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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 CULTURAL HERITAGE MANAGEMENT PLAN: FIERY CREEK TO ARARAT:

STANDARD ASSESSMENT REPORT

CULTURAL HERITAGE MANAGEMENT PLAN NUMBER: 11812

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
Author(s):	Claire St George, Vicki Vaskos, Jakub Czastka, Bradley Ward, Fiona Schultz and Laura Donati

Report Date: 30 March 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 *Aboriginal Heritage Act 2006*
AHR 2007	Victorian *Aboriginal Heritage Regulations 2007*
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 Fiery Creek and Ararat) 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 passes through a number of areas of cultural heritage sensitivity (specifically named waterways, such as Fiery Creek, Middle Creek, Billy Billy Creek and Hopkins River [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. Of these Scarred trees are the most common (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 area of the geographic region and the density of sites within the area.

Of the 121 sites recorded within 5km of the activity area, 53 are artefact scatters, 42 are scarred trees, 18 are earth features, and there is one historical place, art site and quarry. In addition to these, there are five composite sites that consist of more than one component. There are three art site/artefact scatters and two historical place/artefact scatters. Two earth features and a scarred tree were located within 50 m of the activity area and two scarred trees and one artefact scatter were located between 50m and 200m of the activity area. In addition to the recorded sites, a mortuary tree located through ethnographic research is reported to be located at 'Gorinn' which is within 500m of 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. 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.
- Quarry sites may occur anywhere that there is a suitable raw material outcrop.

A standard assessment involving a survey of the activity area was undertaken over three time periods - Wednesday 18th January to Wednesday 25th January; Monday January 30th to Wednesday 1st of February and Monday 13 August 2012. Those involved in the surveys included Jakub Czastka, Bradley Ward, Jason Gatty and Vicki Vaskos (Archaeologists, ACHM Vic.) as well as Phillip Chatfield, Brian Delaney, Lionel Chatfield, Ronald Chatfield, Tylah Merriman (Martang 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) and no mortuary trees were recorded within the activity area.

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

A total of five new sites (four scarred trees and one artefact scatter) were located as a result of the standard assessment.

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 Martang 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 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 Martang 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 Martang and AAV on 18 July 2011. The Martang replied on the 25 July 2011 indicating their intent to evaluate the CHMP. AAV assigned this project with CHMP Number 11812. . An amended NOI was submitted to AAV to cater for changes to the boundary of the activity area on 16 August 2012.

The owners/occupiers of the land were also provided copies of the Notice on the 12 December 2011 and the amended areas 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 conducted the background research; Jakub Czastka, Bradley Ward and Vicki Vaskos undertook the fieldwork and Claire St George and Vicki Vaskos wrote the report. Laura Donati completed the background historical research.

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 of this CHMP is:

1. 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:

2. 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 a qualified cultural heritage advisor and

archaeologist in accordance with the requirements of Section 189 (1) of the *Aboriginal Heritage Act* 2006.

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

3. 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.

4. 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 Martang Pty Ltd.

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

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

Copies of written notices from the Registered Aboriginal Party to VicRoads specifying whether or not they intend to evaluate this Plan are 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 and/or organisations (see following page) –

Property Address (removed from public exhibition copy)	Name
[redacted]	[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

Table 1: Owners and Occupiers

1.4. LOCATION OF THE ACTIVITY AREA

The activity area is located along the existing Western Highway between Fiery Creek and Ararat. Fiery Creek is located approximately 56 km west of Ballarat (see Map 1). The activity area is located within the Pyrenees Shire and Ararat Rural City Council and incorporates the Parishes of Ararat, Langi-Ghiran, Gorrinn, Eurambeen, Woodnaggerak, Buangor and Colvinsby.

The total length of the activity area including off ramps and access roads is approximately 40 km and the extent of features 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

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 Fiery Creek and Ararat) 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

VicRoads proposal is to duplicate the Western Highway from Beaufort to Stawell. This section stretches from Fiery Creek, west of Beaufort to east of Heath St, east of Ararat a length of approximately 33.5km. 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 roadworks, most will involve widening adjacent to the existing highway and a bypass at Buangor.

Each carriageway will have two 3.5m wide traffic lanes, 1m wide inner shoulder and 3m wide outer shoulder. There will be an interchange north of Buangor at Peacocks Rd. Bridges will be constructed over the railway line west of Buangor, at Fiery Creek, Hopkins River, Middle Creek, Billy Billy Creek and Charliecombe 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 1: Image of Western Highway where duplication works are yet to commence

Figure 2: On the left side 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)

3. EXTENT OF ACTIVITY AREA

3.1. ACTIVITY AREA LOCATION AND DESCRIPTION

The activity area is located between Fiery Creek and Ararat and is approximately 40 km in length including off-ramps and access roads, 50 – 150 m wide along the highway, and up to 800 m wide at interchanges. Fiery Creek is located approximately 170 km west of the Melbourne CBD. The activity area is primarily located within the road reserves of the Western Highway between Fiery Creek and Ararat (see Map 2).

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 Western Highway road reserves. A large number of trees are present within the road reserves of the highway, and the alignment intersects with a number of creeks and rivers, specifically Fiery Creek, Middle Creek, Billy Billy Creek and Hopkins River, as well as a number of unnamed waterways.

3.2. ACTIVITY AREA BOUNDARY AND CADASTRAL DESCRIPTION

The footprint of 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 40 km. The activity area is located within the Pyrenees Shire and Ararat Rural City Council.

A total of 213 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
20B	20B~18\PP2020	P103377
3		TP607782
4		TP607782
1		TP606040
2		TP606040
2	LP94198	
1		TP747737
2		TP747737
3		TP747737
4A	4A~D/PP2020	TP701544
2A	2A~D/PP2020	TP690168
1	1~D/PP2020	TP442358
5	5~D/PP2020	TP442358
6	6~D/PP2020	TP442358
7	7~D/PP2020	TP442358
8	8~D/PP2020	TP442358
1M	1M~18\PP2020	TP417470
1	LP4198	
1		TP901889
1		TP901251
2		TP901251
2		TP443381

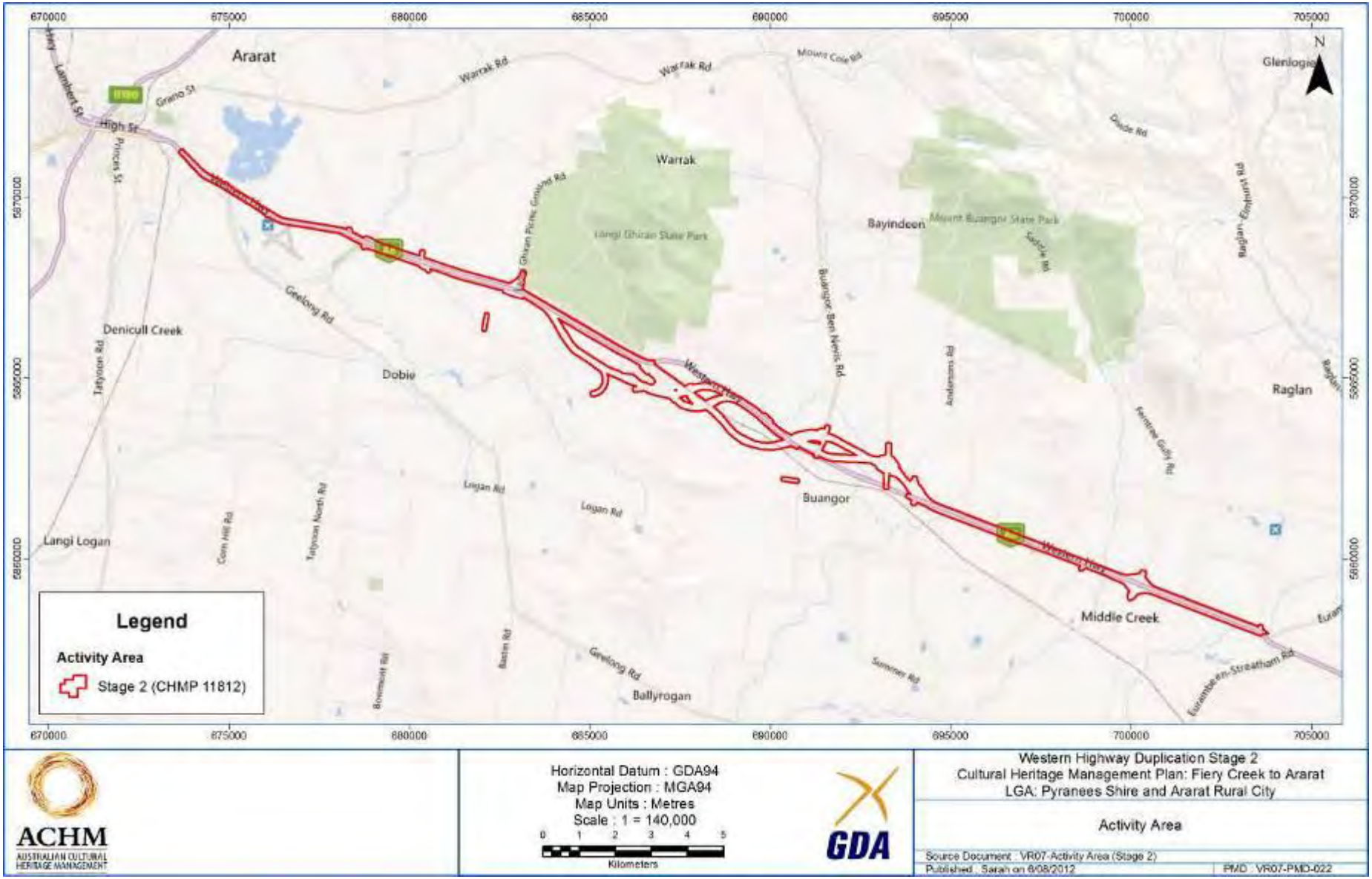
Lot / Allotment Number	Plan / SPI Number	Parcel Number
3		TP443381
25A	25A~18\PP2020	P103370
1P	1P~18\PP2020	P103380
1		TP125691
3	PS525784	
1		TP380756
2		TP238516
1J	1J~18\PP2020	TP263049
1L	1L~18\PP2020	TP267842
2	2\PS614877	
1	1\PS525784	
1		TP443531
14A	14A~31\PP2964	P105127
14C	14C~31\PP2964	P104235
1K	1K~18\PP2020	TP259613
10A	10A~25\PP2964	NUA
1		TP106514
12	12~25\PP2964	NUA
1		TP103791
14	14~25\PP2964	NUA
11		TP840560
5	5~26\PP2694	NUA
5A	5A~26\PP2694	NUA
6C	6C~26\PP2694	P104382
2	2~32\PP2694	NUA
3	3~32\PP2694	TP284852
9	9~32\PP2694	TP540858
8	9~32\PP2694	TP540858
1	1~3\PP2710	TP281139
2	2~4\PP2710	TP342332
3	3~4\PP2710	TP301759
7	7~4\PP2710	TP301759
6	6~4\PP2710	TP301759
8	8~4\PP2710	TP301759
9	9~4\PP2710	TP301759
9	9~3\PP2710	TP413616
10	10~4\PP2710	TP301759
11	11~4\PP2710	TP430230
12	12~4\PP2710	TP430230
6A	6A~26\PP2964	P105123
6B	6B~26\PP2964	P104239
1		TP615996
1		TP423852
1		TP836104
4A	4A~24\PP2964	TP565020
1		TP856686
11A	11A~23\PP2964	NUA
7		TP607873
5		TP607873

Lot / Allotment Number	Plan / SPI Number	Parcel Number
6		TP607873
4		TP607873
1		TP607873
7		TP222003
6		TP222003
5		TP222003
4		TP222003
3		TP222003
2		TP222003
1		TP222003
2008	2008\PP2964	P385662
2007	2007\PP2964	P381774
1		TP607873
2		TP607873
7		TP222003
12	12~4\PP2710	TP30230
1		TP859335
1		TP858985
2		TP606078
7	7\PP2415	TP760694
5		TP666078
6		TP666078
8	8\PP2415	TP348344
1		TP848154
2		TP848154
3		TP848154
4		TP848154
5		TP848154
6		TP848154
4	4~1\PP2415	P108283
1		TP948154
3		TP948154
2		TP948154
6		TP948154
5		TP948154
3		TP751539
2		TP751539
1		TP751539
23	23\PP2415	TP741204
22	22\PP2415	TP566281
22A	22A\PP2415	TP741204
16	16\PP2415	TP286214
21	21\PP2415	TP286214
17C	17C\PP2415	TP286214
20	20\PP2415	TP286214
E	E\PP2415	TP435942
9		TP666078
10		TP666078
7		TP666078

Lot / Allotment Number	Plan / SPI Number	Parcel Number
5	5~1\PP2415	P103823
16A	16A\PP2415	P103824
17	17\PP2415	TP565642
17a	17A\PP2415	TP741211
F3	F3\PP2415	TP771217
F5	F5\PP2415	TP665705
K1	K1\PP2415	TP61510
19C	19C\PP2415	TP785254
19A1	19A1\PP2415	TP569789
18A	18A\PP2415	TP522869
2	PS540142	
1	PS540142	
19C	19C\PP2415	TP785254
4		TP828312
5		TP828312
38B	34B\PP2415	P103826
1		TP387975
19A3	19A3\PP2415	TP826832
19A1	19A1\PP2415	TP569789
19E	19E\PP2415	TP785254
J15	J~15\PP2415	TP785254
M	M\PP2415	TP785254
2	PS515795	
1	PS515795	
G	G\PP2243	NUA
12A	12A\PP5121	TP525281
15A	15A\PP5121	TP349571
34B 6	34B~6\PP2243	TP272590
34C 6	34C~6\PP2243	P104504
34A	34A~6\PP2243	TP272590
2	LP145209	
63 6	63~6\PP2243	TP772034
2	PS533930	
1		TP168309
2		TP849382
3		TP849382
4		TP849382
1		TP849382
23C	23~C\PP2243	TP425551
6		TP112444
3		TP112444
33 6	33~6\PP2243	
23B	33~6\PP2243	TP425551
52 6	33~6\PP2243	TP348245
22 6	33~6\PP2243	TP348245
22A 6	33~6\PP2243	TP416951
22C 6	33~6\PP2243	TP418050
23	23\TP247106	TP247106
24	24\TP247106	TP247106

