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Draft Report

Mt Atkinson Precinct Structure Plan (PSP1082), Victoria:

Aboriginal Heritage Impact Assessment

Client

Metropolitan Planning Authority (MPA)

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Ecology and Heritage Partners Pty Ltd

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Cover Photo: View from crest of Mt. Atkinson, facing northwest from the northern side.

(Photo by Ecology and Heritage Partners Pty Ltd)

DOCUMENT CONTROL

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ABBREVIATIONS

See Glossary (Appendix 6, Page 136) for explanation of some of these terms.

Acronym	Description
Act, the	*Aboriginal Heritage Act 2006*
AHIA	Aboriginal Heritage Impact Assessment
APD	Authorised Project Delegates
BLCAC / Bunurong	Bunurong Land Council Aboriginal Corporation
BWF / Boon Wurrung	Boon Wurrung Foundation Ltd
CHA	Cultural Heritage Advisor
CHL	Commonwealth Heritage List
CHMP	Cultural Heritage Management Plan
CHP	Cultural Heritage Permit
CMA	Catchment Management Authority
DEPI	Department of Environment and Primary Industries (Victoria)
DoE	Department of the Environment (Commonwealth)
DPC	Department of the Premier and Cabinet (Victoria)
DTPLI	Department of Transport, Planning and Local Infrastructure
EES	Environment Effects Statement
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EVC	Ecological Vegetation Class
HV	Heritage Victoria
LDAD	Low Density Artefact Distribution
NES	National Environmental Significance
NHL	National Heritage List
NNTT	National Native Title Tribunal
OAAV	Office of Aboriginal Affairs Victoria
PMST	Protected Matters Search Tool
RAP	Registered Aboriginal Party
Regulations, the	*Aboriginal Heritage Regulations 2007*
RNE	Register of the National Estate
RTH	Radial Test Hole
DoE	Department of the Environment (Commonwealth)
SGD	Significant Ground Disturbance
SLV	State Library of Victoria
STH	Shovel Test Hole

Acronym	Description
STP	Stratigraphic Test Pit
T/O	Traditional Owner/s
VAHC	Victorian Aboriginal Heritage Council
VAHR	Victorian Aboriginal Heritage Register
VHI	Victorian Heritage Inventory
VHR	Victorian Heritage Register
WHL	World Heritage List
WTLCCHCI / Wurundjeri	Wurundjeri Tribe Land and Compensation Cultural Heritage Council Inc

EXECUTIVE SUMMARY

Introduction

Ecology and Heritage Partners Pty Ltd was commissioned by Metropolitan Planning Authority (MPA) to prepare an Aboriginal Heritage Impact Assessment (AHIA) for the proposed Mt Atkinson Structure Plan (PSP No. 1082) in Truganina and Mount Cottrell, Victoria (Melton City Council) (Map 1, Page 102).

The Activity

The MPA is preparing a Precinct Structure Plan (PSP) for the study area to provide a master plan for future development within the study area. This investigation is intended to identify issues relating to Aboriginal cultural heritage issues that may form either opportunities or constraints to the overall master planning process.

The Study Area

The study area is approximately 1070 ha in size and is bounded to the north by the Western Freeway, to the east by Hopkins Road, to the south by Riding Boundary Road and to the west by rural properties fronting Troups Road South and the future Outer Metropolitan Ring Road (OMR). The Ballarat railway line transects the northern section of the study area from south east to north west.

Methods

The assessments undertaken as part of this AHIA were a background review and a field survey. The background review consisted of reviews of relevant heritage registers and databases, previous archaeological publications and unpublished reports, and a review of the environmental context of the study area, culminating in a predictive statement regarding the likelihood of Aboriginal cultural heritage occurring in the study area.

The field survey consisted of a ground surface survey of the study area by qualified archaeologists to discover any Aboriginal cultural heritage visible on the ground surface and to identify any areas of Aboriginal cultural heritage likelihood (areas that are considered likely to contain subsurface Aboriginal archaeological deposits).

Subsurface testing did not form part of the scope of works for this assessment.

Results

Desktop Assessment

The desktop assessment indicated that there have been 49 Aboriginal archaeological sites previously recorded within a 4 km radius of the study area (Map 8, Page 107). A total of 18 sites were located within the study area. The desktop assessment concluded that stone artefact sites, namely low density artefact distributions, are the type of Aboriginal site most likely to occur within the activity area.

Field Survey

The activity area was surveyed between 17 June 2014 and 20 June 2014 by Ecology and Heritage Partners Pty Ltd Archaeologist/Cultural Heritage Advisor Terence MacManus, with Shane Clark representing the RAP

applicant for the study area, the Boon Wurrung, and Mike Haley representing the Aboriginal stakeholder group for the area, the Bunurong.

The field survey resulted in the identification of two new Aboriginal archaeological sites and the reinspection of 18 previously recorded Aboriginal sites within the study area:

Previously Unrecorded Sites

- VAHR 7822-3809 (Mt. Atkinson PSP AS 1): this site consists of 41 artefacts identified in the northwestern corner of the study area, within property number One (Map 10, Page 109; Plates 31 to 33). These artefacts were all found on the surface, across the mid-slope of a small rise in the southern section of the property. This rise elevates from the generally flat and slightly undulating plain to the north, and is bounded by a railway cutting at the southern boundary of the property. This railway cutting is likely to have removed any artefacts which may have been present in that area, however the site may be related to the previously-identified site VAHR 7822-3694 (Troups Road Low Density Artefact Scatter) which is located approximately 75 m southwest of the extent of this newly-identified site extent. Further details on this site are presented in Section 5.
- VAHR 7822-3802 (Mt. Atkinson PSP LDAD): this site consists of 16 artefacts found scattered across the entire study area (Map 10, Page 109; Plates 34 to 37). These artefacts were generally identified in areas of greater visibility, and therefore likely represent the 'background scatter' of Aboriginal occupation throughout the wider region. Further details on these artefacts are presented in Section 5.

Previously Recorded Sites

- VAHR 7822-0206 (Mt. Atkinson) originally comprised a large scatter of quartz, quartzite and silcrete flaked pieces, although the site card and associated report do not specify the number and spread of these artefacts at the site location. The field survey identified a total of 178 artefacts within the general region marked on the current VAHR 7822-0206 site card (Plates 38 to 40).
- VAHR 7822-1534 (Mt. Atkinson IA 1) originally comprised one quartz debris flake. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 41).
- VAHR 7822-1535 (Mt. Atkinson IA 2) originally comprised two quartz debris flakes and two quartz cores. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 42).
- VAHR 7822-1536 (Mt. Atkinson IA 3) originally comprised three quartz flakes. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 43).
- VAHR 7822-1537 (Mt. Atkinson IA 4) originally comprised one quartzite flake. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 44).

- VAHR 7822-1538 (Mt. Atkinson IA 5) originally comprised one quartz core and three quartz flakes. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 45).
- VAHR 7822-1539 (Mt. Atkinson IA 6) originally comprised one quartz core, one broken quartz scraper and two quartz debris flakes. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 46).
- VAHR 7822-1540 (Mt. Atkinson IA 7) originally comprised one quartzite flake. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 47).
- VAHR 7822-1541 (Mt. Atkinson IA 8) originally comprised one quartz flake, one quartzite core flake and one silcrete scraper (Plate 48).
- VAHR 7822-1542 (Mt. Atkinson AS 1) originally comprised six quartz debris flakes, one quartz core and one quartzite debris flake. The site was reinspected during the field survey, and one new silcrete whole flake was identified in association with this site (Plates 49 and 50).
- VAHR 7822-1543 (Mt. Atkinson AS 2) originally comprised 16 stone artefacts made from silcrete, quartz, quartzite and black volcanic basalt. The site was reinspected during the field survey, and 17 artefacts were identified in association with the site. It is unclear whether any or all of these artefacts were the same as those originally recorded, but it is clear that they were found within and around the same site location (Plates 51 and 52).
- VAHR 7822-1544 (Mt. Atkinson AS 3) originally comprised a total of 17 stone artefacts made from silcrete, quartz, quartzite and black volcanic basalt. The site was reinspected during the field survey, and two broken quartzite flakes were identified in association with the registered site. These flakes were identified along the same vehicle track in which the original artefacts were recorded, and it is unclear whether they represent two of the same artefacts as the original recording, or two previously unrecorded artefacts (Plates 53 and 54).
- VAHR 7822-1546 (Mt. Atkinson AS 5) originally comprised a total of 10 stone artefacts made from quartz, silcrete and quartzite. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 55).
- VAHR 7822-1547 (Mt. Atkinson AS 6) originally comprised a total of seven stone artefacts made from silcrete and quartzite. The site was reinspected during the field survey and one piece of quartzite flaking debris was identified in association with the site. This artefact appears to be a previously unrecorded artefact, as it was found on the adjoining basalt boulder extruding from the slope of Mt. Atkinson to the artefacts previously recorded for the site (Plates 56 and 57).
- VAHR 7822-1548 (Mt. Atkinson AS 9) originally comprised one silcrete backed blade. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 58).

- VAHR 7822-1549 (Mt. Atkinson AS 10) originally comprised one quartzite broken flake. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 59).
- VAHR 7822-1550 (Mt. Atkinson AS 11) originally comprised one silcrete blade and two silcrete debris flakes. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 60).
- VAHR 7822-1551 (Mt. Atkinson AS 12) originally comprised one silcrete core. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 61).

The field survey also identified a total of six large areas of particular Aboriginal likelihood (Map 9, Page 110):

- The relatively undisturbed land in the northwestern corner of the study area (within property numbers 1, 6 and 7) between the location of 7822-3809 (Mt. Atkinson PSP AS 1) and the LDAD artefacts found in property number 7;
- The more elevated undulating land immediately south of Greigs Road, in property number 32;
- The peak and upper slopes of Mt. Atkinson, running through property numbers 27, 29, 31, 32, 40, 41 and 42, and the upper to mid slope running through property numbers 33, 34 and 35. This is considered one entire area of sensitivity due to the shared elevation between the undulating sections of this slope;
- The elevated outlook of land in the east of the study area overlooking the low plains in the south eastern section of the study area, within property number 48;
- The elevated stony rises in the southern end of the study area overlooking the surrounding low undulating plains, within property numbers 51 and 52;
- The very stony undulating rise in the southeastern corner of the study area, between the boundary of the study area and the alignment of a shallow drainage line, in property number 52.

