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Please Note: Information of a culturally sensitive nature has been removed from this version of the Standard Assessment

APPENDIX 1:
ABORIGINAL CULTURAL HERITAGE REPORT – STANDARD
ASSESSMENT

WESTERN HIGHWAY DUPLICATION STAGE 1: BEAUFORT TO FIERY CREEK: STANDARD ASSESSMENT REPORT

CULTURAL HERITAGE MANAGEMENT PLAN NUMBER: 11813



Activity Size:	Large
Assessment:	Desktop and Standard Assessment
Sponsor:	VicRoads ABN: 61 760 960 480
Cultural Heritage Advisor:	Dr Shaun Canning Australian Cultural Heritage Management (Vic) Pty Ltd
Author(s):	Claire St George, Vicki Vaskos, Rebecca McMillan, Fiona Schultz and Laura Donati

Report Date: 21 August 2012

ABBREVIATIONS

Below is a list of abbreviations used throughout this report:

Term	Meaning
AAV	Aboriginal Affairs Victoria, Department of Planning and Community Development
ACHM	Australian Cultural Heritage Management (Victoria) Pty Ltd
ADR	Alternative Dispute Resolution
AHA 2006	Victorian <i>Aboriginal Heritage Act 2006</i>
AHR 2007	Victorian <i>Aboriginal Heritage Regulations 2007</i>
APD	Authorised Project Delegate
APM	Activity Project Manager
ASTT	Australian Small Tool Tradition
BGLCAC	Barengi Gadjin Land Council Aboriginal Corporation
BP	Before Present
CHA	Cultural Heritage Assessment
CHM	Cultural Heritage Management
CHMP	Cultural Heritage Management Plan
HV	Heritage Victoria
In Situ	In archaeology, in situ refers to an artefact or an item of material culture that has not been moved from its original place of use, construction or deposition
LGA	Local Government Area
Martang	Martang Pty Ltd
NOI	Notice of Intent (to prepare a Management Plan)
RAP	Registered Aboriginal Party
VAHR	Victorian Aboriginal Heritage Register
VCAT	Victorian Civil and Administrative Tribunal
VicRoads	Roads Corporation
WAC	Wathaurung Aboriginal Corporation trading as Wadawurrung / The Wathaurung

EXECUTIVE SUMMARY

This Cultural Heritage Management Plan (CHMP) has been prepared as a mandatory CHMP for VicRoads (the Sponsor ABN: 61 760 960 480).

NATURE AND EXTENT OF PROPOSED ACTIVITY

VicRoads are proposing to upgrade the Western Highway (A8), which is the principal road link between Victoria and South Australia and the key transport corridor through Victoria's west. The Western Highway is being progressively upgraded to a four-lane divided highway, and this portion of the activity area (between Beaufort and Fiery Creek) forms an integral component of this upgrade.

The highway improvement will involve the following:

- Constructing two new traffic lanes adjacent to the existing highway, separated by a central median
- Constructing the existing highway carriageway to carry two traffic lanes in the opposite direction
- Constructing sections of new four-lane divided highway on a new alignment

The total length of the activity area including off-ramps and access-roads is approximately 8.5 km.

CULTURAL HERITAGE MANAGEMENT PLAN

A CHMP is required under Section 47 of the Victorian *Aboriginal Heritage Act* (2006) if any high impact activity is planned in an identified area of cultural heritage sensitivity that has not been subject to significant ground disturbance, as defined in the Victorian *Aboriginal Heritage Regulations* (2007). Furthermore, under Section 49 of the Victorian *Aboriginal Heritage Act* (2006), a CHMP must be prepared for any project for which an Environment Effects Statement (EES) is required (as is the case with these proposed works).

The proposed activity is high impact as it involves the construction of a road greater than 100 m long 44(1)(e), and the activity area is located in an area of cultural heritage sensitivity as the western extent lies within 200 m of a named waterway, namely Fiery Creek [Regulations 23 (1)].

RESULTS OF THE DESKTOP AND STANDARD ASSESSMENT STAGES

The desktop assessment stage of this project identified a total of 769 Aboriginal archaeological places previously recorded within the St Arnaud geographic region. St Arnaud has been chosen as the appropriate geographic region of the activity area as it reflects the geomorphology of the region within which the activity area lies, as well as the associated water sources, floors and fauna. Subsequently, the archaeology of the St Arnaud reflects Indigenous land use occupation and subsistence in the region, and will thus assist in determining a predictive model for the activity area. Scarred trees are the most common sites within the St Arnaud geographic region (33%) followed by artefact scatters (31%). There are also a large number of earth features (28%) followed by a much lower number of art sites (1%), historical places (1%), quarries (3%), stone features (2%) and (< 1%) burials. The large number and diverse types of sites reflects both the large size of the St Arnaud geographic region and the density of sites within the area.

This search was subsequently refined to sites within 5km of the activity area in order to provide a more local context for the study. Of the 30 sites recorded within 5km of the activity area, 12 scarred trees (40%), nine artefact scatters (30%) and nine earth features (30%) had been recorded. All of these sites were located greater than 200m from the activity area.

The desktop assessment determined that there is the potential for Aboriginal archaeological sites to be present in relatively undisturbed portions of the activity area. As the activity area crosses a number of creeks and small waterways there is the possibility of locating cultural material. Previous research has shown that 80% of all known Aboriginal sites occur within 200m of a source of potable water (Canning, 2003: 262).

Based on our current knowledge of the activity area, and the known distribution of archaeological sites, both within the geographic region and within 5 km of the activity area, the following predictive statements can be made:

- Scarred trees are highly likely to occur anywhere within the activity area where remnant native trees of an appropriate age survive. There is a high possibility of these occurring on the hills, slopes, creekline terraces and alluvial plains.
- Low density artefact scatters are likely to occur within the activity area, decreasing in likelihood with distance from water. Artefact scatters may be located in both disturbed and undisturbed contexts.
- Earth features are likely to occur, within 500m of water, in undisturbed parts of the activity area. There is a high possibility of locating these on the alluvial plains and creekline terraces, a moderate possibility on the grassy plains and a low possibility on steep hills and slopes.
- Mortuary trees could possibly occur within the activity area. Mortuary trees are trees which contain human remains within hollows. The highest likelihood of finding these trees occurs on creekline terraces and hills where Red Gum trees are common. However, it is possible that mortuary trees could occur in other tree types. Therefore, there is a possibility of finding mortuary trees anywhere that there are trees of an appropriate age and size.

The standard assessment was completed in on the 08th and 09th February 2012 by Rebecca McMillan and Jason Gatty (Archaeologists, ACHM) along with Jodie McRedmond, Ron Arnold, Chris Fry and Joshua Berick (Wadawurrung representatives). In early August the activity area expanded to include new areas – these were surveyed on 14th August 2012 by Vicki Vaskos (Archaeologist, ACHM) and Albert Fagan and Joshua Berick (Wadawurrung representatives).

The activity area was inspected for the presence of archaeological sites and areas of cultural heritage sensitivity. Ground surface visibility across a majority of the activity area was extremely poor (<10 per cent) due to dense grass cover but portions of the ground surface were exposed due to stock movement, ploughing and road construction.

All hollows in trees of suitable age were closely inspected (including those with hollows which required a climbing inspection) but no mortuary trees were recorded within the activity area.

There were no culturally modified scarred trees, culturally modified charcoal, caves, rock shelters or cave entrances located within the activity area.

A total of 13 new sites (11 isolated artefacts and 2 artefact scatters) were located as a result of the standard assessment. Low ground surface visibility hindered the ability to determine the extent of many of the sites; however, many of the sites were eroding out of slopes near waterways, indicating that they may continue within a sub-surface context. As such, it is not possible to determine with any

accuracy the nature, extent and significance of any of these thirteen sites. Based on the very small artefact sample, very little can be said about the sites beyond the fact that Aboriginal people were clearly using the landscape. A more in depth interpretation of these sites can only be achieved with additional testing.

Based on the results of both the desktop and standard assessment stages, it was determined that **complex testing is required** in order to determine the nature, extent and significance of cultural deposits located within the activity area.

This view is supported by the Wadawurrung representatives who participated in the survey.

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PART 1: ASSESSMENT

1. INTRODUCTION

1.1. REASON FOR PREPARING THE PLAN

Cultural heritage sites or places represent a tangible or intangible record of human interactions within the landscape. The daily activities of humans throughout the millennia survive as the archaeological record across the continent. In Victoria, these sites or places provide evidence of approximately 30,000 years of Aboriginal occupation prior to the arrival of Europeans, and also evidence of the more recent past since European settlement.

Throughout most jurisdictions in Australia, cultural heritage sites or places are protected by either State or Commonwealth heritage legislation, or a combination of both. The *Aboriginal Heritage Act* (AHA) 2006 provides legal protection for all materials, sites or places relating to the Aboriginal occupation of Victoria.

This CHMP was commissioned by the Roads Corporation (VicRoads). This is a mandatory CHMP under the *Aboriginal Heritage Regulations* 2007; part of the proposed activity area is located within an area of cultural sensitivity and the proposed Western Highway duplication is considered a high impact activity [Regulations 44(1)(e)]. Furthermore, under Section 49 of the Victorian *Aboriginal Heritage Act* (2006), a CHMP must be prepared for any project for which an Environment Effects Statement (EES) is required (as is the case with these proposed works).

1.2. NOTICES GIVEN BY VICROADS

Sections 54(1) and (2) of the AHA 2006 state that before the preparation of a CHMP commences, the Sponsor must submit a Notice of Intent to Prepare a CHMP form (NOI) to the relevant RAP, the Secretary of AAV and the owner/occupier of the land covered by the CHMP if different from the Sponsor. The Wathaurung Aboriginal Corporation (trading as the Wadawurrung) are the RAP for this portion of the proposed activity area, and a Notice of Intent to Prepare a CHMP was completed by the Sponsor and lodged with both the Wadawurrung and AAV on 18 July 2011. The Wadawurrung replied on the 28 July 2011 indicating their intent to evaluate the CHMP. AAV assigned this project with CHMP Number 11813. An amended NOI was submitted to AAV on 16 August 2012 which included the additional areas.

The owners/occupiers of the land were also provided copies of the Notice on the 12 December 2011 and on 16 August 2012.

Copies of these notices are attached in Part 3 of this Plan.

1.3. RELEVANT PARTIES

1.3.1. Sponsor

The sponsor of this Plan is:

Roads Corporation (VicRoads)
ABN: 61 760 960 480
Contact Name: John Harper
Address: 237 Ring Road Wendouree VIC 3355

The Roads Corporation is established under s.15 of the *Transport Act 1983 (Vic)*, and trades as VicRoads. VicRoads' statutory functions and powers are listed in s.16 of that Act. One of those

functions is to maintain, upgrade, vary and extend the State's declared road network.

1.3.2. Cultural Heritage Advisor

The fieldwork and writing of this CHMP was undertaken by Australian Cultural Heritage Management (Victoria) Pty Ltd. The consultants undertaking the works documented in this report are qualified cultural heritage advisors in accordance with the requirements stated in Section 189(1) of the *Aboriginal Heritage Act* (2006).

Dr Shaun Canning supervised all aspects of the project. Fiona Schultz completed and wrote up the background research; Rebecca McMillian, Jakub Czasta, Vicki Vaskos and Edward Turner undertook the fieldwork with assistance from Bradley Ward, Jason Gatty and Graham Houghton. Laura Donati completed the background historical research and Claire St George and Vicki Vaskos completed the remainder of the report.

The following is a brief description of the qualifications and experience of the cultural heritage advisors as stated in Schedule 2(3) of the *Aboriginal Heritage Regulations* (2007).

The project supervisor (CHA) of this CHMP is:

Dr Shaun Canning is General Manager – Victoria and the Principal Heritage Advisor of the consulting firm Australian Cultural Heritage Management (Vic) Pty Ltd. (ACHM), which specializes in cultural heritage assessment, expert advice, management of complex and large-scale cultural heritage management projects (both primarily in relation to Australian Indigenous culture and heritage), native title research, Indigenous community development issues, and geographic information systems, cartography and analysis. Shaun has been involved extensively in the completion of over 400 cultural heritage management projects.

Shaun holds a Bachelor of Arts degree majoring in Cultural Heritage Studies and Anthropology, a Bachelor of Applied Science (Hons) degree in Parks, Recreation and Heritage, and a PhD in Australian Indigenous Archaeology (La Trobe), specialising in predictive modelling and cultural heritage management in southern Victoria. Shaun was the recipient of a 3 year Australian Postgraduate Award Scholarship to complete his PhD. He has extensive experience in Indigenous cultural heritage management in the resources, urban development, infrastructure and public land management sectors, alongside considerable experience in community consultation and Aboriginal education. Shaun has particular expertise in complex project management, and the use of GIS and predictive modelling in archaeological, cultural and natural heritage management contexts. Shaun is active in many professional associations, and is immediate past National Webmaster of the Australian Association of Consulting Archaeologists Inc. Shaun is a Fellow of the Australian Anthropological Society (F.AAS), a member of the International Council on Monuments and Sites (M.ICOMOS), a member of the Environment Institute of Australia and New Zealand, a member of the Australian Institute of Project Management (M.AIPM) and a full member of the Australian Association of Consulting Archaeologists Inc (M.AACAI).

Shaun is a fully qualified 'heritage advisor' meeting all the requirements of the *Victorian Aboriginal Heritage Act 2006*.

The primary authors of this CHMP are:

Claire St George. Claire completed a Bachelor of Archaeology degree with Honours at Flinders University (2009). Since early 2010 she has worked on archaeological surveys and excavations throughout Victoria and S.A. Claire has experience in both Aboriginal and historical archaeology,

specifically shell midden and stone artefact analysis and the application of geophysics to archaeology. Claire is also a fully qualified 'heritage advisor' meeting all the requirements of the Victorian *Aboriginal Heritage Act 2006*.

Vicki Vaskos. Vicki Vaskos is an archaeologist at Australian Cultural Heritage Management (Vic.) Pty Ltd. (ACHM). Vicki has completed a Bachelor of Arts degree with Honours, majoring in Classical Studies and Archaeology, at The University of Melbourne (2005). Vicki has also completed a Bachelor of Laws with Honours at Monash University (2010), and was admitted to legal practice in March 2011. Since early 2011 she has worked on archaeological surveys and excavations throughout Victoria and Western Australia. Vicki is a qualified cultural heritage advisor and archaeologist in accordance with the requirements of Section 189 (1) of the *Aboriginal Heritage Act 2006*.