Lot / Allotment Number	Plan / SPI Number	Parcel Number
1		TP380247
1		TP370837
15 6	15~6\PP2243	TP550847
3C 6	3C~6\PP2243	TP821391
3D 6	3D~6\PP2243	TP821391
3G 6	3G~6\PP2243	TP821391
3B 6	3B~6\PP2243	TP821391
6 A	6~A\PP2243	TP351770
1	PS446975	
2	PS446975	
114	114\2605	TP821391
12	A~12\PP3873	TP269465
13	A~13\PP3873	TP260415
B 13	B~13\PP3873	TP264782
29B	29B\PP3873	TP664248
29A1	29A1\PP3873	TP570080
30A4	30A4\PP3873	TP766758
30A3	30A3\PP3873	P104682
30A1	30A1\PP3873	TP292991
31A2	31A2\PP3873	TP64924
31A1	31A1\PP3873	TP284982
2	LP96676	
1	LP96676	
1		TP118726
108	108\PP2605	TP569149
107	107\PP2605	TP271664
97A	97A\PP2605	TP786386
97	97\PP2605	TP7317865
96	96\PP2605	TP7317865
95	95\PP2605	TP7317865
70D	70D\PP2605	TP7317865
70C	70C\PP2605	TP7317865
70B	70B\PP2605	TP781922
70A	70A\PP2605	TP373724
70E	70E\PP2605	TP874250
1		TP805219
10		TP805219
3		TP805219
23		TP805176
7		TP805176
8		TP805176
1		TP805176
20		TP805176
33		TP805176

Table 2: Cadastral Property Details



Map 2: Activity Area

4. DOCUMENTATION OF CONSULTATION

The Martang 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	Martang and Secretary, AAV	18.07.2011	Letter	Submission of Notice of Intent to Prepare a CHMP
Martang	VicRoads	28.07.2011	Letter	Notification of Martang's 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)	Tim Chatfield (Martang)	13.01.2012	Meeting	Inception Meeting with RAP
Jakub Czastka and Bradley Ward (ACHM)	Phillip Chatfield, Brian Delaney, Lionel Chatfield, Ronald Chatfield and Tylah Merriman (Martang)	18.01.2012 – 25.01.2012	In person	Standard Assessment
Claire St George and Shaun Canning (ACHM)	Tim Chatfield (Martang) and John Harper (VicRoads)	19.03.2012 and 20.03.2012	In person	Climbing Hollow Tree Inspection
Claire St George (ACHM)	John Harper (VicRoads)	30.03.2012	Email	Submission of Draft Standard CHMP
Vicki Vaskos (ACHM)	Tim Cameron and Matt Denn (Homewood Consulting); Ronald Chatfield and Darren Chatfield (Martang)	5.06.2012	In person	Climbing Hollow Tree Inspection
Grant Deeble (VicRoads) Shaun Canning (ACHM)	Tim Chatfield (Martang)	6.06. 2012	Meeting	Presentation of final results and initial discussions about complex assessment methodology
Erica Walther (ACHM)	Tim Chatfield (Martang)	9.07.2012	Email	Fieldwork booking
Vicki Vaskos (ACHM)	Ronald Chatfield and Tylah Merriman (Martang)	13.08.2012	In person	Standard Assessment of additional areas for investigation
Vanessa Flynn (ACHM)	Tim Cameron and Matt Denn (Homewood Consulting) and Phillip Chatfield and Tylah Merriman (Martang)	17.08.2012	In person	Climbing Hollow Tree Inspection

4.2. PARTICIPATION IN THE CONDUCT OF THE ASSESSMENT

Fieldwork for the standard component of this CHMP was undertaken on the 18th January through to 25th January; January 30th to 1st of February; 5 June and 13 August 2012 and was completed by Jakub Czastka, Vicki Vaskos and Bradley Ward (ACHM Archaeologists) along with Phillip Chatfield, Brian Delaney, Lionel Chatfield, Ronald Chatfield, Tylah Merriman (Martang representatives) and Tya Lovett (AAV).

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 Martang, 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, Martang 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 Martang, 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 ongoing interaction with the Martang, whose recommendations and assessments have been incorporated into this management plan though all its phases.

The Martang were briefed on the nature and extent of the proposed activity prior to the commencement of the desktop assessment. Following the desktop assessment, Martang 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 Martang, 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 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 2012 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

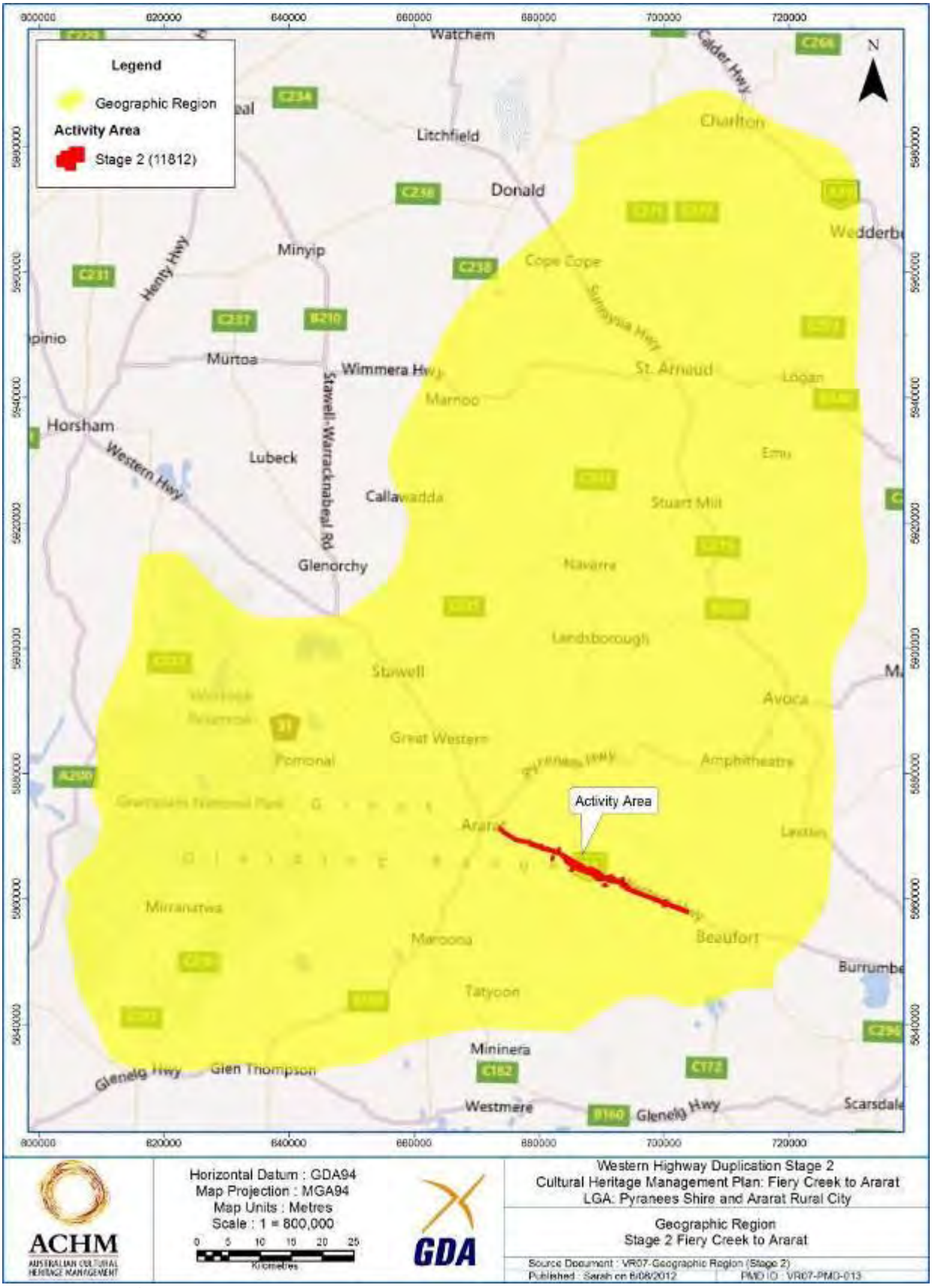
Geology and Geomorphology

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 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 palaesurface has been retained (DPI).

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 below).

VAHR No.	Site Name	Site Type	Location And Proximity To Activity Area
7523-0001	Gorinn 1	Earth Feature	Within 50m of the activity area, therefore within buffer zone
7523-0002	Gorinn 2	Earth Feature	Within 50m of the activity area, therefore within buffer zone
7523-0003	Gorinn 3	Earth Feature	Between 50m and 200m of the activity area
7523-0004	Gorinn 4	Earth Feature	Between 50m and 200m of the activity area
7523-0005	Mount Langi Ghiran	Art Site	Greater than 200m from the activity area
7523-0006	Challicum 1	Scarred Tree	Greater than 200m from the activity area
7523-0007	Challicum 2	Scarred Tree	Greater than 200m from the activity area
7523-0026	Broadbent 1	Earth Feature	Greater than 200m from the activity area
7523-0028	Grant 1	Earth Feature	Greater than 200m from the activity area
7523-0029	Grant 2	Earth Feature	Greater than 200m from the activity area
7523-0030	Tiley 1	Earth Feature	Greater than 200m from the activity area
7523-0031	Tiley 2	Earth Feature	Greater than 200m from the activity area
7523-0032	Morrison 1	Earth Feature	Greater than 200m from the activity area
7523-0033	Eurambeen East 1	Scarred Tree	Greater than 200m from the activity area
7523-0034	Eurambeen East 2	Scarred Tree	Greater than 200m from the activity area
7523-0035	Eurambeen East 4	Scarred Tree	Greater than 200m from the activity area
7523-0036	Eurambeen East 5	Scarred Tree	Greater than 200m from the activity area
7523-0037	Eurambeen East 6	Scarred Tree	Greater than 200m from the activity area
7523-0038	Eurambeen East 7	Scarred Tree	Greater than 200m from the activity area
7523-0039	Eurambeen East 8	Scarred Tree	Greater than 200m from the activity area
7523-0041	Beaufort West 1	Earth Feature	Greater than 200m from the activity area
7523-0042	Beaufort West 2	Earth Feature	Greater than 200m from the activity area
7523-0043	Langi Ghiran 2	Art Site/Artefact Scatter	Greater than 200m from the activity area
7523-0048	Lg/Rs 1	Artefact Scatter	Greater than 200m from the activity area
7523-0052	Lg/Ia 2	Artefact Scatter	Greater than 200m from the activity area
7523-0053	Lg/Rs 3	Art Site/Artefact Scatter	Greater than 200m from the activity area
7523-0054	Lg/Rs 9	Artefact Scatter	Greater than 200m from the activity area
7523-0055	Lg/Rs 11	Artefact Scatter	Greater than 200m from the activity area
7523-0056	Lg/Ia 3	Artefact Scatter	Greater than 200m from the activity area
7523-0057	Lg/Ia 7	Artefact Scatter	Greater than 200m from the activity area
7523-0058	Lg/Ia 11	Artefact Scatter	Greater than 200m from the activity area
7523-0059	Lg/Ia 19	Artefact Scatter	Greater than 200m from the activity area
7523-0060	Lg/Rs 6	Artefact Scatter	Greater than 200m from the activity area