This pattern of site location and areas of Aboriginal cultural heritage likelihood are characteristic of Aboriginal cultural heritage within the Victorian Volcanic plains geographical region, and has implications for the future development of the area. These implications are discussed further in Part 2 of this report and summarised in Table 1 and Figure 1:

Table 1: Cultural heritage requirements for future development in the Mt. Atkinson PSP area.

MPA Property Number	Mandatory CHMP Required	Voluntary CHMP Recommended	No Further Assessment Required
1	☑		
2			☑
3		☑	
4			☑
5		☑	
6		☑	
7	☑		
8			☑
9			☑
10			☑
11			☑
12			☑
13	☑		
14			☑
15			☑
16	☑		
17	☑		
18			☑
19			☑
20			☑
21			☑
22			☑
23			☑
24			☑
25	☑		
26			☑
27	☑		
28			☑
29		☑	
30			☑
31	☑		
32	☑		

MPA Property Number	Mandatory CHMP Required	Voluntary CHMP Recommended	No Further Assessment Required
33	☑		
34	☑		
35	☑		
36			☑
37			☑
38			☑
39			☑
40	☑		
41	☑		
42	☑		
43			☑
44			☑
45			☑
46			☑
47	☑		
48	☑		
49	☑		
50			☑
51	☑		
52	☑		
53			☑
54			☑
55			☑
56			☑
57			☑
58			☑
59			☑
60			☑
61			☑

Figure 1: Summary of Future Cultural Heritage Requirements by MPA Property number.

Summary of Management Recommendations

This assessment is intended to inform the master planning for a Precinct Structure Plan. Therefore at this stage potential impacts to the sites within the study area are unknown. Further investigation of the sites within the study area as part of activity-specific CHMPs will provide detailed management recommendations

for these sites. The following generic recommendations are given to facilitate appropriate management of these sites in the interim, and to identify future possible constraints to proposed development activities within the study area.

Recommendation 1: Site management of VAHR 7822-0206 (Mt. Atkinson)

This site is located within Property 31, and is considered a site of high significance. Future high impact activities in the region should aim to avoid impact to this site, preferably utilising the site location as part of public open space. If impact to the site's location cannot be avoided by future activities, then a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 2: Site management of VAHR 7822-1534 (Mt. Atkinson IA 1)

This site is located within Property 33, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 3: Site management of VAHR 7822-1535 (Mt. Atkinson IA 2)

This site is located within Property 32, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 4: Site management of VAHR 7822-1536 (Mt. Atkinson IA 3)

This site is located within Property 48, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 5: Site management of VAHR 7822-1537 (Mt. Atkinson IA 4)

This site is located within Property 33, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 6: Site management of VAHR 7822-1538 (Mt. Atkinson IA 5)

This site is located within Property 33, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 7: Site management of VAHR 7822-1539 (Mt. Atkinson IA 6)

This site is located within Property 32, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 8: Site management of VAHR 7822-1540 (Mt. Atkinson IA 7)

This site is located within Property 33, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 9: Site management of VAHR 7822-1541 (Mt. Atkinson IA 8)

This site is located within Property 33, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 10: Site management of VAHR 7822-1542 (Mt. Atkinson AS 1)

This site is located within Property 48, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefacts not identified during this assessment, and to establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 11: Site management of VAHR 7822-1543 (Mt. Atkinson AS 2)

This site is located within Property 48, and is considered a site of moderate significance. Future high impact activities in the region should aim to avoid impact to this site, preferably utilising the site location as part of public open space. If impact to the site's location cannot be avoided by future activities, then a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 12: Site management of VAHR 7822-1544 (Mt. Atkinson AS 3)

This site is located within Property 48, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefacts not identified in this assessment, and to establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 13: Site management of VAHR 7822-1546 (Mt. Atkinson AS 5)

This site is located within Property 31, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefacts not identified in this assessment, and to establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 14: Site management of VAHR 7822-1547 (Mt. Atkinson AS 6)

This site is located within Property 32, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 15: Site management of VAHR 7822-1548 (Mt. Atkinson AS 9)

This site is located within Property 52, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 16: Site management of VAHR 7822-1549 (Mt. Atkinson AS 10)

This site is located within Property 51, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 17: Site management of VAHR 7822-1550 (Mt. Atkinson AS 11)

This site is located within Property 49, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 18: Site management of VAHR 7822-1551 (Mt. Atkinson AS 12)

This site is located within Property 51, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 19: Site management of VAHR 7822-3809 (Mt. Atkinson PSP AS 1)

This site is located within Property 1, and is considered a site of moderate significance. Future high impact activities in the region should aim to avoid impact to this site, preferably utilising the site location as part of public open space. If impact to the site's location cannot be avoided by future activities, then a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 20: Site management of VAHR 7822-3802 (Mt. Atkinson PSP LDAD)

This site is located within Properties 7, 17, 25, 40, and 48, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however if impact to the site's locations cannot be avoided by future activities, then a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to establish the true nature and extent of the site at each of the recorded artefact locations, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 21: Areas of Cultural Heritage Sensitivity

Areas of legislative cultural heritage sensitivity are present in Properties 1, 7, 13, 16, 17, 25, 27, 31, 32, 33, 34, 35, 40, 41, 42, 47, 48, 49, 51 and 52. If any high impact activity is proposed within these areas of sensitivity, then a mandatory CHMP will be required under the *Aboriginal Heritage Act 2006*.

Recommendation 22: Areas of Cultural Heritage Likelihood

The field survey identified areas of cultural heritage likelihood within Properties 1, 3, 5, 6, 7, 25, 27, 29, 31, 32, 33, 34, 35, 40, 41, 42, 44, 47, 48, 49, 50, 51 and 52. If any high impact activities are proposed within these areas of likelihood, then a voluntary CHMP is recommended to manage any potential Aboriginal cultural heritage in these areas.

Recommendation 23: Areas with no areas of Cultural Heritage Sensitivity or areas of Cultural Heritage Likelihood

This assessment identified that Properties 2, 4, 8, 9, 10, 11, 12, 14, 15, 18, 19, 20, 21, 22, 23, 24, 26, 28, 30, 36, 37, 38, 39, 43, 44, 45, 46, 50, 53, 54, 55, 56, 57, 58, 59, 60 and 61 did not contain any areas of Aboriginal cultural heritage sensitivity or likelihood. No further Aboriginal cultural heritage investigations will therefore be required for these areas prior to development.

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1 INTRODUCTION

1.1 Background and Scope of Works

This Aboriginal Heritage Impact Assessment (AHIA) has been prepared for the Metropolitan Planning Authority (MPA) to identify Aboriginal cultural heritage sites within the Mt Atkinson Precinct Structure Plan (No 1082) area in Truganina and Mt. Cottrell, Victoria (Melton City Council) (Map 1, Page 100).

This assessment will inform future land use and the future urban structure for the PSP, and discuss the implications of any significant places and sites on the future development of the region. The assessment of the Aboriginal cultural heritage values of the study area will be conducted in accordance with best practice and the guidelines provided by the Office of Aboriginal Affairs (OAAV).

The project brief agreed upon by Ecology and Heritage Partners Pty Ltd and the MPA is as follows:

- Review the Aboriginal Cultural Heritage Register and Information System (ACHRIS) to identify recorded Aboriginal sites and known areas of Aboriginal cultural heritage sensitivity within the precinct;
- Review of any previous assessments which are relevant to the PSP area, including the Melton Heritage Study, and relevant archaeological assessment reports such as the survey by Thomson (2003);
- Review of the geological and geomorphological framework of the study areas, and an evaluation of how this would have influenced Aboriginal occupation of the study area in the past;
- Review of the vegetative history of the study area and an evaluation of how resource availability would have affected Aboriginal occupation of the area in the past (particularly in relation to resource extraction and the likelihood of nearby sites);
- Review of land use and local histories, and conduct a search of archival sources (e.g. historic maps and aerial photos), which are relevant to the identification of areas of significant ground disturbance as defined by the *Aboriginal Heritage Regulations 2007* which would affect determinations of areas of cultural heritage sensitivity within the study area; and
- Preparation of a comprehensive Aboriginal Heritage site prediction plan which will determine the likelihood of Aboriginal cultural heritage being present throughout the study area based on the results of the previous studies, the known heritage in the area, and the characteristics of the landforms particularly relating to known Aboriginal land-use patterns for the region. This site prediction plan will form the basis for the maps of Aboriginal heritage sensitivity and the development of the site assessment methodology.
- Preparation of a detailed survey methodology, including the identification of areas of Aboriginal cultural heritage sensitivity and recorded Aboriginal sites.
- All Aboriginal sites identified during the field survey, including the reinspection of the previously-recorded sites, will be recorded using a DGPS with accuracy to ±1.0 m in order to provide MPA with the most up-to-date data possible.

It was agreed in consultation with MPA that the methodology would include a combination of pedestrian, vehicular and visual survey with the areas of greatest potential archaeological sensitivity being targeted for more intensive assessment. Decisions on which areas of the property were subject to which level of assessment would be based on the results of the background research for the area indicating the landforms, land use history, and location of previously recorded sites within the study area.

Each recorded site in the area was to be revisited and a note made of its current condition, compared to the condition of the site at the original time of recording. All new sites identified within the study area were recorded in full in accordance with the Guidelines set out by *The Archaeologist's Field Handbook* (Burke and Smith 2004), which conform to the standards required by OAAV. The field survey also aimed to identify any constraints or opportunities in relation to the future development of the PSP areas, such as which areas would require further cultural heritage assessments prior to development, and which areas were unlikely to require such investigations.