Fiona Schultz. Fiona has completed a Bachelor of Archaeology at La Trobe University (2010). Since 2005 she has worked on a number of Aboriginal archaeological surveys and excavations throughout Victoria and has also participated on academic excavations in Ghana. Fiona has specialised experience in Maritime archaeology, where she has undertaken targeted underwater surveys and excavations.

1.3.3. Registered Aboriginal Parties (RAPs)

The Registered Aboriginal Party for the activity area is the Wathaurung Aboriginal Corporation (trading as Wadawurrung).

The Wadawurrung is a Registered Aboriginal Party under the *Aboriginal Heritage Act 2006 (Vic)* and as defined in that Act, has responsibilities under that Act in relation to the management and administration of Aboriginal Cultural Heritage matters in the activity area.

The Wadawurrung have elected to evaluate the Plan, participate in the assessment and engage in ongoing consultation with the CHA and the Sponsor.

A copy of the written notice from the Registered Aboriginal Party to VicRoads specifying that they intend to evaluate this Plan is attached in Part 3 of this Plan.

1.3.4. Owner(s) and Occupiers of Relevant Land

Portions of the activity area are currently occupied and/or owned by the following people –

[illegible]

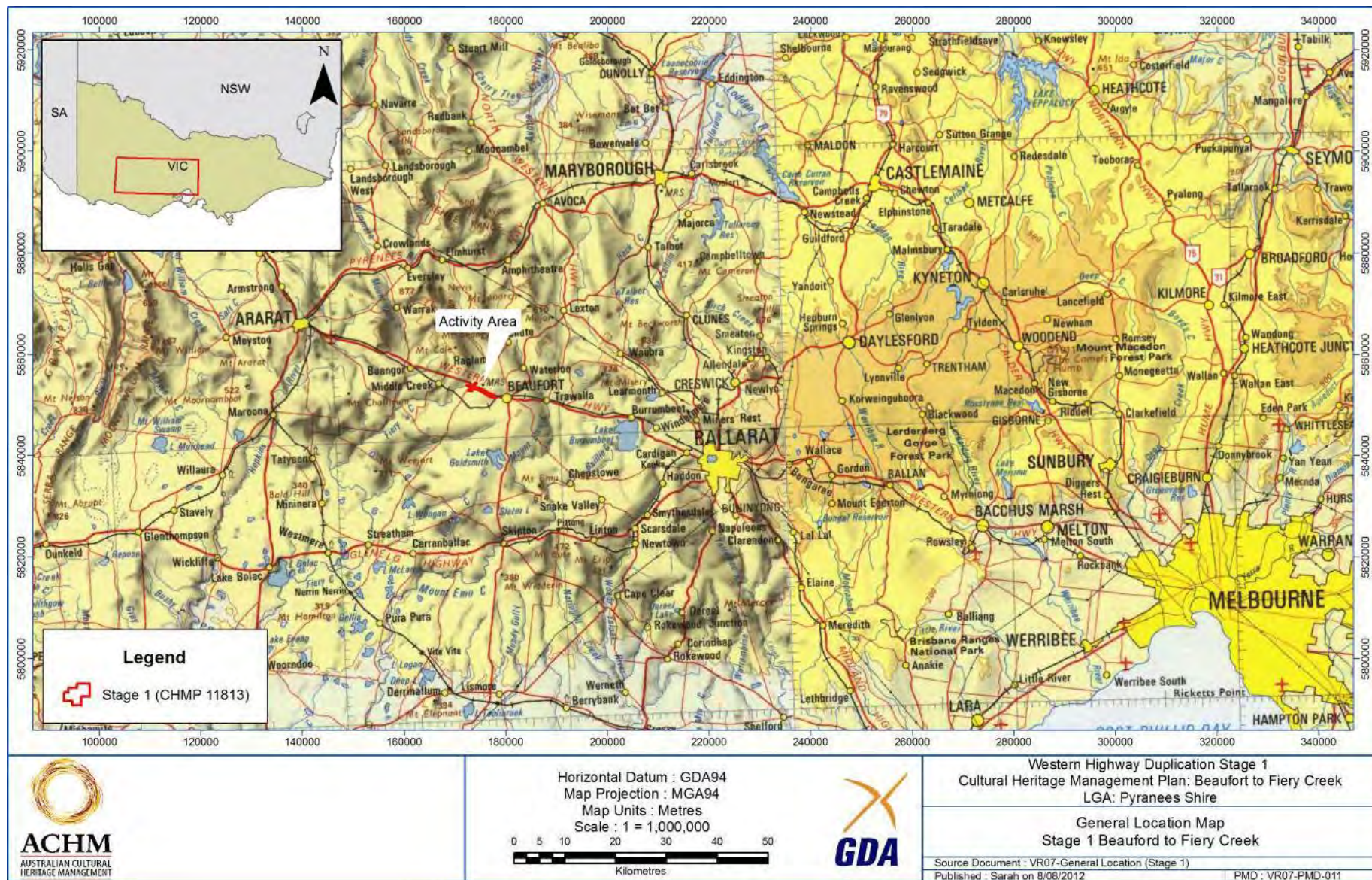
Figure 1: Owners and Occupiers

1.4. LOCATION OF THE ACTIVITY AREA

The activity area is located along the existing Western Highway between Beaufort and Fiery Creek approximately 50 km west of Ballarat (see Map 1). The activity area is located within the Pyrenees Shire and incorporates the Parishes of Eurambeen and Beaufort.

The total length of the activity area including off-ramps and access-roads is approximately 8.5 km and the extent of features is indicated in Map 2.

The cadastral properties impacted by the proposed activity are listed in Section 3.2.



Map 1: General Location Map

2. ACTIVITY DESCRIPTION

2.1. NATURE OF THE ACTIVITY AREA

The Western Highway (A8) is the principal road link between Victoria and South Australia and the key transport corridor through Victoria's west. The Western Highway is being progressively upgraded to a four-lane divided highway, and this portion of the activity area (between Beaufort and Fiery Creek) forms an integral component of this upgrade.

The highway improvement will involve the following:

- Constructing two new traffic lanes adjacent to the existing highway, separated by a central median
- Constructing the existing highway carriageway to carry two traffic lanes in the opposite direction
- Constructing sections of new four-lane divided highway on a new alignment

The proposed alignment will be undertaken in several sections and will require construction on both the south and north of the present highway depending on the location. Of the road works, most will involve widening adjacent to the existing highway.

Each carriageway will have two 3.5m wide traffic lanes, 1m wide inner shoulder and 3m wide outer shoulder. The intersection at Eurambeen-Raglan Rd/Eurambeen-Streatham Rd will be realigned. A bridge will be constructed over Fiery Creek and there will be numerous culverts constructed at the smaller waterways. Service roads will be constructed to facilitate access to some properties.

2.2. IMPACTS ON THE LAND SURFACE

The proposed activity will include ground disturbance, as construction of the new carriageways will involve both 'cut' and 'fill' earthworks, to a depth in excess of 25m in some locations. These will necessitate the stripping of topsoil within the designated construction zone, thus disturbing Aboriginal cultural material that may be located on the surface and within shallow subsurface deposits to a depth of at least 300mm.

Pavements will be constructed from imported crushed rock. Equipment used in the construction includes; excavators, bulldozers, graders, rollers, compactors and other construction equipment. The works will require the importation of fill material.

The excavation of bridge piles to an approximate depth of 20-25m will disturb any cultural heritage present within these zones.

Power supply and telecommunications services will require relocation, as part of the works requiring trenching, boring and significant linear ground disturbance.

All works associated with the road duplication are summarised below:

- Road construction – highway, services roads and property access
- Site offices and stockpile sites
- Structural works (including bridgeworks, major culverts and retaining walls)
- Rest areas
- Utility/service relocation
- Stock underpasses and associated infrastructure

- Drainage works
- Landscaping
- Car Parking
- Temporary/realigned property access
- Earthworks – cut and fill and borrowpits
- Haul roads/temporary access roads
- Sedimentation ponds/new dams

The following photos give an indication of the likely impact on the surface of the land and buried former land surfaces. These photos are taken from section 1a and 1b of the Western Highway Project between Ballarat and Beaufort.



Figure 2: Image of Western Highway where duplication works are yet to commence



Figure 3: On the left of this photo the duplication works can be seen being undertaken, on the right of the photo is the existing Western Highway (please note these works are occurring south of the current activity area under an already approved CHMP)



Figure 4: This image shows Box's cutting, where there will be a large amount of cut required during construction

3. EXTENT OF ACTIVITY AREA

3.1. ACTIVITY AREA LOCATION AND DESCRIPTION

The activity area is located between Beaufort and Fiery Creek and is approximately 8.5 km including off-ramps and access roads and on average 150 m wide throughout the alignment. Beaufort is situated approximately 50 km west of Ballarat, or 160 km west of the Melbourne CBD. The activity area is primarily located within the road reserves of the Western Highway between Beaufort and Fiery Creek, with the exception of two portions of the proposed alignment which will amend the Eurambeen-Raglan Road turn-off north (see Map 2) as well as Eurambeen-Streatham Road heading south to commence further east. These alignments are located approximately 1 km south-east of the western most extent of the activity area at Fiery Creek and are 500 m long heading south of the Western Highway and 1 km long heading north.

The topography is undulating throughout the activity area with the existing Western Highway being the only prominent feature throughout, along with portions of the side roads and privately owned properties to the north and south of the road reserves. A large number of trees were also present within the road reserves of the highway.

3.2. ACTIVITY AREA BOUNDARY AND CADASTRAL DESCRIPTION

The footprint for the proposed works does not exceed the footprint of the activity area. The total length of the activity area including off-ramps and access-roads is approximately 8.5 km. The activity area is located within the Pyrenees Shire and incorporates the Parishes of Eurambeen and Beaufort.

A total of 56 properties (excluding road reserves) will be impacted by the proposed activity. The cadastral details of these properties are as follows:

Lot / Allotment Number	Plan / SPI Number	Parcel Number
1		TP805219
70F	70F \ PP2605	P105289
1		TP562235
69A	PP2096	TP788938
12	12~29C \ PP2605	TP406546
2	2~29C \ PP2605	TP406546
3	3~29C \ PP2605	TP406546
4	4~29C \ PP2605	TP406546
5	5~29C \ PP2605	TP406546
6	6~29C \ PP2605	TP406546
7	7~29C \ PP2605	TP406546
8	8~29C \ PP2605	TP406546
9	9~29C \ PP2605	TP406546
10	10~29C \ PP2605	TP406546
11	11~29C \ PP2605	TP406546
5		TP805219
1	PS628560	
2	PS628560	
76a		TP347041
77a		TP589222
74a		TP401013
74A	74A \ PP2096	TP401013
73A	73A \ PP2096	TP401013
73B	73B \ PP0296	TP771134
11A1	11A1 \ PP2605	TP312682
11A2	11A2 \ PP2605	TP312682

Lot / Allotment Number	Plan / SPI Number	Parcel Number
11B	11B \ PP2605	TP542733
73E	73E \ PP2096	TP409887
73J	73J \ PP2096	TP765660
73S	73S \ PP2096	TP765660
73N	73N \ PP2096	TP765660
73M		TP765660
73T	73T \ PP2096	TP765660
73K	73K \ PP2096	TP765660
73L	73L \ PP2096	TP765660
5	LP130582	
6	LP130582	
12	LP130582	
73N1	73N1 \ PP2096	TP765660
3		TP172031
1		TP172031
26D1	26D1~E1 \ PP2096	P104377
11	LP130582	
10H	10H \ PP2605	TP347896
10A	10A \ PP2605	TP291224
2IEI	21~E1 \ PP2096	TP310723
1	LP136799	
2	LP136799	
1	LP143003	
2	LP143003	
9E	9E \ PP2605	TP587691
1		TP422513
1		TP366205
1	LP145030	
2		TP366205
9S	PS \ PP2605	TP270431

Table 1: Cadastral Property Details



Map 2: Activity Area showing 200 m buffer (removed from public exhibition copy)

4. DOCUMENTATION OF CONSULTATION

The Wadawurrung are the acknowledged RAP for the region which incorporates the current activity area. The Wadawurrung were invited to participate in the preparation of the CHMP, including participation in the fieldwork and consultation in the assessment, initiatives and processes of the CHMP.

4.1. CONSULTATION IN RELATION TO THE ASSESSMENT

From Name and/or Organisation	To: Name and/or Organisation	Date	Type of Correspondence	Discussion
Michael McCarthy, VicRoads	Bonnie Fagan, Wadawurrung and Secretary, AAV	18.07.2011	Letter	Submission of Notice of Intent to Prepare a CHMP
Bonnie Fagan, Wadawurrung	VicRoads	28.07.2011	Letter	Notification of Wadawurrung intent to evaluate CHMP
Shaun Canning and Claire St George (ACHM)	John Harper, Grant Deeble, VicRoads	22.12.2012	Meeting	Initial project meeting
Shaun Canning (ACHM)	Simone Werts (Wadawurrung)	25/01/2012	Email	Booking WAC personnel for standard assessment
Shaun Canning (ACHM), John Harper, Grant Deeble (VicRoads)	Bryon Powell, John Young (Wadawurrung)	07/02/2012	Meeting	Inception and Methodology Discussions
Rebecca McMillan and Jason Gatty (ACHM)	Jodie McRedmond, Ron Arnold, Chris Fry and Joshua Berick (Wadawurrung)	08/02/2012 – 09/02/2012	In person	Standard Assessment
Claire St George and Shaun Canning (ACHM)	Shaun Fagan (Wadawurrung) and John Harper (VicRoads)	19/03/2012	In person	Climbing Hollow Tree Inspection
Claire St George	John Harper (VicRoads)	30/03/2012	Email	Submission of Draft Standard CHMP
John Harper (VicRoads), Shaun Canning (ACHM), Matthew Wilson (ACHM)	John Young and Shaun Fagan (Wadawurrung)	5/6/ 2012	Meeting	Presentation of results of standard assessment and discussions about methodology for the complex assessment
Erica Walther (ACHM)	Simone Werts and John Young (Wadawurrung)	5/7/2012	Email	Booking WAV personnel for additional areas of investigation for standard assessment
Vicki Vaskos (ACHM)	Joshua Berick and Albert Fagan (Wadawurrung)	14/09/2012	In person	Additional areas of investigation for standard assessment

Table 2: Documentation of Consultation

4.2. PARTICIPATION IN THE CONDUCT OF THE ASSESSMENT

Fieldwork for the standard component of this CHMP was undertaken on the 8th - 9th of and was completed by Rebecca McMillan, Vicki Vaskos and Jason Gatty (ACHM Archaeologists) along with Jodie McRedmond, Ron Arnold, Chris Fry and Joshua Berick (Wadawurrung representatives). The additional areas of investigation were completed by Vicki Vaskos (Archaeologist, ACHM), Joshua Berick and Albert Fagan (Wadawurrung representatives) on 14 August 2012.

