11-3: Stone artefacts identified at VAHR 7922-1297 (Tucker & MacCulloch, 2016, p. 83)**

Location	Material	Artefact type	Termination type	Platform type	Dimensions (L x W x T mm)	Cortex
330547E/5827141N	Silcrete	Scraper	N/A	N/A	42 x 29 x 11	None
330541E/5827142N	Silcrete	Scraper	N/A	N/A	47 x 30 x 15	None
330549E/5827145N	Quartz	Flake	Feather	Single	22 x 16 x 7	Yes
330555E/5827139N	Silcrete	Broken Tool	N/A	N/A	21 x 11 x 5	None

### Registration history (reference other CHMPs and reports)

- Place registered in 2012 by Catherine Tucker
- CHMP 12190 (Tucker & MacCulloch 2016).

### Type of testing and level of testing and how the place extent was established

The place was identified by Tucker & MacCulloch (2016) during archaeological survey undertaken in accordance with the preparation of CHMP 12190. While subsurface testing was undertaken within the immediate vicinity of the surface artefact no cultural heritage materials were found in subsurface contexts. The extent of the place is defined by a triangle, the vertices of which correlate to the location of three of the artefacts. The location of one artefact, which is situated within the middle of the triangle, is the primary coordinate for the place.

### Site discussion including discussion of soils and disturbance

The underlying stratigraphy of the place, as identified during subsurface testing (Tucker & MacCulloch, 2016, p. 63), was defined:

- 0-50 millimetres: mixed clay, gravel, silt and rubbish
- 50-280 millimetres: gravel, basalt, clay, silt and metal.

Tucker & MacCulloch (2016, p. 63) determined that the rise was artificial. No *in situ* soil profiles were identified during subsurface testing.

### Site discussion including discussion of soils and disturbance

The condition of the place is unlikely to have changed since being recorded. In consideration of the poor place integrity, and poor place representativeness, Tucker & MacCulloch (2016) assess the place as being of low scientific significance.

### Discussion of management conditions that have or may have been applied

Management recommendations put forward in CHMP 12190 are:

- Protective fencing was to be established around the place to ensure its protection during works
- A cultural heritage awareness induction should specifically mention the place
- The artefact collected during the complex assessment (CHMP 12190) is to be reburied at the place.

## 7922-1298 – Enterprise Drive 1

### Nature

VAHR 7922-1298 (Enterprise Drive 1) is comprised of a subsurface artefact scatter of five stone artefacts that were identified by Tucker & MacCulloch (2016) during archaeological excavation. The artefacts were found 27 to 40 centimetres below the ground surface within a grey silty stratigraphic unit that included plastic, metal, ceramic and glass fragments.

**Table 11-4: Stone artefacts identified at VAHR 7922-1297 (Tucker & MacCulloch, 2016, p. 84)**

Location	Material	Artefact type	Termination type	Platform type	Dimensions (L x W x T mm)	Cortex
329904E/5827234N	Quartzite	Waste Flake	N/A	N/A	16 x 7 x 2	None
329904E/5827234N	Silcrete	Distal Blade	N/A	N/A	13 x 6 x 1	None
329904E/5827234N	Silcrete	Medial Blade	N/A	N/A	9 x 6 x 2	None
329904E/5827234N	Silcrete	Complete Flake	Feather	Single	7 x 7 x 1	None
329895E/5827234N	Silcrete	Edge Retouch Flake	Feather	Single	12 x 15 x 4	None

### Registration history (reference other CHMPs and reports)

- Place registered in 2012 by Catherine Tucker
- CHMP 12190 (Tucker & MacCulloch, 2016)

### Type of testing and level of testing and how the place extent was established

The place was identified by Tucker & MacCulloch (2016) during archaeological excavation of a 1 x 1 metre test pit. Extent testing included the excavation of additional five 0.5 x 0.5-metre shovel test probes to the east and west. No further testing to the north was undertaken due to the proximity of the place to the northern boundary of the study area. Services prevented supplementary testing to the south of the place. The extent of the place is defined by an ellipse, the vertices of which correspond to the 1 x 1-metre test pit and shovel test probe in which artefacts were identified. However, Tucker & MacCulloch (2016, p.90) do note that the place extent may extend further to the north.

### Site discussion including discussion of soils and disturbance

The underlying stratigraphy of the place, as identified during subsurface testing (Tucker & MacCulloch, 2016, p. 63), was defined:

- 0-50 millimetres: black soil and glass
- 50-220 millimetres: fill
- 220-470 millimetres: grey silt
- 470-550 millimetres+: clay and mudstone.

Prior impacts upon the registered extent include the construction of a culvert, drainage channel, a pedestrian/bicycle pathway and fence. Due to the identification of historic artefacts within the context in which the Aboriginal stone artefacts were found Tucker & MacCulloch (2016, p. 91) argue that the artefacts are not *in situ*.

#### Site discussion including discussion of soils and disturbance

The condition of the place is unlikely to have changed since being recorded. In consideration of the poor place integrity, and poor place representativeness, Tucker & MacCulloch (2016) assess the place as being of low scientific significance.

#### Discussion of management conditions that have or may have been applied

All the artefacts listed above were collected during the subsurface testing program.

Management recommendations put forward in CHMP 12190 are:

- Protective fencing was to be established around the place to ensure its protection during works
- A cultural heritage awareness induction should specifically mention the place
- The artefacts collected during the complex assessment (CHMP 12190) are to be returned to the Wurundjeri for storage until such time as reburial of the artefacts can be arranged.

## 7922-1311 – Greensborough Bypass 2

### Nature

VAHR 7922-1311 (Greensborough Bypass 2) is comprised of a low density scatter of four stone artefacts that were found during archaeological survey (Tucker & MacCulloch 2016). The stone artefacts were situated near Plenty River, not far from the southern side of the Greensborough Highway. The artefacts were located within a large drainage channel and are not considered to be *in situ*.

**Table 11-5: Stone artefacts identified at VAHR 7922-1311 (Tucker & MacCulloch, 2016)**

Ref no.	Location (MGA 55)	Depth (m)	Raw material	Primary form	Platform	Termination	Dimensions (L x W x T mm)
1	332319E/5826564N	0	Silcrete	Flake – Complete	Flaked	Feather	18 x 33 x 7
2	332290E/5826569N	0	Quartzite	Flake – Proximal	Flaked		28 x 22 x 11
3	332272E/5826562N	0	Silcrete	Flake – Complete	Flaked	Feather	20 x 15 x 3
4	332272E/5826562N	0	Quartz	Flake – Complete	Flaked	Feather	12 x 10 x 2

### Registration history (reference other CHMPs and reports)

- Place registered in 2013 by Catherine Tucker
- CHMP 12190 (Tucker & MacCulloch, 2016)

### Type of testing and level of testing and how the place extent was established

The place extent is constrained to the location of the four stone artefacts. Extent testing, by way of a subsurface testing program, was undertaken around the location of each of the artefacts. The extent testing included the excavation of 15 0.4 x 0.4-metre shovel test probes and a single 1 x 1-metre test pit. No additional artefacts were identified during the subsurface testing program.

### Site discussion including discussion of soils and disturbance

The underlying stratigraphy at VAHR 7922-1311 was found to be comprised of a brown-grey disturbed silty clay to a depth of around 0.05-metres below the ground surface, beneath which a light orange brown mudstone clay and bedrock stratigraphic unit was encountered to a depth of 0.13 metres (Tucker & MacCulloch, 2016, p. 68). The artefacts themselves are situated within a drainage channel that is subject to inundation and are not considered to be *in situ*. The underlying stratigraphy is disturbed, with little to no integrity.

### Documented condition and referenced scientific significance

The place is considered to be in poor condition, have poor integrity and is of poor place representativeness (Tucker & MacCulloch 2016, p. 101). Tucker & MacCulloch (2016, p. 101) conclude that the place is of low scientific significance.

### Discussion of management conditions that have or may have been applied

Management recommendations put forward in CHMP 12190 (Tucker & MacCulloch, 2016, p. 7) are:

- Prior to the proposed works taking place salvage of VAHR 7922-1311 should attempt to reidentify and collect the surface artefacts
- Salvaged artefacts are to be recorded and catalogued
- Salvaged artefacts to be repatriated to the Wurundjeri, who may elect to rebury the artefacts.