1.2 Report Framework

This report has been prepared in accordance with the guidelines set out by OAAV regarding Archaeological Survey methodology and practice and has also been prepared in accordance with best practice and the guidelines of the Australian Association of Consulting Archaeologists (AACAI) code of ethics.

Places of Aboriginal cultural heritage significance were assessed against the criteria as defined in Section 4 of the *Aboriginal Heritage Act 2006*, and OAAV Guidelines for Registering Aboriginal Places (2014).

1.3 Name of Cultural Heritage Advisor

This report was prepared by Ecology and Heritage Partners Pty Ltd Archaeologists/Cultural Heritage Advisors Terence MacManus and Rachel Power. The quality assurance review was undertaken by Ecology and Heritage Partners Pty Ltd Director/Principal Heritage Advisor Oona Nicolson. The field work was undertaken by Ecology and Heritage Partners Pty Ltd Archaeologist/Cultural Heritage Advisor Terence MacManus. Mapping was provided by Ecology and Heritage Partners Pty Ltd GIS Officer Monique Elsley.

1.4 Historical Heritage

A separate report detailing historical heritage has been prepared for this project. The report is a Post-Contact Heritage Assessment. The HV reference number for this project is #4489 (Bullers 2014).

1.5 Location of Study Area

The study area is located in Truganina and Mt. Cottrell, Victoria (City of Melton). The study area is approximately 1070 ha in size and is bounded to the north by the Western Freeway, to the east by Hopkins Road, to the south by Riding Boundary Road and to the west by rural properties fronting Troups Road South and the future Outer Metropolitan Ring Road (OMR). The Ballarat railway line transects the northern section of the study area from south east to north west.

1.6 Proposed Activity

The MPA is preparing a Precinct Structure Plan (PSP) for the study area to provide a master plan for future development within the study area (Map 3, Page 102).

The West Growth Corridor Plan identifies Mt Atkinson as providing local and regional employment opportunities with significant areas proposed for industrial uses as well as for business/ residential uses. The area will have excellent accessibility to surrounding areas via the existing Western Freeway and Outer Metropolitan Ring Road, and via Hopkins Road to the east. Public transport access will be by bus in the first instance, with potential for rail access at a new train station along the Melbourne - Ballarat line.

1.7 Name of Client

This report has been commissioned by the MPA (ABN: 77 803 352 468).

1.8 Registered Aboriginal Parties

There was not a RAP in place for the study area at the time the preparation of this report commenced. However, the Boon Wurrung Foundation Limited (BWFL) have an application for RAP status over land inclusive of the study area currently before the Aboriginal Heritage Council, and therefore must be consulted in relation to cultural heritage within the study area. The Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) also had an application for RAP status over the study area at the time this study commenced and, although their application was rejected by the Aboriginal Heritage Council shortly following the inception of this project, they were also therefore invited to participate in the assessment.

In addition to the RAP applicants for the area, there was one group recognized by the Aboriginal Heritage Council as Aboriginal stakeholders for the area, the Bunurong Land Council Aboriginal Corporation (BLCAC). As such, the BLCAC were also consulted with during the assessment.

1.9 Native Title

There are currently no Native Title claims or determinations over the activity area and as the activity area predominantly comprises privately owned land, Native Title has been extinguished in these areas.

Parts of the activity area comprise crown land in the form of road reserves. The date on which a road reservation was created affects the Native Title determination (VicRoads 2007). Native Title will generally be extinguished in relation to all road reservations created before 31 October 1975, regardless of having a road constructed within them. For roads reservations created between 31 October 1975 and 23 December 1996, Native Title determination is dependent on whether the reservation is vacant or constructed (has a road built within it). If vacant, Native Title is not extinguished. If constructed, and the reservation area is or was necessary for or incidental to the construction, establishment or operation of the road, Native Title will be extinguished. Native title will generally not be extinguished in relation to road reservations created after 23 December 1996.

All road reserves in the study area were gazetted and roads constructed prior to 31 October 1975; therefore Native Title has been extinguished (see Appendix 1, Page 121, for a summary of the Commonwealth *Native Title Act 1993*).

1.10 Report Review and Distribution

Copies of this AHIA will be lodged with the following organisations:

- The MPA;
- Melton City Council;
- Bunurong Land Council Aboriginal Corporation;
- Boon Wurrung Foundation Limited;
- Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated; and
- Office of Aboriginal Affairs

1.11 Heritage Legislation

An overview of the *Aboriginal Heritage Act 2006*, the Commonwealth *Native Title Act 1993*, the Victorian *Planning and Environment Act 1987* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* is included in Appendix 1, Page 121. This legislation is subordinate to the Victorian *Coroners Act 2008* in relation to the discovery of human remains.

1.12 Limitations

The assessment is limited to the requirements outlined in the brief provided by MPA. Therefore it provides a brief analysis of the known Aboriginal cultural heritage sites within the PSP, together with a list of Aboriginal cultural heritage that was identified in the study area through a targeted Archaeological Survey. Physical identification of Aboriginal cultural material is limited to those areas where landowner access was granted, or was visible from public land (e.g. roadsides).

Analysis of the Aboriginal archaeological potential for the study area was based on analysis of previously registered sites, previous archaeological and cultural heritage reports, anecdotal evidence from landowners in the area, the results of the field survey and analysis of available mapping to identify landforms with archaeological sensitivity.

2 ABORIGINAL CULTURAL HERITAGE ASSESSMENT

2.1 Desktop Assessment

The desktop assessment includes research into information relating to Aboriginal cultural heritage in or associated with the study area.

2.1.1 Geographic Region

The study area forms a part of the Victorian Volcanic Plain bioregion (VVP). The VVP is a wide-scale geological unit that stretches over most of western Victoria, from western Melbourne to the South Australian border. It is dominated by Cainozoic volcanic deposits which form extensive flat and undulating basaltic plains containing stony rises, old lava flows, volcanic cones and old eruption points. The VVP is also dotted with numerous lakes and river systems, both fresh and saline. Specifically, the study area occurs in a more discrete unit of the VVP, being the Werribee-Keilor Plains.

For the purposes of this report, the geographic region relating to the study area is defined as the geomorphological characteristics of the VVP within the boundaries of the study area. These geomorphological characteristics are defined by the Department of Environment and Primary Industries' (DEPI) Victorian Geomorphological Framework (DEPI 2014a).

2.1.2 Environmental Context

Environmental factors influence how land may have been used in the past. This section reviews the environmental context of the study area to gain an understanding of environmental factors relevant to Aboriginal cultural heritage.

2.1.2.1 Geology, Geomorphology and Soils

The study area comprises two geomorphological units, VGF 6.1.2 'stony rises' and VGF 6.1.3 'plains with poorly developed drainage and shallow regolith'.

VGF 6.1.2 is characterised by stony rise lava flows from the most recent volcanic activity in the area. Such eruption points are scattered throughout the VVP. Located within the study area, Mt Atkinson is described by geologists as a 'lava hill', a source of extended flows of lava whose crater is now 'absent or ambiguous'. It is one of 400 inactive volcanic eruption points on the Victorian Volcanic Plain, stretching between Darebin Creek and the South Australian border. Lava flows were broad and thin, extending mainly north, east and south, and influencing the course of Kororoit Creek to the north.

Today, Mt Atkinson is seen as a low hill. Towards the end of the vent's eruptive phase, the formerly fluid lava flow became more viscous and a ridge, extending 2 km east of the vent built up. The lava flows were effusive and slow cooling, producing relatively dense basalt, with smooth and round field stones. The longest tongue of lava flowed south east of Mt Atkinson as far as the Mt Atkinson Dry Stone Wall Precinct (see Bullers 2014). One Aboriginal site has been recorded at the top of Mt Atkinson prior to this assessment (registered by duCros, 1988).

The shallow plains characterised by VGF 6.1.3 developed from the lava flows across the area during the Late Pliocene and during the Pleistocene, during a geological time known as the 'Newer Volcanics' (between approximately 1 and 2 million years ago). They are characterised by a thin basaltic regolith which clearly displays lava flow boundaries and has led to frequent corestones ('floaters') extruding on the surface. The boundaries of these lava flows have led to shallow drainage lines throughout this geomorphological unit, which feed into ephemeral wetlands and swamps. A number of waterways incise this deposit, including Kororoit Creek and Skeleton Creek, a branch of which flows south through the north east section of the current study area (DEPI 2014b) (Map 5, Page 106).

Lithic materials commonly available I areas of volcanic activity include basalt, andesite, trachyte, phonolite, obsidian, quartzite and hornfels. These are igneous rocks which are formed when hot silicate melts and crystallises. Their crystalline structure is usually interlocking, however super-cooling of a silicate melt may result in the non-crystalline form know as glass (obsidian). Basalt is the most common igneous rock. Quartzite (quartz-rich sandstone) and hornfels (shale metamorphosed by high temperature) are metamorphic rocks with are formed by "various geological processes involving changes in temperature, pressure or chemistry" (Holdaway and Stern 2004:19-26).

As discussed above, the study area (and greater area of the VVP) is characterised by ancient volcanic lava flows. These lava flows have led to the development of shallow sodic and non-sodic texture contrast soils such as sodosols and dermosols. Sodosols typically display a stark contrast between the A and B horizons, with both colour and texture markedly different in the weakly acidic soil and clay layers. Dermosols do not share this distinction between the A and B horizons, instead having gradational colours and textures between the two units, although they tend to have a more layered structure throughout the B horizon. Due to the shallow nature of the soils in the region, the clay B horizons tend to expand and contract with moisture, leading to cracking throughout the units (DEPI 2014b).

2.1.2.2 Landforms and Hydrology

Located in the northern half of the study area and approximately 320,000 square metres in total, the low stony rise of Mt Atkinson is the most prominent feature in the landscape. The remainder of the study area comprises shallow plains characterised by fertile cracking basalt soils prone to seasonal waterlogging and occasional basalt floaters. The headwater of a branch of Skeleton Creek commences in the south east corner of the study area, running north to south towards Port Phillip Bay. Skeleton Creek has been classed as being in 'moderate condition' by Melbourne Water (Melbourne Water 2014).