4.3. CONSULTATION IN RELATION TO THE CULTURAL HERITAGE MANAGEMENT INITIATIVES AND PROCESSES

The consultation process comprised of ongoing interaction between the project archaeologists and the Wadawurrung, whose recommendations and assessments have been incorporated into this

management plan through all its phases. This consultation is documented in detail in Section 4.1 above, and described below.

Following the completion of the desktop assessment, Wadawurrung representatives participated in the pedestrian survey of the activity area and held discussions with the cultural heritage advisor on site, making recommendations on the likelihood of Aboriginal archaeological sites being present within the activity area.

As a result of the survey it was determined, in conjunction with the Wadawurrung, that a program of sub-surface testing would be required (a complex CHMP) in order to understand the nature, extent and significance of Aboriginal cultural heritage sites located within the activity area.

4.4. SUMMARY OF OUTCOMES OF CONSULTATION

The consultation process comprised of ongoing interaction with the Wadawurrung, whose recommendations and assessments have been incorporated into this management plan through all its phases.

The Wadawurrung were briefed on the nature and extent of the proposed activity prior to the commencement of the desktop assessment. Following the desktop assessment, Wadawurrung representatives participated in the pedestrian survey and held discussions with the cultural heritage advisor on site, making recommendations on the likelihood of Aboriginal archaeological sites being present within the activity area.

As a result of the survey it was determined, in conjunction with the Wadawurrung, that a program of sub-surface testing would be required (a complex CHMP) in order to understand the nature, extent and significance of Aboriginal cultural heritage sites located within the activity area.

5. ABORIGINAL CULTURAL HERITAGE ASSESSMENT

5.1. Desktop Assessment

5.1.1. Search of the Victorian Aboriginal Heritage Register

This investigation involved a search of the Victorian Aboriginal Heritage Register (VAHR) administered by Aboriginal Affairs Victoria for information relating to the activity area. This search included the Victorian Aboriginal Heritage Register Supplementary Lists – Aboriginal Historic Places and Action File.

The search of the VAHR was completed on the 23 January and 3 August 2012.

Other Registers

In addition, the following Commonwealth and local registers were also searched for any known heritage sites or places in the activity area. These included:

- The National Heritage List and Commonwealth Heritage List (Australian Government Department of Sustainability, Environment, Water, Population and Communities); and
- Local Council Heritage Overlays and/or Planning Schemes (Local Government).

Background research was also undertaken into the cultural heritage context and environmental history of the activity area. This involved reviewing existing information on the activity area including:

- Any reports from previous heritage surveys undertaken in or within the vicinity of the activity area or on any relevant cultural heritage matters;
- Any published works about cultural heritage in the relevant geographic region;
- Any historical and ethno-historical accounts of Aboriginal occupation of the relevant geographic region;
- Any oral history relating to the activity area; and
- Any relevant community submissions received by VicRoads.

Limitations or Obstacles

There were no limitations or obstacles encountered during the completion of the Desktop Assessment.

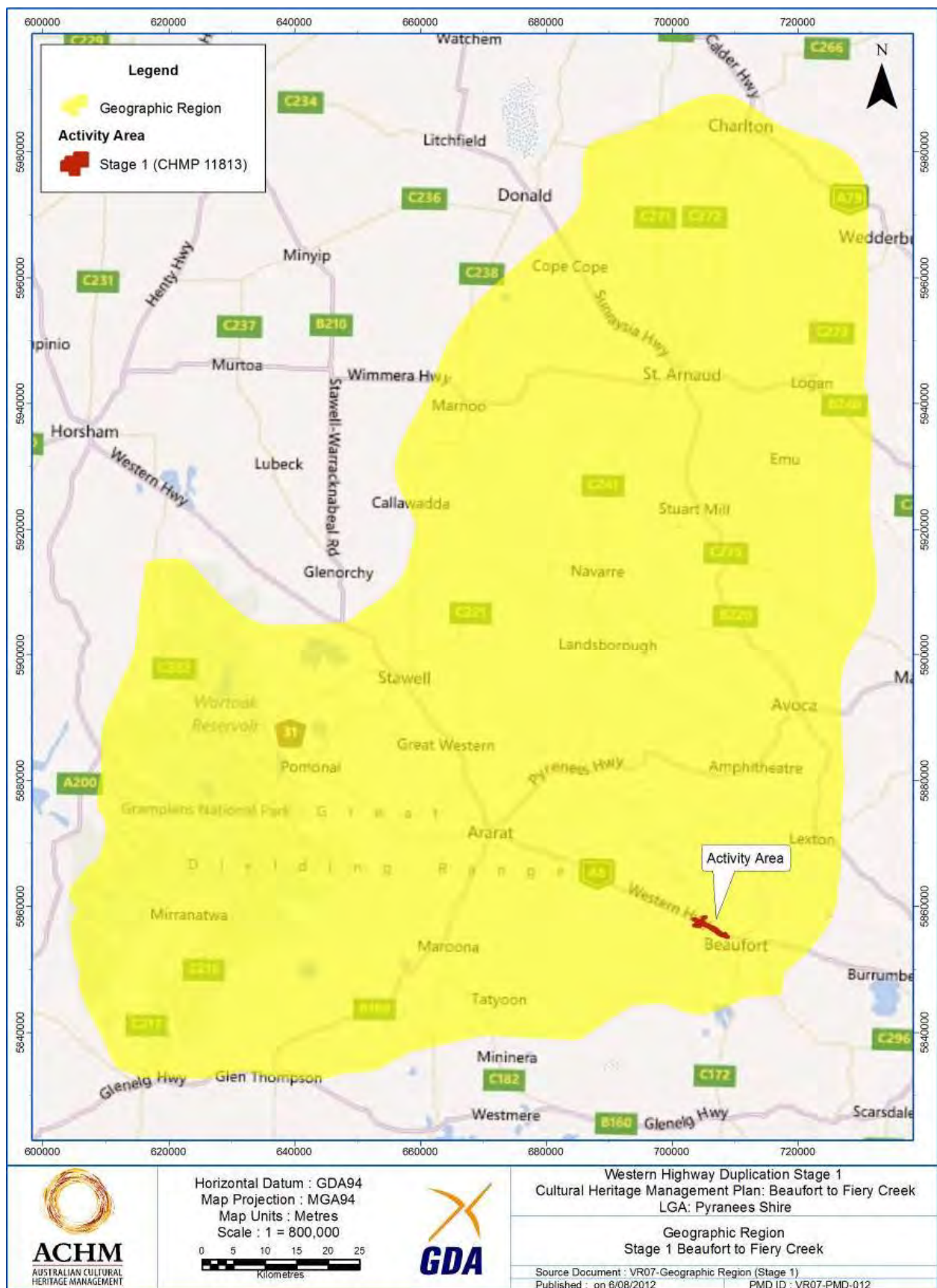
5.1.2. The Geographic Region

Geology and Geomorphology

The geographic region falls within the Western Uplands geomorphological region, and borders the Western Plains region to the south. The Western Uplands is characterised by residual Paleozoic bedrock formations that have largely been eroded. It is generally of low relief (average elevation of 300 m) with east-west drainage. However, there are a number of elevated summits and plateaus within this region where remnants of a broad Mesozoic palaeosurface has been retained (DPI 2012).

Within the Western Uplands, the geographic region is defined by the St Arnaud Range. This range forms the bedrock for the geographic region and consists of marine sandstone, siltstone and biotite schist (Birch, 2003). The bounding landforms to the east of the geographic region consist of ridges, escarpments and mountains on granitic Paleozoic rocks that have been resistant to weathering. Mt Cole, Mt Buangor and Mt Langi Ghiran form prominent plateaus that rise above the adjacent alluvial drainage systems (DPI 2012).

The Great Dividing Range runs through the geographic region but is ill-defined due to the extensive weathering of landscapes (DPI 2012). Within the northern part of the geographic region the Wimmera River and the Avoca River flow northwards to the Murray Darling basin. The southern rivers and creeks flow southwards to the ocean. These include Fiery Creek and others.



Map 3: Geographic Region

5.1.3. Aboriginal Places in the Geographic Region

The geographic region for the activity area – the St Arnaud Range - is an extensive area which includes 769 previously recorded Aboriginal archaeological places. Of these, Scarred trees (33%) and artefact scatters (31%) are common. There are also a large number of earth features (28%), followed by a considerably lower number of art sites (1%), historical places (1%), quarries (3%) and stone features (2%). Two Aboriginal burials are also located within the geographic region. The large number and diverse types of these sites reflects both the expanse of the geographic region and the density of sites within the area.

Due to the extensive number of sites, and in order to provide a more local context for the study, this search was subsequently refined to include only sites within 5km of the activity area. The following table summarises the number and type of previously recorded Aboriginal places within a 5 km radius of the activity area (see Table 3: Known Aboriginal Heritage Places within 5 km of the activity area below).

VAHR No.	Site Name	Site Type	Location and Proximity to Activity Area
7523-0028	Grant 1	Earth Feature	>200m from the activity area
7523-0029	Grant 2	Earth Feature	>200m from the activity area
7523-0030	Tiley 1	Earth Feature	>200m from the activity area
7523-0031	Tiley 2	Earth Feature	>200m from the activity area
7523-0032	Morrison 1	Earth Feature	>200m from the activity area
7523-0033	Eurambeen East 1	Scarred Tree	>200m from the activity area
7523-0034	Eurambeen East 2	Scarred Tree	>200m from the activity area
7523-0035	Eurambeen East 4	Scarred Tree	>200m from the activity area
7523-0036	Eurambeen East 5	Scarred Tree	>200m from the activity area
7523-0037	Eurambeen East 6	Scarred Tree	>200m from the activity area
7523-0038	Eurambeen East 7	Scarred Tree	>200m from the activity area
7523-0039	Eurambeen East 8	Scarred Tree	>200m from the activity area
7523-0041	Beaufort West 1	Earth Feature	>200m from the activity area
7523-0042	Beaufort West 2	Earth Feature	>200m from the activity area
7523-0139	CO 7	Earth Feature	>200m from the activity area
7523-0140	CO 8	Earth Feature	>200m from the activity area
7523-0141	CO 9	Artefact Scatter	within 200m of the activity area
7523-0142	CO 10	Scarred Tree	>200m from the activity area
7523-0143	CO 11	Scarred Tree	>200m from the activity area
7523-0144	CO 12	Scarred Tree	>200m from the activity area
7523-0145	CO 13	Scarred Tree	>200m from the activity area
7523-0146	CO 14	Scarred Tree	>200m from the activity area
7523-0243	Racecourse Road 2	Artefact Scatter	>200m from the activity area
7523-0244	Racecourse Road 3	Artefact Scatter	>200m from the activity area
7523-0245	Racecourse Road 4	Artefact Scatter	>200m from the activity area
7523-0246	Racecourse Road 5	Artefact Scatter	>200m from the activity area
7523-0247	Racecourse Road 1	Artefact Scatter	>200m from the activity area
7523-0248	Western Highway Duplication Beaufort 1	Artefact Scatter	>200m from the activity area
7523-0249	Western Highway Duplication Beaufort 2	Artefact Scatter	>200m from the activity area
7523-0250	Western Highway Duplication Beaufort 3	Artefact Scatter	>200m from the activity area

Table 3: Known Aboriginal Heritage Places within 5 km of the activity area

No previously recorded sites have been located within the activity area; a total of 30 Aboriginal sites have been recorded within a 5 km radius of the activity area. One Aboriginal archaeological site VAHR 7523-0141 (artefact scatter) is located within 200 metres of the activity area (See Map 2). Scarred trees continue to dominate the record (40%, n=12), followed by an equitable number of artefact scatters (30%, n=9) and earth features (30%, n=9).

5.1.4. Previous Archaeological Work in the Geographic Region

In 1993, an archaeological survey was conducted for the Optus OFC route from Geelong to the South Australian border. This study was commissioned by Optus and undertaken by Sinclair Knight (Du Cros, 1993). This study consisted of a desktop assessment and a survey. The desktop assessment identified 213 previously recorded sites within the study area. The majority of these were artefact scatters followed by scarred trees. Earth mounds, rock shelters, art sites, quarries, hearths, burials and grinding grooves were also found to be present. Areas of high archaeological potential were identified largely relating to proximity to water and uncleared woodland (specifically undisturbed areas). The survey involved sampling areas of identified high sensitivity that were to be impacted by the proposed development. As a result of the survey, three new archaeological sites were located (VAHR 7721-129, 7721-185, 7721H/002). These sites were avoided and it was recommended that two areas of high sensitivity be monitored during the works. No further archaeological sites were located during the monitoring.

In 1991, an archaeological survey was undertaken in the Langi Ghiran State Park (Gunn, 1991a). This report was commissioned by the Victorian Archaeological Survey (VAS) to assess the significance of the Aboriginal archaeology within the park for a proposed management plan. The study area was sampled based on different landform elements and vegetation types. A total of 64 archaeological sites were located. Of these, scarred trees were the most common (n=24) followed by isolated artefacts (n=18), artefact scatters (n=12) and rock shelters (n=10). These sites were located on all landform types aside from crests and within all vegetation communities. This study found that artefact scatters and scarred trees were more likely to occur on gentle slopes and within open woodland. Rock shelters were restricted to areas of sloping terrain, in suitable rock outcrops.