VAHR No.	Site Name	Site Type	Location And Proximity To Activity Area
7523-0061	Lg/As 2	Artefact Scatter	Greater than 200m from the activity area
7523-0062	Lg/Ia 5	Artefact Scatter	Greater than 200m from the activity area
7523-0063	Lg/Ia 20	Artefact Scatter	Greater than 200m from the activity area
7523-0064	Lg/Ia 4	Artefact Scatter	Greater than 200m from the activity area
7523-0065	Lg/As 3	Artefact Scatter	Greater than 200m from the activity area
7523-0070	Lg/Ia 6	Artefact Scatter	Greater than 200m from the activity area
7523-0071	Lg/St 6	Scarred Tree	Greater than 200m from the activity area
7523-0072	Lg/St 2	Scarred Tree	Greater than 200m from the activity area
7523-0073	Lg/St 3	Scarred Tree	Greater than 200m from the activity area
7523-0074	Lg/St 4	Scarred Tree	Greater than 200m from the activity area
7523-0075	Lg/St 5	Scarred Tree	Greater than 200m from the activity area
7523-0076	Lg/Ia 9	Artefact Scatter	Greater than 200m from the activity area
7523-0077	Lg/As 4	Artefact Scatter	Greater than 200m from the activity area
7523-0078	Lg/St 1	Scarred Tree	Greater than 200m from the activity area
7523-0079	Lg/St 7	Scarred Tree	Greater than 200m from the activity area
7523-0080	Lg/Ia 8	Artefact Scatter	Greater than 200m from the activity area
7523-0081	Lg/St 9	Scarred Tree	Between 50m and 200m of the activity area
7523-0082	Lg/St 10	Scarred Tree	Greater than 200m from the activity area
7523-0083	Lg/St 11	Scarred Tree	Greater than 200m from the activity area
7523-0084	Lg/Ia 12	Artefact Scatter	Greater than 200m from the activity area
7523-0085	Lg/Ia 13	Artefact Scatter	Greater than 200m from the activity area
7523-0086	Lg/As 5	Artefact Scatter	Greater than 200m from the activity area
7523-0087	Lg/As 6	Artefact Scatter	Greater than 200m from the activity area
7523-0088	Lg/St 13	Scarred Tree	Greater than 200m from the activity area
7523-0089	Lg/Rs 14	Artefact Scatter	Greater than 200m from the activity area
7523-0090	Lg/Rs 15	Artefact Scatter	Greater than 200m from the activity area
7523-0091	Lg/Rs 18	Artefact Scatter	Greater than 200m from the activity area
7523-0092	Lg/As 10	Artefact Scatter	Greater than 200m from the activity area
7523-0093	Lg/Ia 14	Artefact Scatter	Greater than 200m from the activity area
7523-0094	Lg/Rs 17	Artefact Scatter	Greater than 200m from the activity area
7523-0095	Lg/St 15	Scarred Tree	Greater than 200m from the activity area
7523-0096	Lg/As 7 Hidden Lake	Artefact Scatter	Greater than 200m from the activity area
7523-0097	Lg/St 12	Scarred Tree	Greater than 200m from the activity area
7523-0098	Lg/St 14	Scarred Tree	Greater than 200m from the activity area
7523-0099	Lg/St 17	Scarred Tree	Greater than 200m from the activity area
7523-0100	Lg/St 18	Scarred Tree	Greater than 200m from the activity area
7523-0101	Lg/As 11	Artefact Scatter	Greater than 200m from the activity area
7523-0102	Lg/St 16	Scarred Tree	Greater than 200m from the activity area
7523-0103	Lg/Ia 15	Artefact Scatter	Greater than 200m from the activity area
7523-0104	Lg/As 8	Artefact Scatter	Greater than 200m from the activity area
7523-0105	Lg/As 9	Artefact Scatter	Greater than 200m from the activity area
7523-0106	Lg/St 21	Scarred Tree	Greater than 200m from the activity area
7523-0107	Lg/St 20	Scarred Tree	Between 50m and 200m of the activity area
7523-0108	Lg/St 22	Scarred Tree	Between 50m and 200m of the activity area
7523-0109	Lg/St 23	Scarred Tree	Within 50m of the activity area, therefore within buffer zone
7523-0110	Lg/St 24	Scarred Tree	Greater than 200m from the activity area
7523-0111	Lg/As 12	Artefact Scatter	Greater than 200m from the activity area
7523-0130	Lg4 (Langi Ghiran Art	Art Site/Artefact Scatter	Greater than 200m from the activity area

VAHR No.	Site Name	Site Type	Location And Proximity To Activity Area
	Site 4)		
7523-0131	Lg/Rs 18	Artefact Scatter	Greater than 200m from the activity area
7523-0132	Buangor 1	Scarred Tree	Greater than 200m from the activity area
7523-0133	Mt Cole 1	Historical Place/Artefact Scatter	Greater than 200m from the activity area
7523-0134	Mt Cole 2	Historical Place/Artefact Scatter	Greater than 200m from the activity area
7523-0135	Lg/As 13	Artefact Scatter	Greater than 200m from the activity area
7523-0139	Co 7	Earth Feature	Greater than 200m from the activity area
7523-0140	Co 8	Earth Feature	Greater than 200m from the activity area
7523-0141	Co 9	Artefact Scatter	Greater than 200m from the activity area
7523-0142	Co 10	Scarred Tree	Greater than 200m from the activity area
7523-0143	Co 11	Scarred Tree	Greater than 200m from the activity area
7523-0144	Co 12	Scarred Tree	Greater than 200m from the activity area
7523-0145	Co 13	Scarred Tree	Greater than 200m from the activity area
7523-0146	Co 14	Scarred Tree	Greater than 200m from the activity area
7523-0147	Co 15	Artefact Scatter	Greater than 200m from the activity area
7523-0148	Co 16	Artefact Scatter	Greater than 200m from the activity area
7523-0149	Co 17	Artefact Scatter	Greater than 200m from the activity area
7523-0150	Co 18	Artefact Scatter	Greater than 200m from the activity area
7523-0151	Co 19	Artefact Scatter	Greater than 200m from the activity area
7523-0152	Co 20	Scarred Tree	Greater than 200m from the activity area
7523-0154	Co 22	Artefact Scatter	Greater than 200m from the activity area
7523-0156	Co 24	Artefact Scatter	Greater than 200m from the activity area
7523-0157	Co 25	Earth Feature	Greater than 200m from the activity area
7523-0158	Co 26	Earth Feature	Greater than 200m from the activity area
7523-0159	Co 27	Artefact Scatter	Greater than 200m from the activity area
7523-0160	Co 28	Artefact Scatter	Greater than 200m from the activity area
7523-0162	Buangor Park 1	Earth Feature	Greater than 200m from the activity area
7523-0163	Buangor Park 2	Earth Feature	Greater than 200m from the activity area
7523-0172	Gorin 5	Scarred Tree	Greater than 200m from the activity area
7523-0173	Gorin 6	Scarred Tree	Greater than 200m from the activity area
7523-0174	Gorin 7	Scarred Tree	Greater than 200m from the activity area
7523-0175	Gorin 8	Scarred Tree	Greater than 200m from the activity area
7523-0177	Challicum 6	Quarry	Greater than 200m from the activity area
7523-0181	Buangor Station Honorary Correspondent Depot	Historical Place	Greater than 200m from the activity area
7523-0183	Brennan 1	Artefact Scatter	Greater than 200m from the activity area
7523-0184	Brennan 2	Artefact Scatter	Greater than 200m from the activity area
7523-0185	Brennan 3	Artefact Scatter	Greater than 200m from the activity area
7523-0186	Brennan 4	Artefact Scatter	Between 50m and 200m of the activity area
7523-0187	Brennan 5	Artefact Scatter	Greater than 200m from the activity area
7523-0188	Brennan 6	Artefact Scatter	Greater than 200m from the activity area
7523-0240	Jimmy Smith Rd - 1	Artefact Scatter	Greater than 200m from the activity area

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

No previously recorded sites were located within the activity area, however two earth features Gorinn 1 and Gorinn 2) and one scarred tree (JG/ST 23) were located within the 50 m boundary of the activity area. An additional five sites were located within 200 m boundary of the activity area (two artefact scatters, two earth features and one scar tree; see Map 4 below).

A total of 121 Aboriginal sites have been recorded within a 5 km radius of the activity area. Artefact scatters dominate the record at 48% (n = 59), followed closely by scar trees at 34% (n = 42). Earth features (15%, n = 18), art sites (3%, n = 4), historic places (< 2%, n = 2) and quarries (< 1%, n = 1) are also present within a 5 km radius.

Map 4: Sites identified within 200 m boundary of the activity area (removed from public exhibition copy)

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. 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. 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 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. Within these results, 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.

Also 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 for on the road verges. The effective survey coverage was estimated to be 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). 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 a mound (VAHR, 7722-0009) was undertaken as part of the Aboriginal Community Heritage Investigations Program (Pavlides, 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 onto 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, Webber and Bennett, 2004). The tree contained the incomplete skeletons of two adults and one child and a single bone implement as a grave good and was interpreted as a secondary burial. 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 Langi Ghiran. In both of the certified occurrences of mortuary trees, the tree used was a Red Gum.

While all of these burials occurred during the post-contact period, the authors 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 had been previously recorded 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 an 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 the 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 500 m of water sources and located on elevated

areas such as terraces, sloping shelves and other landforms overlooking waterways. While the mounds were recorded within 500 m 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. Burnt mounds are far less likely to be found on steep hills remote from waterways, however, the possibility cannot be ruled out.

5.1.5. Historical and Ethno-Historical Accounts in the Geographic Region

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).

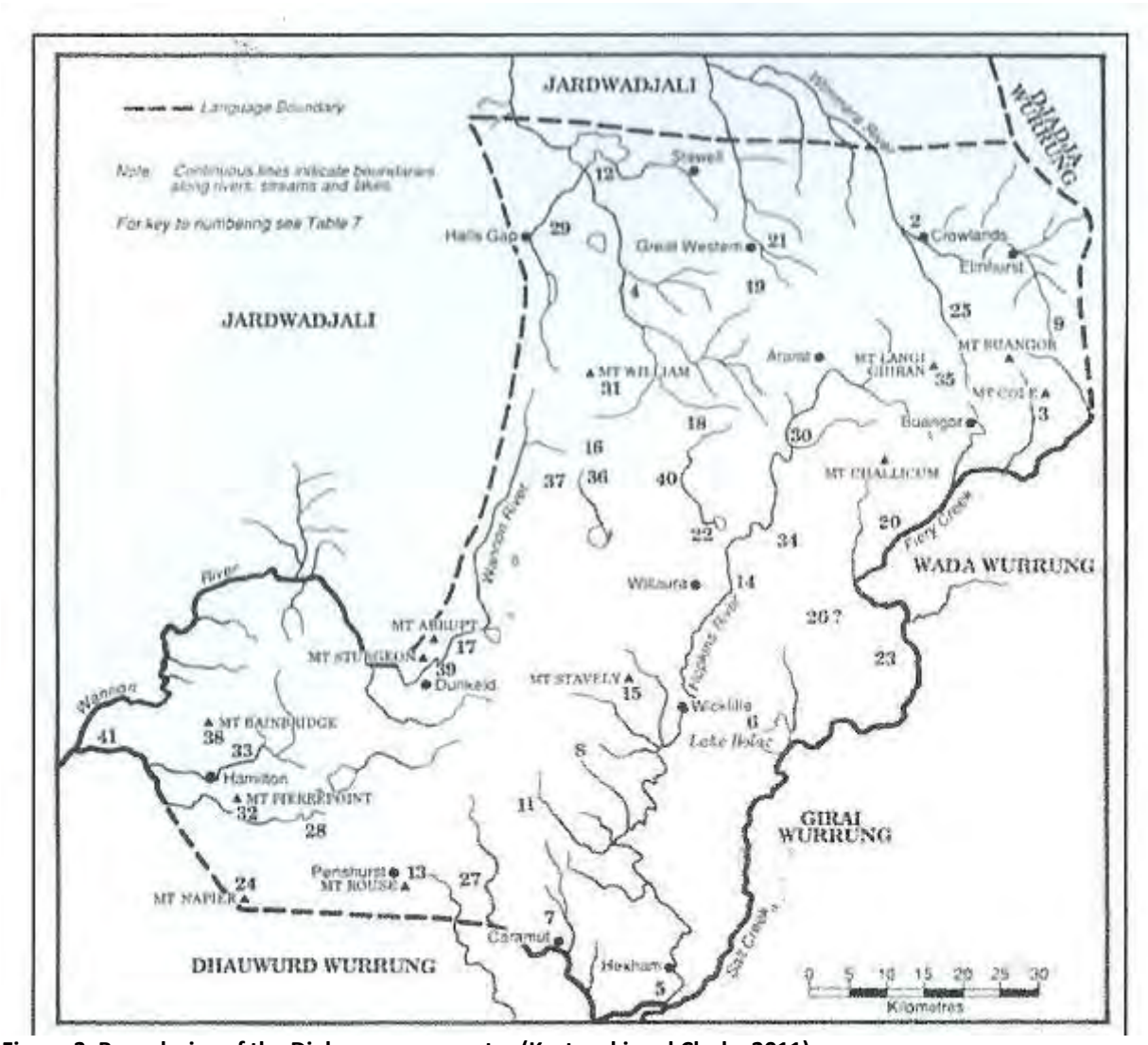


Figure 3: Boundaries of the Djabwurrung country (Kostanski and Clarke 2011)

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).

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 n.d.).

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 n.d.). 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 n.d.). 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 4: 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 (*Eualyptus 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 5: Stylised portrait of an Aboriginal man complete with handmade fishing net, boomerangs and shields c.1870 (Lindt 1870s)

Maintaining a nomadic existence, Kooris lived in a number of different abodes, from huts and mia-mias 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 Aboriginals 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 Wathaurrung 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 ten sites were found, **none** of which will be impacted by the proposed development.

Site Number	Site Listing	Site Name	Site Type	Site Within Activity Area?
4005	Register of the National Estate	Armstrongs, Armstrong via Ararat	N/A	No
B2123 3978 H1223 HO70	National Trust Register of the National Estate Victorian Heritage Register Heritage Overlay	Gate Lodge - Aradale Mental Hospital 9 Grano Street, ARARAT, Ararat Rural City	Government	No
4008	Register of the National Estate	Langi Ghiran Art Site, Western Hwy, Buangor	Indigenous	No
G13052 3977	National Trust Register of the National Estate	Aradale Psychiatric Hospital, Heath Street, ARARAT, Ararat Rural City	Government	No
H0259 HO115	Victorian Heritage Register National Trust	6660 WESTERN HIGHWAY BUANGOR, Ararat Rural City, FORMER COBB & CO STAGING STABLES	Commercial	No
B5888	National Trust	Main Street, BUANGOR, Ararat Rural City, Post Office & General Store	Commercial	No
B3872	National Trust	Old Geelong Road, BUANGOR, Ararat Rural City	Commercial	No
N/A	N/A	Western Highway BUANGOR, ARARAT RURAL CITY, elm tree plantation for war veterans	Memorial	No
B1690 3986	National Trust Register of the National Estate	Store, former Cobb & Co changing Station Western Highway, BUANGOR, Ararat Rural City	Commercial	No
T11277	National trust	Eucalyptus aromaphloia	Horticultural site	No

Table 4: Historic Sites within 1km of the activity area

In 2008, a Cultural Heritage Due Diligence was undertaken that overlaps with the current activity area (Noble, Kiddell and Clark, 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 (Wolski, 1998) 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 Charliecombe 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 Dairymaid and Middle Creeks and Wolski was attempting to learn more about Aboriginal-European interaction during the contact period. During the course of the excavation the 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 were also found. 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 2012).

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

The Pyrenees ranges 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). These plateaus are north of the current activity area.