The study area is located approximately 1 km south of Kororoit Creek. Both Skeleton and Kororoit Creeks would have been an important part of the regional landscape for Aboriginal people. These permanent sources of water would have provided numerous food resources, materials and a constant supply of fresh water. Previous archaeological studies clearly identify high concentrations of Aboriginal archaeological sites within 200 metres of both Skeleton and Kororoit Creek and associated swamps.

2.1.2.3 Vegetation

According to DEPI's Ecological Vegetation Classes (EVCs), the soils of the VVP would have historically supported vegetation classified as a large range of vegetation (DEPI 2014c). Within the current study area at the time of European settlement, the vegetation would have been predominantly representative of EVC

132_61: Heavier-soils Plains Grassland. This vegetation class consisted of low-lying treeless plants such as graminoids and herbs and included such species as *Pimelea humilis* (common rice-flower), *Leptorhynchos squamatus* (Scaly Buttons), *Themeda triandra* (kangaroo grass) and *Convolvulus erubescens* (pink bindweed) (Map 7, Page 106).

The broader surrounding region would also held pockets of EVC 125: Plains Grassy Wetland. Similar to EVC132_61, this EVC is listed as 'usually treeless', although it has been noted to include some instances of *Eucalyptus camaldulensis* (river red gum) or *Eucalyptus ovata* (swamp gum). It too would have supported herbs and graminoids, but would have also included species such as *Potamogeton tricarinatus* s.l. (floating podweed), *Triglochin procerum* s.l. (Water Ribbons) and *Austrodanthonia duttoniana* (brown-back wallaby-grass), due to slightly wetter conditions.

In addition to EVC 125, a third class of vegetation would have been present nearby, closely following the passage of Kororoit Creek. This vegetation falls within the classification of EVC 68: Creekline Grassy Woodland, and would have historically consisted of a Eucalypt-dominated woodland, predominantly *Eucalyptus camaldulensis* (river red gum) growing up to 15 m tall, with an associated shrub and grass layer consisting of species such as *Rubus parvifolius* (small-leaf bramble), *Lemna disperma* (common duckweed) and *Glycine clandestina* (twining glycine) (DEPI 2014c).

Today, the land is largely open, treeless pasture, primarily used for pastoral and cropping activities. The surface is strewn with basalt boulders, however many of these have been mechanically cleared.

2.1.2.4 Climate

The climate of Truganina is characterised by warm summers and cool winters; temperatures range between an average maximum of 25.7°C and minimum of 14°C in summer to an average maximum 13.7°C and minimum 5°C in winter. Rainfall varies between a maximum of 56.7 mm in October and minimum of 35.2 mm in March, with annual average rainfalls of 539.9 mm (BOM 2014).

2.1.3 Aboriginal Context

The following section reviews the Aboriginal context of the study area and includes; an examination of historical and ethnohistorical sources, previously recorded Aboriginal archaeological site types and locations in the geographic region of the study area and, archaeological studies undertaken in the area. Together, these sources of information can be used to formulate a predictive site model concerning what types of sites are most likely to occur in the study area, and where these are most likely to occur.

2.1.3.1 Archaeological Research

Archaeological evidence suggests that Aboriginal peoples had occupied all of Australia's environmental zones by 40,000 years BP. Pleistocene archaeology of the Port Phillip Bay and Hinterland area documents human occupation dating back at least 40,000 years. The oldest dated archaeological site in Victoria occurs at Keilor in Melbourne. Charcoal from a hearth excavated in 1973 has been dated to 31,000 years BP (Flood 1995: 286). More recently research at the Bend Road site in Melbourne's southeast has dates extending back to 30–35,000 BP (Hewitt and Allen 2010).

The archaeological record of the Greater Melbourne area includes a rich record of artefact scatters, scarred trees and stone arrangements that documents Aboriginal life dating from the Pleistocene through to the immediate pre-European past. Most of these sites point to important relationships between sites and landscapes and resources within the immediate area.

2.1.3.2 History and Ethnohistory

The following is a summary of historical and ethnographic accounts of the *Wurundjeri* and *Bun Wurrung*[1] culture and practices. It is largely derived from non-Indigenous historical sources and does not incorporate the oral history of the contemporary *Wurundjeri* and *Bun Wurrung* communities. Such a record would require an exhaustive treatment beyond the scope of the current report. The current summary is thus a limited account of *Wurundjeri* and *Bun Wurrung* social and economic life that may facilitate a more detailed interpretation of the archaeological record by way of ethnographic analogy. Such analogy is not without its limitations. This summary is not intended to be a detailed study of the *Wurundjeri* and *Bun Wurrung* peoples prior and subsequent to European settlement and does not necessarily reflect any opinions or knowledge held by the contemporary *Wurundjeri* and *Bun Wurrung* communities.

By the time European people first established on the Yarra River in 1835, there were two separate language groups in the area, the *Woi wurrung* (Wurundjeri) and the *Boon* (*Bun*) *Wurrung* (Bunurong and Boon Wurrung). These groups were collectively occupying the area south of the Great Dividing Range, from Werribee River to the height of the Dandenong Ranges (Presland 2010:12). These two groups also share a cultural and linguistic affinity with the *Ngurai-illam wurrung*, *Djadja wurrung*, *Wada wurrung* and *Duang wurrung* language groups. Together they are known as the East Kulin Nation (Clark 1990: 369; Presland 2010: 12), which occupies the south central Victorian region (Howitt 2001). According to Clark (1990: 369) the *Woi wurrung, Bun wurrung, Ngurai-illam wurrung* and *Duang wurrung* languages were all dialects of the one language, as they share more than 75 per cent common vocabulary with each other.

The East Kulin groups shared similarities in speech, burial practices, initiation, kinship marriage ties and religious beliefs including common beliefs regarding Dreaming figures such as the creation ancestors *Bunjil* (eaglehawk) and *Waa* (crow) (Presland 2010: 15). The Kulin clans believed that the living world was divided into two halves or moieties, also named *Bunjil* and *Waa.* All the Kulin groups have a patrilineal descent system (Howitt 2001: 126). Marriage partners were sought from within the East Kulin Nation but outside of their own clan (Presland 2010: 15). Wives were taken from the opposite moiety and membership in the moiety had religious, economic and social implications and obligations that transcended local allegiances and clans (Barwick 1984). All four of the clans that make up the *Woi Wurrung* belong to the *Waa* moiety, except the *Gunung willam balluk*, which in turn is identified with *Bunjil* (Presland 2010: 25).

History and Ethnohistory of the *Woi Wurrung (Wurundjeri)*

The *Woi wurrung* shared a cultural and linguistic affinity with the *Bun wurrung, Ngurai-illam wurrung*, *Djadja wurrung*, *Wada wurrung* and *Duang wurrung* language groups.

[1] The *Bun Wurrung* is the historical parent group from which the modern-day Boon Wurrung Foundation Ltd and the Bunurong Land Council Aboriginal Corporation both derive, and therefore encapsulates the history and ethnohistory of both groups.

The *Wurundjeri* country was rich in resources as it is located in the temperate south zone of Australia, which covers the south part of the continent. Due to a present rainfall in excess of 300 millimetres a year, the temperate zone has many watercourses and lakes, which provided a reliable water supply to the Aboriginal population. This allowed a relative growth of the human populations in the region, and in favoured areas, hunter-gatherers invested much labour on maintaining resources such as fish traps and weirs (Clark 2010: 48). The *Wurundjeri willam* occupied a large region comprising the northern suburbs of Melbourne. It consisted of wetlands which would supply food sources such as eels, mussels, fish, snakes and plants (plains grassy woodland); as well as abundance of wetland birds such as Brolgas and ducks (La Trobe University sanctuary 2001). Past Aboriginal occupation in the area is still evident today through the scars that were left on trees and the stone tools fragments that are still being discovered across the landscape.

However, the mainstays of the Aboriginal diet were plants and roots. One of the most important foods was Myrnong (*Microseris lanceolata*), a tuber that resembled a dandelion, also known as Yam Daisy or Native Dandelion. In addition to this plant, there were more than 300 plants of which the roots or tubers were eaten, including the bulrush (*Typha* sp.), marsh club rush, early-nancy, milkmaid, various orchids (*i.e.* greenhood, onion and potato orchids) and many kinds of lilies (including bulbine lily, chocolate lily, flax lily, fringe lily, grass lily, gymea lily and pale vanilla lily) (Clark 2010: 72). Roots of common reed (*Phragmites australis*) were also collected to manufacture items of personal adornment (Presland 2010: 71).

Similar to other hunter-gatherer societies, there was a division of labour based on gender. Men would engage in hunting and women gathered plants and roots; although it is not unusual that these subsistence activities overlap, especially with women and young children capturing small animals during their foraging excursions.

Before the European people arrived, the Eastern Kulin clans were able to move freely around their land on an annual cycle, with some *Wurundjeri* bands spending the warmer months on the banks of the lower Yarra, and during the cooler months they would move to higher land into the Dandenong Ranges (Presland 2010). A significant place along the Yarra River was a wetland complex called *Bolin*, where mature eels were captured by hand or speared (Presland 2010: 67-68). Nets and traps were also used to capture eels and fish during the day and at night; spear fishing from a canoe was also practiced in freshwater bodies, attracting fish with a lighted brand near the water's surface. Two common freshwater fish that were captured include the Australian Grayling (*Prototroctes maraena*) and Tupong (*Pseudaphritis urvillii*) (Presland 2010: 68). Possums, especially the brush-tailed possum (*Trichosurus vulpecula*) were hunted for their meat and their skins that would later be used to make cloaks. Other animals included kangaroo, bandicoot, emu and other smaller quadrupeds; these were cooked and distributed among the participants of the hunting party, according a set of very strict rules (Howitt 2001: 764-765).