In 1991, an archaeological survey was conducted on the Western Highway at Dobie. The report was commissioned by VicRoads and undertaken by R.G. Gunn (1991b). The survey encountered poor visibility throughout the survey except along the road verges. Effective survey coverage was estimated to be very low at approximately 10%. No Aboriginal archaeological sites were located as a result of the survey. One historical site was identified consisting of a tree that had once been used as a surveyor's marker (HV D7423-0069). However, this site does not have legal protection as it is less than 50 years old.

In 1999, an archaeological study was undertaken at the former Buangor station complex and surrounding paddocks. The report was undertaken by Andrew Long & Associates and Heritage Matters Pty Ltd and commissioned by Aboriginal Affairs Victoria (Long and Clark, 1999). A scarred tree, a surface stone artefact scatter and a flaked bottle base were originally recorded in the activity area but only the artefact scatter could be relocated. Two earth mounds were identified during the survey (VAHR 7523-162, 7523-163). It was concluded that the evidence showed Aboriginal association with the station.

In 2003, an archaeological investigation of an earth mound (VAHR, 7722-0009) was undertaken as part of the Aboriginal Community Heritage Investigations Program (Pavlidis, 2003). This mound was located on a floodplain near Tea Tree Creek and ethnographic evidence suggests that it was formed through both natural and cultural processes. Four 1m x 1m test pits were excavated both on and adjacent to the mound. Through the use of radiocarbon dating it was found that the site was formed

230 years ago. The artefacts recovered during the excavation (n=915) were of a variety of raw materials including quartz, chert, silcrete, quartzite, crystal quartz, and basalt, all of which are locally available materials. The artefact analysis indicates that the raw materials were being partially processed prior to being brought on to the site by having the cortex removed, and the mound was a site used for middle and late stage reduction.

In 2001, Aboriginal remains were discovered inside a fallen Red Gum tree at Moyston. This find led to a study of other mortuary trees within the region (Richards, Bennett and Webber, 2012; Richards, Webber and Bennett, 2004). The tree contained the incomplete skeletons of two adults (one male and one female) and one child between four and five years old and a single bone implement as a grave good. Due to the skeletal remains missing their finer bones (such as toes and finger bones), the burials were interpreted as a secondary burial placement, as the smaller bones are often lost during movement. The dental analysis of the adults indicated that they had been smoking tobacco pipes proving that the burial occurred after contact with Europeans.

A desktop study uncovered ethnographic details of an additional eight mortuary trees within the region. These trees are in Djab Wurrung, Jardwadjali and Dja Dja Wurrung territory. The following are examples of the recorded instances of tree burial. One of these was at Mokepilly Station on the north eastern boundary of Gariwerd and consisted of a single adult. A ritual disarticulation was witnessed after burial in the tree between 1843 and 1853. Outside of Stawell, two bundles containing human remains were discovered in a hollow tree in 1858. In 1864 two bodies were found within a tree near Moyston. These two bodies were at different stages of decay, one was estimated to have been within the tree for only seven years. This shows that trees were used repeatedly over time and that these burials were occurring in the region as late as 1855. At Charlton a young child was found wrapped in a possum skin blanket within a tree. The tree also contained a number of European grave goods. There is ethnographic evidence of a body being looted from a hollow Red Gum tree in 1879 at 'Gorrinn' property, 4 km south of Mt Langhi Ghiran. In both of the certain occurrences of mortuary trees, the tree used was a Red Gum.

While all of these burials occurred during the post-contact period, the authors (Richards, Bennett and Webber, 2012) thought it likely that the practice continued from pre-contact times. The authors also reasoned that trees with hollows large enough to place skeletons in were likely sick and would only survive 100–200 years after the placement. It is possible that any large trees of this age could contain skeletons.

In 2008, a Due Diligence study was undertaken for the duplication of the Western Hwy between Stawell and Burrumbeet. The activity area extended for 500 m on either side of the highway. The report was commissioned by VicRoads and undertaken by Dr Vincent Clark and Associates (Noble, Kiddell and Clark, 2008). This study consisted of a desktop assessment and a site inspection. During the desktop assessment, 24 previously recorded Aboriginal sites were identified within the activity area as well as 34 historic sites. Most of the Aboriginal sites were not relocated due to inaccurate initial recording and poor visibility. It was recommended that a CHMP be undertaken to locate these and any unrecorded sites.

In 2009, a Cultural Heritage Management Plan (10485) was undertaken for a parcel of land located on the Western Highway, Ararat, covering an area of 32 hectares. The report was commissioned by Ararat Rural City and undertaken by Heritage Insight (Gilchrist, Barker and Rhodes, 2009). The report consisted of a desktop and standard assessment. The desktop assessment ascertained that no previously recorded Aboriginal archaeological sites were within the activity area, despite a previous survey having been undertaken. It was also reported that the area had been previously disturbed through agricultural use. The standard assessment consisted of a pedestrian transect survey. No

archaeological sites were discovered during the survey and it was considered unlikely that any would be found due to the high level of disturbance.

In 2011, a specialist report was undertaken by Andrew Long to investigate the potential impact of the Western Highway duplication project on burnt earth mounds between Beaufort and Ararat (Long, 2011). Long (2011) defines burnt earth mounds as artificial mounds that have been constructed through intense repeated use. In this they contrast to naturally elevated mounds that are used occasionally. The mounds within the study area were smaller than those recorded in other areas of Victoria (7-22m diameter) and contained burnt stones and artefacts. Within the geographic region mounds have been found to usually occur within 500m of water sources and located on elevated areas such as terraces, sloping shelves and other landforms overlooking waterways. While the mounds were recorded within 500m of waterways, it is important to note that there were very few areas within Long's study area that were further than 500m from waterways. In his predictive model Long comparatively suggests that landscapes that are largely flat but with subtle rises and intersected by creeks are the most likely areas to contain burnt mounds. Though burnt mounds are far less likely to be found on steep hills remote from waterways, the possibility however, cannot be ruled out.

5.1.5. Historical and Ethno-Historical Accounts in the Geographic Region (including Aboriginal Pre-Contact History)

This report explores the Djabwurrung and Wathaurung people of the western highlands of Victoria, in particular the region around Stawell, Ararat, Geriwerd (Grampians National Park), Fiery Creek and Beaufort. Indigenous people were grouped according to language and although different clans spoke different languages, they were still linguistically connected (Presland, 1994). Similar words were shared by neighbouring clans, thus the languages of the Djabwurrung and Wathaurung were different but they shared some commonalities and one could communicate with the other. Language was so significant that it was expressed in the clan's very name as 'wurrung' meant 'mouth' or 'lip', a synonym for 'language' (Presland, 1994).

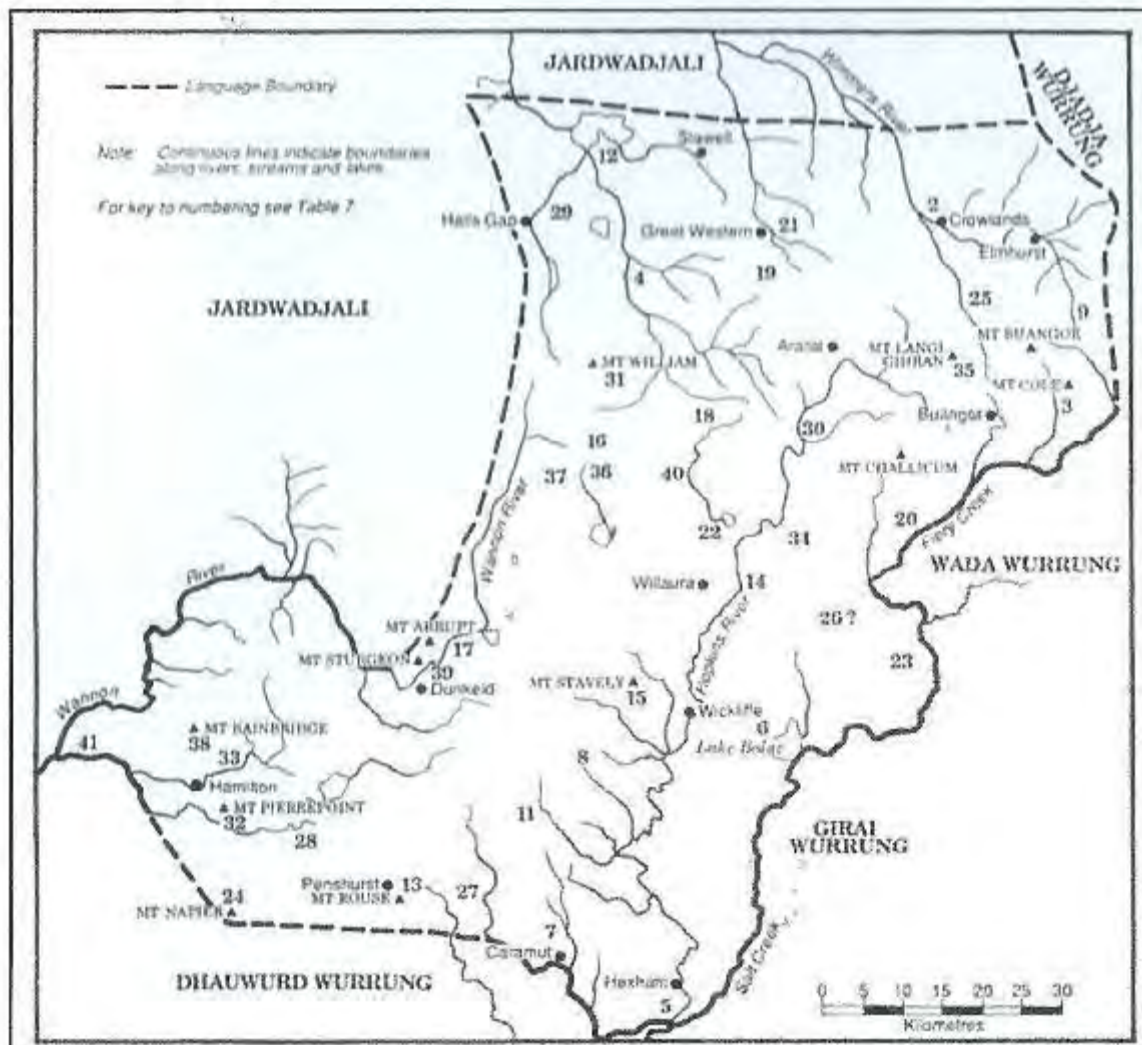


Figure 5: Boundaries of the Djabwurrung country (Kostanski and Clarke 2011)

The Djabwurrung country stretched from Mt Napier to west of Stawell, from Mt Cole to the Wannon River. It comprised some forty one different clans, each with indistinct boundaries that sometimes overlapped. The land surrounding Mt Langi Ghiran was occupied by the Utoul balug people and the country just north of the town of Great Western belonged to the Poit balug. The language group that inhabited the land immediately south of Great Western was the Parn balug (Kostanski and Clark, 2011).

The land of the Wathaurung was extensive and it stretched from the Bellarine Peninsula to Ballarat, from Colac to Werribee. The Wathaurung was not a homogenous group but was made up of approximately twenty six different clans (Presland, 1994). The Moner balug people occupied the land between Beaufort and Mt Misery while Beerekwart balug's country was Mt Emu and its surrounds (Kostanski and Clark, 2011).

For the Djabwurrung and Wathaurung people, occupation of land was fundamentally integrated with their spirituality. Spirituality was such an integral component of their lives that it *was* their lives. It governed their thought, activities and sense of self. It provided them with explanations for the landscape's formation and perpetual change, of creation and death, of relationships and practices, of laws and customs. Indigenous lives were strongly influenced by a plethora of different laws that, in most cases, had been passed down through the ages (Prentis, 2008). Marriage, relationships,

ceremonies, totems, food cultivation and hunting were all dictated by a complex series of traditions and rules (Koori Heritage Trust, 2004). The Dreamtime was the core of Indigenous spirituality. It consisted of stories of when gods and spirits inhabited the world and created the landscape and all living things within it (Prentis, 2008). Consequently, stories were handed down from generation to generation and formed the basis of their lives, often expressed in art, song or spoken word.

Our stories and histories tell of how the land was formed; how animals and people were created; how to care for the land and all living creatures through respect and by living in harmony with our environment. These traditions have been passed down through the generations for thousands upon thousands of years. This is the basis of our spirituality (Koori Heritage Trust, 2004).

Strongly linked with spirituality, the land was the very essence of the Djabwurrung and Wathaurung people. They were one and the same. For the Djabwurrung, this relationship extended for more than 22,500 years (Brambuk Aboriginal Cultural Centre). Living within a landscape was much more than responsibly and respectfully inhabiting its space, “caring for Country is the fabric of Indigenous social, spiritual, economic and physical wellbeing and is the basis of their cultural lore” (Parks Victoria, 2010). The landscape not only provided people with tangible provisions, like food, resources and shelter, but also intangible and ethereal things, such as spiritual beliefs, stories and a history that spanned the time before people inhabited the landscape. Country was not only regarded as a place or space but also a living, perpetually evolving entity that they were acutely intimate with:

People talk about country in the same way that they would talk about a person: they speak to country, sing to country, visit country, worry about country, feel sorry for country, and long for country. People say that country knows, hears, smells, takes notice, takes care, is sorry or happy .(Critchett, 1998:13).

As a place of spirituality, there were numerous sites within the landscape created for a multitude of reasons, from initiation and birthing ceremonies to honouring the spirits. Some of these places were accessible to all clan members, others exclusive to men or women. Lar-ne-jeering, now known as the Langi Ghiran State Park (between Beaufort and Stawell) contained many Aboriginal places for the Djabwurrung. Lar-ne-jeering, which translates to ‘home of the black cockatoo’, was the location of rock art that was created below a granite shelf. Some 276 Aboriginal places have also been located at Geriwerd (The Grampians), a number of which contain rock paintings that are five thousand to 22,500 years old (Brambuk Aboriginal Cultural Centre).

Indigenous people lived a hunter gather existence, an existence that is as old as humans (Presland, 2010). Labour was largely divided along gender lines with men hunting larger game while women forested for plant food and smaller animals. While it is now difficult to ascertain just how much time was spent sourcing food by both men and women, it has been suggested by some scholars that four or five hours was enough time to collect food each day, faster when food was plentiful as it was in this report’s project area (Presland, 2004). This then left them time to create utensils, foster relations with others, relocate and practice their spirituality.