## A2 Northern portal to southern portal

### 4.5-2 Bulleen Lagoon

#### Period association

##### 4.1 Living camps away from towns & properties

#### Description

William Thomas, assistant protector of Aboriginal people in the Melbourne area was taken to different hunting and camping grounds of the two Aboriginal tribes referred to as the Yarra and Western Port Aboriginal tribes. These included many spots along the Yarra River particularly in the Bulleen area where there were lagoons above the Koonung Creek's entrance to the Yarra, and in the Yarra Bend area and along the lower parts of the Merri Creek...In March 1841 Thomas learnt 'with dismay' that lagoons on the river near Heidelberg had been sold as private property (Lemon, 1983, 15). Robinson he pointed out that the tribe came there each year to fish for eels. He added, 'When Bolin [sic] and the few lagoons adjacent becomes [sic] private property it will be one of the most serious losses hitherto sustained by the Blacks' (Lemon, 1983, 16). A few months later, the Bulleen part of the Yarra had been allocated to Frederick Unwin, a speculator, as part of a 'Special Survey' purchase of over 5,000 acres. In June 1841, Thomas addressed the Governor directly, pointing out the effects of the sale of the special survey on part of the Yarra which supported the blacks with eels one month of the year (Lemon, 1983, 16) (referred to in Clark & Heydon, 2004, 31: Thomas to Robinson 12/3/1841 in VPRS 11, Unit 7. Clark & Heydon also state that Thomas was thereafter obliged to discourage Aboriginal people from camping on the north side of the Bolin Bolin Billabong (Thomas to Robinson 15/9/1849 in VPRS 11, Unit 10, Item 723).

Clark & Heydon (2004, 26) state that in 1840, after consultation with Thomas, the Woiwurrung Aboriginal people 'decided they would like to reside by the Bolin lagoons (Bulleen)'. Robinson suggested a location south of Ryrie brothers' Yering pastoral station on the Upper Yarra, although this site was not agreed upon.

Thomas Papers, Jnl (Mentioned in Clark & Heydon, 2004, 31) refers to Bolin Bolin Billabong/lagoon as a place of significant economic value to Aboriginal people. Camps were located at several sites around the lagoon and the curve of the Yarra River, usually on the north and south sides (Thomas to La Trobe 24/6/1841 in VPRS 10, Item 1841/940; Thomas to Robinson 15/9/1849 in VPRS 11, Unit 10, Item 723). Clark & Heydon (2004, 31) state that Aboriginal people often visited the swamp between June and November. In pre-contact times, the Woiwurrung may have travelled to Bolin Bolin Billabong at specific times; however, during the 1840s there appears to be no specific month when Woiwurrung visited this area. Visits occurred in August 1840 (Thomas to La Trobe 26/8/1840 in VPRS 10, Item 1840/867), June 1841 (Thomas to La Trobe 24/6/1841 in VPRS 10, Item 1841/940) and at the end of November 1845 (Thomas to Robinson 19/12/1845 in VPRS 11, Unit 10, Item 621), and in June 1848 (Thomas to La Trobe 31/8/1848 in VPRS 10, Item 1848/23172) camps were recorded at 'Boolleen' as well as the confluence of the Plenty and Yarra Rivers (Clark & Heydon, 2004, 32).

Presland (1994, 25) mentions Bolin Bolin Billabong as follows:

'...the valley opens out again and the river makes its way through low-lying swampy land in the Doncaster/Templestowe area. This large marshy area, later called Bolin Swamp, is an important source of eels, fish, water birds and vegetable foods, and is a popular camping place for the Kulin people'.

Presland states that the Wurundjeri would spend the summer months on the banks of the Yarra and its tributaries and as winter came would begin to move up to the higher land near the Dandenong Rivers to access more shelter and firewood (1984, 73). Along the way to the Ranges they might stop at a camp along the Yarra at Bolin Bolin Billabong to fish for eels (Clark & Heydon, 2004, 35 cite Thomas 31/5/1841 in VPRS 4410, Item 69). Presland states there would be large camps where there were also visitors from other groups, and ceremonies to initiate some youths. Catching eels was undertaken using various methods including spearing with a wooden spear tipped with the peduncle or stalk of the grass tree. Eels were also caught by hand, wading into the water and felt with the feet or seen (Presland, 1994, 75). Eels were plentiful at the end of summer, and two men could catch as much as 20 kilograms in a short time without having to go far. Other resources include fish. Women also would collect foods in the vicinity of the swamp (Presland, 1994, 78) especially in Autumn when there is a wide variety available. Around the swamps and marches the young shoots and roots of bulrush could be collected and eaten. The fruit and seeds of various aquatic plants and roots of water ribbons were also collected, along with rushes for baskets and jewellery such as reed necklaces. Birds eggs were also collected and birds caught and eaten (Presland, 1994, 79).

## 7922-0022 – Rosanna

### Nature

VAHR 7822-4068 is comprised of a single healthy culturally scarred *E. Camaludensis* (River Red Gum). The tree has a single scar, the dimensions of which were recorded:

- Length: 2.59 metres (102")
- Maximum breadth: 0.55 metres (22")
- Distance from ground to bottom of the scar: 0 metres.

The tree had a recorded girth of 4.11 metres (13' 6"). The extent of the tree's canopy has not been recorded.

### Registration history

- Registered by J. Holman – date unknown but probably before 1970 as the site card utilizes imperial measurements

### Type of testing and level of testing and how the place extent was established

There is no information available regarding the circumstance and manner in which the place was identified and surveyed. We can infer from the inclusion of photographs and accurate measurements on the site card that the place was, at a minimum, subject to a visit and some limited form of survey.

Presently, the registered place extent, which is derived from the initial place registration card, is limited to the primary coordinate of the place, which is situated within the property at 35 Beverley Road. The place registration card presents the following information regarding the general location of the place:

- It is located in or near Melway Map 32 D3
- It is located in the rear yard of 132 Beverley Road, Rosanna.

Marshall (1999) undertook an Aboriginal heritage study on behalf of Banyule City Council for land which includes VAHR 7922-0022. Marshall (1999) was not able to reidentify the tree during the preparation of the report.

While the property at 35 Beverley Road, Rosanna, is located within the immediate proximity of Melway Map 32 D3, the property at 132 Beverley Road is not. 132 Beverley Road is located further north, near Melway Map 32 D1. A place inspection would be required to establish where the tree is located.

While the place extent at the time was not defined, in accordance with the *Standards for Recording Victorian Aboriginal Heritage Places and Objects* (Duncan *et al.*, 2008, p. 24) guide prepared by Aboriginal Victoria, the extent of a healthy scarred tree is 'determined by doubling the measured distance extent on the drip line (canopy area of the tree's branches)'. In absence of further information regarding the canopy size of the scarred tree, and confirmation of the location of the place, it is not possible to either infer or define the extent of the place.

### Site discussion including discussion of soils and disturbance

No information is available regarding disturbance and soil condition at the place location.

The condition of the scarred tree is indicated to be healthy ('growing vigorously') on the place registration card. Unfortunately, until the place is reidentified, it is not possible to verify the current condition of the tree.

### Discussion of management conditions that have or may have been applied

No prior management conditions have been documented with respect to the place.

## 7922-0255 – Bolin Billabong 1

### Nature

Bolin Billabong 1 (VAHR 7922-0255) is comprised of a surface scatter of stone artefacts. The artefacts are comprised of two raw materials, quartz (n=3) and silcrete (n=3) (Ellender 1991, p. 37). Artefact types identified by Ellender (1991, p.37).

**Table 11-6: VAHR 7922-0255 artefact types**

VAHR	Core	Flake	Scraper	Fragment	Total
7922-0255	1	1	1	3	6

### Registration history (reference other CHMPs and reports)

- Place registered in 1990 by the Isabel Ellender (Victorian Archaeological Survey)
- The place is documented in an associated report by Ellender (1991) – The City of Doncaster and Templestowe: The Archaeological Survey of Aboriginal Sites

### Type of testing and level of testing and how the place extent was established

The place was identified by archaeological survey undertaken by Ellender in 1990, via a combination of vehicle and pedestrian survey. The place itself was observed to be situated on a rise above the Bolin Bolin Billabong (Ellender 1991, p. 38). Maps of the place location and extent as prepared by Ellender for the place registration card) provide a reasonably accurate record of the place's location and extent.

It is evident from the available place maps that the primary coordinate for the place, as currently recorded in the Aboriginal cultural heritage register, is not accurate. The place is actually located to the south east of the primary coordinate on a rise within a paddock on the east side of the Bolin Bolin Billabong. The place is situated beneath a single Kurrajong Tree).

Ellender (1991) established that the place has an extent of approximately 7x7 m, albeit Ellender (1991) does note that the place may be part of a larger camping site due to its proximity to the Bolin Bolin Billabong, and that some material may be located in a subsurface context.

### Site discussion including discussion of soils and disturbance

No information regarding the stratigraphy of the place was presented by Ellender (1991). The place is listed as being in poor condition, with cattle erosion being a potential threat to the place (Ellender, 1991, p. 70).

### Documented condition and referenced scientific significance

The place is listed as being in poor condition. Ellender (1991) has argued that the place has a low research potential, primarily due to the limited number of artefacts at the place (n=6). However, Ellender (1991) is of the view that the place has moderate educational potential, and as an outcome of discussions with Margaret Gardiner has assessed the place as having high cultural significance.