The ceremonial and ritual practices of the Wurundjeri are not well recorded. The *Wurundjeri* believed that the *Wirrarap* (medicine-man) could kill persons, far or near, by means of *Mung*, or evil magic, through the agency of many substances, among which the *Thundal*, or quartz crystals, stood first. The 'power' of the *Thundal* could be projected either invisibly, or as a small whirlwind. The effect on a man trapped in this power caused a chill, pain and shortness of breath. The medicine-man would then stare at the victim until he saw the substance leaving, run after it, catch it and bag it, breaking a piece off it to prevent it escaping again (Howitt 2001: 365).

In terms of disposal of the dead, many of the *Wurundjeri* clans would practice inhumation as a symbol of respect, such as those groups on the Yarra River (the *Wurundjeri balluk*); however, the *Wurundjeri* from Mount Macedon (the *Gunung willam balluk*) burned their dead. Among the *Wurundjeri* groups that practiced inhumation, men and women were treated in a similar fashion. The *Wurundjeri* would bury a man with his personal property; in the case of men, his spear-thrower was stuck in the ground at the head of the grave, while a woman had her digging stick placed at her head (Howitt 2001: 458).

The connections that existed between the different Kulin clans were maintained and strengthened at regular meetings. These gatherings were also opportunities to settle disputes and to conduct business, and occurred throughout the landscape. One of the places where these types of gatherings occurred in the *Woi wurrung* territory was along the low reaches of the Yarra River, in an area now occupied by the Melbourne Cricket Ground and Richmond Oval (Presland 2010: 40).

Since the end of the eighteenth century, the *Wurundjeri* were aware of the presence of white men in the south of Victoria, with small groups of sealers becoming established to the east of Wilsons Promontory. From the mid-1830s the territories of the Eastern Kulin were impacted as European pastoralists grew in numbers and spread out with their sheep and cattle (Presland 2010: 87). The foundation of the city of Melbourne in the heart of the Eastern Kulin territory also affected the way in which the member clans of the Kulin could move on the landscape. The contacts between the Kulin and the European people were plagued with conflicts, and often these resulted in many deaths. Diseases such as influenza and smallpox to which the Kulin had no immunity, played a large part in the decline of the population (Presland 2010: 90). Finally, alcohol drinking, disease and inter-tribal fighting were among other major factors in declining numbers of the Kulin groups, although according to Wiencke (1984: 34-35) and Presland (2010: 90), the loss of desire to live and reproduce also played a major factor, with fewer births registered after 1836.

In 1839 the Aboriginal protectorate scheme was introduced in Victoria. Four Assistant Protectors were appointed under a Chief Protector, George Augustus Robinson. The role of the protectorates was to provide food, shelter and medical supplies, record cultural and population information and to indoctrinate Aboriginal peoples in to the western European cultural and economic systems. Aboriginal reserves and stations were established across Victoria and Aboriginal peoples were encouraged to move to them. *Woi wurrung* clans moved to the reserves and stations set up at Narre Narre Warren, Mordialloc, Warrandyte, and on the Acheron River. A school for Aboriginal children was also set up on Merri Creek (Presland 1994: 100). The Protectorate was largely unsuccessful and was disbanded in 1849.

The Central Board for the Protection of the Aborigines was founded in 1860 to provide an administrative structure to manage Aboriginal people in Victoria. Under their direction a series of missions and government stations were set up throughout Victoria where Aboriginal people could live (Department for Victorian Communities, OAAV Website). In the 1860s the Coranderrk Mission Station was opened near Healesville. Aboriginal people from the *Woi Wurrung* clan moved through, lived and worked on the station almost semi-autonomously up until the 1880s (Presland 1994: 100). Most Aboriginal people of *Woi Wurrung* descent can trace their ancestry to people who were associated with the Coranderrk Mission Station.

While many Aboriginal people lived on the missions and government stations, a significant number of people worked and lived on farms and pastoral stations. Some Aboriginal people farmed the land on smallholdings, or worked in industries such as fishing on the Murray, the goldfields, and in the timber industries. People

outside the reserves sometimes gathered together in camp sites on the outskirts of towns. They were also involved in sports such as cricket, football and athletics.

By the turn of the century only a small population of Aboriginal people lived on the missions and government stations, with most living and working in the same general area. The last missions and stations were phased out in the 1920s, though some of the land which was once part of the missions is now under the control of Aboriginal communities (Department for Victorian Communities, OAAV Website). Pressure from the government forced most of the remaining Aboriginal peoples to leave the Coranderrk Mission Station and it closed in 1924 (Presland 1994: 100).

Since the 1920s, Aboriginal people have continued to live in most areas of Victoria, often with strong ties to their original clan and tribal areas. This century, Aboriginal history has been marked by peoples' efforts to maintain their collective identity and culture (DPCD 2012).

Today the descendants of the *Woi Wurrung* language group are represented by the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Inc.

History and Ethnohistory of the *Bun Wurrung (Bunurong and Boon Wurrung)*

The *Bun Wurrung* were bordered by the *Wada wurrung* to the west, to the north by the *Woi wurrung*, and the *Gunai* to the east. Linguistically, the *Bun wurrung* shared more than 75 per cent of their vocabulary with the *Woi wurrung* and around 70 per cent with the *Daung wurrung* who were to the north of the *Woi Wurrung* (Clark 1990: 363). Early European descriptions of the *Bun wurrung* are available through the works of George Augustus Robinson, who was Chief Protector of Aborigines in the Port Phillip District, and the works of his Assistant Protector, William Thomas. Robinson and Thomas made extensive notes about their way of life (Presland 2010: 31).

The *Bun wurrung* are sometimes referred to as the "Westernport tribe" or "coast tribe" (Presland 2010: 20). Their country is located to the east of Port Phillip and Western Port Bays, extending from the south of the Yarra River to the creeks and inlets from the sea into the Werribee River. Along the coast, it extends from the Werribee River to Anderson's inlet, then north to the Dandenong Ranges, Mirboo, Warragul, and upper Latrobe River (Clark 1990: 363). Howitt (2001: 71) likewise mentions that a strip of country stretching from the mouth of the Werribee River to Williamstown and the southern suburbs of Melbourne on the coast around the whole Mornington Peninsula also belonged to the *Bun wurrung.*

The *Bun wurrung* and their northern and western neighbours shared a patrilineal form of moiety system. The Kulin social world was divided into either one of two moieties: the *Waa* (crow) or B*unjil* (eaglehawk) moieties (Clark 1990: 276). There are six main *Bun wurrung* clans which are segregated into separate localities as with the rest of the Eastern Kulin clans (Howitt 2001: 127). These clans are: *Bun wurrung balug* (Point Nepean and Cape Schank), *Mayune balug* (Carrum Swamp, 'Mayune' station), *Ngaruk willam* (Brighton, Mordialloc, Dandenong, and between Mount Eliza and Mount Martha), *Yallock balug* (Bass River, Tooradin), *Yalukit willam* (East of Werribee River, and St. Kilda), and *Yowengarra* (Tarwin River, Wilsons Promontory) (Clark 1990: 365). Although most of the *Bun wurrung* lived around Mornington Peninsula and Western Port Bay, the estate of one of these clans included a strip of land which stretched around the top of Port Phillip Bay to the Werribee River. This narrow strip, perhaps a few kilometres wide, was part of the estate of the clan

named *Yalukit willam* and would have taken in all of Williamstown, most of Altona, and the southern parts of Footscray, Sunshine and Werribee (Presland 1997).

More detailed research is required in both European sources and Aboriginal oral history to clarify the clans within the region of the study area. However, Clark's research (1990: 364-5; 368-9) notes that the land may have been occupied by the *Kurung jang balug* clan (from the *Woi wurrung*, which means 'red ground people') or the *Yalukit willam* clan (which means 'Yalukit dwellers' from the *Bun wurrung*).

All clans belonged to the *Bunjil* moiety, except the *Burinyung bulluk*, which belonged to the *Waa* moiety (Presland 2010: 24). Similar to other Kulin groups, marriage among the *Bun wurrung* was exogamous, and partners were sorted members from the opposite moiety. Inter-clan marriage was common between the *Bun wurrung* and their neighbours (Presland 2010: 33).

Similar to other Australian clans, the *Bun wurrung* were hunters and gatherers. Some of the native species which still exist that may have been hunted include the Long-nosed Potoroo, the Swamp Antechinus, the White-footed Dunnart, the Broad-toothed Rat, the Feather-tailed Glider and the Eastern Pygmy-possum, as well as the more familiar kangaroos, koalas and wombats (Parks Victoria 2012). The *Bun wurrung* probably targeted these and other terrestrial species; however, they are also known as the "salt water people", who heavily exploited the coastline and marine resources. The Wilsons Promontory area is known to have provided valuable food resources to the people, especially during the summer season.

Although women occasionally hunted, their primary role included gathering food and other resources. Women provided the bulk of the food (supplying as much as 80 per cent of food requirements). They carried a collecting bag and long digging sticks which were vital in the gathering of tuberous plants; these comprised a third of the 940 plant species which have been recorded as food sources. In the Melbourne area, daisies, Lilies and orchids flourished. *Murnong* or yam daisies were eaten raw in spring but cooked at other times. In the *Bun wurrung* area the women were also in charge of collecting shell fish (Presland 2010). For vegetables they would collect a variety of bulbs, shoots and foliage like the Warrigal Spinach and they would make a drink from the nectar of the Coastal Banksia flowers.

The primary food source for the *Bun wurrung* was undoubtedly the coastal landscape that formed much of their traditional territory. This maritime adaptation is evidenced by the numerous shell middens on cliffs and sand dunes of Port Phillip, Bass Strait and the Western Port (Massola 1959: 180). Other middens can be found at one of their many coastal camps at Mordialloc, Frankston or Warneet on the Westernport Bay, and these in particular are attributed to the *Mayone bulluk*. Here they would have accessed many of their favourite resources such as bird eggs, fish, shellfish, eels, freshwater mussels and crayfish.