The diet of the Indigenous people was diverse and rich. Plants provided them with both sweet and savoury tastes, many of which were seasonal. Sweetness was derived from a number of different sources, including the gum and flower nectar of the Black Wattle (*Acacia mearnsii*) and the water dissolved gum of the Silver Wattle (*Acacia dealbata*). Tubers and roots were food staples and were sometimes ground and made into dough. The roots of the Australian Bindweed (*Convolvulus erubescens*) was formed into dough and cooked as was Austral Crane’s Bill (*Geranium solanderi*). Some plant foods were eaten raw while others were cooked (DeAngelis, 2005).

While plant food formed the basis of Indigenous diets, meat was an important component of it. Fish were caught by either throwing wide nets over shallow water or by the use of fishing rods. String derived from bark was attached to long rods and was cast, with worms tied to string acting as bait (Brambuk Aboriginal Cultural Centre). Eastern kangaroos, wallabies, echidnas and a great assortment of birds were just some animals that supplemented their diets.

The Indigenous people shaped the landscape to suit their needs. They undertook controlled grassland burn offs in the cooler winter months to encourage good plant growth and to attract wild animals (Pascoe, n.d.) In the area of the Grampians, eels were ‘farmed’ by creating an intricate series of channels with digging sticks that stretched for kilometres. Eels would travel down the waterways and swim into waiting nets, after which time they were cooked and shared amongst different family groups (Brambuk Aboriginal Cultural Centre). Thus, the catching of the eels became an important ritual and custom amongst the men who created the channels and the women who prepared and cooked the meals.

Prior to the arrival of Europeans, plants not only sustained the Indigenous population but also healed them. The bark of the Blackwood tree (*Acacia melanoxylon*) was used for rheumatism-like complaints after it was infused in water. Headaches were treated with Small-leaved Clematis (*Clematis microphylla*) by crushing the leaves and inhaling the scent while smoke from burning the larger outer leaves of the Manna Gum (*Eucalyptus viminalis*) reduced fevers. Sap of the River Red Gum (*Eucalyptus camaldulensis*) was proscribed for burns while its leaves were used in therapeutic baths to remedy a number of complaints. The oil from Yellow Gum (*Eucalyptus leucoxylon* ssp. *commata*) was the cure for cold and chest complaints or an alternative remedy was the inhalation of the crushed River Mint (*Mentha australis*) plant (DeAngelis, 2005).



Figure 6: Two Wathaurung Shields c.1836 (National Museum Australia)

The land provided the Djabwurrung and Wathaurung with the materials to successfully carry out their activities in a climate that was, at times, volatile and harsh. Possum skin rugs were fashioned into cloaks that men, women and children of all ages wore. In the cooler months, the rugs were worn with the fur inside to provide warmth while the hide repelled the rain. In warmer times, the rug was reversed so that the fur was on the outside and the wind blowing through the fur helped to cool the wearer (Koorie Heritage Trust, n.d.).

Many items required for carrying out daily activities were created from a variety of plants. The Djabwurrung used the wood from Silver Wattle trees (*Acacia dealbata*) to make axe handles while the gum, when mixed with ash, created a resin. The Austral Grass-tree (*Xanthorrhoea australis*) provided the clans with a waterproof resin that was especially useful for fastening axe heads and stone flakes. Messmate (*Eucalyptus oblique*) was not only used as tinder for starting fires but the inner, supple bark produced a course string that was used for making bags and fishing nets. Kangaroo Grass (*Themeda triandra*) was also used in the creation of bags and nets. Nose pieces, jewellery, rope and spear shafts were obtained from the versatile Common Reed (*Phragmites australis*) (DeAngelis, 2005).



Figure 7: Stylised portrait of an Aboriginal man, complete with handmade fishing net, boomerangs and shields c.1870s (Lindt 1870s)

Maintaining a nomadic existence, Kooris lived in a number of different abodes, from huts and miamias to simple wind breaks, depending on the season, availability of resources and what the landscape offered in the way of natural protection. The amount of time spent in each location was contingent on such things as ability to source food, customs, rituals and weather, and could range from a few days to a week or so. In the warmer months, huts were usually located in more open areas since there was little need for protection from harsh winds or the cold. In the cooler seasons, dwellings were more protected as people sought greater shelter (Presland, 2010).

5.1.6. Aboriginal Post-Contact History

For many Indigenous people, the arrival of Europeans from the 1820s was a thing of wonder and uncertainty and they attempted to explain it according to their spirituality, beliefs and experiences. As one Koori explained, “the old people first thought the white men were relatives returned from the spirit world. The fact that they had forgotten their language and customs was explained by their long journey from death back to life” (Koorie Heritage Trust n.d.).

According to custom, Aborigines were permitted to enter the country of other clans but the acquisition of valuable resources, especially land, was forbidden. Yet Europeans paid no heed to this and took what land they wanted, used whatever resources they required and adapted the landscape to suit their own needs, from clearing vegetation for pasture to disrupting or destroying Aboriginal places (Koorie Heritage Trust, n.d.). Initially this bewildered Indigenous people, yet as they began to realise that the new visitors were not going to leave, puzzlement turned to anger and indignation and sometimes spilled over into violence.

During this tumultuous period of European first contact that occurred from approximately 1836 to 1853, there was much conflict, often perpetuated by Europeans against the Indigenous people, including the Djabwurrung and Wathaurung. European settlers claimed tracts of land and sought to establish new lives for themselves largely based on European principles and customs, while Indigenous people attempted to continue their traditional lifestyle in a climate that was increasingly impossible. The two polarised ways of life clashed and blood was shed, more often than not, the Indigenous people were the victims. Many of the clashes were concentrated in the Western District and in south-west Victoria with many of the victims shot or poisoned by government troopers, private citizens or the Aboriginal police. The infamous 'Massacre Map' that details such conflict in Victoria during this period explains that the map depicts "the deaths of several thousand people ... [but] many thousands more died beyond the prying eyes (Koorie Heritage Trust, 1991).

Dispossession was widespread as new arrivals sought to shape the land and its inhabitants to best suit their purposes. Thus, tracks of land were cleared, which disrupted the habitats of many animals and traditional rituals and activities. Fences were erected which not only stopped the migration of some animals but introduced others (such as sheep and cows) that destroyed delicate vegetation and associated sources of food and medicinal remedies. The European concept of land ownership, and the ensuing punishment and retribution for trespass, not only challenged notions of exclusive land possession but also how it was to be used and who was responsible for it. In this regard, European concepts clashed greatly with that of Indigenous people who fundamentally perceived themselves not as owners of their country but rather custodians. As one historian noted, "dispossession effectively made Aborigines intruders on their own land" (Critchett, 1998).

Together with violent conflict and dispossession of land, sickness decimated Aborigines. With no resistance to many introduced European diseases, illnesses like Small Pox, tuberculosis and pneumonia were often fatal. Consequently, the Indigenous population of the colony fell from some 15,000 before settlement to 1907 in 1863 and 1067 in 1877 (Presland, 2004). Sadly, the last member of the Wathaurung from the Ballarat region, William (sometimes known as Frank) 'King Billy' Wilson, died in 1896 (Morris, n.d.).

Recognising that their traditional way of life was now impossible, some Djabwurrung and Wathaurung people became fringe dwellers, living on the outskirts of towns and trying to eke out a living selling wares to Europeans. Others worked on sheep stations or begged. Some moved to Aboriginal Protectorate Stations, such as that near Daylesford, or later to the government run Framlingham Reserve or Corandarrk near Healesville (Morris, n.d.).

5.1.7. Review of Reports and Published Work about Historical Cultural Heritage in the Region

A search of the historic site registers was undertaken to locate all sites within 1 km of the activity area. As a result of the search one site was found. This site is not located within the activity area and therefore will not be impacted by the proposed development.

Site Number	Site Listing	Site Name	Site Type	Site Within Activity Area?
HO46	Heritage Overlay	Eurambeen East Old Homestead	Property	No

Table 4: Historic Site located within 1km of the activity area.

In 2008, a Cultural Heritage Due Diligence was undertaken that overlaps with the current activity area (Noble et al. 2008). During the course of the desktop study it was identified that there were four Aboriginal historic places, two Victorian Heritage Register sites, six Victorian Heritage Inventory sites and 26 sites on the local government Heritage Overlay. These sites were considered significant due to early transport within the region and sites relating to the gold rush. During the field inspection a number of unrecorded historic sites were identified within the study area. It was recommended that a survey be undertaken to identify unrecorded sites prior to development.

In 1998, Nathan Wolski undertook an excavation at the Mt Cole outstation for his PhD research. The study area was defined by the Campbell Brothers' Mt Cole Run which extended from Fiery Creek to Middle Creek and Charleycombe Creek. The Campbell Brothers actively supported Aboriginal groups on the run by assisting in the provision of food and clothing and in 1851, 100 Aboriginal people were staying on the property. The excavation occurred at an outstation on the junction of Darirymaid and Middle Creeks. Wolski was attempting to learn more about Aboriginal-European interaction during the contact period. During the course of the excavation, a fireplace and two possible post holes were discovered, providing tentative information about the size and orientation of the outstation. Two occupation phases were identified at the site. The lower of these contained exclusively stone artefacts and was interpreted as a pre-contact layer. The upper phase contained a mixture of both stone artefacts and artefacts with a European origin. The most common European materials included bottle glass and metal building materials. Ceramics and slate pencils were also present although in smaller numbers. The stone artefacts consisted mostly of quartz and flaked glass artefacts. At the time the report was written the author was uncertain how the stone and European artefacts had occurred in the same stratigraphic layer. The options being studied were that the site was disturbed, that the site was a contact site or that the Aborigines moved in to the outstation once the Europeans moved out. Historical evidence supported the second option.

In 1999, an archaeological study was undertaken at the former Buangor station complex and surrounding paddocks. The report was undertaken by Andrew Long & Associates and Heritage Matters Pty Ltd and commissioned by Aboriginal Affairs Victoria (Long and Clark, 1999). This study involved the investigation of six depots associated with the Victorian Honorary Correspondent Supply Scheme which was established in 1860 to supply provisions to Victorian Aborigines. The study included both a desktop assessment and a field inspection.

In 1840 there were 300 Aboriginal people associated with Buangor depot and in 1852, Campbell, the owner of the Buangor Run, employed the local Aboriginal community as pastoralists on his property. While the focus of the study was on European cultural heritage, two previously unrecorded burnt earth mounds were identified during the place inspection (VAHR 7523-162 and 7523-163). No Aboriginal sites or artefacts were identified in association with European materials. During the historical study, 17 historical sites, places or components were identified. The old Buangor homestead was rectangular with rooms adjoining the veranda. Varying masonry construction indicates that the homestead was added to over several periods. The remaining standing structures included parts of the homestead, an adjacent mud brick building, a landscaped garden, and a former building site. Also still identifiable are the remains of a possible shed, sheep yards and sheep dip, four small huts and a cemetery. The study predicts that post-contact sites are likely to occur on the margins of pastoral stations and incorporate introduced materials and food types. Alternatively, the

destruction of plant and animal foods due to the introduction of livestock was likely to have also caused the more intense use of peripheral areas.

5.1.8. Landforms and/or Geomorphology of the Activity Area

The activity area falls within the Western Uplands geomorphological region. The Western Uplands is characterised by residual Paleozoic bedrock formations that have been largely eroded. It is generally of low relief (average elevation of 300 m) with east-west drainage. However, there are a number of elevated summits and plateaus within this region where remnants of a broad Mesozoic palaeosurface has been retained (DPI).

Within the Western Uplands, the activity area is within the St Arnaud Range. This range forms the bedrock for the geographic region and consists of marine sandstone, siltstone and biotite schist (Birch, 2003). The activity area is on the southern margin of the Pyrenees ranges which consists of ridges, escarpments and mountains on granitic Paleozoic rocks that have been resistant to weathering. Mt Cole, Mt Buangor and Mt Langi Ghiran form prominent plateaus that rise above the adjacent alluvial drainage systems (DPI). These plateaus are north-west of the current activity area.

The eastern part of the activity area is on a plateau with an elevation of 400m. There is a moderate rise in the centre of the activity area with an elevation of 450m and the activity area then slopes down to the west to the alluvial plain of Fiery Creek.

The most prominent artificial feature within the activity area is the Western Highway.

Vegetation

A search of the 1750 Ecological Vegetation Classes (EVCs) benchmarks revealed that the past vegetation within the area consisted of Grassy Woodland/Heathy Dry Forest Complex (EVC 175 and 20) (DSE, website).

The Grassy Woodland EVC (175) consists of open eucalypt woodland with large trees (15m tall). The understorey is generally sparse but consists of a diverse variety of grasses, herbs and shrubs. Common tree varieties within this EVC are: Red Box (*Eucalyptus polyanthemos*), Manna Gum (*Eucalyptus viminalis*), Yarra Gum (*Eucalyptus yarraensis*), Snow Gum (*Eucalyptus pauciflora*) and Swamp Gum (*Eucalyptus ovata*).

The Heathy Dry Forest EVC (20) consists of an open eucalypt forest with trees reaching up to 20 m tall. The understorey is generally sparse and consists of a dense layer of shrubs such as heaths and peas. Common tree varieties within this EVC are: Red Stringybark (*Eucalyptus macrorhyncha*), Broad-leaved Peppermint (*Eucalyptus dives*), Red Box (*Eucalyptus polyanthemos*), Long-leaf Box (*Eucalyptus gonicalyx s.l.*) and Brittle Gum (*Eucalyptus mannifera ssp. Mannifera*).