### Discussion of management conditions that have or may have been applied

Ellender (1991, p. 65) put forward the following management recommendations for VAHR 7922-0255:

*This billabong is of great significance to the Wurundjeri. Therefore, although the present surface manifestation of the archaeological site is meagre, its location should be noted by the Doncaster and Templestowe Council and the Board of Works so that no further ground disturbance can be carried out*

- *on the raised ground between Clarendon Eyre and the billabong,*
- *on the edges of the billabong,*
- *on the central part of the billabong.*

*The site (#7922-255) should not be identified in any interpretation trail or other published material to be prepared by the Board of Works or the Council.*

## 7922-0256 – Yarra Flats 1

### Nature

YARRA FLATS 1 (VAHR 7922-0256) is comprised of a single culturally scarred Red Gum which is in good health. The tree is recorded as having a girth of 4 metres at breast height and is approximately 20 metres tall. Ellender recorded 13 toe holds on the tree, which are in fair condition.

### Registration history (reference other CHMPs and reports)

- Place registered in 1990 by the Isabel Ellender (Victorian Archaeological Survey)
- There is one report associated with the place, the *Middle Yarra Survey* (Ellender 1990). Unfortunately, the corresponding report is not available on ACHRIS.
- Marshall (1999) reidentified the place during the preparation of the *Banyule City Council Aboriginal Heritage Study*. Marshall made no formal amendments to the place registration.

### Type of testing and level of testing and how the place extent was established

There is no information available regarding the circumstance in which the tree was identified, albeit it is reasonable to assume that it was recorded during archaeological survey undertaken by the Victorian Archaeological Survey. In absence of information regarding the extent of the tree's canopy, it is not possible to infer the appropriate extent of the place.

The place registration card indicates that VAHR 7922-0256 is located on the western side of the Yarra River and just to the north of a small pond that is surrounded by willows. As such, it is clear that the primary coordinate for the place, which places the tree to the east of the Yarra River, is not correct.

Marshall (1999) was able to reidentify the place during archaeological survey on behalf of the Banyule City Council. Unfortunately, Marshall (1999) made no specific comment regarding the nature and extent of the place, other than to confirm Ellender's (1990) findings.

### Site discussion including discussion of soils and disturbance

There is no information regarding the soils and level of disturbance around the place. However, the tree was recorded by Ellender (1990) and Marshall (1999) to be in good health. The toe hole scars were reported to be in fair condition. Given the proximity of the tree to the Yarra River, it is unlikely to have been impacted by any recent developments.

### Documented condition and referenced scientific significance

The condition of the tree was recorded on the place registration card as being in good health. This was corroborated in 1999 by Marshall. Due to the proximity of the tree to the Yarra River, it is highly likely that the tree is still in good health.

The place registration card indicates that the place could be useful for the purposes of public education. However, the Wurundjeri have with-held permission to do so.

### Discussion of management conditions that have or may have been applied

No specific management conditions have been put forward for the tree in the past. However, Marshall (1999, p. 69) has recommended that scarred trees in the area, such as VAHR 7922-0256, be revisited every five to 10 years to monitor their condition and integrity.

## 7922-1466 – Bulleen LDAD

### Nature

VAHR 7922-1446 (Bulleen LDAD) is comprised of a low density scatter of five stone artefacts that were found during archaeological excavation (Vines 2016).

### Registration history (reference other CHMPs and reports)

- Place registered in 2016 by Gary Vines
- CHMP 13793 (Vines 2016)

### Type of testing and level of testing and how the place extent was established

The registered place extent is defined by the coordinates at which each of the stone artefacts were located. Extent testing included the excavation of additional pits near each of the identified stone artefacts. No additional artefacts were identified during the extent testing program.

### Site discussion including discussion of soils and disturbance

The underlying stratigraphy and place integrity varied at each location from which the stone artefacts were excavated.

Artefacts 1 and 2 were identified during the excavation of Test Pit 2, within a compact clay that was encountered at depths of 30 to 250 millimetres below the ground surface. The compact clay was assessed by Vines (2016, p. 54) as being intact. Test Pit 2 was terminated at a depth of about 520 millimetres, where a cemented silty clay was encountered.

Artefacts 3 to 5 were identified during excavation of shovel test probes, which were later expanded into Test Pits 4, 5 and 6 (Vines 2016, p. 61). The artefacts were recovered from depths of 30 to 200 millimetres in a dry friable silt context of variable composition and consistency (Vines 2016, p. 61). Each of the artefacts were situated in disturbed contexts (Vines 2016, p. 61). Subsurface excavations within the area ceased at around 430 millimetres (Vines 2016, p. 61).

### Site discussion including discussion of soils and disturbance

Vines (2016, p. 70) documents the place as being of low scientific significance, due to the limited assemblage size, poor place condition and the commonality of the place type within the region.

### Discussion of management conditions that have or may have been applied

Management recommendations put forward in CHMP 14116 (Patton & Fiddian, 2016, p. 53) are:

- Salvage excavation of at least 2 m<sup>2</sup> must occur at the location of each of the artefacts (which comes to a total of 6m<sup>2</sup>) (see Vines [2016, p. 76] for map of location of salvage excavation)
- Artefacts salvaged during the excavations must be analysed and catalogued
- Artefacts are to be returned to the Wurundjeri and must be reburied in a place that will not be disturbed in the future, as close as possible to the original place extent boundary.

## 7922-0052 – Templestowe 4

### Nature

Templestowe 4 (VAHR 7822-0052) is registered as a surface artefact scatter that is comprised of 'abundant quartz and chert debitage including a small tool/blade technology' (Whitter & Upcher, 1977, p. 21). No further information has been made available regarding the nature of VAHR 7822-0052. In consideration of the inclusion of backed blades in the assemblage, Whitter and Upcher (1977, p. 9) predict that the place is no more than 5,000 years old. On the assumption that Whitter and Upcher's (1977) observations are accurate, it is probably more accurate to describe the place as containing some artefacts (backed blades) which were most likely produced during the Holocene.

### Registration history (reference other CHMPs and reports)

- Place registered in 1977 by the Victorian Archaeological Survey
- The place was identified during the preparation of *An Archaeological Survey: Yarra Valley Area, Melbourne* by Witter and Upcher (1977)
- In 2008 Paynter (Parks Victoria) conducted a place inspection, but was unable to relocate the place. Paynter updated the primary coordinates for the place.

### Type of testing and level of testing and how the place extent was established

The place was identified during archaeological survey. Ground surface visibility was recorded as being 30 to 40 per cent. Artefacts were collected at the time of the initial survey (Whitter & Upcher, 1977). Information regarding the content, location and extent of the place on the place registration card are scant. While the general location of the place is indicated, the actual extent of the place is not clearly defined. The place registration card states that the place has an extent of 100 x 200 metres. Elsewhere, Whitter & Upcher (1977) list the place as having an extent of 50 x 50 metres. The primary coordinates of the place were updated in 2008 by Paynter (Parks Victoria), albeit this was for technical issues with regard to the digital management of the place, and not a clarification of where the place is actually located. Paynter was unable to relocate the place, and consequently could not provide any further clarity regarding the extent or location of the place.

### Site discussion including discussion of soils and disturbance

Witter & Upcher (1977, pp. 20-21) have indicated that the place has been subject to intensive ploughing and have listed the place as having very poor preservation on the place registration card.

### Documented condition and referenced scientific significance

Although the place is considered to have very poor preservation Witter & Upcher (1977, p. 13) believe the place has major research potential.

### Discussion of management conditions that have or may have been applied

Witter & Upcher (1977, p. 15) have recommended the following management conditions:

- If avoidance of harm is not possible 'intensive systematic collection' is recommended.
- If avoidance of harm is possible 'protection measures' are recommended.

Witter & Upcher (1977) collected artefacts found during the archaeological survey of VAHR 7922-0052. The current location of the stone artefacts is not presently documented.

The place registration card indicates that the place is within land that was scheduled for development. It is not clear whether any management measures were adhered to during the subsequent development works or if the place has been affected by those works.

## 7922-1429 – Lower Plenty Rd IA1

### Nature

VAHR 7922-1429 (Lower Plenty Rd IA1) is comprised of a low density scatter of one stone artefact that was found during archaeological excavation (Patton & Fiddian, 2016). The stone artefact was found at a depth of approximately 0.12 metres below the ground surface in a 0.4 x 0.4-metre shovel test probe, identified by Patton & Fiddian as Shovel Test Probe 2, within a light brown silty clay.

**Table 11-7: Stone artefacts identified at VAHR 7922-1429 (Patton & Fiddian, 2016)**

Ref no.	Location (MGA 55)	Depth (m)	Raw material	Primary form	Platform	Termination	Dimensions (L x W x T mm)
1	330754.37E/ 5821847.01N	0.12	Silcrete	Blade – Complete	Plain	Feather	60 x 20 x 10

### Registration history (reference other CHMPs and reports)

- Place registered in 2016 by Keith Patton
- CHMP 14116 (Patton & Fiddian, 2016)

### Type of testing and level of testing and how the place extent was established

The place extent is constrained to the location of the shovel test probe in which the stone artefact was identified. Extent testing comprised of the excavation of two shovel test probes, one 5 metres north of the place and one 5 metres south of the place. Subsurface extent testing to the east and west of the place was not practicable, due to a gas main and a dwelling within the activity area. No additional artefacts were identified during the subsurface testing program.