Before conflicts with European people arose, the *Bun wurrung* had several enemies, including the *Braiakolung* and the *Brataoulung,* the most westerly clans of the *Kurnai* or *Gunai* tribes from the Gippsland region. They would raid the *Bun wurrung* camps, kill every man and take younger women. These conflicts would still continue until the mid-1840s (Massola 1959: 181). As Ellender (2002) notes, the area of Southern Gippsland around Wilsons Promontory appears to have undergone a change in ownership from *Bun wurrung* peoples to *Brataulung* around 1844. This change was likely the culmination of a long standing feud between the two groups, and as a consequence there rose a depopulated buffer zone between the *Bun wurrung* and the *Gunai* (*Kurnai*) groups. As such, the whole area was susceptible to being occupied by other groups.

The *Bun wurrung* belief system is shared with the other *Kulin* clans; however, the ethnographic information regarding the *Bun wurrung* is limited. All Kulin groups believe in supernatural magic and the curative powers of medicine-men or witchdoctors, whom were believed to "project substances in an invisible manner to their victims" (Howitt 2001: 357). In Howitt's anthropological studies, he states that quartz (or more crystal quartz) was carried as part of the stock-in-trade by the medicine man; this was used to inflict damage by means of magic (2001: 357-8).

Wilsons Promontory was the residence of the powerful spirit-being known as *Lohan*, whose permission was required to safely enter his territory (Smyth 1876: 453). Strangers entering *Bun Wurrung* country were required to undergo a ritual ceremony. According to Howitt's investigations, a small hole was made on the ground, which was filled with water and stirred with a stick in order to make the water muddy. The visitor was then required to consume several mouthfuls of the muddy water (improper observance of this part of the ritual would result in the visitor's throat ceasing up and causing suffocation). Howitt (2001: 403) also details the visitor was required to eat small pieces of roasted flesh, which was placed in their mouth on a pointed stick and removed with the person's teeth not their lips.

Other spirits included the *Toor-roo-dun*, which appears related to the *Bunyip*. The *Bun Wurrung* like all Kulin groups revered a creation spirit, *Bunjil/Lohan* who created all things except women. *Bunjil* carried a large knife with which he made the earth, mountains, rivers and creeks (Smyth 1876: 423). According to Thomas (1983: 421), *Bunjil* had a wife *Boi boi* and a brother called *Pallian* (various spellings). *Boi Boi* and *Bunjil* had a son called *Binbeal*, who controlled the heavens and a daughter called *Karakarook*, whose concerns were of a more earthly nature. *Pallian* presided over the fish in the rivers and oceans.

Today, the descendants of the *Bun Wurrung* language group are represented by the members of the BWFL and the BLCAC.

2.1.3.3 Oral History

The BLCAC, WTLCHC and the BWFL did not have any oral histories relating to the study area for inclusion in this report.

2.1.4 Database Searches

The following database searches were conducted in order to inform the survey methodology as part of the assessment (i.e. the location of registered sites in the study area to be reinspected, and which areas or landforms of the study area are most likely to contain undiscovered Aboriginal cultural heritage):

2.1.4.1 Victorian Aboriginal Heritage Register

A search of the Victorian Aboriginal Heritage Register (VAHR) was conducted on 06 June 2014. A 5 km search radius was initially investigated, but returned an extremely high number of results (n= 80 sites, consisting of 232 site component types). The majority of these sites are associated with Kororoit Creek, 1 km north of the study area. As these Creekside landforms are not consistent with the study area, the search radius was reduced to 4 km in order to obtain results that would be more relevant to, and representative of, the current study area. Searching an area with this radius ensured that a relevant and representative sample of

information was obtained that would be more useful for determining which sections of the study area should be more intensively targeted by the survey methodology.

The search identified a total of 49 registered Aboriginal sites within a 4 km radius of the study area. These sites consist of a total of 173 site component types (Table 2, Page 39). The difference between the number of sites and number of site component types is because several sites contain two or more site component types. No Aboriginal Historical References were identified within a 4 km radius of the study area.

A total of 18 sites are located within the study area (see Table 5):

- VAHR 7822-0206 (Mt Atkinson) comprises a large artefact scatter of quartz, quartzite and silcrete flaked pieces.
- VAHR 7822-1534 (Mt Atkinson IA 1) comprises one quartz debris flake.
- VAHR 7822-1535 (Mt Atkinson IA 2) comprises two quartz debris flakes and two quartz cores.
- VAHR 7822-1536 (Mt Atkinson IA 3) comprises three quartz flakes.
- VAHR 7822-1537 (Mt Atkinson IA 4) comprises one quartzite flake.
- VAHR 7822-1538 (Mt Atkinson IA 5) comprises one quartz core and three quartz flakes.
- VAHR 7822-1539 (Mt Atkinson IA 6) comprises one quartz core, one broken quartz scraper and two quartz debris flakes.
- VAHR 7822-1540 (Mt Atkinson IA 7) comprises one quartzite flake.
- VAHR 7822-1541 (Mt Atkinson IA 8) comprises one quartz flake, one quartzite core flake and one silcrete scraper.
- VAHR 7822-1542 (Mt Atkinson AS 1) comprises six quartz debris flakes, one quartz core and one quartzite debris flake.
- VAHR 7822-1543 (Mt Atkinson AS 2) comprises a total of 16 stone artefacts made from silcrete, quartz, quartzite and black volcanic basalt.
- VAHR 7822-1544 (Mt Atkinson AS 3) comprises a total of 17 stone artefacts made from silcrete, quartz, quartzite and black volcanic basalt.
- VAHR 7822-1546 (Mt Atkinson AS 5) comprises a total of 10 stone artefacts made from quartz, silcrete and quartzite.
- VAHR 7822-1547 (Mt Atkinson AS 6) comprises a total of 7 stone artefacts made from silcrete and quartzite.
- VAHR 7822-1548 (Mt Atkinson AS 9) comprises one silcrete backed blade.
- VAHR 7822-1549 (Mt Atkinson AS 10) comprises one quartzite broken flake.
- VAHR 7822-1550 (Mt Atkinson AS 11) comprises one silcrete blade and two silcrete debris flakes.
- VAHR 7822-1551 (Mt Atkinson AS 12) comprises one silcrete core.

There are two sites located within 50 m of the study area:

- VAHR 7822-0707 (BQ 1) comprises one sandstone grinding stone.
- VAHR 7822-3694-3/ VAHR 7822-3694-6 (Troups Road Low Density Artefact Scatter 2) comprises one black volcanic basalt flake and one silcrete flake.

Table 2 shows that stone artefact sites account for all of the site component types in the search area, with stone artefact scatters being by far the most prevalent site type in the region (n=86%). It should also be noted that due to changing conventions for the recording of archaeological sites over time, some of the sites listed as 'artefact scatters' may in fact represent 'isolated artefacts', as early recording forms made no distinction between the two site types[2].

A summary of the Aboriginal archaeological site component types appears in Table 2 and a list of all sites in the search area is shown in Table 2.

Table 2: Summary of Previously Identified Aboriginal Site Component Types within 4 km of the Study Area

Site Component Type	Quantity	Percentage (%)
Low Density Artefact Distributions	6	12%
Artefact Scatters	43	86%
Earth Feature	1	2%
Total	**50**	**100%**

Table 3: List of Previously Identified Sites within 4 km of the Study Area

VAHR Site Number	Site Name	Site Type	Within Study Area?
7822-0182	Sinclairs Rd	Artefact Scatter	No
7822-0183	Deanside	Artefact Scatter	No
7822-0187	Stoneleigh Kororoit Creek	Earth Feature	No
7822-0206	Mt Atkinson	Artefact Scatter	Yes
7822-0287	Troups Rd AS 3	Artefact Scatter	No
7822-0707	BQ 1	Artefact Scatter	No, but located within 50 m
7822-0778	Deanside Drive 01	Artefact Scatter	No
7822-0779	Vere Court 01	Artefact Scatter	No
7822-0780	Vere Court 02	Artefact Scatter	No
7822-0781	Vere Court 03	Artefact Scatter	No
7822-0782	Vere Court 03	Artefact Scatter	No
7822-0790	Vere Court 05	Artefact Scatter	No
7822-0791	Vere Court 06	Artefact Scatter	No

[2] In 2013, the standards for recording Aboriginal sites changed once more and resulted in the 'isolated artefact' category no longer being used. Isolated artefacts, or any artefact scatter with a density less than 10 artefacts across 10 m^2 are now recorded as 'Low Density Artefact Distributions' (LDADs), however recordings of 'isolated artefacts' prior to this date remain registered on the VAHR as such.

VAHR Site Number	Site Name	Site Type	Within Study Area?
7822-1058	Western Freeway 1	Artefact Scatter	No
7822-1395	Rockbank Rail	Artefact Scatter	No
7822-1534	Mt Atkinson IA 1	Artefact Scatter	Yes
7822-1535	Mt Atkinson IA 2	Artefact Scatter	Yes
7822-1536	Mt Atkinson IA 3	Artefact Scatter	Yes
7822-1537	Mt Atkinson IA 4	Artefact Scatter	Yes
7822-1538	Mt Atkinson IA 5	Artefact Scatter	Yes
7822-1539	Mt Atkinson IA 6	Artefact Scatter	Yes
7822-1540	Mt Atkinson IA 7	Artefact Scatter	Yes
7822-1541	Mt Atkinson IA 8	Artefact Scatter	Yes
7822-1542	Mt Atkinson AS 1	Artefact Scatter	Yes
7822-1543	Mt Atkinson AS 2	Artefact Scatter	Yes
7822-1544	Mt Atkinson AS 3	Artefact Scatter	Yes
7822-1545	Mt Atkinson AS 4	Artefact Scatter	No
7822-1546	Mt Atkinson AS 5	Artefact Scatter	Yes
7822-1547	Mt Atkinson AS 6	Artefact Scatter	Yes
7822-1548	Mt Atkinson AS 9	Artefact Scatter	Yes
7822-1549	Mt Atkinson AS 10	Artefact Scatter	Yes
7822-1550	Mt Atkinson AS 11	Artefact Scatter	Yes
7822-1551	Mt Atkinson AS 12	Artefact Scatter	Yes
7822-1829	Palm Springs 3	Artefact Scatter	No
7822-1830	Palm Springs 4	Artefact Scatter	No
7822-2251	Troups Road North AS1	Artefact Scatter	No
7822-2778	Troups Rd AS 6	Artefact Scatter	No
7822-2779	Troups Rd AS 2	Artefact Scatter	No
7822-2784	Troups Rd AS 1	Artefact Scatter	No
7822-2785	Troups Rd AS 4	Artefact Scatter	No
7822-2786	Troups Rd AS 5	Artefact Scatter	No
7822-2917	Kororoit Creek Surface Scatter 1	Artefact Scatter	No
7822-3549 - 1	Ravenhall Artefact 1	Low Density Artefact Distributions	No
7822-3549 - 2			
7822-3692	Hopkins Road Low Density Artefact Scatter	Low Density Artefact Distribution	No
7822-3693	Troups Road Low Density Artefact Scatter	Low Density Artefact Distribution	No