The activity area extends across three main landform types. The eastern and western boundaries are characterised by a level to gently sloped plains intersected by creeks. Throughout the centre of the activity area the geography is characterised by hills and slopes. The waterways that intersect the activity are bounded by alluvial plains and creek line terraces.

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

Plains
These parts of the activity area relatively flat plains that are intersected by rivers and creeks. The western plain extends from the edge of Ararat to 3km east of the Hopkins River. This is a relatively flat land has an elevation of approximately 320m above sea level. The plain on the eastern edge of the activity area extends from Fiery Creek in the east to Charliecombe Creek to the west. It is intersected by these two Creeks as well as Middle Creek and Billy Billy Creek running through the centre. The land is relatively flat and has an approximate elevation of 360m above sea level. The major vegetation type on both of these landforms is Plains Grassland (EVC 132).

The Plains Grassland EVC (132) consists of a treeless grassland dominated by grasses and herbs, although occasional trees and shrubs may be present. Some of the grass and herb types common within this EVC are: Common Rice-flower (*Pimelea humilis*), Poison Lobelia (*Lobelia pratioides*), Kangaroo Grass (*Themeda triandra*), Common Wallaby-grass (*Austrodanthonia caespitose*) and Common Wheat-grass (*Elymus scaber var. scaber*).

Hills and Slopes
Throughout the centre of the activity area the geography consists of granitic paleozoic hills and ridges that are dissected by creeks. Mt Langi Ghiran and Mt Gorrin are north of the activity area and the lower slopes intersect the activity area.

These prominent mountains rise above the surrounding metamorphic landforms. The slopes leading down from these mountains are generally steep to very steep and the soil profiles are shallow on these slopes. The soils are generally sandy with quartz and buckshot inclusions extending down to heavy clays (DPI). The main vegetation type is Hills Herb Rich Woodland (EVC 71).

The Hills Herb Rich Woodland EVC (71) consists of a dry open Eucalypt woodland with large trees up to 15m tall. The understorey consists of a carpet of herbs. The common tree varieties within this EVC are River Red Gum (*Eucalyptus camaldulensis*) and Yellow Box (Eucalyptus melliodora).

South of the activity area are a range of hills with more gentle slopes than those granitic hills to the north. These consist of non-granitic Paleozoic rocks and extend north to intersect the activity area. The soil profile on these landforms is thin on the crests and upper slopes and thicker at the base. The profile consists of texture contrast soils with medium to heavy clay subsoils. Weathered bedrock and quartz inclusions are present throughout the profile. The main vegetation types are Grassy Woodland and Heathy Dry Forest (EVC 175 and 20)

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 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 goniocalyx s.l.*) and Brittle Gum (*Eucalyptus mannifera ssp. Mannifera*).

Alluvial Plains and Creekline terraces

A number of watercourses dissect the activity area including Hopkins River, Middle Creek, Billy Billy Creek and Charliecombe Creek, along with their associated tributaries. An alluvial plain or creek terraces are associated with these creeks. Soils can be either generally poorly drained duplex soils with sandy loam overlying a heavier clay subsoil or alluvial deposits of seasonally wet sands and silts. The main vegetation types are Alluvial Terraces Herb Rich Woodland and Creekline Herb Rich Woodland (EVC 67 and 164)

Alluvial Terraces Herb Rich Woodland (EVC 67) consists of open woodland on alluvial plains and along drainage lines. The large trees in these areas are up to 15m tall and the understory consists of very few shrubs. Common tree varieties within this EVC are Grey Box (Eucalyptus macrocarpa), Yellow Box (Eucalyptus melliodora), Yellow Gum (Eucalyptus leucoxylon), and Buloke (Allocasuarina luehmannii).

Creekline Herb Rich Woodland (EVC 164) consists of open woodland on creek terraces and along drainage lines. The large trees in these areas are up to 15m tall and the understory consists of very few shrubs. Common tree varieties within this EVC are Swamp Gum (*Eucalyptus ovata*), River Red Gum (*Eucalyptus camaldulensis*) and Scentbark (*Eucalyptus aromaphloia*).

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, 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 possibly sections of it were.

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 6: 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 (2) Fiery Creek to Ararat

The Western Highway to Ararat became particularly busy from 1856-57 when a large gold field was discovered near the township. People came from far and wide to seek their fortune. For those heading west to Ararat, the crossing of Middle and Fiery creeks, no doubt, proved challenging, especially without a bridge.

In the early years of road development and travel, waterways were often impediments to overcome. Creeks and rivers were crossed by a variety of means (like a punt) that were usually restrictive (especially in relation to goods and cargo), time consuming and troublesome. Only later when bridges were built did such crossings become trouble free and effortless. Near the end of Melbourne's Smithfield Road, the Maribyrnong River was crossed by a punt. Yet when a bridge was built in 1850, Ballarat Road became a much more attractive route to Ballarat (Lay, 2010).

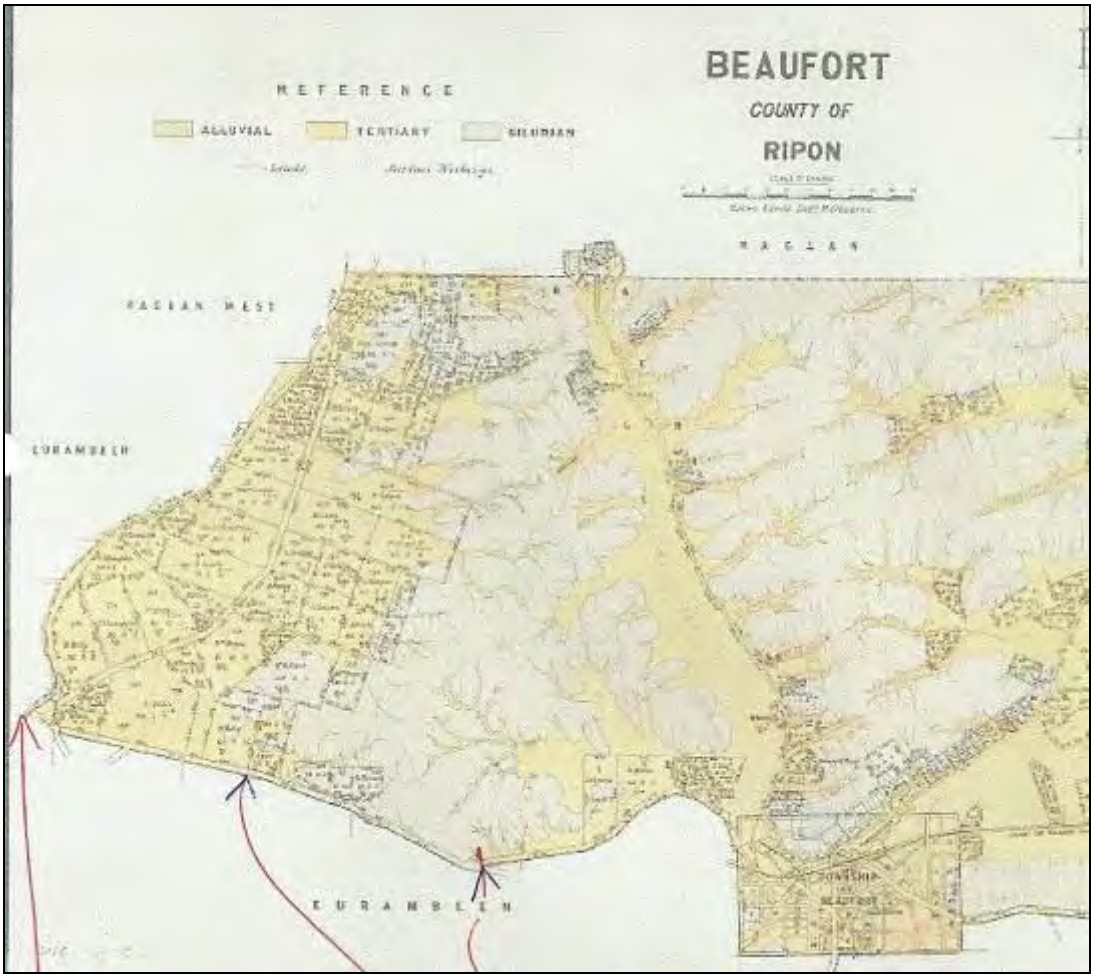


Figure 7: 1889 map of Beaufort and surrounds. The arrows show the position of Fiery Creek and what would one day become the Western Highway (National Library of Australia)

An 1872 map of the town of Buangor and its western surrounds clearly shows the route of the highway in question. While nameless, arrows at its western and eastern end simply state 'from Ararat' and 'to Ballarat' respectively (Land Victoria, 1872). A map of 1879 labels it 'Main Road' (Land Victoria, 1879).

Sometime prior to 1952, a quarry was established at the junction of the Western Highway and the western bank of Fiery Creek. As it was owned or operated by CRB, it is possible that the stone excavated was used in the construction of nearby roads, including the Western Highway (Land Victoria, 1952).

In about the 1830s, CRB required some additional land to extend the highway's shoulder at a corner of the road just west of Hopkins River. In acquiring the land, CRB sought to reduce the turn's sharp angle and change it to a rounder and, thus safer, turn (Land Victoria, 1874).

In c.2010, thirty eight kilometres of upgrades were planned on the Western Highway, which included the creation of a duplicated road that extended from the railway crossing west of Beaufort to Heath Street, Ararat (Department of Planning and Community Development, 2011).

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

The river and creek valleys, 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, Marshall and Webb, 1995).

Hills

Apart from Flood's early work in the Australian Alps (Flood 1976), and a small number of subsequent surveys (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.

Several archaeological investigations have been conducted within the geographic region.

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 there are two burials also located 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.

Of the 121 sites recorded within 5km of the activity area, 53 are artefact scatters, 42 are scarred trees, 18 are earth features, and there is one historical place, art site and quarry. In addition to these there are five composite sites that consist of more than one component. There are three art site/artefact scatters and two historical place/artefact scatters. Two earth features and a scarred tree were located within 50 m of the activity area and two scarred trees and one artefact scatter were located between 50m and 200m of the activity area. In addition to the recorded sites a mortuary tree located through ethnographic research is reported to be located at 'Gorinn' which is within 500m of the activity area.

While scarred trees are the most common site type within the geographic region, artefact scatters are the most common 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 200 m of a water source.

Scarred trees are the most second most common site type 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. One scarred tree has been recorded within 50m of the activity area which increases the likelihood of finding this site type within the activity area. There is a high possibility of locating these sites on the hills, slopes, alluvial plains and terraced creeklines, where mature native trees occur, with that possibility decreasing with distance from water. There is no possibility of finding this site type on the level plains as large trees do not occur there.

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 500 m of waterways. The majority of the activity area is within 500 m of waterways and there are portions of the activity area that are on flat to gently sloping ground. As four earth features are within 200m of the activity area and an additional 14 within 5 km it is clear that these sites are common in the region. The four earth features located close to the activity area occurred on an alluvial plain. There is a high likelihood of finding these site types on the creekline terraces, alluvial plains and plains. The likelihood of finding these site types on steep slopes and hills is low.

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.

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.

Art sites are places where people have created rock art including stencils, prints and drawings within rock shelters and engravings within limestone caves. There is a possibility of finding this site type if rockshelters and caves occur within the activity area.

Other sites that occur within the geographic region but not within 5 km of the activity area are stone features and burials.

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 depending on the availability of suitable resources.

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.

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). There is therefore a high chance of locating Aboriginal archaeological sites within undisturbed parts of the activity area.

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.
- Quarry sites may occur anywhere that there is a suitable raw material outcrop.

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 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.

A standard assessment involving a survey of the activity area was undertaken on 18th January to 25th January; January 30th to 1st of February, and 13 August 2012 by Jakub Czastka, Bradley Ward, Vicki Vaskos and Jason Gatty (Archaeologists, ACHM Vic.), Phillip Chatfield, Brian Delaney, Lionel Chatfield, Ronald Chatfield, Tylah Merriman (Martang representatives), and Tya Lovett (AAV). Jakub Czastka supervised all aspects of the fieldwork.

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). Notes and photographs were taken throughout the survey.

Three previously recorded sites were located within the activity area (VAHR 7523-0001, 7523-0002 and 7523-0109). Therefore, the survey would attempt to locate these three sites as well as 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 creek line will grow faster than those away from a creek line).

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 taken in 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 burial 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 was undertaken on the 19 and 20 March 2012 and on 5 June 2012 and included Claire St George (ACHM) Vicki Vaskos (ACHM), Phillip Chatfield, Lionel Chatfield, Ronald Chatfield and Darren Chatfield (Martang representatives).

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 Jakub Czastka, Bradley Ward and Jason Gatty (Archaeologists, ACHM Vic) along with Phillip Chatfield, Brian Delaney, Lionel Chatfield, Ronald Chatfield, Tylah Merriman (Martang representatives) and Tya Lovett (AAV). The standard assessment of the additional areas was undertaken by Vicki Vaskos (Archaeologist, ACHM) along with Ronald Chatfield and Tylah Merriman(Martang).

Weather conditions during the survey ranged from warm and sunny to cool and cloudy with the maximum temperature over the ten days reaching approximately 32° Celsius, the minimum in the low teens. Weather conditions during the survey of the additional areas were cold and showery with a maximum temperature of 8^0 Celcius. Ground surface visibility across the activity area was variable, but in general was extremely low. Grass cover was the single most significant factor in obscuring surface conditions on farmland and road easements. A range of dense (0% visibility) foliage – in places up to 0.80-0.90m high – through to patchy, low grass (25% visibility) cover was identified on pastoral properties. Ground exposure was largely controlled by or a product of: ploughed fields (very

occasional occurrence), stock trampling causing river bank erosion and creating 'stock routes' across properties (exposed dirt tracks essentially: very common), stock treadage mixing soil horizons (common, particularly in seasonally wet locations), tree fall (occasional to common), creek bed incision and bank erosion (common), rilling or gullying (occasional), sheetwash (occasional to common), and scalds (occasional). Direct human impacts are evident through construction of the Western Highway itself, bridges, culverts and clearing the road easement. These human impacts were present across the full length of the activity area. Additionally, fence-lines, dams, farm buildings, ploughed fields and gravel tracks associated with the land management also impacted areas of the activity area. One final area of land management – forestry – was also part of the activity area in selected sections. Impacts in these areas were extreme, including deep ripping of subsoils and subsequent mixing of soil horizons, with extensive plantations in various degrees of growth or harvesting. Impacts to areas under forestry management are therefore extreme.