### Site discussion including discussion of soils and disturbance

The artefact identified during subsurface testing is considered to be situated within a disturbed deposit and not in its primary context (Patton & Fiddian, 2016, p. 46).

### Documented condition and referenced scientific significance

Patton & Fiddian (2016, p. 47) document the place as being of low scientific significance primarily due to the limited assemblage size and poor place condition.

### Discussion of management conditions that have or may have been applied

Management recommendations put forward in CHMP 14116 (Patton & Fiddian, 2016, p. 53) are:

- The artefact recovered during the complex assessment must be returned to the Wurundjeri during the project results meeting.

## 7922-#### – Banyule Creek LDAD 1

### Nature

Banyule Creek LDAD 1 (7922-\*\*\*\*) is comprised of two artefacts, a fine-grained silcrete medial flake (STP A4) and a quartz flake fragment (1x1B). Neither has cortex, and no macroscopically observable retouch or use wear is present. One artefact was identified in 1x1B at a depth range of 400 to 500 millimetres and the other in STP A4 at a depth range of 100 to 130 millimetres.

### Registration history

This place has been identified as part of the current CHMP assessment.

### Documented condition and referenced scientific significance

The place is in variable condition with soil disturbance observed in the upper profile of all test pits excavated in the area. Soils with lower levels of clear ground disturbance were identified towards the base of 1x1B which was excavated in close proximity to Banyule Creek. Based on the low numbers of artefacts currently identified, the place is currently assigned a provisional low scientific rating.

## 7922-1506 – Banyule Flats Reserve LDAD 01

### Nature

The Aboriginal place Banyule Flats Reserve 01 LDAD (VAHR 7922-1506) is represented by a total of 42 subsurface artefact identified at various depth ranges during the complex assessment for the current CHMP. These artefacts include angular fragments (n=8), core (n=1), flakes (n=31) and tools (n=2). The raw materials represented include silcrete (n=22), quartz (n=13), quartzite (n=6) and rhyolite (n=1).

These artefacts were located on the generally flat to gently inclined floodplain landform within the activity area.

The two silcrete tools are both backed bladelets with ventral, scalar and stepped retouch. Both have traces of use-wear.

All the major elements of a stone reduction sequence – cores, flakes and angular fragments – are present in this assemblage, suggesting that stone working activities probably took place in the vicinity. The low number and dispersed nature of the artefacts likely indicate the use and discard of artefacts in the course of undertaking other activities within the vicinity, probably across a long period of time. The low incidence of cores and tools may be the result of infrequent, short-duration visits of this nature, but could also reflect the small size of the assemblage. The presence of unretouched and backed bladelets is typical of assemblages of the Australian Small Tool Tradition, and this, along with other similarities between the assemblages, suggests that the artefacts that make up Banyule Flats Reserve LDAD 01 were probably accumulated across a similar time frame and during the course of similar activities as those of the Banyule Flats Reserve 01 artefact scatter.

### Registration history (reference other CHMPs and reports)

- Place registered in 2017 by Melinda Albrecht
- CHMP 14563 (Green & Albrecht, in preparation)

### Type of testing and level of testing and how the place extent was established

Subsurface testing included the excavation of 1 x 1-metre test pits and 0.5 x 0.5-metre shovel test probes by hand.

### Site discussion including discussion of soils and disturbance

Despite some local variability, excavations throughout the study area were found to contain a relatively consistent underlying stratigraphy. Disturbance, by way of European material discard, was found within the upper stratigraphic units (0 to 200 millimetres below the ground surface), but also at times as deep as 650 millimetres below the ground surface. This suggests a low-moderate level of disturbance across the area in which VAHR 7922-1506 is situated.

### Site discussion including discussion of soils and disturbance

VAHR 7922-1506 has been assessed as being of low scientific significance, this site type is common in regard to the nature and content of other assemblages from within the geographic region. No other cultural material such as animal bone, shell or charcoal was identified from the low density artefact scatter, and some disturbance was noted in the soil sediments from the artefact bearing test pits.

### Discussion of management conditions that have or may have been applied

CHMP 14563 is in preparation. Therefore, no specific management conditions have been certified at the time of this report's preparation.

## 7922-1511 – Banyule Flats Reserve 01

### Nature

The Aboriginal place Banyule Flats Reserve 01 (VAHR 7922-1511) is represented by a total of 162 subsurface artefact identified at various depth ranges during the complex assessment for the current CHMP. These artefacts include angular fragments (n=41), cores (n=5), flakes (n=96) and tools (n=20). The raw materials represented include silcrete (n=138), quartz (n=18), quartzite (n=5) and rhyolite (n=1).

These artefacts were located on the inclined landform within the activity area overlooking the generally flat floodplains, swamps and wetland areas associated with the Yarra River. The place extent for Banyule Flats Reserve 01 is based on the width of the activity area for a proposed shared pathway, extending east and west adjacent to negative test pits excavated during the CHMP complex assessment. Due to the likelihood that Aboriginal cultural heritage extends outside the activity area, a Potential Archaeological Deposit (PAD) has been indicated relating to this Aboriginal place, and this PAD is based upon the elevated landform containing this artefact scatter, extending between the 16 and 17m contours to the boundary of historic wetlands located to the east.

Silcrete is the most common raw material, comprising 85.2 per cent of the assemblage, and was recovered from all but one of the test pits.

### Registration history (reference other CHMPs and reports)

- Place registered in 2017 by Melinda Albrecht
- CHMP 14563 (Green & Albrecht, in preparation)

### Type of testing and level of testing and how the place extent was established

Subsurface testing included the excavation of 1 x 1-metre test pits and 0.5 x 0.5-metre shovel test probes by hand.

### Site discussion including discussion of soils and disturbance

Despite some local variability, excavations throughout the study area were found to contain a relatively consistent underlying stratigraphy. Disturbance, by way of European material discard, was found within the upper stratigraphic units (0 to 200 millimetres below the ground surface), but also at times as deep as 650 millimetres below the ground surface. This suggests a low-moderate level of disturbance across the area in which VAHR 7922-1511 is situated.

### Site discussion including discussion of soils and disturbance

VAHR 7922-1511 has been assessed as being of moderate scientific significance, this site type is common in regard to the nature and content of other assemblages from within the geographic region. The artefact scatter contained a larger number of artefacts, but a limited range of cultural materials with no other cultural material such as animal bone, shell or charcoal was identified, and some disturbance was noted in the soil sediments from the artefact bearing test pits.

### Discussion of management conditions that have or may have been applied

CHMP 14563 is in preparation. Therefore, no specific management conditions have been certified at the time of this report's preparation.

### **River Red Gum, Bridge Street.**

A mature very large River Red Gum (*Eucalyptus camaldulensis*) (HO24, Manningham) specimen stands within the forecourt of the Caltex service station at the intersection of Bridge Street and Manningham Road. The Red Gum is significant at a local level for historic and scientific (botanical) reasons, specifically related to its age and evidence of pre-European settlement of the area and has been claimed to have Aboriginal cultural heritage values. The tree was subject to an assessment as part of the preparation of the CHMP and the cultural values mapping exercise undertaken with Elders from the WWCHAC. There was broad agreement between the Elders present that while this tree represents an important remnant landscape element there was nothing inherently culturally significant about the tree. No evidence of Aboriginal bark removal is evident on the tree.

### **Bulleen Drive-in (former)**

The Bulleen Drive-in (former) (HO72, Manningham) is the site of the now-demolished Hoyts Bulleen Drive-in. The basis for inclusion of this place on the HO is understood to reflect the Aboriginal archaeological potential of the site; however, there are no registered Aboriginal places within the place. It appears that the listing derives from general statements made about archaeological potential by Ellender in relation to the broader Yarra River environment (Ellender, 1991: 67). There is some potential for Aboriginal cultural heritage to be present along the river frontage of this property where impacts associated with the construction of the drive-in will likely not have extended. That being said, the potential for significant Aboriginal cultural heritage values, and indeed non-indigenous archaeological values across the majority of this site is considered to be low given the likely impacts associated with the development of the Bulleen Drive-in.

### **Bolin Bolin Billabong**

Bolin Bolin Billabong (HO30, Manningham) located to the east of the Yarra River is a site that is somewhat contiguous with the riverine parklands to the west of the Yarra River, containing a large billabong and landscape that in part pre-dates European settlement. It is identified as being of state level significance for its natural and cultural values, including the Aboriginal cultural heritage associations with place.

## A3 Eastern Freeway

### 7922-0133 – Willsmere Tree B

#### Nature

VAHR 7922-0133 is comprised of a single healthy culturally scarred Red Gum. The tree has a single canoe scar, the dimensions of which were recorded as follows:

- Length: 0.28 metres
- Width: 0.025 metres
- Girth at breast height: 0.35 metres.

The extent of the tree's canopy has not been recorded.

#### Registration history (reference other CHMPs and reports)

- Registered by Liz Kilpatrick (Victorian Archaeological Survey) in 1989

#### Type of testing and level of testing and how the place extent was established

The circumstance in which the place came to be registered are not made clear on the place registration card, and information regarding the actual location and extent of the place are limited. As is evident in aerial imagery there is no tree at the primary coordinate for the place. Therefore, the primary coordinate is either incorrectly mapped, or the tree has been destroyed after being registered.