VAHR Site Number	Site Name	Site Type	Within Study Area?
7822-3694 -1 to 7822-3694-15	Troups Road Low Density Artefact Scatter 2	Low Density Artefact Distributions	No, but 7822-3694-3 and 7822-3594-6 are located within 50 m.
7822-3698	Rockbank Swamp (Revised Boundary)	Artefact Scatter	No
7822-3701	Rockbank North LDAD 3	Low Density Artefact Distributions	No
7822-3731-2 to 7822-3731-104	Kororoit Precinct Structure Plan LDAD	Low Density Artefact Distributions	No
7822-3741	90 Reed Court Basalt Outcrop AS	Artefact Scatter	No

2.1.4.2 *Local Council*

The study area is located within, and is governed by, the City of Melton Planning Scheme. Planning schemes set out policies and provisions for the use, development and protection of land.

The Heritage Overlay of the City of Melton Planning Scheme was examined (DTPLI 2014). No Aboriginal heritage places listed on the Heritage Overlay are present within the study area.

2.1.5 Previous Archaeological Investigations

Localised and regional archaeological investigations have established the general character of Aboriginal sites located within the same geographic region as the study area. This information, together with an environmental context, histories of land use and, historical and ethnohistorical sources, can be used to identify what parts of the study area are more likely to contain undiscovered Aboriginal cultural heritage, and what types of archaeological sites are likely to be present in these locations. This information is used to form the basis for a site prediction statement.

A summary of archaeological reports relevant to the geographical region of the study area appears below (Table 4).

Regional Assessments

In 1989, du Cros prepared a large scale study (#236) of the Western Region Melbourne Metropolitan Area (#236) encompassing the Victorian Volcanic Plains bioregion. As such du Cros' findings and site prediction model are of direct relevance to this investigation. Stone artefact scatters, isolated artefacts and scarred trees were identified as most likely to occur close to large or permanent swamps. It was further observed that within the western region Aboriginal sites were most likely to be found on river and creek flats, terraces or slopes within 100 meters of a major waterway. du Cros predicted that the majority of surface sites on the plains would date to between 120 and 3,000 years ago.

In 1990 Vines conducted a Historical and Archaeological Survey for the Melton East structure plan study (#246), directly east of the current study area. During the survey a total of seven Aboriginal sites were identified, comprising four artefact scatters, two isolated finds and an area of artefacts eroding out of a bank of Kororoit Creek. All but one site were located along Kororoit Creek within 100 m of the water. As with

previous surveys conducted in the area, the study indicated the importance of Kororoit Creek as a water source ad food resource for past Aboriginal peoples.

In 1994 du Cros and Murphy prepared a desktop archaeological overview of Kororoit Creek between Deans Drive (sic.), Rockbank and the Princes Highway, Laverton, located north of the current study area (#755). The study identified a total of 77 previously recorded Aboriginal sites, mainly comprising surface scatters and isolated artefacts, along the banks of Kororoit Creek. These sites are predominantly located from the creek bank to above the break of slope and are mainly composed of flaked pieces with few formal tools. Again, the study served to highlight the importance of Kororoit Creek as a focal point in the landscape.

In 2004 Vines, Nicolson and Matthews (#2823) investigated the Melton East Growth Corridor for cultural heritage and archaeological potential. The area covered approximately 5,500 hectares on the western edge of Melbourne and included the current activity area (Vines, Nicolson and Matthews 2004). Thirty six Aboriginal archaeological sites were previously recorded in the area. Vines *et al* (2004) predicted that Aboriginal archaeological sites are most likely to occur on land close to creeks and swamps, while isolated finds are likely to occur away from waterways where the ground surface is relatively undisturbed.

In 2006 Edmonds and Long (#3872) produced a large scale desktop assessment for the Melton-Caroline Springs growth area. Many Aboriginal sites were identified throughout the region, several of which were located close to the current study area. The report details the likelihood of finding sites within the various landforms of the area based on previous studies undertaken, and determines that the most likely place to find Aboriginal sites is within proximity to permanent and ephemeral water courses, and that artefact scatters and scarred trees were the most likely site types to occur.

Reports Relevant to the Study Area

In 1993 du Cros and Watt prepared an Aboriginal and European heritage study for the Skeleton Creek Catchment (#637). No new Aboriginal sites were identified during the survey, however this was mainly attributed to poor visibility. Five areas of archaeological sensitivity were identified including Mt Atkinson and the headwaters of a branch of Skeleton Creek (both located within the current study area).

In 2003 Thomson undertook an archaeological assessment of a property on Hopkins Road Truganina (#2760). Bounded by Greigs road to the north, Hopkins Road to the east, Mount Atkinson Road to the west and a section of Riding Boundary Road to the south, the activity area encompassed the eastern half of the current study area, including the drainage line which flows into Skeleton Creek. All areas of exposure that were accessible across the study area were inspected, with intense survey across the stony rise of Mt Atkinson in the northern section and the drainage line in the southern section. Large basalt boulders across the site and dense grass cover did limit accessibility, however. A total of fourteen Aboriginal archaeological sites were recorded during the initial preliminary survey, including six artefact scatters and eight isolated artefact occurrences. The majority of these sites were located across a prominent stony rise and the lower slope of Mt Atkinson.

A mandatory Cultural Heritage Management Plan was prepared by Murphy and Morris in 2011 (#11609) for the installation of a gas pipeline extending from Middle Road, Truganina, along Hopkins Road to Taylors Road, Plumpton, following the eastern boundary of the current study area. The pedestrian survey identified land with low archaeological potential including land within 200 m of Kororoit creek and Upper Skeleton

Creek, elevated landforms and stony rises associated with Mount Atkinson; and elevated land near former swamps adjacent to the studied area. The desktop assessment and field survey indicated that Aboriginal cultural heritage is likely to be present near current and former waterways and on elevated landforms within the activity area. A complex assessment was undertaken in the areas of likelihood; however no new Aboriginal places were recorded during the assessment.

In 2013 Williams, Virgin and Wright completed a Cultural Heritage Management Plan (#12754) for the Regional Rail Link Ballarat line between Deer Park and Rockbank, which transects the northern section of the current study area in a south east to north west direction. A total of four new Aboriginal sites were identified during the survey. The survey noted extensive disturbance resulting from the earlier construction of the railway line and frequent access to the rail corridor for maintenance works. Access tracks run parallel to the railway line on at least one side of the railway line for the length of the activity area and are subject to ongoing frequent use by heavy vehicles. Buried fibre optic cables were present within the rail corridor and substantial signal infrastructure was also observed within the rail corridor. Along the rail corridor, large basalt boulders had been excavated from the danger zone and dumped on the sides of the rail corridor. Given this, the activity area was considered to have very low potential for containing archaeological deposits.

Table 4: Summary of Archaeological Reports Relevant to the Study Area

Author, Date, Report #	Description and Location	Results
du Cros, H. 1989 #236	An Archaeological Survey In of the western region of the Melbourne metropolitan area.	Nineteen new sites were recorded during the survey; the majority of these were found along water courses. The 19 sites comprise 15 artefact scatters, 3 isolated artefacts, and 1 quarry. The majority of the sites recorded were from the Werribee River or Kororoit Creek areas. Du Cros suggests that the Western Region would have had exploitable resources attractive to Aboriginal people. Charcoal and burnt clay were present in the burial fill. No carbon date was taken
Vines, G. 1990 #246	Archaeological Surveys were conducted in small sections of a larger study area located immediately east of Robinsons Road and immediately north of the railway line at Deer Park.	No sites were identified within the areas that form part of the current activity area. However, seven Aboriginal stone artefact scatters were identified along Kororoit Creek.
Webb, C. 1991 #415	An impact report of a cable laying project between Melbourne and Adelaide.	Most of the area surveyed was close to roads or in an already disturbed area. Recommendations were for the project to proceed with further survey of some sections.
Webb, C. 1994 #416	Survey of proposed cable route from Melbourne to Ballarat, following mostly existing roads and rail services.	Much of the area is disturbed farmland. Two sites site were located along Parwan Creek, with recommendations to protect one in situ deposit and no protective action against the other disturbed one.