A large number of trees were present within the road reserves of the Western Highway and the rail line, and also within the adjacent farm paddocks, heading east from Dobie Rd. There were however, almost no mature native trees from the Warrayatkin Rd intersection (heading towards Ararat). Visibility in this area was also largely restricted. Areas with ground surface exposures generally resulted from recent disturbances associated with installation of infrastructure and services.

In order to divide the survey area between Fiery Creek and the end of section two of the project south of the outskirts of Ararat into manageable units, the activity area was divided up into 'stages' (see Map 5 through to Map 9). Stages were divisions of the survey area into land units based on easily recognisable features such as creeklines, bridges or roads. This was undertaken in order to facilitate logistics (for example, a meeting place to begin survey on the following day) and to ensure both sides of the activity area either side of the highway (or all route options on maps 10-13) was completed in an orderly and logical fashion. Detailed descriptions of survey transects are provided in Table 5 below. The table also provides geological, soil, geomorphic and archaeological descriptions for each survey unit.

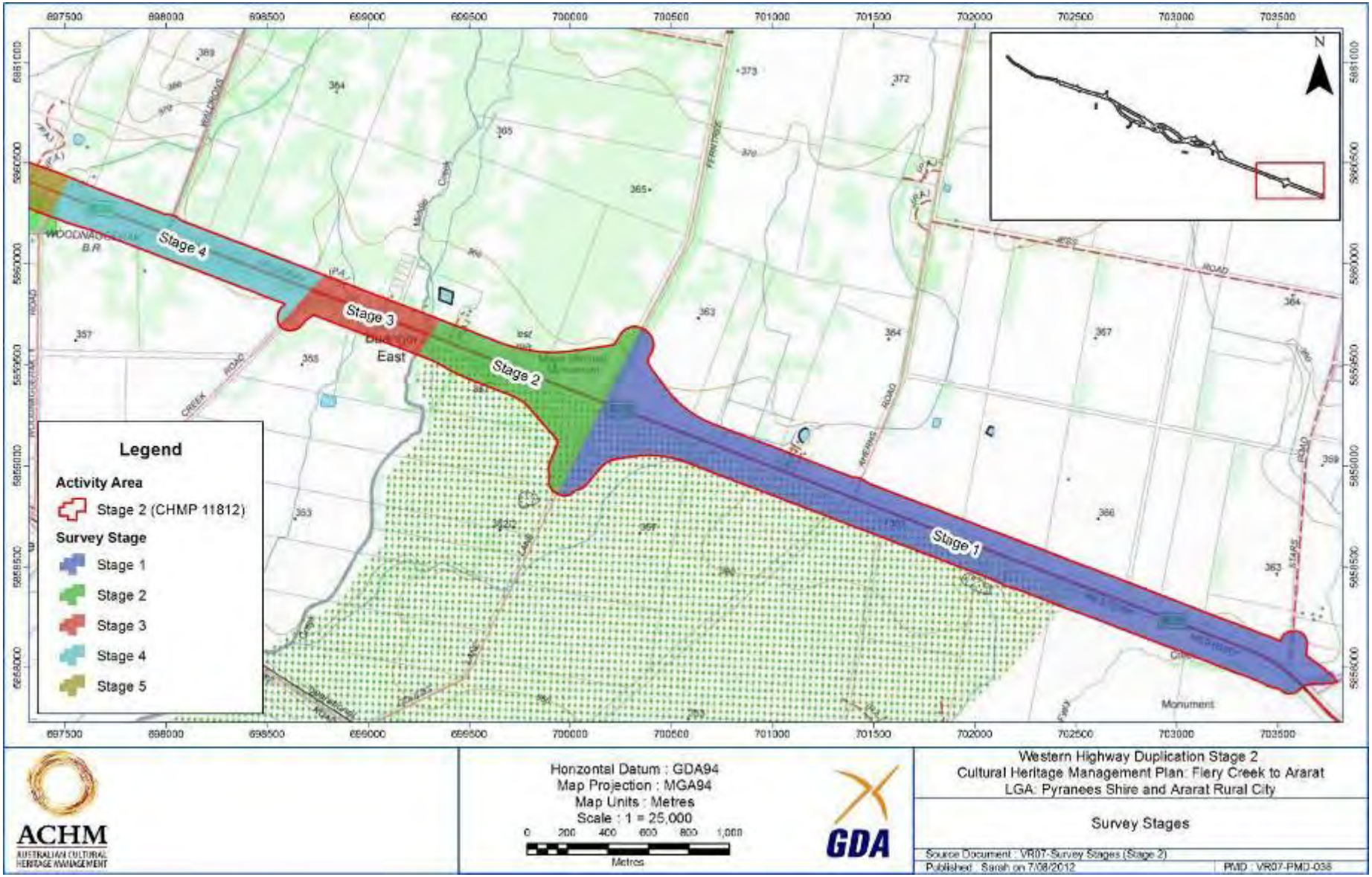
Survey Unit	Map Reference	Photo	Location	Topography (relief)*	Modal Slope*	Landform Elements*	Disturbance	Geomorphic Processes	Geology	Soils	Ground Visibility	Effective Coverage	Archaeological Sites
Stage 1	16 - 15	0976 0978 0981	Fiery Creek – Goulds Lane	Extremely low to very low	Level to gently inclined	Stream channels, banks and beds; alluvial flats; residual rises	Road construction; forestry plantation Pastoral activities	Sheetwash Human Stock	Basalt bedrock, basalt corestones occasional etch surface	Grey silty clay loams over yellowish brown/olive yellow light clays	~1% generally 90% in ploughed field	1% generally 90% in ploughed field	none
Stage 2	15	0997	Goulds Lane – Middle Creek	Extremely low to very low	Level to gently inclined	Stream channels, banks and beds; residual rises	Road construction; Pastoral activities	Sheetwash Human Stock	Basalt bedrock, basalt corestones	Grey silty clay loams over yellowish brown/olive yellow light clays	~1%	1%	none
Stage 3	15	1013 1015	Middle Creek – Middle Creek Road	Extremely low to very low	Level to very gently inclined	Stream channels, banks and beds; residual rises	Road construction; Pastoral activities	Sheetwash Human Stock	Not observed	Grey silty clay loams over yellowish brown/olive yellow light clays	~1%	1%	none
Stage 4	15 - 14	1024	Middle Creek Road - Woodnaggerak Road	Extremely low to very low	Level to very gently inclined	Stream channels, banks and beds; residual rises	Road construction; Pastoral activities	Sheetwash Human Stock	Not observed	Not observed	~1%	1%	none

Stage 5	14	1063 1064 1066	Woodnaggerak Road – Mile Post Lane	Very low	Level to gently inclined	Stream channels, banks and beds; simple slopes	Road construction; Pastoral activities	Sheetwash Human Stock	Coarse sandstone with iron bands bedrock	Light grey to yellow silty sand to sandy loam (A horizon) Yellow brown coarse sandy clay (B subsoil horizon)	~1%	1%	Two Aboriginal scarred trees
Stage 6	14 - 13	1064	Mile Post Lane – Anderson Road	Very low	Level to gently inclined	Stream channels, banks and beds; simple slopes	Road construction; Pastoral activities	Sheetwash Human Stock	Not observed	Not observed	~1%	1%	none
Stage 7	13	1147 1156	Anderson Road – Peacocks Road	Extremely low	Level to very gently inclined	Stream channels, banks and beds; simple slopes	Forestry Plantation	Sheetwash Human	Not observed	Yellow fine sandy silt with gravel lenses (A horizon) Grey silty clay with gravels (B1 subsoil?) Grey mottled yellow light clay (B2 subsoil horizon?)	20% on open grass 40% within plantation	15%	none
Stage 8	13	1163 1171 1174 1183	Peacocks Road – Buangor-Ben Nevis Road	Very low	Level to gently inclined	Stream channels, banks and beds; simple slopes residual rises	Pastoral activities Forestry Plantation	Sheetwash Human Stock	Coarse sandstone	grey sandy silt (A horizon) yellow brown clays (B horizon)	~1% over 65%: general conditions 60% over 5% landform (creeklines) 95% on 30%: plantation	32.5%	Two Aboriginal scarred trees
Stage 9	13	1210	Buangor-Ben Nevis Road –	Extremely low	Level to very gently	Simple slopes	Pastoral activities	Sheetwash Human	Not observed	Not observed	~5%	<5%	none

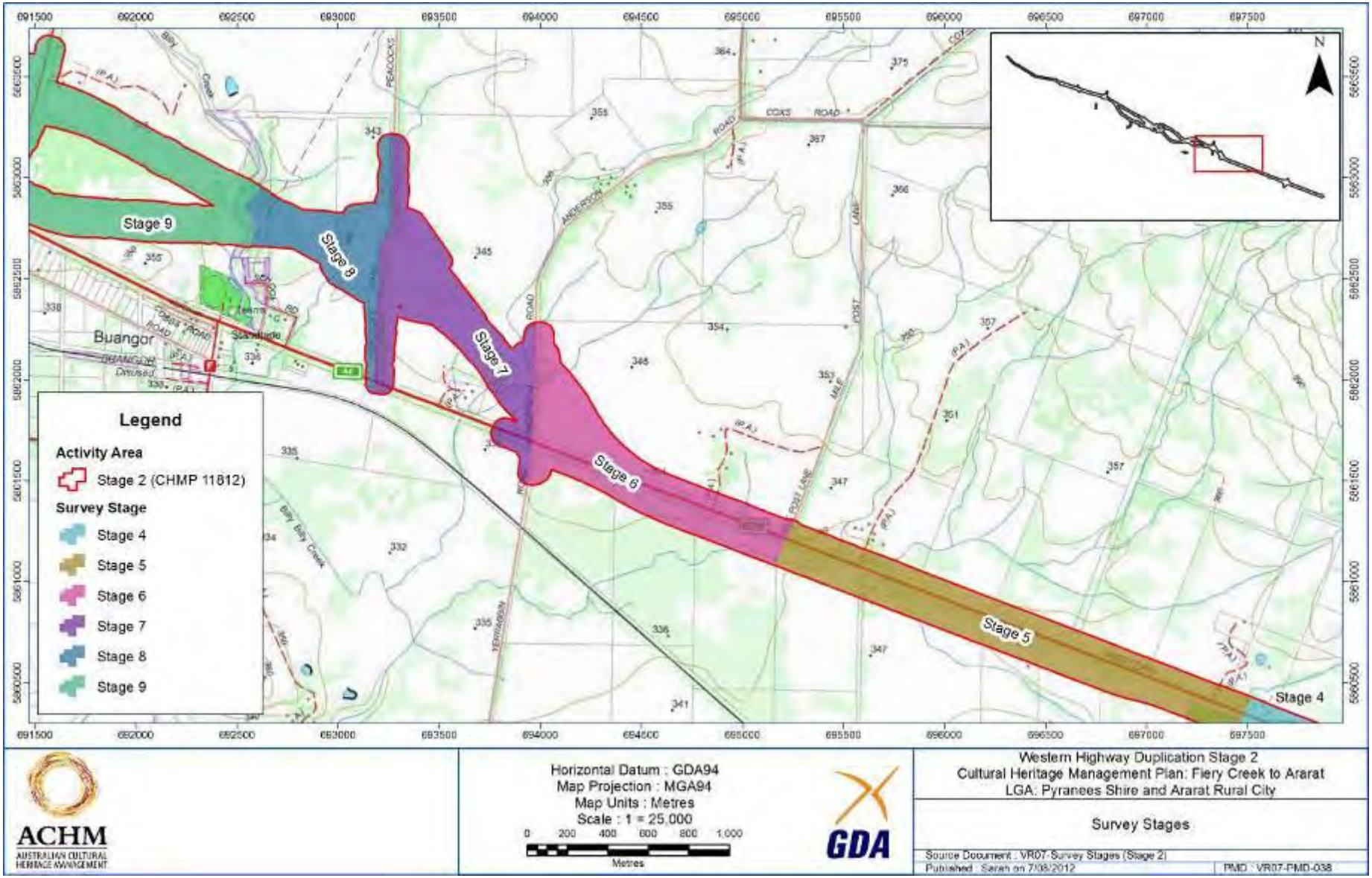
			Gravel Route Road		inclined	residual rises		Stock					
Stage 10	13 - 12	1214	Gravel Route Road – Pope Road	Very low	Level to gently inclined	Stream channels, banks and beds; multiple slope forms	Pastoral activities	Sheetwash Human Stock	Not observed	Not observed	~1%	1%	One historic scarred tree
Stage 11	12	1260	Pope Road – Hillside Extension Road	Low	Level to moderately inclined	Stream channels, banks and beds; multiple slope forms	Pastoral activities Railway corridor Road construction	Sheetwash Human Stock	Not observed	Mottled red yellow clay subsoil exposed in tree throw	~5%	<5%	none
Stage 12	10 11	1306 1299 1300	Hillside Extension Road – (Option 1) intersection with Western Hwy	Low	Level to moderately inclined	Stream channels, banks and beds; multiple slope forms	Pastoral activities, tree plantation	Sheetwash, gravel road construction, stock	Not observed	pale yellow brown clayey silt, with frequent poorly sorted crushed quartz gravels	~5%	<5%	One historic scarred tree, one aboriginal scarred tree
Stage 13	10 11	2228	Hillside Road/Western Hwy intersection – Option 1/ Western Hwy intersection (Option 2)	Very low	Level to gently inclined	Stream channels, banks and beds; multiple slope forms	Pastoral activities Railway corridor Road construction	Sheetwash Human Stock	Not observed	Not observed	~1%	1%	One historically scarred tree
Stage 14	9 10	2228	Western Hwy (Option 1 and Option 2 intersection) – Hillside Rd intersection	Very low	Level to gently inclined	Stream channels, banks and beds; multiple slope	Pastoral activities Railway corridor Road construction	Sheetwash Human Stock	Not observed	Not observed	~1%	1%	One historic scarred tree, one aboriginal scarred tree, one

						forms							previously recorded Aboriginal scarred tree
Stage 15	8 9	2301 2345 2344 2362 2309 2389	Hillside Rd intersection – Ararat end of activity area	Very low	Level to gently inclined	Stream channels, banks, levees and beds; multiple slope forms	Pastoral activities, Railway corridor, Road construction, urban and industrial infrastructure	Sheetwash, Gully erosion, Human, Stock	Not observed	Not observed	~1%	1%	Two historically scarred trees, one previously recorded earth feature, one artefact scatter