While the place extent was not defined at the time it was included in the Aboriginal cultural heritage register, in accordance with the *Standards for Recording Victorian Aboriginal Heritage Places and Objects* (Duncan *et al.*, 2008, p. 24) guide prepared by Aboriginal Victoria, the extent of a healthy scarred tree is 'determined by doubling the measured distance extent on the drip line (canopy area of the tree's branches)'. In absence of further information regarding the canopy size of the scarred tree, and confirmation of the location of the place, it is not possible to either infer or define the extent of the place.

#### Site discussion including discussion of soils and disturbance

No information is available regarding disturbance and soil condition at the place location.

#### Documented condition and referenced scientific significance

The condition of the scarred tree is indicated to be healthy ('good health') on the place registration card. Unfortunately, until the place is reidentified, it is not possible to verify the current condition of the tree.

#### Discussion of management conditions that have or may have been applied

No prior management conditions have been documented with respect to the place.

## 7922-0266 – Yarra Flats 2

### Nature

YARRA FLATS 2 (VAHR 7922-0266) is comprised of a single culturally scarred Red Gum which is in good health. The tree is recorded as having a girth of 2.3 metres at breast height and is approximately 18 metres tall. Ellender recorded one shield scar on the tree, which was in good condition.

### Registration history (reference other CHMPs and reports)

- Place registered in 1990 by the Isabel Ellender (Victorian Archaeological Survey)
- There is one report associated with the place, the *Middle Yarra Survey* (Ellender, 1990). Unfortunately, the corresponding report is not available on ACHRIS.
- Marshall (1999) reidentified the place during the preparation of the *Banyule City Council Aboriginal Heritage Study*. Marshall made no formal amendments to the place registration.

### Type of testing and level of testing and how the place extent was established

There is no information available regarding the circumstance in which the tree was identified, albeit it is reasonable to assume that it was recorded during archaeological survey undertaken by the Victorian Archaeological Survey. In absence of information regarding the extent of the tree's canopy, it is not possible to infer the appropriate extent of the place.

The place registration card indicates that VAHR 7922-0266 is located on the western side of the Yarra River and just to the north of a small pond that is surrounded by willows. As such, it is clear that the primary coordinate for the place, which places the tree to the east of the Yarra River, is not correct.

### Site discussion including discussion of soils and disturbance

There is no information regarding the soils and level of disturbance around the place. However, the tree was recorded by Ellender (1990) and Marshall (1999) to be in good health. Given the proximity of the tree to the Yarra River, it is unlikely to have been impacted by any recent developments.

### Documented condition and referenced scientific significance

The condition of the tree was recorded on the place registration card as being in good health. This was corroborated in 1999 by Marshall. Due to the proximity of the tree to the Yarra River, it is highly likely that the tree is still in good health.

The place registration card indicates that the place could be useful for the purposes of public education. However, the Wurundjeri have with-held permission to do so.

### Discussion of management conditions that have or may have been applied

No specific management conditions have been put forward for the tree in the past. However, Marshall (1999, p. 69) has recommended that scarred trees in the area, such as VAHR 7922-0256, be revisited every five to 10 years to monitor their condition and integrity.

## 7922-0540 – Boronia Grove 1

### Nature

BORONIA GROVE 1 (VAHR 7922-0540) is comprised of a single culturally scarred tree. The tree species is not specified on the place registration card. The tree is described as being in good health with a girth of 1.85 metres at breast height. The tree has a single scar which is recorded as a container scar.

### Registration history (reference other CHMPs and reports)

- Place registered in 1996 by the J. Moon and A. Hutchison

### Type of testing and level of testing and how the place extent was established

There is no information available regarding the circumstance in which the tree was identified. In absence of information regarding the extent of the tree's canopy, it is not possible to infer the appropriate extent of the place.

The place location is described on the place registration card as follows:

*Turn into Lees St from Doncaster Rd. Park at football ground change rooms. Walk to opposite side of oval from change rooms. Tree is on west side of path leading north-south from creek through parkland to Boronia Grove.*

While a place inspection would be required to clarify the precision of the mapping of the primary coordinate, in consideration of the available map of the location of the place and description of its location, it is evident that the primary coordinate is within the vicinity of the actual location of the tree.

### Site discussion including discussion of soils and disturbance

There is no information regarding the soils and level of disturbance around the place. However, the tree was recorded to be in good health.

### Documented condition and referenced scientific significance

Due to the tree's setting within a public reserve, the condition of the place is unlikely to have changed since being recorded. No prior assessments have been made regarding the significance of the place.

### Discussion of management conditions that have or may have been applied

No specific management conditions have been put forward for the place in the past.

## 7922-1103 – Yarra Bend Park 2

### Nature

VAHR 7922-1103 is comprised of a single silcrete angular fragment that was identified on the surface of an informal pedestrian track within the Yarra Bend Park.

### Registration history (reference other CHMPs and reports)

- Place registered in 2008 by Jon Howell-Meurs

### Type of testing and level of testing and how the place extent was established

The place was identified during archaeological survey. Ground surface visibility was around 30 to 40 per cent. Beyond a visual inspection of the place, no subsurface extent testing has been undertaken at the location of VAHR 7922-1103. The registered place extent is constrained to all land within 1 metre of the primary coordinate of the place.

### Site discussion including discussion of soils and disturbance

The place is located on an informal walking/cycling track, and has been subject to associated vehicle and pedestrian impacts.

### Documented condition and referenced scientific significance

The place is recorded as being in poor condition with the area being subject to ongoing gully erosion.

### Discussion of management conditions that have or may have been applied

No specific management conditions have been put forward for the place.

## 7922-1105 – Yarra Bend Park 4

### Nature

VAHR 7922-1103 is comprised of a single white quartzite flake that was identified on the surface of an informal pedestrian track within the Yarra Bend Park.

### Registration history (reference other CHMPs and reports)

- Place registered in 2008 by Jonathan Howell-Meurs

### Type of testing and level of testing and how the place extent was established

The place was identified during archaeological survey. Ground surface visibility was around 70 per cent. Beyond a visual inspection of the place, no subsurface extent testing has been undertaken at the location of VAHR 7922-1105. The registered place extent is constrained to the primary coordinate of the place.

### Site discussion including discussion of soils and disturbance

The place is located on an informal walking/cycling track, and has been subject to associated pedestrian impacts.

### Documented condition and referenced scientific significance

The place is recorded as being in poor condition with the area being subject to ongoing sheet erosion.

### Discussion of management conditions that have or may have been applied

No specific management conditions have been put forward for the place.

## 7922-1106 – Yarra Bend Park 5

### Nature

VAHR 7922-1103 is comprised of a single silcrete angular fragment that was identified on the surface of an informal pedestrian track within the Yarra Bend Park.

### Registration history (reference other CHMPs and reports)

- Place registered in 2008 by Jonathan Howell-Meurs
- CHMP 10252 (Howell-Meurs, 2010)

### Type of testing and level of testing and how the place extent was established

The place was identified during archaeological survey. Ground surface visibility was around 100 per cent. Beyond a visual inspection of the place, no subsurface extent testing has been undertaken at the location of VAHR 7922-1106. The registered place extent is constrained to be all land within 1 metre of the primary coordinate of the place.

### Site discussion including discussion of soils and disturbance

The place is located on an informal walking/cycling track, and has been subject to associated pedestrian impacts.

### Documented condition and referenced scientific significance

The place is recorded as being in poor condition with the area being subject to ongoing sheet and gully erosion.

### Discussion of management conditions that have or may have been applied

No specific management conditions have been put forward for the place.

## 7922-1107 – Yarra Bend Park 6

### Nature

VAHR 7922-1103 is comprised of a single silcrete flake that was identified on the surface of an informal pedestrian track within the Yarra Bend Park.

### Registration history (reference other CHMPs and reports)

- Place registered in 2008 by Jonathan Howell-Meurs
- CHMP 10252 (Howell-Meurs, 2010)

### Type of testing and level of testing and how the place extent was established

The place was identified during archaeological survey. Ground surface visibility was around 70 per cent. Beyond a visual inspection of the place, no subsurface extent testing has been undertaken at the location of VAHR 7922-1106. The registered place extent is constrained to be all land within 1 metre of the primary coordinate of the place.

### Site discussion including discussion of soils and disturbance

The place is located on an informal walking/cycling track, and has been subject to associated pedestrian impacts.

### Documented condition and referenced scientific significance

The place is recorded as being in poor condition with the area being subject to ongoing sheet and gully erosion.

### Discussion of management conditions that have or may have been applied

Management recommendations put forward in CHMP 10252 are:

- Collection and analysis of the artefact with reburial of the artefact after the activity finished
- Interpretative signage to be established within the Yarra Bend Park
- A cultural heritage awareness induction should be presented to the Sponsor and associated contractors associated with the construction works relating to the proposed activity.