5.1.9. Land Use History of the Activity Area

The Western Highway, or National Highway A8 as it is alternatively known, is one of Victoria's principal highways and runs from just north of Ballarat (near Burrumbeet) to the South Australian-Victorian border town of Serviceton. At its eastern end, the highway continues on as the Western Freeway. In 1997, the highway covered some 315 kilometres of road (Main Roads Victoria, 2009). It is the main thoroughfare that joins South Australia and western-central Victoria and it supports "farming, grain production, regional tourism and a range of manufacturing and service activities" (VicRoads, 2011). Today, approximately 4000 cars and 1500 trucks travel on the highway each day

and these figures are expected to double within twenty five years (Vic Roads, 2011). This report concerns the section of highway that runs from Beaufort to Stawell and it is divided into three distinct areas as conceived by the Victorian government's peak planning and road bodies. These stages are:

Stage (1) Beaufort to Fiery Creek

Stage (2) Fiery Creek to Ararat

Stage (3) Ararat to Stawell

Prior to the arrival of Europeans from the 1830s, nomadic Indigenous communities had traversed the landscape using intricate systems of paths and tracks. Frequently, paths were designed to make the sojourn as easy as possible, thus, they often skirted around steep ascents or descents and crossed waterways at sites that were as easy as possible. Many early Europeans utilised these routes for their own activities as they understood they were often the best way to travel through the countryside. It is interesting to note that many of these paths were later developed into roads and sometimes even highways (Anderson, 1994). While it is impossible today to ascertain if the Western Highway was once one of these Indigenous tracks, it is important to keep in mind that the possibly exists.

The discovery of gold in Ballarat and other rural areas in Victoria in the early to late 1850s resulted in a mass movement of people as diggers, families, traders and others flocked to the gold fields in search of fortune or, in the case of traders and business entrepreneurs, commercial success. For the first time, tracks and crudely constructed roads (if made at all) were travelled in large numbers. In many instances, gold rushes opened up areas of the colony that had previously been home to only a small number of people. Yet with gold, transient communities were quickly established, sometimes in their tens of thousands. In 1861, it was estimated that forty two per cent of Victorians resided in gold towns or diggings (Serle, 1963).

A road that would later become the Western Highway was one such thoroughfare that took many people to the gold fields that dotted the area in question, such as Fiery Creek (Beaufort) and Pleasant Creek (Stawell). Those miners lucky enough to have a horse, or funds for transport, rode across the rough roads which were often very dusty in summer and bogs of mud in winter. A few travelled using bullocks. For those less fortunate, which was the vast majority of people, it was often a long passage on foot, some pushing their belongings in carts.

In 1853, there was no major thoroughfare from Beaufort to Stawell, via Ararat. Most significant roads tended to run on a north-south axis, as opposed to the highway's east-west course (Anderson, 1994). By 1873, though, the passage of the Western Highway was well established, as shown by a Department of Crown Lands and Survey map of the Ararat region (Department of Crown Lands and Survey, 1873).

In 1853, the colonial government sought to improve Victoria's poor road conditions. District road boards were established (an embryonic form of municipal councils), a central road authority was formed and payment schemes for road development, such as tolls and government grants, were devised (Serle, 1963). From c.1854, the construction of a number of main roads, like that between Melbourne and Bendigo, offered some improvement (Serle, 1963).

Before the 1983 formation of the Road Construction Authority (and later Vic Roads), many of Victoria's road networks were overseen by the Country Roads Board (CRB). In c.1913, the State government passed the Country Roads Act. The legislation was passed in the face of growing resentment and agitation over Victoria's appalling roads, with much of the resentment coming from rural communities who believed they were disadvantaged by the poor conditions. The Act established the CRB and provided it with a mandate to construct and maintain the state's main (and,

in 1918, developmental and tourist) roads, including the Western Highway. It also established that both State and local governments were to contribute to such works (Anderson, 1994). One of the CRB's first activities was the creation of a map depicting all Victoria's main roads, of which the Western Highway was one. Towards the end of its existence, the CRB was responsible for 983 kilometres of roads within Melbourne and fifty five kilometres of freeways, 280 kilometres of State highways and twenty three kilometres of tourist roads in country Victoria (Carroll, 2010). To facilitate the CRB's work, Victoria's road networks were divided into ten regions. The stretch of Western Highway that pertains to this report was located in the Ballarat district which stretched from Stawell to Ballan (Anderson, 1994).

In 1924, the Country Roads Act was superseded by the State Highways and Vehicles Act. One of its most significant changes was that the creation and maintenance of highways would no longer be a joint venture but the complete responsibility of the CRB (Anderson, 1994).

During the depression of 1929-39, road work was included in a number of State run unemployment relief schemes. By the end of June, 1929, such a scheme was employed on a section of the 'developmental' Western Highway at a cost of over £2,211. This work was important for a number of reasons, as described in the CRB's Annual Report of that year:

Besides providing employment for a large number of men, those works of a developmental character when carried through to completion have a most important effect on the districts in which they are situated. As the roads are located in areas from which very little in the way of revenue from rates is derived by the municipal councils concerned, it would be quite impossible for the municipalities to carry out the works for many years to come.
(Anderson, 1994:90)

In 1945, the road in question was officially named the Western Highway. Prior to that, it was sometimes referred to as 'Main Road' in government created maps or as a 'developmental' road. In 1918, the CRB established the concept of developmental roads which were not usually major arterials but rather smaller but, nevertheless, important roads, especially in rural farming communities. Roads were deemed developmental at the discretion of the CRB, a decision largely based on whether the road would facilitate transport (often to a railway station or to a road leading to one) or open up rural areas (Anderson, 1994). In the case of the Western Highway, the latter motivation was most apt.



Figure 8: A house on the Western Highway c1930-1960 (SLV)

The advent of the car in the twentieth century changed both travel and road requirements. In doing so, it transformed the commercial, economic and social structure of Victoria and beyond (Lay, 2010). The mass movement of cars in Victoria began in the 1920s when car numbers rose from 70,000 in 1924 to 154,000 just five years later. The size, speed, noise and fuel necessities of automobiles not only altered road structures (such as road widths since cars were wider than previous transport modes, the need for emergency lanes, road shoulders, warning signs, traffic signals and the like) but also road amenities (service stations and associated service lanes) and safety initiatives. The weight of cars and trucks, compared to the more traditional horse, cart and bicycle, was too heavy for many road surfaces which resulted in their accelerated deterioration (Lay, 2010).

By 1960, two thirds of Melbourne's households owned a car and no doubt, such figures were higher in rural areas where remoteness and practices, like farming and the movement of goods to markets, were important issues (Davison, 2008). Freight was now easier and faster (and therefore cheaper) to transport and perishable goods were more likely to reach new markets before spoilage. Tourism and day trips flourished as families spent a day or more seeing some of Victoria's tourist attractions and towns. The Western Highway was central to all of this as it conveniently linked towns and markets whilst also enabling people to visit some of the State's tourist areas, from the Grampians to 'gold rush country'.

In 1965, the Roads (Special Projects) Act was passed which was particularly significant to the Western Highway and its upkeep. The Act enabled the funding of fourteen road projects in Victoria which included major works, not only to the Western Highway, but also to the Hume, Princes, Maroondah and Nepean highways (Anderson, 1994). Such works coincided with the ever increasing use of cars and trucks on the state's roads. At the end of the 1966-67 financial year, vehicle registrations numbered 1,221,352, an increase of 344,719 within five years. This amounted to about 70,000 additional cars and trucks on the road each year (Anderson, 1994).

Sometime between 1955 and 1974, the highway was officially referred to as 'National Route 8' and was three hundred kilometres in length. It ran from the Ballarat-Burrumbeet Road, Burrumbeet, to the South Australian border at Victoria's Serviceton. In 1974, under the newly created National

Highway System, State highways came under the jurisdiction of the federal government and the Western Highway was renamed 'National Highway 8'. It was soon extended at its eastern end by fifteen kilometres and now started at Sunraysia Highway, Miners Rest, just northwest of Ballarat. In 1997 the Western Highway was once again renamed, this time 'National Highway A8' which is what it is officially known as today (Main Roads Victoria, 2009).

Since the opening years of the twenty first century, Vic Roads has commenced a \$505 million project to upgrade and improve the Western Highway, with money coming from both Victorian and federal governments. Such improvements include altering sections of the road's alignment, sealing road shoulders and improving other safety measures, including intersections and service lanes. Perhaps the most significant change, though, is transforming the two lane road into a four lane thoroughfare with a central divide. Motivation for completing such works range from improving the movement of freight and road safety to better access to local amenities and services and reducing the time and cost of travel (Vic Roads, 2011).

Stage (1) Beaufort to Fiery Creek

Beaufort was first settled by a scattering of Europeans in 1838. A year after gold was discovered in Ballarat in 1851 (which triggered Victoria's frenzied gold rush), gold was found near Beaufort. In 1853, and then again two years later, it was unearthed at nearby Fiery Creek. As a consequence of the find, the town's population swelled to some 100,000 people by the late 1850s. Beaufort was surveyed in 1857 and the first land purchases took place a year later (Australian Heritage, 2011). After the gold fever had receded, Beaufort became a pastoral and agricultural town. No doubt the railway that stopped there from 1874 was an important means of transporting both people and goods throughout the colony.

The importance and popularity of this section of the road is signified by the fact that in the mid to late 1800s, the horse and carriage transport company, Cobb and Co. had an agent stationed at Beaufort. This not only suggests that there was enough business in the area for Cobb and Co. to warrant such a posting but that the roads were generally in a good enough condition that would routinely allow for the passing of their coaches. No doubt, the highway was traversed by their horses. By 1889, the present route of the Western Highway from Beaufort to Fiery Creek was close to established (National Library of Australia, 1889).

5.1.10. Conclusions from the Desktop Assessment

Aboriginal Land Use Model

The geographic region in which the activity area is located contains several landforms which would have been utilised by Aboriginal people. The utilisation of these landforms is discussed below.

River and Creek Valleys

River and creek valleys, which are relatively common in the region, have been the focus of previous archaeological investigations (Bowler, 1969, 1970; Bowler *et al.*, 1967; Burke, 1989, 1990; Casey and Darragh, 1970; Coutts and Cochrane, 1977; du Cros, 1989; Duncan, 1998; Ellender, 1988; Gallus, 1983; Gill, 1953, 1954, 1955, 1966; Mulvaney, 1964, 1970a, 1970b; Munro, 1997; Rhodes, 1990; Tunn, 1997, 1998, 2006). These valleys would have provided the most advantageous settlement localities for Aboriginal people throughout the history of human settlement in the region.

The river valley environments provided Aboriginal people with a range of necessary resources, as well as providing shelter from the elements, timber for fires, tools, and housing; all manner of food sources, and stone for tool manufacture. The importance of the availability of perennial fresh water to the resident Aboriginal populations also cannot be overlooked. The valley landscapes may also have served as travel routes throughout much of the region (du Cros, 1987; Flood 1976).

Intensive use of these environments has resulted in the formation of a substantial archaeological record within a corridor on either side of the waterways forming the valleys. The evidence for Aboriginal occupation of these areas is manifested in a relatively high number of artefact scatters, scarred trees, stone quarries, and earth mounds in those limited number of locations previously surveyed. The nature of the alluvial sediments in certain areas has revealed that this spatially continuous pattern is not of recent origin, but has a demonstrable Pleistocene antiquity (Flood, 1974; Ossa et al 1995).

Hills

Apart from Flood's early work in the Australian Alps (Flood 1976), and a small number of subsequent surveys (Hall 1991; McNiven 1996), there is limited archaeological or ethnographic evidence to assist in the construction of land use models for the hill environments. Where there are archaeological sites, they have been interpreted as evidence for ephemeral procurement activities during times seasonally suited for utilising the higher areas of the region. Pleistocene utilisation of higher altitudes would have been limited, given the extreme climatic conditions and restricted growth patterns of many vegetation communities, and the subsequent restrictions on the distribution of fauna. Without abundant archaeological or ethnographic evidence however, it can only be assumed that Aboriginal people did utilise the higher zones of the region, particularly during the Holocene. To what degree the hill zone in the activity area was utilised is not known. The deeply stratified alluvial sequences found in the valley landscapes has the potential to reveal the archaeological signature of spatially varied but continuous activities over a period of perhaps the last 30,000 years.

Archaeological Predictive Model

This section provides a concluding statement on the desktop assessment which has informed the development of a predictive model of the site types that possibly exist within the activity area and a predictive statement on the likelihood of finding such sites.

A total of 769 Aboriginal archaeological places have been recorded within the geographic region. Of these, Scarred trees are the most common (33%) followed by artefact scatters (31%). There are also a large number of earth features (28%). Also present are art sites (1%), historical places (1%), Quarries (3%), stone features (2%) and two burials within the geographic region. The large number

and diverse types of these sites reflects both the large area of the geographic region and the density of sites within the area. An additional search of all of the sites within 5km of the activity area was undertaken to provide a more local context for the study. All of these sites were located greater than 200m from the activity area.

Of the 30 sites recorded within 5km of the activity area, 12 consist of scarred trees, nine are artefact scatters and nine are earth features.

Scarred trees are the most common site type both within the geographic region and within 5km of the activity area. Scarred trees are trees that have been culturally modified in some way, usually by having bark cut from the trunk for use as canoes, shields, shelter, containers, or foot holds that have been cut in to the trunk to allow access to the upper branches for hunting purposes. Culturally modified trees are most often eucalypt trees that pre-date European settlement (i.e. over 174 years old in the Melbourne region). Scarred trees usually occur close to rivers or creeks or in areas where riparian forests have survived. There is a high possibility of locating these anywhere that there are trees of an appropriate age, with that possibility increasing with proximity to water.

Artefact scatters are also common both within the geographic region and within 5 km of the activity area. Artefact scatters are concentrations of stone tools made by Aboriginal people in the past, or the debris from making stone tools. These usually occur where people were camping or were preparing their tools or weapons, and can be found on or below the ground surface. There is a moderate to high possibility of finding these sites within undisturbed portions of the activity area. This possibility will increase within 200m of a water source.

Earth features can be rings of burnt clay which indicate that camp fires have burnt in that location, or they can be areas of raised ground, where successive camping and occupation episodes have produced a mound. Within the geographic region these site types have usually been found to occur on gently sloping to flat ground within 500m of waterways. The entirety of the activity area is within 500m of waterways and there are portions of the activity area that are on flat to gently sloping ground. Due to the number of these sites within 5 km of the activity area and the presence of landforms on which they have been previously recorded, there is a moderate to high possibility of finding this site type in undisturbed parts of the activity area.

Other sites that occur within the geographic region but not within 5 km of the activity area are; art sites, quarries, historical places, stone features and burials.