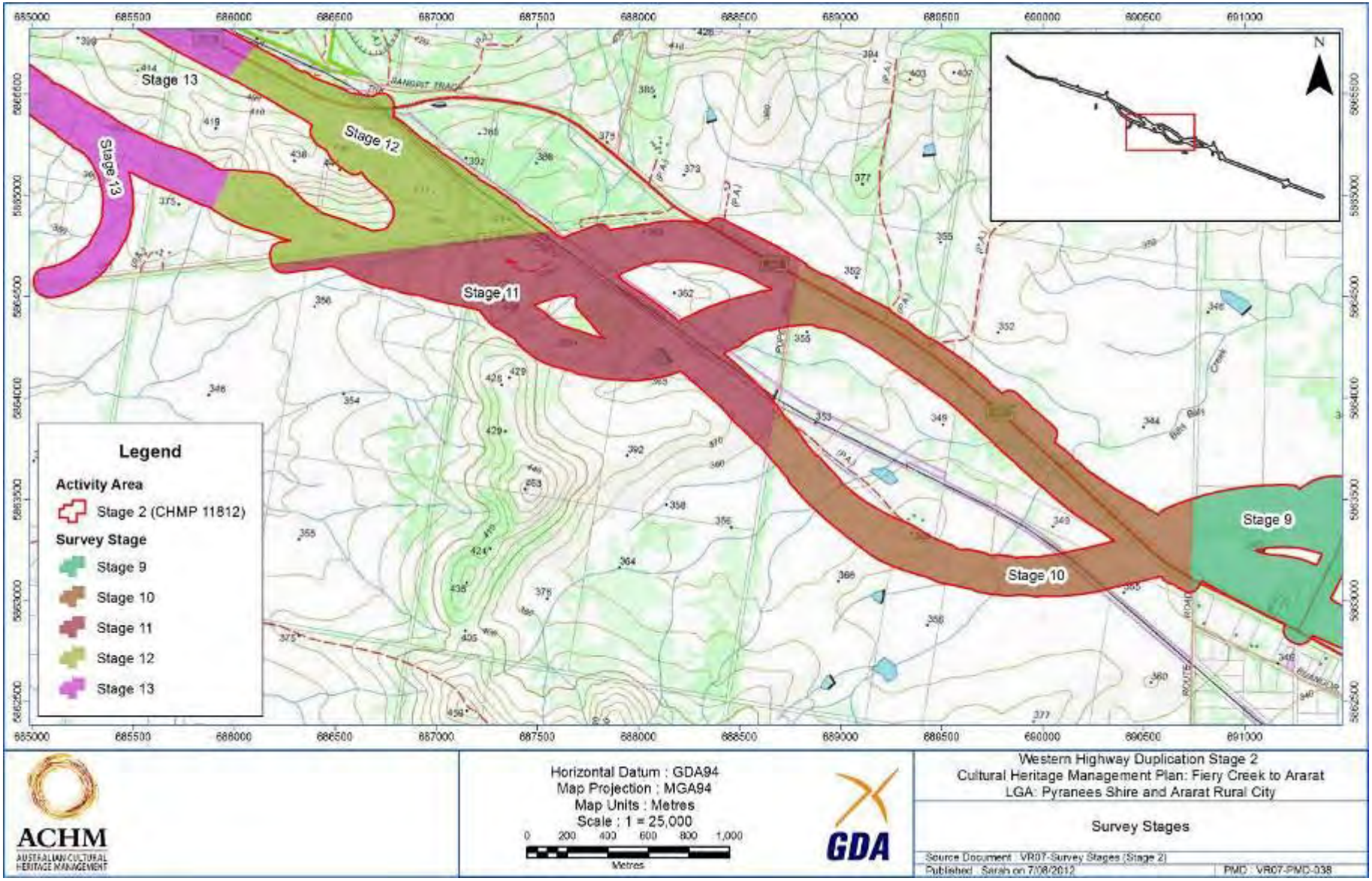
Table 5: Survey Transect Stages



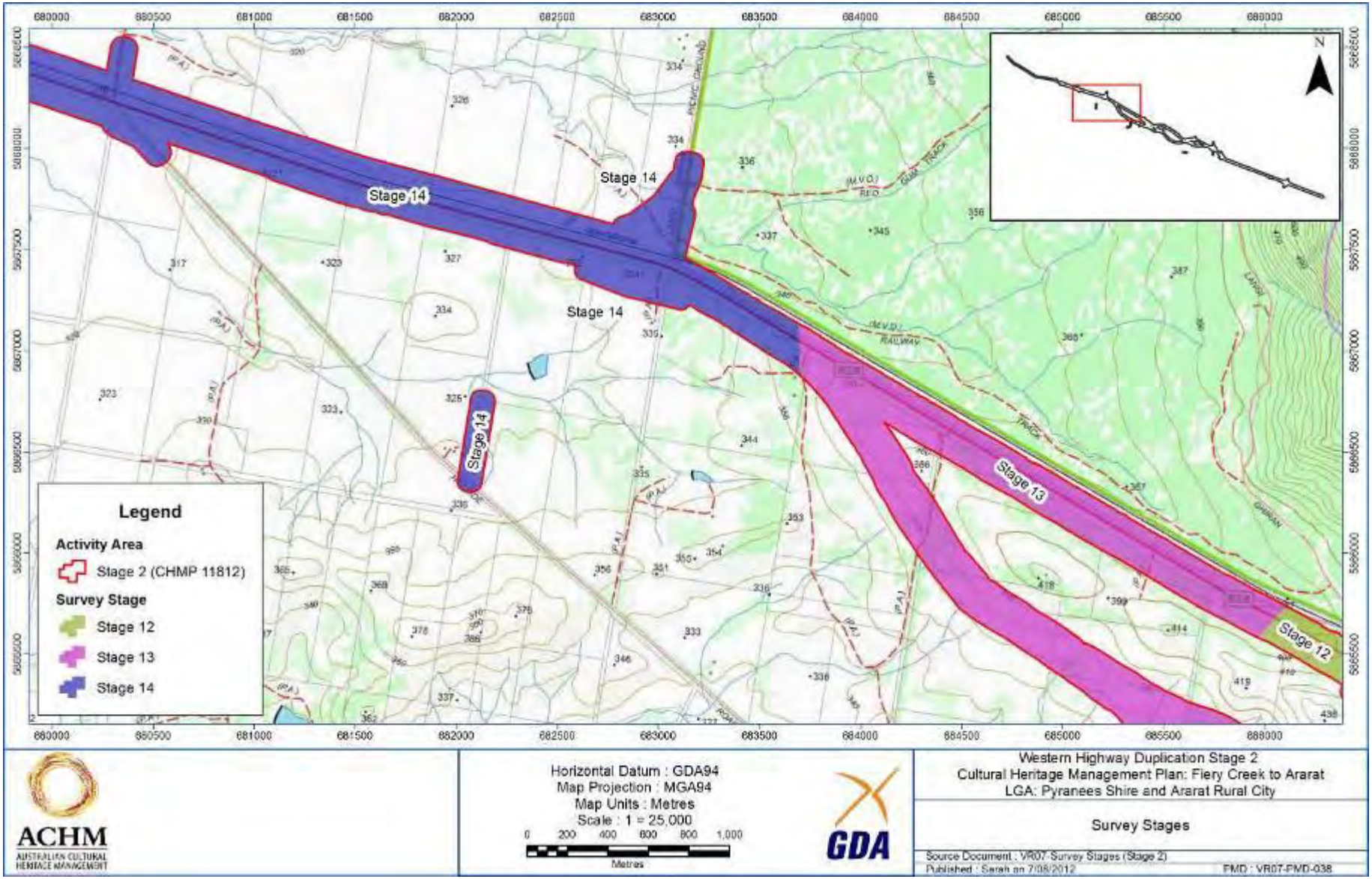
Map 5: Survey Stages Map 1



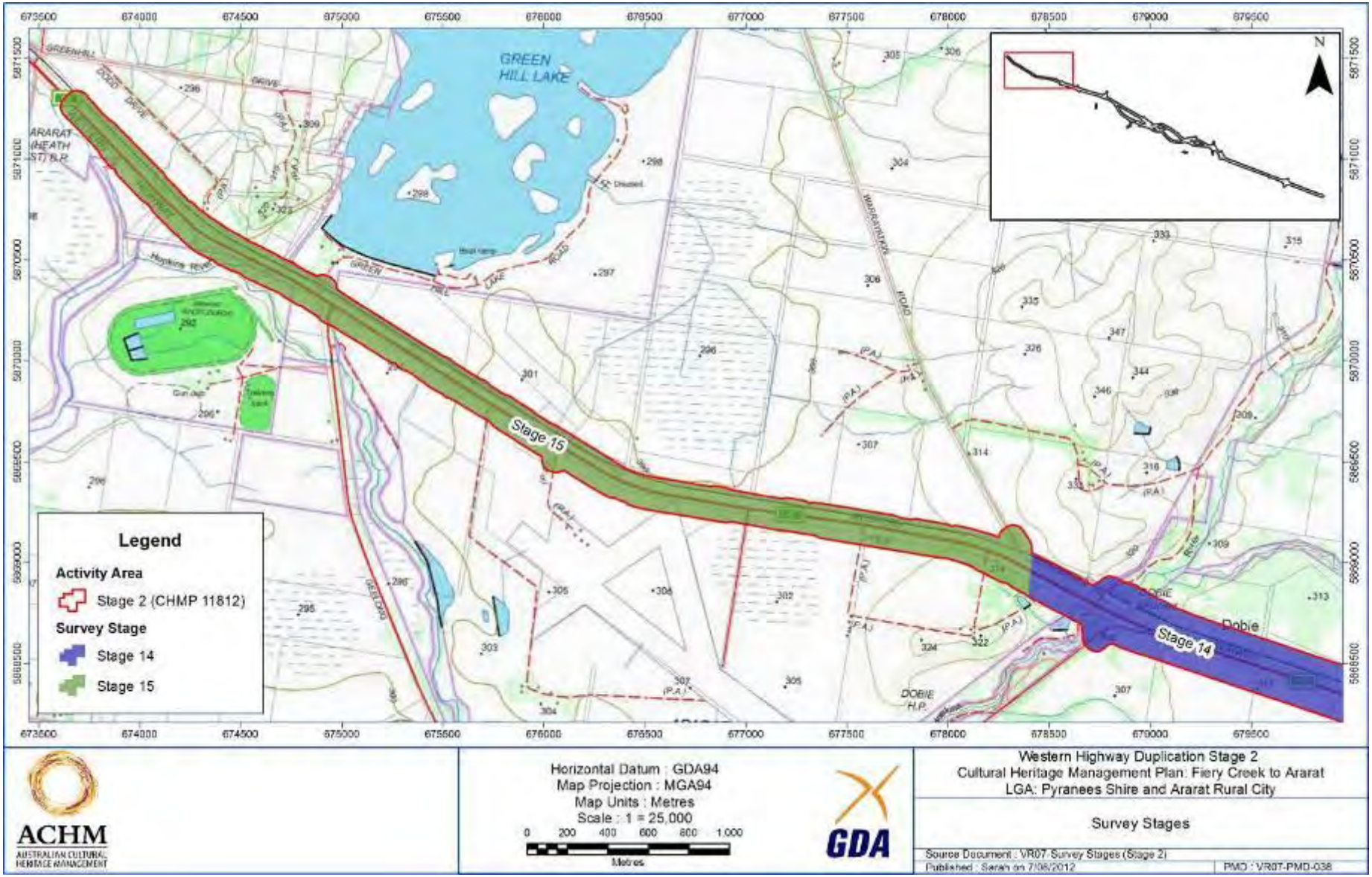
Map 6: Survey Stages Map 2



Map 7: Survey Stages Map 3



Map 8: Survey Stages Map 4



Map 9: Survey Stages Map 5

The initial transect (stage 1) proceeded in a south westerly direction on the south side of the Highway between Fiery Creek and Goulds Lane, followed by the return from Goulds Lane to Fiery Creek on the north side of the Highway. Typically the landscape here consisted of extremely low to very low relief landforms: the geomorphology reflects a very weathered landscape. The landforms included stream channels and banks (broadly orientated south west to north east), alluvial flooplains and residual rises. Except for a small section on the south side of the highway which had been ploughed (within a forestry plantation), visibility across ground surfaces was ~1% or less. The ploughed section of the activity area provided the best ground exposures – in the order of 90% visibility. The low relief and level to gently inclined modal slope forms indicates that the landscape here is predominantly stable, erosion being concentrated around ploughed fields (sheetwash and reworking of soils) and the highway itself (existing impacts). The soil geomorphic landscape continues across through to stage 5, where the soil geomorphology changes. The ensuing stages within this landscape are dealt with more briefly: details are provided in Table 1 above.