## 7922-1185 – Dights Falls 1

### Nature

DIGHT FALLS 1 (VAHR 7922-1185) is a multi-component place which incorporates three previously registered discrete Aboriginal stone artefact scatters and two places of Aboriginal historic significance. The registered place components are:

- VAHR 7922-1185-1: Formerly VAHR 7922-1102 'Yarra Bend Park 1'
- VAHR 7922-1185-2: Formerly VAHR 7922-1104 'Yarra Bend Park 3'
- VAHR 7922-1185-3: Formerly VAHR 7922-1108 'Yarra Bend Park 7'
- VAHR 7922-1185-4: Formerly Historic Place 5.1-12 'Yarra River Protectorate Station'
- VAHR 7922-1185-5: Formerly Historic Place 7.1-11 'Merri Creek School Reserve'

A brief description of the nature of each of the respective components is presented below.

### Dight Falls 1 (VAHR 7922-1185-1) (formerly VAHR 7922-1102 'Yarra Bend Park 1')

'Yarra Bend Park 1' (now component VAHR 7922-1185-1 of 'Dight Falls 1') is comprised of a surface artefact scatter of three silcrete flakes. The artefacts were identified along an unsealed track within an area of approximately 36 metres in length and 1.5 metres in width on a rise above the confluence of the Merri Creek and Yarra River.

### Dight Falls 1 (VAHR 7922-1185-2) (formerly VAHR 7922-1104 'Yarra Bend Park 3')

'Yarra Bend Park 3' (now component VAHR 7922-1185-2 of 'Dight Falls 1') is comprised of a surface artefact scatter of one silcrete core. The flake was identified on the surface of a maintenance track. The provenance of the artefact is not clear, and it may have been introduced to the area with fill for the construction of the maintenance track.

### Dight Falls 1 (VAHR 7922-1185-3) (Formerly VAHR 7922-1108 'Yarra Bend Park 7')

'Yarra Bend Park 7' (now component VAHR 7922-1185-3 of 'Dight Falls 1') is comprised of a surface artefact scatter of two silcrete flakes. The flakes were identified on the surface of an informal pedestrian track within the Deep Rock precinct of the Yarra Bend Park.

### Dight Falls 1 (VAHR 7922-1185-4) (Formerly Historic Place 5.1-12 'Yarra River Protectorate Station')

A detailed history of the Yarra River Protectorate Station is included with the place registration card. Key points pertaining to the nature and history of the place are:

- The Yarra River Protectorate was established in 1938, with the aim of the protectorate being to 'settle Aboriginal people in 'villages' where they could learn to become sedentary, learn agricultural skills and become Christianised'. (Place registration card)
- The Yarra River Protectorate was allocated to William Thomas
- Information regarding the precise nature and extent of the place is limited
- William Thomas is known to have had a hut within the Protectorate grounds in 1845
- The Protectorate was a favourite camping spot of Aboriginal people.

### Dight Falls 1 (VAHR 7922-1185-5) (Formerly Historic Place 7.1-11 'Merri Creek School Reserve')

A detailed history of the Merri Creek School Reserve is included with the place registration card. Key points pertaining to the nature and history of the place are:

- The school was established in 1845 on 27 acres near the junction of Merri Creek and the Yarra River

- The school building consisted of four rooms, a schoolroom, kitchen, bedroom and parlour for peacocks
- Later buildings associated with the school included a model farm, a cottage and garden
- The school was flooded in 1849-1850
- Despite attempts to maintain the school after the flood it was closed in 1851
- While young children boarded at the school when operational, Aboriginal people camped on the nearby river flats
- The school is thought to have been located beneath the Eastern Freeway.

#### Registration history (reference other CHMPs and reports)

##### Dight Falls 1 (VAHR 7922-1185-1)

- Place registered in 2008 by Jonathan Howell-Meurs as VAHR 7922-1102 'YARRA BEND PARK 1'
- Place included in the registration of VAHR 7922-1185 'DIGHT FALLS 1' by Dr Ilya Berelov in 2010
- CHMP 11088 (Berelov *et al.*, 2010)

##### Dight Falls 1 (VAHR 7922-1185-2)

- Place registered in 2008 by Jonathan Howell-Meurs as VAHR 7922-1102 'YARRA BEND PARK 1'
- Place included in the registration of VAHR 7922-1185 'DIGHT FALLS 1' by Dr Ilya Berelov in 2010
- CHMP 11088 (Berelov *et al.*, 2010)

##### Dight Falls 1 (VAHR 7922-1185-3)

- Place registered in 2008 by Jonathan Howell-Meurs as VAHR 7922-1102 'YARRA BEND PARK 1'
- Place included in the registration of VAHR 7922-1185 'DIGHT FALLS 1' by Dr Ilya Berelov in 2010
- CHMP 11088 (Berelov *et al.*, 2010)

##### Dight Falls 1 (VAHR 7922-1185-4)

- Place included in the registration of VAHR 7922-1185 'DIGHT FALLS 1' by Dr Ilya Berelov in 2010
- CHMP 11088 (Berelov *et al.*, 2010)

##### Dight Falls 1 (VAHR 7922-1185-5)

- Place included in the registration of VAHR 7922-1185 'DIGHT FALLS 1' by Dr Ilya Berelov in 2010
- CHMP 11088 (Berelov *et al.*, 2010)

##### Dight Falls 1 (VAHR 7922-1185)

- Place registered in 2010 by Dr Ilya Berelov
- CHMP 11088 (Berelov *et al.*, 2010) (The place was identified during the preparation of CHMP 11088)
- Place Inspection Form (Jonathan Howell-Meurs 2013)
- CHMP 12723 (Lever 2014)

## Type of testing and level of testing and how the place extent was established

### Dight Falls 1 (VAHR 7922-1185-1) (formerly VAHR 7922-1102 'Yarra Bend Park 1')

'Yarra Bend Park 1' (VAHR 7922-1102) was identified during archaeological survey. The place extent, as prepared by Howell-Meurs has since been included within the currently registered extent of VHAR 7922-1185.

### VAHR 7922-1185-2: Formerly VAHR 7922-1104 'Yarra Bend Park 3'

'Yarra Bend Park 3' (VAHR 7922-1104) was identified during archaeological survey. The place extent, as prepared by Howell-Meurs has since been included within the currently registered extent of VHAR 7922-1185.

### VAHR 7922-1185-3: Formerly VAHR 7922-1108 'Yarra Bend Park 7'

Yarra Bend Park 3' (VAHR 7922-1104) was identified during archaeological survey. The place extent, as prepared by Howell-Meurs is approximately 2m<sup>2</sup>. The place has since been included within the currently registered extent of VHAR 7922-1185.

### Dight Falls 1 (VAHR 7922-1185-4) (Formerly Historic Place 5.1-12 'Yarra River Protectorate Station')

Due to limited information regarding the layout and extent of the 'Yarra River Protectorate Station' no prior assessments of the place extent have been constraint to the inclusion of land that approximates the location and extent of the place based on historical records.

### Dight Falls 1(VAHR 7922-1185-5) (Formerly Historic Place 7.1-11 'Merri Creek School Reserve')

Due to limited information regarding the layout and extent of the 'Merri Creek School Reserve' no prior assessments of the place extent have been constraint to the inclusion of land that approximates the location and extent of the place based on historical records. The general location of the Merri Creek School Reserve, as inferred from available historic records, has been described and mapped by Berelov *et al.*, (2010, p. 25).

### Site discussion including discussion of soils and disturbance

Parts of VAHR 7922-1185 have been destroyed as an outcome of the construction of the Eastern Freeway. The construction works have particularly impacted land where buildings associated with the 'Yarra River Protectorate Station' and 'Merri Creek School Reserve' may have been located (Lever 2014, p. 79).

Impacts elsewhere throughout the 'Dights Falls 1' extent are varied, but generally limited to minor landscaping and contouring works associated with the management of the parkland and movement of people and vehicles through the park.

### Documented condition and referenced scientific significance

The condition of the place is highly variable. Parts of the place, particularly where the Eastern Freeway passes through the registered extent, are highly disturbed, potentially resulting in the complete destruction of places within and adjacent to its footprint. Elsewhere, impacts on the place have been limited to superficial damage, such as the construction of unsealed footpaths and minor landscaping works associated with the continual public use of the place. Those works are likely to have had significant impacts on the 'Yarra River Protectorate Station' and also the 'Merri Creek School Reserve'. Despite those localized impacts, the overall condition of the place, as noted on the place registration card, is 'fair' (40 to 60 per cent intact). The scientific significance of the place is contingent on the actual physical remains of the five registered components, and also the potential of additional cultural heritage to be identified within the extent of the place. In consideration of the information on hand, there is very little evidence of either the historic or prior Aboriginal use of the place evident within the registered extent of the place. Therefore, the scientific significance of the place is assessed as being low. The cultural significance of the place, both from the perspective of the historic and Aboriginal perspective, must be considered to be of high significance.

## 7922-1299 – Yarra Flats 4

### Nature

VAHR 7922-1299 (Yarra Flats 4) is comprised of a single quartz that was situated on the ground surface at the base of an alluvial terrace.