Quarries are sites where Aboriginal people collected and worked stone from rocky outcrops. These are generally found on slopes where erosion has exposed the stone beneath. This often occurs on slopes above creeks and rivers, on the sides of old volcanoes and on ridges. Stone quarries have been located within the rail corridor to the south. There is a moderate likelihood of finding this site type within the proposed activity area anywhere that suitable outcrops of stone occur.

Stone features are places where Aboriginal people have positioned stones in a deliberate shape or pattern. Very little is known about the original use of these sites as they generally stopped being used after European contact. The majority of these sites occur in western Victoria, particularly on the volcanic plains where basalt boulders are abundant. There is a low chance of these sites occurring within the activity area due to the distance to the basalt plains.

Aboriginal historical places are places that are significant because of their association with Aboriginal people. These can include mission stations, places where Aboriginal people have worked, supply depots, cemeteries, places of conflict and places associated with significant individuals. These may or

may not be associated with archaeological remains. There is a very low possibility of finding these sites within the activity area as none have been identified during the historic search or the land-use history.

Art sites are places where people have created rock art including stencils, prints and drawings within rock shelters and engravings within limestone caves. The possibility of finding this site type depends on shelters and caves occurring within the activity area. From the background research undertaken, there do not appear to be any shelters or caves within the activity area.

While mortuary customs were varied across Victoria, burial was a common practice. These usually consist of the remains of one or two people but large cemeteries have also been located. Burials are usually found during the course of ground disturbance or through erosion. They can be located within nearly every kind of landscape but are usually found in association with water sources and other site types.

Another form of burial that occurs within the geographic region are mortuary burial trees. These trees contain hollows into which disarticulated human remains and grave goods are placed. Both recorded instances of this type of burial in the region occurred in Red Gum trees. Red Gum trees are not common within the activity area (EVC20 and 175), however there is still a possibility of finding this site type within the activity area within other species of mature tree.

Most importantly, there is the potential for Aboriginal archaeological sites to be present in relatively undisturbed portions of the activity area. As the activity area crosses a number of creeks and small waterways there is the possibility of locating cultural material. Previous research has shown that 80% of all known Aboriginal sites occur within 200m of a source of potable water (Canning, 2003: 262).

Based on our current knowledge of the activity area, and the known distribution of archaeological sites, both within the geographic region and within 5 km of the activity area, the following predictive statements can be made:

- Scarred trees are highly likely to occur anywhere within the activity area where remnant native trees of an appropriate age survive. There is a high possibility of these occurring on the hills, slopes, creekline terraces and alluvial plains.
- Low density artefact scatters are likely to occur within the activity area, decreasing in likelihood with distance from water. Artefact scatters may be located in both disturbed and undisturbed contexts.
- Earth features are likely to occur, within 500m of water, in undisturbed parts of the activity area. There is a high possibility of locating these on the alluvial plains and creekline terraces, a moderate possibility on the grassy plains and a low possibility on steep hills and slopes.
- Mortuary trees could possibly occur within the activity area. The highest likelihood of finding these trees occurs on creekline terraces and hills where Red Gum trees are common. However, it is possible that mortuary trees could occur in other tree types. Therefore, there is a possibility of finding mortuary trees anywhere that there are trees of an appropriate age and size.

5.2. STANDARD ASSESSMENT

5.2.1. Standard Assessment Methodology

A standard assessment was conducted for this CHMP involving a surface archaeological survey. A survey may be able to locate Aboriginal archaeological sites on the surface; however it is generally unlikely that it will locate sub-surface archaeological deposits unless a suitable cutting and/or exposures are available.

The specific aims of the Aboriginal archaeological survey were as follows:

- To determine if any Aboriginal archaeological sites are located within the activity area;
- To identify areas of Aboriginal archaeological sensitivity (potential archaeological deposits or PADs); and
- To determine whether a program of sub-surface testing would be required, and hence whether a complex CHMP would be needed for the activity area.

The methodology for the survey was informed by the results of the desktop assessment (Section 5), as well as the archaeological predictive model (Section 5.2.3).

A systematic surface survey was employed across the activity area. The activity area was surveyed using a pedestrian transect methodology; A fieldworker can effectively scan 1 metre to either side of them whilst walking transects (Burke and Smith, 2004: 65). Therefore, if 6 field workers were to walk transects of the activity area at 2 metre spacing, an approximate width of 12 metres would be covered per transect (as represented in the Survey Transect Maps).

The field survey was carried out by a total of six people over three days on the 08th-09th February. The field survey for the additional areas was carried out by three people over one day (14th August 2012). The percentage of ground surface visibility was recorded throughout the survey. Evidence of prior ground disturbance as well as any areas of potential archaeological sensitivity were closely inspected and recorded during the survey. A photo log was kept in order to record the conditions encountered within the activity area (i.e. areas of prior disturbance and/or areas of potential archaeological sensitivity). GPS points were taken to mark areas of potential archaeological sensitivity (see Section 5.2.3).

There were no previously recorded sites located within the activity area. Therefore, the survey would attempt to locate any previously unrecorded Aboriginal archaeological sites and identify areas of potential archaeological sensitivity.

As the desktop assessment determined there was a probability for mortuary trees to be present within the activity area, **all** hollow-bearing trees of an appropriate age within the activity were recorded. Three categories were used in the field in order to classify the likelihood of each hollow tree containing burial remains:

Category 1: Requires further examination. Hollow openings are suitably large to put human remains through; the tree is obviously mature and large in girth (excess of 4 m).

Category 2: Requires further examination, the hollow is large enough to pass bone/human remains through and the tree is considered to be > 150 years, but the age of the tree needs to be confirmed by an arborist, as the age is unclear.

Category 3: Does not require further examination. Hollows are either extremely small (<10cm diameter), contain fresh looking breaks on branches, or the tree is far too small in girth to be mature (i.e. less than approximately 2m in girth). Landscape position was also taken into consideration (for example trees on a creekline will grow faster than those away from a creekline).

Other factors taken into consideration include whether or not the breaks on the branches (all hollows are where branches have broken off) are fresh and have sap/discolouration around them (relatively fresh) or whether they are bleached (relatively old). Also considered was whether the broken branch was sitting beside the tree and its condition; furthermore, hollows around tree bases are not suitable for burials (although all were checked for human remains).

For those trees which require additional examination (specifically Category 1 and Category 2 trees), an arborist was employed to assist in eliminating trees from the inspection program which are introduced and not endemic to the activity area. This was undertaken by Tim Cameron on the 06 and 07 March 2012. Non-endemic species (even if native Australian trees) would usually post-date European contact, and would (on the balance of probabilities) not have been old enough to have been used as mortuary trees in the period in which this practice was happening and/or when the practice ceased to be undertaken (circa 1850-1870). All non-endemic species would be considered to not contain human remains.

For those hollow trees which are considered endemic by the arborist and dated to an appropriately mature age (>150 years old), and where the hollow was located high on the tree's trunk (i.e. unable to be inspected from the ground), the proposed method to inspect the hollow in the trees is to use a flexible camera on a long 'cable' (such as those used to inspect pipes or drains, also known as an endoscope camera) to look down inside the relevant hollow to confirm whether or not it contains human remains or grave goods. This final stage was undertaken on the 19 March 2012, and included Claire St George and Shaun Canning (ACHM), John Harper (VicRoads), Sean Fagan and Tammy (Wadawurrung representatives) as well as Tim Cameron and Ben Kenyon (Homewood Consulting).

5.2.2. Results of the Ground Survey

5.2.2.1. General Observations

A standard assessment involving a survey of the activity area was undertaken by Rebecca McMillan and Jason Gatty (Archaeologists, ACHM) along with Jodie McRedmond, Ron Arnold, Chris Fry and Joshua Berick (Wadawurrung representatives) on the 08 and 09th February 2012. The additional areas were examined by Vicki Vaskos (Archaeologist, ACHM) and Joshua Berick and Albert Fagan (Wadawurrung) on 14 August 2012.

The ground surface of the activity area was inspected by the field team walking in regularly spaced transects. Notes and photographs were taken throughout the survey. Artefact locations were to be recorded using a Trimble Juno differential GPS.

Weather conditions during the survey ranged from cool and sunny to cool and cloudy with a maximum temperature over the two days reaching approximately 24^o Celcius. Weather conditions during the survey of the additional areas were cold and showery with a maximum temperature of 8^o Celcius. Ground surface visibility across a majority of the activity area was extremely poor (<10 per cent) due to dense grass cover but portions of the ground surface were exposed due to stock movement, ploughing and road construction. The activity area incorporates the existing road reserve of the Western Highway, as well as portions of the side roads and privately owned properties to the north and south of the road reserves. A large number of trees were present within the road reserves

of the Western Highway. However a majority of these trees were either introduced species or immature native trees. Only a small number of mature native trees of an appropriate age to be pre-European were identified during the survey.



Figure 9: Example of ground surface visibility within a road reserve to the north of the Western Highway



Figure 10: Example of ground surface exposure within a paddock associated with a swamp deposit

Approximately 10% of the activity area was effectively surveyed due to limitations imposed by ground surface visibility.

The physical environment of the activity area was dominated by flat to slightly undulating plain in the west which transitioned into a north-east to south-west trending spur formation in the west. The plain was dissected by a number of unnamed waterways and Fiery Creek. These waterways typically followed a north-east to south-west course and originated from the spur formation that intersects with the western portion of the activity area.



Figure 11: View of a paddock within the activity area to the south of the Western Highway. Photo taken facing south



Figure 12: View of native vegetation within the road reserve to the north of the Western Highway on top of the spur formation in the west of the activity area. A vehicle access track can also be seen in the photo. Photo taken facing west.

Two low lying swampy areas were also noted within the activity area during the survey. The first was located on the slightly undulating plain in the west of the activity area and in proximity to Crockers

Lane. This swamp appears to have been dissected by the construction of the existing alignment of the Western Highway as it extends to the north and south of the road. The second swamp was located on the spur formation in the east of the activity area, to the north of the existing alignment of the Western Highway and south of Martins Lane.



Figure 13: View of the swampy region to the north for the Western Highway in proximity to Crockers Lane. Photo taken facing west.

A number of artificial dams were also observed during the survey. A majority of these dams had been excavated into the plain in line with natural waterways and depressions in the landscape. Opportunistic observations of the sediment profile where it had been exposed during the excavation of these dams revealed medium brown sandy silt overlying pale brown silty clay. Four surface isolated artefact occurrences were recorded in close proximity to one of these dams (specifically Eurambeen-Streatham Road Eurambeen 4 IA, Eurambeen-Streatham Road Eurambeen 5 IA, Eurambeen-Streatham Road Eurambeen 6 IA and Eurambeen-Streatham Road Eurambeen 7 IA). Large, modern shell fragments were also observed scattered around this same dam, in association with the isolated artefacts and a spoil heap that had been created during its construction.



Figure 14: View of the sediment profile exposure on the western wall of the dam located within the activity area. Photo taken facing west,

5.2.2.2. Survey Results

In total, 11 isolated artefact occurrences and two artefact scatters were located during the survey. In general, the location of these sites conformed to a pattern of close proximity to waterways and particularly elevated areas in association with these waterways. A number of sites were also located within close proximity to swampy areas. However, all the sites located were situated in ground surface exposures, which as a whole were uncommon across the activity area due to dense vegetation cover. The locations and content of each of these sites are discussed in greater detail below.

Photographic images of each site, including isolated artefacts are provided in Appendix 4, and photographic images of each hollow tree is provided in the Arborist's report in Appendix 5.

VAHR No. and Name	Coordinates (MGA Zone 55)	Cultural Material & Context
Fiery Creek Eurambeen 1 IA VAHR 7523-0268	[REDACTED]	An isolated quartzite flake Located at the base of an unnamed waterway
Fiery Creek Eurambeen 2 IA VAHR 7523-0269	[REDACTED]	An isolated quartz flake Located at the base of an unnamed waterway
Fiery Creek Eurambeen 4 VAHR 7523-0270	[REDACTED]	Five quartz flakes Located on the top of a small rise to the east of an unnamed waterway
Fiery Creek Eurambeen 5 IA VAHR 7523-0271	[REDACTED]	Three quartz flakes Located midway up a rise to the east of an unnamed waterway
Fiery Creek Eurambeen 6 IA VAHR 7523-0280	[REDACTED]	An isolated quartz flake Located on the top of a rise to the east of an unnamed waterway
Fiery Creek Eurambeen 7 IA VAHR 7523-0296	[REDACTED]	An isolated silcrete flake Located on a slight rise within 40 m south of Fiery Creek
Eurambeen-Streatham Road Eurambeen 1 VAHR 7523-0279	[REDACTED]	Six quartz flakes Located on a floodplain within an area of exposure
Eurambeen-Streatham Road Eurambeen 4 IA VAHR 7523-0273	[REDACTED]	An isolated crystal quartz flake Located on a small rise adjacent to a dam
Eurambeen-Streatham Road Eurambeen 5 IA VAHR 7523-0282	[REDACTED]	Two quartz flakes Located on the surface of the eroded banks of a dam
Eurambeen-Streatham Road Eurambeen 6 IA VAHR 7523-0272	[REDACTED]	Three quartz flakes Located in the eroded western and northern banks of a man-made dam
Eurambeen-Streatham Road Eurambeen 8 IA VAHR 7523-0274	[REDACTED]	An isolated quartz flake Located on the mid-slope to the east of a swampy depression.
Eurambeen-Streatham Road Eurambeen 9 IA VAHR 7523-0275	[REDACTED]	An isolated quartz flake Located on a mid-slope to the west of a swampy depression
Western Highway Eurambeen 2 IA VAHR 7523-0276	[REDACTED]	Two quartz flaked fragments Located on the mid-slope to the west of a swampy depression

Table 5: Aboriginal sites identified within the Activity Area during the survey (details removed from public exhibition copy)

All thirteen sites were recorded in the western extent of the activity area, around Fiery Creek and the Eurambeen-Streatham Road intersection (see Map 4).

Low ground surface visibility hindered the ability to determine the extent of many of the sites – as many were eroding out of slopes near waterways, there is also the belief that the sites may continue within a sub-surface context. As such, it is not possible to determine with any accuracy the nature, extent and significance of any of these twelve sites. Based on the very small artefact sample, very little can be said about the sites beyond the fact that Aboriginal people were clearly using the landscape. A more in depth interpretation of these sites can only be achieved with additional testing.