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

Figure 8: South-east view towards Fiery Creek from Western Highway road easement. Note the lack of ground visibility (0%) and the earthworks associated with the construction of the highway itself

Figure 9: North-west view from highway easement. Note the dense ground cover with zero visibility and the generally flat alluvium landform on the left of the photo

Figure 10: North-west view across ploughed area north-west of Fiery Creek (south side of highway). Note the high ground visibility ~90%

Stage 2 included a short stretch from Goulds Lane to Middle Creek (Map 5) and encompassed both sides of the highway. The only obvious relief within this survey unit was provided by the creek itself. Due to the dense grass cover, ground surface visibility was less than 1%.

Figure 11: East view of transect conditions in stage 2. Note the dense grass cover.

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

Stage 3 included the area from Middle Creek to Middle Creek Road (Map 5) and again included both sides of the highway. In common with stage 2, the only obvious relief within this survey unit was provided by the creek itself. Due to the dense grass cover, ground surface visibility was less than 1%.

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

Figure 12: West view of Western Highway road easement: note the dense ground cover

Figure 13: South view of Middle Creek and Middle Creek bridge on the highway

Stage 4 began at Middle Creek Road and continued until Woodnaggerak Road. The landscape was again flat with minor relief provided by Charliecombe Creek along the north edge of the activity area.

Figure 14: North view of stage 4: note the flat landscape and the dense grass cover

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

Stage 5 started from Woodnaggerak Road and continued until Mile Post Lane (Map 6). The main point of interest here is that the landscape changes during the course of this transect: the area around Charliecombe Creek is the approximate start of the changes. The landscape grades from a relatively flat plain with minimal relief and begins to take on more relief, the activity area here lying at the base (foothills) of Mount Buangor, the summit of which is located just over six kilometres to the north. The relief therefore is largely controlled by a change in geology from volcanics to granites and sandstones which form a prominent chain of plateaus land form that rise above the adjacent alluvial drainage systems, namely Mt Cole, Mt Buangor and Mt Langi Ghiran. The summits of these are located to the north of the activity area: the foothills of these elevated plateaus form part of the landscape of the activity area. Although the initial changes are gradual in this stage, the relief increases as one moves in a north westerly direction, with Charliecombe Creek showing some two metres of incision, with a coarse sandstone with iron bands exposed in the stream bed .The soil profile revealed a sandstone bedrock stream bed overlain by a yellow brown coarse sandy clay (B subsoil horizon) overlain by a light grey to yellow silty sand to sandy loam (A horizon).

Figure 15: West view immediately west of the start of stage 5; note the change in landscape

Figure 16: South-west view of start of granitic landscape

Figure 17: South view of Charliecombe Creek soil profile

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

Stage 6 continued from Mile Post Lane north westwards until Anderson Road was reached. Although part of the sandstone geology landscape, relief continues to be very low, with simple slope forms, i.e. there is very little change from Stage 5.

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

Stage 7 began at Anderson Road, continuing on until Peackock Road. The section of the activity area in stage 7 is located to the north of the current highway alignment and for the first time splits into two options (north is identified as option 1, south route as option 2; refer Map 6). The entire stage here was located within the confines of a forestry plantation: the landscape is very disturbed. Ground visibility varied: a dense ground cover was noted on areas on the edge of plantations themselves, which was in the order of 20% exposure, rising to 40% exposure between the tree plantation rows themselves. The average ground visibility was in the order of 15%. One creek bed and soil profile was recorded at the north-west corner of this stage. The basal unit was a grey mottled yellow light clay (possibly a B2 subsoil horizon) overlain by a grey silty clay with gravels (B1 subsoil), itself overlain by a yellow fine sandy silt with gravel lenses (A horizon).

Figure 18: North view across forestry plantation

Figure 19: South-west view of unnamed creek

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

Stage 8 continued the two route options to the north of the current highway alignment located between Peacocks Road and the Buangor-Ben Nevis Road. Open woodland across gently inclined relief, with the occasional residual rises made up the landscape. The landscape also traversed two creeklines, again forming the majority of the relief. Ground visibility was a challenge, being in the order of ~1%. Localised erosion of grass cover was noted around creeklines, where visibility was around 60%: this was however less than 5% of the activity area.

A small section (northern route option 1) in the north-west portion of the activity area traversed a forestry plantation. A large portion of the plantation had been cleared recently and offered 95% ground visibility. This section of stage 8 encompassed approximately 30% of the northern route option.

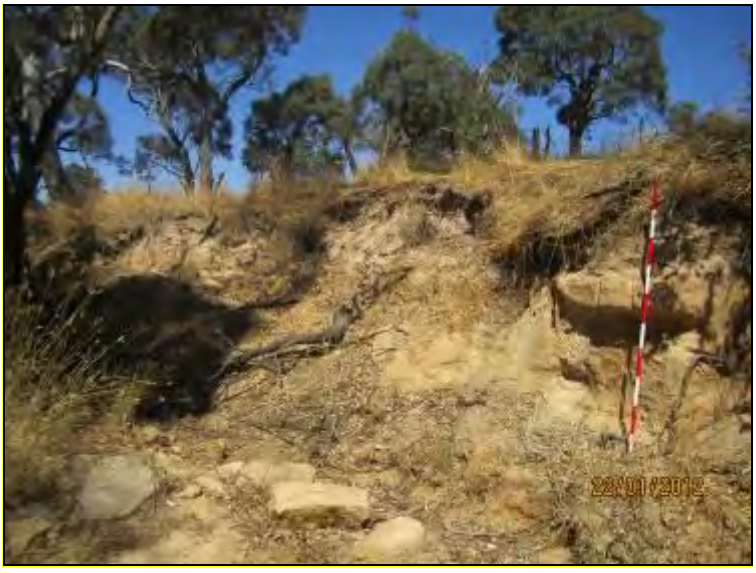


Figure 20: South-west view of creek section on west side of Peacocks Road

Figure 21: South view of unnamed creek

Figure 22: West view across the landscape of stage 8

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

Stage 9 covered a short stretch from the Buangor-Ben Nevis Road to Gravel Route Road: the two route options (north and south; refer Map 6 and Map 7) come together within this stage and cross-over one another immediately west of Gravel Route Road (i.e. stage 10). Stage 9 is essentially an extension of the landforms and conditions noted across the majority of stage 8, excluding creek and plantation landforms. Ground visibility was in the order of ~5% meaning effective coverage was less than 5% of the activity area here.

Figure 23: West view across the extremely low relief landscape of stage 9

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

Stage 10 of the transects sees the two route option change: the north route (option 1) of stages 8 and 9 now crosses the highway and railway track and subsequently continues parallel to the rail line; the 'south' route (option 2) of stages 8 and 9 continues alongside and parallel to the current alignment of the highway (refer Map 7). The landscape across this stage sees increasing relief and different slope forms appear and several first and second order creeks are traversed. This stage is located between Gravel Route Road and Pope Road.

Figure 24: West view across stage 10

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

Stage 11 sees the two route options split into a three options. Route option 2 continues parallel to the highway for about 400m then swings in a generally westerly direction, crossing the railway

corridor, eventually crossing over Hillside Extension Road over one kilometre west of the highway. Route option 2 also splits at Pope Road with option 3 (a new option) swinging to the south west and crossing the railway line, then moving into a westerly then north-west direction to cross Hillside extension. Route option 1 continues in a north westerly direction on the south side of the railway corridor, and the two rout options converge into one route option in the middle of this stage (refer Map 7).

This part of the landscape crosses into low relief landform patterns and for the first time a variety of slope forms and elevations appear. The various route options cross creeklines, but also traverse crests and ridgelines for the first time.

Figure 25: South-west view across Option 3

5.2.2.2. Survey Results

The below table highlights all sites recorded within 50 m of the extent of the activity area – (coordinates removed from public exhibition copy)

VAHR No. and Name	Coordinates (MGA Zone 55)	Cultural Material & Context
LG/ST 23 VAHR 7523-0109	[redacted]	A Scar Tree Located approximately 250m south east of Langi Ghiran Picnic Ground Rd, north of the Western Hwy.
Gorinn 1 VAHR 7523-0001	[redacted]	Earth Mound Located within a paddock, southeast of the Hillside Rd and Western Hwy intersection
Gorinn 2 VAHR 7523-0002	[redacted]	Earth Mound Located within a paddock, southeast of the Hillside Rd and Western Hwy intersection
Western Highway 1 VAHR 7523-0283	[redacted]	A Scar Tree Located within stage 5 section of the survey (south side of the highway) between Woodnaggerak Road and Mile Post Lane
Western Highway 3 VAHR 7523-0277	[redacted]	A Scar Tree Located on the southern alignment of the activity area between Peackocks Road and the Buangor-Ben Nevis Road (stage 8).
Western Highway 4 VAHR 7523-0278	[redacted]	A Scar Tree Located within stage 8 section of the survey along the southern alignment of the activity area between Peackocks Road and the Buangor-Ben Nevis Road.
Western Highway 5 VAHR 7523-0281	[redacted]	A Scar Tree Located on the northern edge of the optional boundary, south of Western Hwy.
Western Highway 7 VAHR 7523-0284	[redacted]	An artefact scatter Located on a levee terrace in the paddock southeast of the Hopkins River, adjacent to Dobie Rd.

Table 6: Aboriginal sites identified within the Activity Area during the survey

The survey team was able to relocate two of the three previously recorded sites, specifically –

Site Name: LG/ST 23
VAHR 7523-0109
[redacted]

LG/ST 23 is a previously recorded living scarred tree. Large scar measuring 2.4m length by 0.34m width, 2.7m girth. 10m from drip line of canopy to base of tree. Extensive regrowth, which may obscure the greater scar sleeve. Historic axe marks towards base of scar. Tree is located approximately 250m south east of Langi Ghiran Picnic Ground Rd, north of the Western Hwy.

Figure 26: View of scar tree LG/ST

Figure 27: Close up view of base of scar on scar tree LG/ST

Site Name: Gorinn 1
VAHR 7523-0001
[redacted]

Gorinn 1 is a previously recorded earth feature that has been greatly affected by previous and current land use, as well as bioturbation by way of rabbit damage. The earth feature resembles a low relief mound that is almost unrecognisable. The site was originally recorded in 1976 and was noted to have been in poor condition at that time. The site comprises a rocky (Basalt) mound thought to be of anthropomorphic origin. The mound measures approximately 3m across and some 20cm in height. The site is located within a paddock, southeast of the Hillside Rd and Western Hwy intersection. The site occupies a heavily grassed area with almost no ground surface visibility, except for the crest of the mound itself.

Figure 28: View of Gorinn 1, mound featured in foreground

Site Name: Gorinn 2
VAHR 7523-0002
[redacted]

Gorinn 2 is also a previously recorded earth feature (mound), the site could not be clearly identified during the inspection. This is most likely due to the extensive damage that has been inflicted on the site by way of previous and current land use as well as rabbit burrowing. The site was originally located adjacent to Gorinn 1 in the 1976 assessment. However, no evidence of this site remains at present.

Figure 29: View of location of Gorinn 2.Not site unable to be visually identified during the survey.

A total of five Aboriginal sites (four scar trees and one artefact scatter) were also recorded during the survey.

Western Highway Scarred Tree 1
VAHR 7523-0283
[redacted]

An Aboriginal scarred tree was identified within stage 5 section of the survey (south side of the highway) between Woodnaggerak Road and Mile Post Lane. The tree on which the scars were identified was a mature *Eucalypt sp*. The scar is located on the trunk and is orientated west. Regrowth has subsequently obscured details of any tool marks and is apparent around the full perimeter of the bark, but in particular at the apex. Only the bark was worked.

The scar itself is broadly lenticular in form with regrowth altering its shape, where once it would have probably been more oval in form. The scar dimensions are: (length) 0.46m by (width) 0.22m by (depth) 0.11m, where the diameter at the middle of the scar is 4.16m. The height from ground level to the base of the scar is 1.14m. The size and form suggest a shield.

Figure 30: Western Highway Scarred Tree 1. East view of scarred tree: note the degree of regrowth around the scar, particularly at the apex where branches are growing out immediately above the scar

Western Highway Scarred Tree 3
VAHR: 7523-0277
[redacted]

This Aboriginal scarred tree was located on the southern alignment of the activity area between Peackocks Road and the Buangor-Ben Nevis Road (stage 8). It is the only Aboriginal scarred tree identified with multiple scars, all of which have been cut by a sharp steel-edged blade. Despite the

use of a metal tool, the scars are interpreted as Aboriginal in origin because the function of the scars is clearly as 'toe-holds' to aid climbing of the tree; the tree is dead. The diameter of the tree is 3.52m.

Five scars were identified that had been cut with a sharp edged steel tool, i.e. straight and very regular cuts. A sixth scar was also identified: this was however more recent (relatively fresh cut) and had clearly been done with a chainsaw. The base of scar 1 was located 0.50m above the ground surface and was orientated in a north east direction: both bark and heartwood had been cut. The scar dimensions are (length) 0.30m by (width) 0.11m by (depth) 0.09m: the blade cut is 0.09m in length. The base of scar 2) was located 1.0m above the ground surface and was orientated in a easterly direction: both bark and heartwood had been cut. The scar dimensions are (length) 0.16m by (width) 0.17m by (depth) 0.05m: the blade cut is 0.15m in length. The base of scar 3 was located 1.10m above the ground surface and was orientated in a north easterly direction: both bark and heartwood had been cut. The scar dimensions are (length) 0.07m by (width) 0.10m by (depth) 0.04m: the blade cuts are 0.07m and 0.08m in length. The base of scar 4 was located 0.85m above the ground surface and was orientated in a northerly direction: both bark and heartwood had been cut. The scar dimensions are (length) 0.11m by (width) 0.10m by (depth) 0.04m: the blade cuts are 0.20m and 0.09m in length. The base of scar 5 was located 0.15m above the ground surface and was orientated in a northerly direction: both bark and heartwood had been cut. The scar dimensions are (length) 0.29m by (width) 0.23m by (depth) 0.10m: the blade cut is 0.09m in length. All scar shapes are irregular in form and show signs of regrowth prior to the death of the tree.