**Table 11-8: Stone artefacts identified at VAHR 7922-1299 (Freedman *et al.*, 2016)**

Location (MGA 55)	Material	Artefact type	Termination type	Platform type	Dimensions (L x W x T mm)
330107E/5817136N	Quartzite	Flake – Complete	Hinge	Cortex	50 x 8 x 2

### Registration history (reference other CHMPs and reports)

- Place registered in 2012 by Dr Ilya Berelov
- CHMP 11713 (Freedman *et al.*, 2016)

### Type of testing and level of testing and how the place extent was established

The place extent is constrained to the location of the artefact. No subsurface testing was undertaken within the immediate vicinity of VAHR 7922-1299.

### Site discussion including discussion of soils and disturbance

VAHR 7922-1299 is located at the base of an alluvial terrace and would have therefore been subject to seasonal flooding. Freedman *et al.*, (2016, p. 77) are of the view that the quartzite artefact eroded out of the alluvial terrace and was deposited at its current location through both natural and human processes. The terrace has been subject to modification, via the construction of an unsealed bike path and capping of the terrace with rubbish.

### Site discussion including discussion of soils and disturbance

The artefact is not considered to be *in situ*. Due to the limited number of artefacts (n=1), lack of contextual integrity, the place is assessed as having a low scientific significance.

### Discussion of management conditions that have or may have been applied

There were no specific management recommendations put forward in CHMP 11713 (Freedman *et al.*, 2016) as VAHR 7922-1299 was not harmed by the proposed activity. The artefact was not collected during the preparation of CHMP 11713 (Freedman *et al.*, 2016).

## 7922-1300 – Yarra Flats 5

### Nature

VAHR 7922-1300 (Yarra Flats 5) is comprised of a subsurface artefact scatter of 12 stone artefacts that were found during excavation of a 1 x 1-metre test pit on the top of an alluvial terrace. As the stone artefacts were found within Quaternary deposits, and contain examples of the Australian Small Tool Tradition, Freedman *et al.*, (2016, p. 77) estimate that the place may be as old as 5,000 BP.

**Table 11-9: Stone artefacts identified at VAHR 7922-1300 (Freedman *et al.*, 2016)**

Test pit	Spit	Depth (mm)	Material	Artefact type	Termination type	Platform type	Dimensions (L x W x T mm)
TP1	2	170	Silcrete	Flake	Feather	Plain	31.01 x 19.67 x 31.83
TP1	2	170	Silcrete	Flake	Feather	Cortical	20.07 x 16.54 x 32.49
TP1	2	170	Silcrete	Flake	Step	Flaked	18.62 x 17.96 x 24.05
TP1	2	170	Silcrete	Split Proximal Flake	N/A	N/A	N/A x N/A x 17.93
TP1	2	170	Silcrete	Distal Flake	N/A	N/A	N/A x 16.33 x 20.47
TP1	2	170	Silcrete	Proximal Flake	N/A	Missing	N/A x 22.05 x 34.59
TP1	2	170	Silcrete	Flake	Feather	Overhung	18.74 x 7.25 x 18.8
TP1	2	170	Silcrete	Flake	Step	Overhung	23.11 x 12.85 x 28.88
TP1	2	170	Tachylite	Flake	Feather	Plain	23.68 x 7.62 x 25.9
TP1	3	250	Silcrete	Flake	Hinge	Plain	15.82 x 19.54 x 19.58
TP1	3	250	Silcrete	Flake	Feather	Missing	25.17 x 16.49 x 25.65
TP1	4	350	Silcrete	Flake	Feather	Cortical	6.27 x 10.76 x 16.97

### Registration history (reference other CHMPs and reports)

- Place registered in 2012 by Dr Ilya Berelov
- CHMP 11713 (Freedman *et al.*, 2016)

### Type of testing and level of testing and how the place extent was established

The place extent is constrained to the 1 x 1-metre test pit in which the artefact found. Extent testing was undertaken to the east and west of the test pit along the length of the alignment of the proposed works. The extent testing included the excavation of four 0.5 x 0.5-metre shovel test probes. No additional artefacts were identified in the supplementary shovel test probes.

### Site discussion including discussion of soils and disturbance

VAHR 7922-1300 is located at the top of an alluvial terrace. The stone artefacts were encountered during the excavation of a 1 x 1-metre test pit, identified by Freedman *et al.*, (2016) as TP1. Due to the association of historic rubbish within the stratigraphic units in which the stone artefacts were identified, Freedman *et al.*, (2016) argue that the stone artefacts are not *in situ* and likely deposited within the TP1 after European settlement.

### Site discussion including discussion of soils and disturbance

The artefacts are not considered to be *in situ*. Although the place lacks integrity, Freedman *et al.*, (2016, p.81) consider the place contents to be of moderate significance, primarily due to the inclusion of a single tachylite flake, the raw material of which is only rarely identified in Aboriginal stone tool assemblages. As such, the place is assessed as having a moderate scientific significance.

Discussion of management conditions that have or may have been applied

All the artefacts listed above were collected during the subsurface testing program.

Management recommendations put forward in CHMP 11713 are:

- Mechanical salvage excavation of VAHR 7922-1300, which is to be comprised of a 5 x 1-metre trench
- All salvaged artefacts are to be analysed and recorded
- Salvaged artefacts to be repatriated to the Wurundjeri, who may elect to rebury or retain the artefact for teaching purposes.

## 5.1-12 Yarra River Protectorate Station

### Period association

#### 5.1 Protectorates

### Description

The headquarters of the Melbourne or Western Port district of the Aboriginal Protectorate was on a bluff overlooking the Yarra River (in the vicinity of W. J. Cox oval). Thomas distributed rations, conducted school classes and religious services for Aboriginal people.

According to Lemon, around 1843, Thomas set up his quarters at what he called Merri Creek (Lemon, 1984, 18). The actual location would have been a little below the present day Sir Herbert Olney oval on what is now a windswept height of the Yarra Bend Park overlooking the river.

Thomas tried to teach the Aboriginal children, reporting at the end of January 1844 that he had established a school at the creek (Clark & Heydon, 2004, 35 cite Thomas 30/11/1843 in VPRS 4410, Item 78; Thomas 1/3/1844 in VPRS 4410 Item 79) and for a time he had 80 or 90 'fine wholesome children' and would record the names of those attending (Lemon, 1983, 18). On Sundays he also held divine service.

Clark & Heydon (2004, 34) mention that the site of Thomas 'Protectorate school' and 'Assistant protector's quarters' was located on the 'government reserve' between Heidelberg Road, the Yarra River and Merri Creek.

In December 1841, Thomas recorded a large encampment on the Merri Creek near its confluence with the Yarra River, including 'most of the Woiwurrung, part of the Boonwurrung and about 100 Goulburns (Thomas 1/3/1842 in VPRS 4410, Unit 3, Item 71).

According to Clark & Heydon (2004, 41), camping at the Merri Creek-Yarra River confluence became more frequent during the Native Police Corps occupation of Merri Creek in June 1842. As many as 500 people camped at the site during September 1842 (Robinson Jnl 30/9/1842), and when officials sought to move them from the Corps' quarters, camps were then set up all around the site, south of the confluence, west of Merri Creek and north and south of Heidelberg Road. Thomas was still recording camping around these areas in 1844 (Thomas 8/1/1844 in VPRS 11, Item 599).

Throughout the 1840s the confluence of the Merri Creek and Yarra was an important site in Melbourne for the assembly of Aboriginal groups from around the Port Phillip district (Clark & Heydon, 2004, 47). It was an important traditional meeting place for the Wurundjeri-willam, specifically Billibellary's and Bebejan's groups, as well as members from all Woiwurrung clans including the Gunung willam balug from south of Mount Macedon, and the three patrilineal lines of the Wurundjeri-willam and the Bulug willam. According to the protectorate records, the Boon wurrung people appeared to have camped less often at the confluence, although the families of Bobbinary (arweet: Boonwurrung balug) and Poleorong (alias Billy Lonsdale, arweet: Ngaruk willam) and others from those clans were prominent (Thomas Papers Jnl 1846, ML and 'Family connections' census). Also Daungwurrung clans (particularly Warring-illam balug and Yowung-illam balug from around the upper-Goulburn River) were regularly in attendance and some Djadjawurrung and Wathawurrung people visited the site, although Wathawurrung were more likely to camp to the south and west of Melbourne. Many important gatherings of Aboriginal people from across what would become Victoria occurred at this location throughout the 1840s (Clark & Heydon, 2004, 47).