A total of two hollow bearing trees were identified during the survey which required a climbing inspection (See Table 6 below). Both trees were unable to be inspected from ground level due to the height of the hollows. These two hollows were located within trees that were judged to be of an appropriate age to pre-date European arrival in Australia or to have been mature shortly after this time. Each tree was assigned a category based on its potential to have been used as a mortuary tree (these categories have been defined in the methodology section of this report).

VAHR No. and Name	Description of Tree	Description of Hollow
Hollow Tree 116	<i>Eucalyptus aromaphloia</i> Scent-bark Mature tree, poor health and poor structure	The hollow contained fragments of broken wood and the base was covered in fresh leaf litter and dirt
Hollow Tree 119	<i>Eucalyptus obliqua</i> Messmate Stringybark Mature tree, dead and poor structure	The hollow base was covered with extensive leaf litter.

Table 6: Hollow bearing trees located during the survey



Figure 15: Hollow Tree 116



Figure 16: Hollow Tree 119

Both Hollow Tree 116 and 119 were found to contain leaf litter and dirt at the base of each hollow. There was no evidence of human burials or mortuary goods within either tree.



Figure 17: Endoscope equipment used for climbing hollow tree inspections



Figure 18: An example of the type of image produced from utilising the endoscope in the hollows. Note the clarity of image - wood grain and leaves are clearly visible

The following maps have been removed from the public exhibition version of this document:

Map 4: Survey Coverage Map showing newly recorded sites

Map 5: Survey Transects Map 1 (6 people / 12m transect width) (removed from public exhibition copy)

Map 6: Survey Transects Map 2 (6 people / 12m transect width) (removed from public exhibition copy)

Map 7: Survey Transects Map 3 (6 people / 12m transect width) (removed from public exhibition copy)

Map 8: Survey Transects Map 4 (6 people / 12m transect width) (removed from public exhibition copy)

5.2.3. Conclusions from the Standard Assessment

The activity area was inspected for the presence of archaeological sites and areas of cultural heritage sensitivity.

Ground surface visibility throughout the alignment was considered to be extremely poor (< 10 per cent) due to dense grass cover but portions of the ground surface were exposed due to stock movement, ploughing and road construction. The activity area incorporates the existing road reserve of the Western Highway, as well as portions of the side roads and privately owned properties to the north and south of the road reserves. A large number of trees were present within the road reserves of the Western Highway. However a majority of these trees were either introduced species or immature native trees. Only a small number of mature native trees of an appropriate age to be pre-European settlement were identified during the survey.

A total of 13 new sites (11 isolated artefacts and 2 artefact scatters) were located as a result of the standard assessment. The raw material type was dominated by white quartz, with one crystal white quartz flake and one quartzite flake also recorded. Low ground surface visibility hindered the ability to determine the extent of these sites – as many were eroding out of slopes near waterways, there is also the belief that the sites may continue within a sub-surface context. As such, it is not possible to determine with any accuracy the nature, extent and significance of any of these sites without additional complex testing. Based on the very small artefact sample, very little can be said about the sites beyond the fact that Aboriginal people were clearly using the landscape. A more in depth interpretation of these sites can only be achieved with additional testing.

As the desktop assessment determined there was a probability for mortuary trees to be present within the activity area, **all** hollow-bearing trees of an appropriate age within the activity were recorded. A total of two climbing hollow bearing trees were also located during the survey. No human burials or mortuary goods were located within either tree.

There were no culturally modified scarred trees, culturally modified charcoal, caves, rock shelters or cave entrances located within this section of the activity area.

5.2.4. Discussion / Summary

The activity area was inspected for the presence of archaeological sites and areas of cultural heritage sensitivity. A total of 13 new sites (11 isolated artefacts and 2 artefact scatters) were located as a result of the standard assessment.

The results of the survey, including the assessment of disturbance and archaeological potential, were reached in consultation with the Wadawurrung representatives who participated in the survey.

Based on the lack of ground surface visibility and the existence of a number of newly recorded sites within the activity area, **a complex CHMP is required** in order to accurately determine the nature, significance and extent of cultural heritage material within the activity area.

A proposed sub-surface testing methodology has been formulated as follows:

1. A targeted approach focussing on areas of cultural sensitivity, specifically within a 200 m buffer of waterways to the width of the activity area alignment and;
2. Around previously recorded surface scatters and isolated artefacts within the activity area in order to determine the nature, significance and extent of their cultural content.

The testing approach will include a series of Shovel Test Probes (STPs) and 1 m x 1 m test pit excavations as required.

PART 3: OTHER INFORMATION

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APPENDICES

APPENDIX 1 – NOTICE OF INTENTION TO PREPARE A CULTURAL HERITAGE MANAGEMENT PLAN

Notice of Intent to prepare a Cultural Heritage Management Plan for the purposes of the Aboriginal Heritage Act 2006

This form can be used by the Sponsor of a Cultural Heritage Management Plan to complete the notification provisions pursuant to s.54 of the *Aboriginal Heritage Act 2006* (the 'Act').

SECTION 1 – Sponsor Information

Name of Sponsor: VicRoads Western Highway Project

Business Name: Roads Corporation (VicRoads)

Postal Address: PO Box 148 Wendouree, VIC, 3355

Telephone Number: (03) 5309 1074 (Colin Scheggia) Fax number: (03) 5309 1099

Mobile: 0419 896 591

Email Address: colin.scheggia@roads.vic.gov.au

SECTION 2 – Description of proposed activity and location

- Provide a project name: Western Highway Project (Beaufort to Ararat)
- List the relevant municipal district/s (ie. Local Council or Shire): Pyrenees Shire Council AND Rural City of Ararat Council
- Clearly identify the proposed activity for which the cultural heritage management plan is to be prepared (ie. mining, road construction, housing subdivision):

This project involves the construction of a dual carriageway highway between the townships of Beaufort and Ararat. This Notice of Intent relates to the portion of the project located within the Martang Pty Ltd area of responsibility (ie. Flery Creek to Ararat township). A separate CHMP will be prepared for the project portion relevant to the Wathaurung Aboriginal Corporation's area of responsibility (ie. Beaufort township to Flery Creek).
- Clearly identify the area (such as listing cadastral information, attaching a copy of a title search, or indicating the street address):

Refer to attached map
- Attach a map (to scale, with a north arrow and indicating the municipal district - if any) that clearly identifies the area and boundaries in respect of which the cultural heritage management plan is to be prepared.
 - Please ensure the map refers to existing roads and features, rather than proposed roads and features.
 - Please ensure the map has the activity area outlined on it.
 - The map should have a legend, north arrow, scale, at least 3 readily identifiable geographical locations (such as road intersections, parcel boundaries, or road/river crossings), and should state the map's projection.

SECTION 3 – Cultural Heritage Advisor

If you would like a Cultural Heritage Advisor (a person who has the qualifications or experience [or both] required under section 189 of the Act) notified of the status of this Cultural Heritage Management Plan, please provide the following details for that person:

Ricky Feldman	Andrew Long & Associates Pty Ltd	ricky@alassoc.com.au
Name	Company (if any)	Email address

SECTION 4 – Expected start and finish date for the cultural heritage management plan

Start date: 19 / 7 / 2011 Finish date: 30 / 9 / 2012

SECTION 5 – Why are you preparing this Cultural Heritage Management Plan?

- ☒ A Cultural Heritage Management Plan is required by the Aboriginal Heritage Regulations 2007

What is the High Impact Activity listed in the regulations? Constructing specified Items of infrastructure (S44(1)(a) a road with a length exceeding 100 metres)

Is any part of the activity in an area of cultural heritage sensitivity, as listed in the regulations? **YES** / NO
Please Circle

- ☐ Other reasons (Voluntary)
- ☒ An Environmental Effects Statement is required
- ☐ A Cultural Heritage Management Plan is required by the Minister for Aboriginal Affairs

SECTION 6 – List the relevant registered Aboriginal parties (if any)

This section should only be completed where there is a registered Aboriginal party in relation to the Plan

Martang Pty Ltd

SECTION 7 – Signature of Sponsor

I certify that to the best of my knowledge and belief that the information supplied is correct and complete.

Signed:


[Sponsor]

Date: 18/7/11

SECTION 8 – Notification Checklist

- ☒ Ensure appropriate attachment/s are completed and attached to this notification (see section 2 of this form).

Please ensure this notice and all attached items are sent to the:

Deputy Director
Aboriginal Affairs Victoria
Department of Planning and Community Development
GPO Box 2392
MELBOURNE VIC 3001
Email: vahr@dpcd.vic.gov.au

Notes:

- Ensure that any relevant registered Aboriginal party/s is also notified. A copy of this notice may be used for this purpose. (A registered Aboriginal party is allowed up to 14 days to provide a written response to a notification specifying whether or not it intends to evaluate the management plan)
- In addition to notifying the Deputy Director and any relevant registered Aboriginal party/s, a sponsor must also notify any owner and/or occupier of any land within the area to which the management plan relates. A copy of this notice may be used for this purpose.

APPENDIX 2 – NOTICE FROM THE RELEVANT REGISTERED ABORIGINAL PARTY TO THE SPONSOR SPECIFYING WHETHER IT INTENDS TO EVALUATE THE PLAN



28th July 2011

VicRoads Western Highway Project
Roads Corporation (VicRoads)
PO Box 148 Wendouree
VIC 3355

Dear Colin,

NOTICE OF INTENT TO PREPARE A CULTURAL HERITAGE MANAGEMENT PLAN

I am writing to acknowledge your written notice of intention to prepare a management plan, received on the 22nd July 2011, for the Western Highway Project, Beaufort to Ararat.

Wathaurung Aboriginal Corporation (WAC) trading as Wadawurrung is the Registered Aboriginal Party (RAP) for the proposed activity area and will:

1. Evaluate the plan when it is completed and
2. Pursuant to s.60 of the *Aboriginal Heritage Act 2006* give notice that the WAC will do all or any of the following-
 - (a) Consult with the sponsor in relation to the assessment of the area for the purposes of the plan.
 - (b) Consult with the sponsor in relation to the recommendations to be included in the plan.
 - (c) Participate in the conduct of the assessment.

To aid in the development of the CHMP, the following process is recommended as a minimum:

At least one pre-planning meeting with Sponsor/Cultural Heritage Advisor to determine process and methodology.

One post-investigation meeting to develop appropriate management recommendations.

And for the evaluation of the CHMP, the following is requested:
2 hard copies and 1 electronic (PDF or word) copy on disc to the Wadawurrung Office for evaluation

For further information regarding this advice, please contact

Bonnie Fagan on:
(03) 4308 0420
0407 175 463
bonnie@wathcorp.com.au
Yours sincerely,

Bonnie Fagan
Cultural Heritage Co-ordinator
Wathaurung Aboriginal Corporation
trading as: Wadawurrung

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APPENDIX 3 – GLOSSARY

Aboriginal Cultural Heritage means Aboriginal Places, Aboriginal Objects and Aboriginal Human Remains that are connected with the cultural life of the Aboriginal people of the activity area and that are of particular significance to those Aboriginal people in accordance with their traditions and customs.

Aboriginal Human Remains means the whole or part of the bodily remains of an Aboriginal person but does not include a body, or the remains of a body, buried in a public cemetery (within the meaning of the *Cemeteries and Crematoria Act 2003 (Vic)*) that is still used for the interment of human remains.

Aboriginal Place means a site, place or area of land or of water that is of Cultural Heritage Significance to the Aboriginal people of Victoria.

Cultural Heritage means Aboriginal Cultural Heritage.

VicRoads means the Roads Corporation and its agents (including contractors).

NB. All terms which have a defined meaning under the *Aboriginal Heritage Act 2006 (Vic)* or *Aboriginal Heritage Regulations 2007 (Vic)* have that same meaning when used in this Plan. Nothing in this Plan is intended to replace or modify any of the obligations or procedures required to be followed under the provisions of the *Aboriginal Heritage Act 2006 (Vic)* or *Aboriginal Heritage Regulations 2007 (Vic)*.

APPENDIX 4 – OTHER INFORMATION

PHOTOGRAPHS

Below are representative photographs from each newly recorded site within the activity area.



Figure 19: Quartz artefact which comprises Fiery Creek 1 IA



Figure 20: Quartz flake which comprises Fiery Creek Eurambeen 2 IA



Figure 21: An example of two quartz flakes located within Fiery Creek Eurambeen 4



Figure 22: An example of one of the quartz flakes located at Fiery Creek Eurambeen 5 IA



Figure 23: Quartz flake comprising Fiery Creek Eurambeen 6 IA



Figure 24: Quartzite flake which comprises Fiery Creek Qurambeen 7 IA.



Figure 25: General location of Eurambeen-Streatham Road Eurambeen 1 in a ground surface exposure to the north of Eurambeen-Streatham-Road. The road can be seen in the background. Photo taken facing south-west.



Figure 26: One of the six artefacts comprising Eurambeen-Streatham Road Eurambeen 1: a quartz medial flake



Figure 27: A quartz core recorded in Eurambeen-Streatham Road Eurambeen 1



Figure 28: Dam wall in which Eurambeen-Streatham Road Eurambeen 5 IA was located. Photo taken facing east



Figure 29: Quartz flake which comprises Eurambeen-Streatham Road Eurambeen 4 IA



Figure 30: Location of Eurambeen-Streatham Road Eurambeen 6IA within the western wall of the dam. Photo taken facing north-east



Figure 31: A quartz broken flake located within Eurambeen-Streatham Road Eurambeen 6 IA



Figure 32: One of the quartz flaked fragments which comprises Eurambeen-Streatham Road Eurambeen 6 IA



Figure 33: Quartz flake comprising Eurambeen-Streatham Road Eurambeen 8 IA



Figure 34: Ground surface visibility at the location where Eurambeen-Streatham Road Eurambeen 9 IA was found



Figure 35: Location of Western Highway Eurambeen 2 within a ground surface exposure associated with recent filling. Photo taken facing south-east.



Figure 36: Two broken quartz flakes which comprise Western Highway Eurambeen 2.