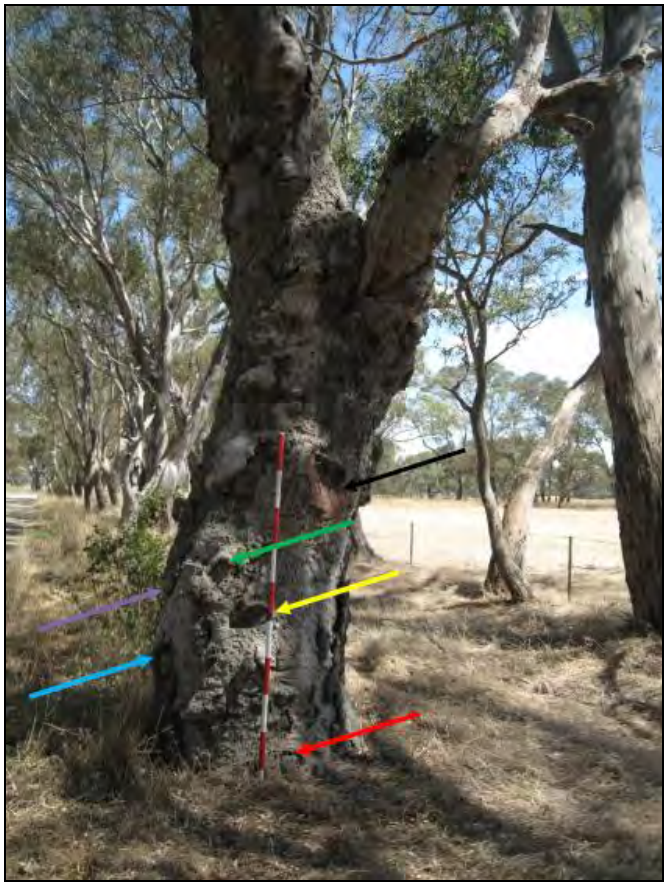


Figure 31: South view of toe hold tree: arrows indicate scars. Blue arrow: scar 1, Violet arrow: scar 2,Green arrow,: scar 3, Yellow arrow: scar 4, Red arrow: scar 5, Black arrow: modern chainsaw scars

Figure 32: Detail view of toe hold tree scar 1: the blade cut is 0.09 m

Figure 33: Detail view of toe hold scar tree 2, the blade cut is 0.15 m

Figure 34: Detail view of toe hold tree scar 3: the blade cuts are 0.07m and 0.08 m

Figure 35: Detail toe hold tree scar 4: the blade cuts are 0.20 m and 0.09 m

Figure 36: Detail view of toe hold tree scar 5 : the blade cut is 0.09 m

Western Highway Scarred Tree 4
VAHR 7523-0278
[redacted]

An Aboriginal scarred tree was identified within stage 8 section of the survey along the southern alignment of the activity area between Peakcocks Road and the Buangor-Ben Nevis Road. The tree on which the scars were identified is a dead tree, *Eucalypt sp*. The scar is located on the trunk and is orientated south west. Although the tree is now dead, regrowth along the full perimeter of the scar was advanced prior to the death of the tree itself and has obscured details of any tool marks. Only the bark has been worked.

The scar is a small oval shape. The base of the scar is located 1.30m above the ground surface and measures (length) 0.70m by (width) 0.30m by (depth) 0.24m. The diameter of the tree is 4.54m. The size and form (noting that it is heavily overgrown) suggest a shield.

Figure 37: North-east view of Western Highway Scarred Tree 4

Figure 38: Detail of the regrowth around the scar

Site Name: Western Hwy 5
VAHR: 7531-0281
[redacted]

Western Hwy 5 is a dead standing scarred tree with extensive (almost complete) regrowth. Girth measured to 3.8m; the original canopy size is unknown, and small hollows feature towards upper limbs. The tree on which the scars were identified was a mature *Eucalypt sp*. The scar is located on the trunk and is orientated west. Regrowth is advanced around the complete perimeter of the scar, particularly at the apex where a knot is forming.

Figure 39: View of Western Highway 5

Western Hwy 7
VAHR: 7523-0284
[redacted]

Western Hwy is a surface artefact scatter situated on a levee terrace, in the paddock southeast of the Hopkins River, adjacent to Dobie Rd. Numerous artefacts were encountered, which comprised milky quartz, silcrete, and opaque green knapped bottle bases. The site is defined by the extent of the levee ridge, which runs roughly north-south outside the activity area.

Figure 40: Surface of Western Highway 7

Figure 41: Quartz artefacts on the surface of Western Highway 7

Low ground surface visibility throughout much of the activity area hindered the ability to locate potential archaeological deposits. Furthermore, it is not possible to determine with any accuracy the nature, extent and significance of the artefact scatter recorded without undertaking additional testing. Based on the very small artefact sample, very little can be said about the activity area beyond the fact that Aboriginal people were clearly using the landscape. A more in depth interpretation of the sites within the activity area can only be achieved through the completion of a complex assessment of the activity area.

5.2.2.3. Hollow Tree Inspections

A total of twenty hollow bearing trees were identified during the survey which required a climbing inspection. These trees were unable to be inspected from ground level due to the height of the hollows. These 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). Seventeen of the trees were River Red Gums, and three were Yellow Boxes (see Table below).

Photographs of all hollow bearing trees are provided in the Arborist's Report (Appendix 4).

Hollow Bearing Tree No	Description of Tree	Description of Hollow
Hollow Tree 22	*Eucalyptus camaldulensis* River Red Gum. Mature tree, fair health and poor structure	Once climbed was found to not contain hollow – was a rip in the trunk where a branch had fallen off
Hollow Tree 45	*Eucalyptus camaldulensis* River Red Gum. Mature tree, poor health and fair structure	Upon closer inspection, hollow was thought to be modern and the result of a farmer removing a branch. Hollow contained a solid wood centre and travelled up the tree for approximately 1.5 m
Hollow Tree 55	*Eucalyptus camaldulensis* River Red Gum. Mature tree, fair health and structure	Tree 55 contained three hollows, two of which required climbing inspections and one of which was located at ground level. The hollows varied from 1 – 1.5 m in depth and there was a small animal long=-bone, possibly a femur, located in the base of the hollow which was open at the ground level.
Hollow Tree 56	*Eucalyptus camaldulensis* River Red Gum. Mature tree, poor health and structure	Only 40 cm deep. No contents.
Hollow Tree 58	*Eucalyptus camaldulensis* River Red Gum. Mature tree, dead and	The base of the hollow was approximately 3 m below the hollow itself and was infested with termites.

	poor structure	
Hollow Tree 60	*Eucalyptus camaldulensis* River Red Gum. Mature tree, fair health and fair structure	Once climbed was found not to contain a hollow – was a rip in the trunk where a branch had fallen off.
Hollow Tree 61	*Eucalyptus camaldulensis* River Red Gum. Mature tree, fair health and poor structure	Once climbed, was found not to contain a hollow – was a rip in the trunk where the branch had fallen off
Hollow Tree 71	*Eucalyptus camaldulensis* River Red Gum. Mature tree, poor health and structure	The base of the hollow was approximately 50 cm deep – the base was composed of dirt and leaf litter.
Hollow Tree 75	*Eucalyptus camaldulensis* River Red Gum. Mature tree, very poor health and structure	Very similar to Hollow Tree 71 – base approximately 50 cm deep and composed of dirt and leaf litter.
Hollow Tree 78	*Eucalyptus camaldulensis* River Red Gum. Mature tree, fair health and poor structure	Hollow is approximately 1.5 m deep and contains termite runs throughout.
Hollow Tree 81	*Eucalyptus camaldulensis* River Red Gum. Mature tree, fair health and fair structure	Depth of hollow was to a maximum of 10cm and contained possum excrement.
Hollow Tree 88	Eucalyptus melliodora Yellow Box. Mature tree, very poor health and structure	This tree provided one of the deepest hollows at almost 4 m. The hollow base was full of broken wood and the base was covered in fresh leaf litter and dirt.
Hollow Tree 95	*Eucalyptus melliodora* Yellow Box. Mature tree, dead with poor structure	Depth of hollow was approximately 1 metre. The base of the hollow was covered in dirt and wood.
Hollow Tree 97	*Eucalyptus melliodora* Yellow Box. Mature tree, dead with poor structure	Depth of hollow was approximately 3 metres. Two hollows were inspected. The base of the hollows was covered in dirt and rotten wood.
Hollow Tree 110	*Eucalyptus camaldulensis* River Red Gum. Mature tree, fair health and poor structure	Hollow Tree 110 was hollow all the way to the base of the tree. The base was covered in dirt and leaf litter.
Hollow Tree 130	*Eucalyptus camaldulensis* River Red Gum. Mature tree with fair health and structure	Hollow Tree 130 contained three hollows. The base of each hollow contained only organic matter (dirt and leaf litter)
Hollow Tree 132	*Eucalyptus camaldulensis* River Red Gum. Mature dead tree, structure has failed.	Hollow Tree 132 contained one hollow. The base contained organic matter (dirt and leaf litter only)
Hollow Tree 133	*Eucalyptus camaldulensis* *River Red Gum. Mature tree with fair health and fair structure*	Hollow Tree 133 contained one hollow, the endoscope was not required to see the base as it was extremely shallow. The base contained leaf litter only.
Hollow Tree 134	*Eucalyptus camaldulensis* River Red Gum. Mature tree, fair health and structure	Hollow Tree 134 contained two hollows, both of which were shallow and contained leaf litter in their base.
Hollow Tree 136	*Eucalyptus camaldulensis* River Red Gum. Mature tree, fair health and structure	Hollow Tree 136 contained two hollows, both of which contained lead litter at their base.

Table 7: Hollow bearing trees which required climbing inspections and their results

There was no evidence of human burials or mortuary goods within any of the hollow trees inspected within the activity area.

Figure 42: Endoscope equipment used for climbing hollow tree inspections

Figure 43: An example of the type of image produced using the endoscope at the base of the hollows. Note the clarity of the image - wood grain and leaves are clearly visible

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

Map 10: Survey Coverage and newly recorded sites within the activity area

Map 11: Survey Transect Map 1

Map 12: Survey Transect Map 2

Map 13: Survey Transect Map 3

Map 14: Survey Transect Map 4

Map 15: Survey Transect Map 5

Map 16: Survey Transect Map 6

Map 17: Survey Transect Map 7

Map 18: Survey Transect Map 8

Map 19: Survey Transect Map 9

Map 20: Survey Stage Map 10

Map 21: Survey Stage Map 11

Map 22: Survey Transect Map 12

Map 23: Survey Transect Map 13

Map 24: Survey Transect Map 14

Map 25: Survey Transect Map 15

Map 26: Survey Transect Map 16

Map 27: Survey Transect Map 17

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 were identified during the survey.

A total of five new sites (four scarred trees and one artefact scatter) were located as a result of the standard assessment. Low ground surface visibility hindered the ability to accurately determine the extent of the artefact scatter, as such, it is not possible to determine with any accuracy the nature, extent and significance of this artefact scatter and other potential archaeological deposits without undertaking a stage of complex testing. Based on the very small artefact sample, very little can be said about the site beyond the fact that Aboriginal people were clearly using the landscape.

A total of thirteen climbing hollow bearing trees were also located during the survey. Following a thorough inspection of each hollow, no human burials or mortuary goods were located within these trees.

There was no culturally modified charcoal, caves, rock shelters or cave entrances within 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 five new sites (four scarred trees and one artefact scatter) 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 Martang 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. Fiery 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 Fiery 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)(e)* 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: 15 / 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 EACH RELEVANT REGISTERED ABORIGINAL PARTY TO THE SPONSOR SPECIFYING WHETHER IT INTENDS TO EVALUATE THE PLAN

Mr. Tim Chatfield
Chairperson / CEO

m a r t a n g
Djab Wurrung Country

Martang Pty Ltd
1362 Lake Fyans Road, POMONAL VIC 3381
AUSTRALIA

p. 03 53 566188 | f. 03 53 566108 | m. 0428 564 676 | e. martang1362@bigpond.com

Monday, 25 July 2011

Mr Colin Scheggia
Senior Planning Engineering Officer
Western Highway Project
237 Ring Road Wendouree,
Victoria, 3355

Fax: +61 (03 5309 1099)

Dear Mr Scheggia

Re: Notice of intend to prepare a Cultural Heritage Management Plan (CHMP) – WESTERN HIGHWAY DUPLICATION (FIERY CREEK to ARARAT)

Your notification has been accepted and the Martang Pty Ltd Registered Aboriginal Party advises that we intend to evaluate this CHMP plan when complete.

If you require any additional information about this advise, please contact Mr Tim Chatfield at Martang Pty Ltd by telephone on 53 566188 or 0428 564676

Yours Sincerely

Tim Chatfield

Tim Chatfield
Chairperson/CEO
Martang Pty Ltd
Registered Aboriginal Party
Djabwurrung Country

APPENDIX 3 – GLOSSARY

[Add to the following simple explanations for any other technical terms specifically used in the Plan.]

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 Object means an object or artefact that relates to the Aboriginal occupation of the land and is of Cultural Heritage Significance to the Aboriginal people of Victoria.

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.

Dispute means a disagreement relevant to the obligations of a Party arising under this Plan.

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

Works Area means the area in which any works are taking place.

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)*.