## 7.1-11 Merri Creek School Reserve

### Period association

#### 1.1 Properties where initial contact with pastoralists occurred

### Description

In November 1845, two deacons from the Collins Street Baptist Church, John Lush and Robert Kerr, wrote to the Lieutenant-Governor La Trobe with a new proposal for a school for Aboriginal children at Merri Creek. This proposal was encouraged by a number of Aboriginal people who had been attending a Baptist Sunday School at Richmond (Lemon, 1983, 20). The deacons wished to use a few acres of land situated 'about the junction of the Merri Creek and the Yarra' a place that was called by the Aboriginal people 'their land'. This land included a building that had been occupied by Dr Macarthur. A teacher, Edward Peacock was suggested. La Trobe consulted William Thomas who objected to the proposal as Aboriginal people were migratory and this was inconsistent with a fixed school, and Thomas also found Peacock to be an unsuitable teacher (Lemon, 1984, 21). La Trobe ignored Thomas' advice and the Merri Creek School (also called the Yarra Aboriginal Mission or Station) opened on 1 January 1846 with 26 girls and boys attending (Lemon, 1983, 21). The school had a positive start, with the Aboriginal tribe living in mia mias about a mile up the river, and the children often slept in barracks at the school. However in September 1846 many of the boys at the school had deserted and only returned under the persuasion of Thomas (Lemon, 1983, 22). Numbers of children attending the school fluctuated. For most of 1846 and 1847 the Yarra tribe stayed in encampments near Melbourne that included locations on the Merri Creek and in Yarra Bend. At times they were joined by more distant Aboriginal groups so that the number of Aboriginal people in the area ranged from about 100 to over 300 (Lemon, 1984, 23). By September 1847 the largest encampments disbanded and the Aboriginal groups left Melbourne except for a small group near the school. There were 12 boys and 4 girls attending the school at this time (Lemon, 1983, 23). The school now grew 4 acres of wheat, two acres of potatoes and 4 acres of vegetables, the latter of which were tended by the Aboriginal boys. There was antagonism towards the school from some of the older Aboriginal people. At the end of November the encampment that was situated near Thomas' hut disbanded and the Aboriginal people took four of the girls and 3 boys, and later in the day four more boys left leaving only two brothers from Port Fairy recently sent to the mission after spending a short time in gaol for robbery (Lemon, 1983, 23). Thomas attempted in vain to encourage the Aboriginal people to return, riding in early December 40 miles up the Yarra to speak with the group. In January 1848, the school committee decided to close the school (Lemon, 1983, 23). Peacock stayed on with three remaining boys, and at the end of March 1848, Thomas found that Peacock had been demolishing the stables and out-house and using the building materials for his own uses (Lemon, 1983, 24). Peacock was dismissed at the end of May, and Francis Edgar replaced him. At this stage there was only one Yarra Aboriginal boy left at the school, Gurren Gurrenboop (Lemon, 1983, 25). Three boys were sent to the school from the native police at Narre Warren – Murrumwiller (Charley to Lucy Anna) from the Wimmera, Marbunnun (Jemmy) and Kung-gudbar (Jacky Warton) from Gippsland (Lemon, 1983, 25). On the school site there was a white cottage and school house, sheds, fields and an Aboriginal burial ground:

'just below our house on the small promontory of land formed by the junction of the Yarra and Merri Creek, were a few mounds, the graves of Aborigines; but as the earth was raised above the level, they must have been buried by white men, or in imitation of our customs. Only one was enclosed; it was said to be a chief's, and had a plain wooden fence around it'.

It is possible that some of these graves were also referred to by William Kyle, where the dead were buried after a tribal fight in 1844 (Lemon, 1983, 25). If so, the fenced grave must have been there earlier as it was referred to by Richard Howitt who left Australia in 1844. Howitt noted that it had a five foot fence around it and was on a point of land nearly encircled by river, about 2 miles from Melbourne.

At the end of October 1848, one of the Port Fairy boys, Tommy disappeared and was never seen again (Lemon, 1983, 25). Thomas knew that Wyerdolong who had formerly attended the school and with some of the other former pupils lured Tommy away. Thomas spoke to some of the Aboriginal people including Old Tobin who indicated that Tommy had been killed by the boys and his body thrown in the Yarra (Lemon, 1983, 26). In 1849 a bridge was built over the Merri Creek near the mission by the school boys. Unfortunately, the bridge and much of the garden and fields were destroyed by flooding, and the school officially closed in February 1851 (Lemon, 1983, 28). The site of the school and probably the Aboriginal burial area was most likely destroyed during the construction of the Eastern Freeway (Lemon, 1983, 29).

William Kyle (1925 – Victorian Historical Magazine, 164) mentioned that in 1844 when he lived at Dights Falls, there was a large camp of Aboriginal people at Merri Creek:

‘There was a large camp of blacks on the Merri Creek. Near the junction a blacks’ school, under Mr Peacock, as teacher, was founded. We used to swim in the creek. On one occasion the girls went to Mr. Peacock crying, “Missa Peacock, plenty white boy alonga here”. The school afterwards moved to Newtown (Collingwood or Fitzroy)’.

‘The school for black children...was started about 1842, near the junction of the Yarra and Merri Creek, and was successfully conducted’ (Kyle 1925, 165).

## 7.1-11 Heidelberg to Healesville Travelling Route

### Period association

#### 1.1 Properties where initial contact with pastoralists occurred

### Description

Clark & Heydon (2004, 31) refer to William Thomas making frequent references to encampments ‘by the Heidelberg Road’, and ‘North of the Heidelberg Road’ in the Clifton Hill area. One specific camping location is by Heidelberg Road, ‘on the Melbourne side of the [Merri] Creek’, opposite the north end of the government reserve at the Merri Creek-Yarra River confluence (Thomas to Robinson 8/1/1844 in VPRS 11, Unit 10, Item 599 and Thomas 1/3/44 in VPRS 4410, Item 79). The site is bounded to the north, north-west and north-east by Merri Creek in the vicinity of Dwyer Street.

Clark & Heydon (2004, 33) state that the accounts to Robinson and Thomas refer to the Woi wurrung (and Daungwurrung) Aboriginal people using the creeks that empty into the Yarra River as pathways connecting the uplands and inlands to Port Phillip Bay, including Merri Creek and especially Plenty River and Darebin Creek.

**7922-0202 Koonung 1 (Tyre site)**

This place is currently listed as a non-site on the VAHR.

**7922-0203 Koonung 2**

This place is currently listed as a non-site on the VAHR.



## Appendix B Risk assessment



Risk ID	Potential threat and effect on the environment	Initial Risk							Residual Risk						
		Initial EPR	Magnitude of consequence			Overall consequence	Likelihood	Risk level	Final EPR	Magnitude of consequence			Overall consequence	Likelihood	Risk level
			Extent	Severity	Duration					Extent	Severity	Duration			
Construction															
Risk AH01	Disturbance/destruction of registered Aboriginal cultural heritage place(s) and/or associated cultural values in a deteriorated condition with a high degree of disturbance evident and some cultural heritage remaining	EPR AH1 – Prepare, gain approval of the Cultural Heritage Management Plan (CHMP).	Corridor	Very low	7+ years	Minor	Almost certain	Medium	EPR AH1 – Prepare, gain approval of the Cultural Heritage Management Plan (CHMP).	Corridor	Very low	7+ years	Minor	Almost certain	Medium
Risk AH02	Disturbance/destruction registered Aboriginal cultural heritage place(s) and/or associated cultural values of common occurrence with a limited range of cultural materials, in fair to good condition with some degree of disturbance evident	EPR AH1 – Prepare, gain approval of the Cultural Heritage Management Plan (CHMP).	Corridor	Low	7+ years	Moderate	Possible	Medium	EPR AH1 – Prepare, gain approval of the Cultural Heritage Management Plan (CHMP).	Corridor	Low	7+ years	Moderate	Possible	Medium
Risk AH03	Disturbance/destruction of registered Aboriginal cultural heritage place(s) and/or associated cultural values of rare occurrence and/or with a large number and diverse range of cultural materials and/or stratified deposits	EPR AH1 – Prepare, gain approval of the Cultural Heritage Management Plan (CHMP).	Corridor	Medium	7+ years	Major	Rare	Medium	EPR AH1 – Prepare, gain approval of the Cultural Heritage Management Plan (CHMP).	Corridor	Medium	7+ years	Major	Rare	Medium
Risk AH04	Disturbance/destruction of registered Aboriginal cultural heritage place(s) and/or associated cultural values of exceptional value as identified by the RAP and/or Aboriginal Victoria and/or Traditional Owners, for example, a burial	EPR AH1 – Prepare, gain approval of the Cultural Heritage Management Plan (CHMP).	Corridor	Very high	7+ years	Severe	Rare	Medium	EPR AH1 – Prepare, gain approval of the Cultural Heritage Management Plan (CHMP).	Corridor	Very high	7+ years	Severe	Rare	Medium
Risk AH05	Disturbance/destruction of previously unregistered Aboriginal cultural heritage place(s) and/or associated cultural values of exceptional value as identified by the RAP and/or Aboriginal Victoria and/or Traditional Owners, for example, a burial	ERP AH1 – Prepare, gain approval of the Cultural Heritage Management Plan (CHMP).	Corridor	Medium	7+ years	Major	Rare	Medium	ERP AH1 – Prepare, gain approval of the Cultural Heritage Management Plan (CHMP).	Corridor	Medium	7+ years	Major	Rare	Medium