Author, Date, Report #	Description and Location	Results
Du Cros, H. & Watt, P. 1993 #637	A survey of the Skeleton Creek Catchment area within the Werribee Growth Corridor.	The desktop assessment determined that the majority of Aboriginal sites within the Werribee area are found along rivers and creeks. Fifteen artefact scatters and isolated artefacts have been previously recorded within the study area (7822-0206/0209, 0313/0320, 0422/0423, 0425 [VAHR]). The assessment of European and Aboriginal Heritage of the Skeleton Creek Catchment identified six historic archaeological sites, but no new Aboriginal sites. The Historic sites include Leake's Dairy (7822H-0135), Truganina Estate (7822H-0136), Leake's Cellars (7822-0137), Leake's Rd 1 (7822H-0138), and a Stockyard Ruin (7822H-0139).
Vines, G. 1993 #701	An Archaeological Survey for a 1 km stretch of land extending north and south of the Western Freeway, and 500 m east and west of Hopkins and Sinclair's Roads, Rockbank.	A tributary of Skeleton Creek runs through the southern part of the study area. Kororoit Creek extends across the northern boundary of the activity area. These water courses would have supported rich food resources for local Aboriginal tribes and it is likely that Aboriginal campsites would have been located near these water sources. Three previously unrecorded isolated artefacts were recorded during the survey (site numbers not provided).
Lane, S. 1997 #1066	An archaeological investigation for the proposed Western Freeway - Western Ring Road Connection, Deer Park.	A total of nine Aboriginal sites, comprising five isolated artefacts and four surface scatters, were identified during survey. Two further artefacts were identified during subsurface testing. The majority of sites were located east a current or possible past source of freshwater.
Murphy, A. 1998 #1299	An Archaeological Survey of the Department of Defence land at Rockbank.	The desktop assessment identified Kororoit Creek as an area of high archaeological sensitivity for surface and subsurface sites, likely to contain isolated artefacts and artefact scatters. Murphy suggested sites located in the central part of the activity area are likely to be more disturbed than those along the Kororoit Creek corridor. One previously recorded Aboriginal archaeological site was located within the activity area; Rockbank Swamp (VAHR 7822-1042). Murphy identified one new Aboriginal archaeological site comprising an artefact scatter, Beatty's Rd 1 (VAHR 7822-1045).
du Cros, H & Rhodes, D. 1998 #1320	This report aimed to provide an overview and assessment of waterways and floodplains for The Waterways and Drainage Group within Melbourne Water to understand the impact on cultural heritage.	The predictive models provided in this report illustrate that waterways and floodplains in and around Melbourne should still be considered highly likely to yield evidence of Aboriginal occupation. Site types considered common are surface artefact scatters, isolated artefacts and scarred trees. Rarer site types are fresh water middens, burials and quarries.
Newby, J. and Muir, S. 1998 Report # 1356	Pedestrian survey was undertaken at the intersection of the Western Freeway and Hopkins Road.	The ground surface visibility varied across the studied area from poor to good conditions; however the general condition of visibility was poor. During the assessment, two grey silcrete artefacts were recorded as an isolated find (7822-1058). These were located along a fence line within a ploughed garden field.

2.1.6 Aboriginal Archaeological Site Prediction Statement

The following site prediction statement[3] has been formulated from the review of previous assessments. The statement presented is based on a site type approach. (For further information on site types see OAAV 2014).

The review of the previously recorded Aboriginal archaeological sites and previous archaeological investigations indicates that the most likely[4] site types in the activity area are stone artefact scatters and low density artefact distributions. These site types are by far the most prevalent in the region, representing the only site types previously found within 4 km of the study area (considering 'isolated artefacts' and 'LDADs' as substitutable terms for the same site type under changing registration guidelines over time). Given the previous studies undertaken across parts of the study area, none of which identified other site types across the study area such as scarred trees, mounds, quarries or Aboriginal burials, it is considered unlikely these will be found within the study area during the current assessment.

Note: A similar predictive model has already been developed for most of the current study area following Thomson's survey of the region in 2003. The outcomes of this survey, discussed above, and the predictive model formulated in Thompson's report, have been utilised as a basis for this updated site prediction statement, conforming to the requirements of the Aboriginal Heritage Act 2006. This updated statement also integrates the additional data for the region gathered from further cultural heritage investigations in the area since that time

Stone Artefact Scatters are considered likely to occur in the activity area. Stone artefact scatters, in addition to being one of the most prevalent site types identified throughout Victoria, have comprised the majority of site types previously identified within the study area and surrounding region. It is reasonable to therefore expect that stone artefact scatters may also be present in the previously unsurveyed sections of the study area.

Stone tools were made by hitting one piece of stone, called a core, with another called a 'hammerstone', often a pebble. This would remove a sharp fragment of stone called a flake. Both cores and flakes could be used as tools. New flakes were very sharp, but quickly became blunt during use and had to be sharpened again by further flaking, a process called 'retouch'. A tool that was retouched has a row of small flake scars along one or more edges. Retouch was also used to shape a tool.

Not all types of stone could be used for making tools. The best types of stone are rich in silica, hard and brittle. These include quartzite, chert, flint, silcrete and quartz. Aboriginal people quarried such stone from outcrops of bedrock, or collected it as pebbles from stream beds and beaches. Many flaked stone artefacts found on Aboriginal sites are made from stone types that do not occur naturally in the area. This means they must have been carried over long distances.

Stone tools are the most common evidence of past Aboriginal activities in Australia. They occur in many places and are often found with other remains from Aboriginal occupation, such as shell middens and

[3] The term "site prediction statement" is sometimes referred to as "site prediction model". Ecology and Heritage Partners Pty Ltd prefers the term "statement" as it is more accurate; "statistical modelling" is a rigorous and comprehensive process using empirical data.

[4] Likely is an assessment of site types with a 50% or more likelihood of occurring; Unlikely is an assessment of site types with less than 50% likelihood of occurring.

cooking hearths. They are most common near rivers and creeks. It is easier to find them where there is limited vegetation or where the ground surface has been disturbed, for example by erosion.

Artefact scatters are the material remains of past Aboriginal people's activities. Scatter sites usually contain stone artefacts, but other material such as charcoal, animal bone, shell and ochre may also be present. No two scatters are exactly the same.

Artefact scatters can be found wherever Aboriginal occupation has occurred in the past. Aboriginal campsites were most frequently located near a reliable source of fresh water, so surface scatters are often found near rivers or streams where erosion or disturbance has exposed an older land surface.

Low Density Artefact Scatters (LDADs) are considered likely to occur in the activity area. Sites of this type, including sites formerly registered as 'isolated artefacts' which would be considered part of an LDAD recording under modern registration guidelines, are known to be present within the study area and in the surrounding region. Low densities of stone artefacts are by far the most common site type identified across Victoria, and it is reasonable to predict they will also occur within the previously unsurveyed sections of the study area. It is also possible that increased visibility conditions in areas which have been subject to prior survey may result in new identification of scattered artefacts within these areas of visibility.

LDADs are defined as scatters of stone artefacts (surface and/or subsurface) which are spread across a given area at a density lower than 10 artefacts in any given 10 m^2 area. LDADs can consist of a single artefact found in isolation, to hundreds of artefacts spread across a wide area so long as the density does not cross the 10 artefacts in 10 m^2 threshold. Due to the nature of this site type, artefacts under the same LDAD recording can represent multiple site uses, occupational histories, knapping events, discard events or visitational cycles. They can be found anywhere across the landscape; from camp sites, to areas of industry or ceremony, to accidental/opportunistic discard events as people were moving through the landscape – this wide scope of possible site formation processes increases the likelihood one or more LDAD may be present within any given area not subject to significant disturbance activities since European settlement.

Scarred Trees are considered unlikely to occur in the activity area. The majority of the study area has been cleared of remnant native vegetation for the construction of roads, railways, housing, or for the establishment and operation of agricultural and pastoral land. Additionally, the previous studies which have included parts of the study area did not identify remnant vegetation with evidence of cultural scarring during their assessments.

Aboriginal people caused scars on trees by removing bark for various purposes such as for use as vessels, as tools for digging or food preparation (i.e. grinding dishes), for shields used in war and inter-tribal conflict or for canoes, paddles, and other watercraft. The scars, which vary in size, expose the sapwood on the trunk or branch of a tree. Scarred trees are found all over Victoria, wherever there are mature native trees, especially box and red gum. They often occur along major rivers and around lakes, partly due to conservation bias related to European settlement and land clearance, although they have been known to occur on floodplains and amidst otherwise cleared farmland.

Shell Middens are considered unlikely to occur in the activity area. This site type is not known to occur in the study area or the surrounding region, and is generally found in close proximity to reliable water sources of sufficient volume to support a range of marine or riverine life.

Shell middens may occur in both freshwater and coastal contexts. Shell middens are accumulations of shell produced by Aboriginal people collecting, cooking and eating shellfish. Shell middens often contain evidence of cooking such as charcoal, ash, fire-stones, burnt earth or burnt clay. Sometimes they also contain animal bones, fish bones, stone tools and Aboriginal burials.

Freshwater shell middens are found along river banks and flood plains, near swamps and lakes, and in sand dunes. They are sometimes found in dry areas, where fresh water was once present. Freshwater shell middens usually occur as fairly thin layers or small patches of shell. The shells usually come from both the freshwater mussel (*Velesunio ambiguus*) and river mussel (*Alathyria jacksoni*). The shells may be the remains of just one meal or hundreds of meals eaten over thousands of years.

Freshwater mussel shells may also be found in Aboriginal oven mounds, but usually only in small quantities. Middens may be visible as scatters of broken mussel shell, exposed along vehicle tracks. If you look closely, you may find mussel shells buried in the surrounding soil. Middens are also commonly visible as scatters of mussel shell eroding down the slopes of dunes. Again, the scatters can usually be traced up the dune to the buried shell layer. Shell fragments in the upcast from rabbit burrows in dunes may also indicate a midden.

Shell middens are also found in many areas along the Victorian coast. They can be located in sheltered positions in the dunes, coastal scrub and woodlands, within rockshelters, or on exposed cliff tops with good vantage points. They can occur near rocky or sandy shores and also close to coastal wetlands, inlets, estuaries, bays and river mouths. Coastal shell middens are found as layers of shell exposed in the sides of dunes, banks or cliff tops, or as scatters of shell exposed on eroded surfaces. They range in size from a few metres across to many hundreds of metres and can consist of a thin, single layer, or multiple layers forming a thick deposit.

Mounds are considered unlikely to occur in the activity area. These sites types are not generally known to be found in the region, and the operation of farming activities across much of the study area in the past, along with the development of the area for housing, roads and railway lines, means it is likely any mounds which may have once been present may have been destroyed or degraded beyond recognition.

Aboriginal mounds are places where Aboriginal people lived over long periods of time. Mounds often contain charcoal, burnt clay or stone heat retainers from cooking ovens, animal bones, shells, stone tools and, sometimes, Aboriginal burials.

Mounds usually occur near rivers, lakes or swamps but occasionally some distance from water. They are also found on dunes and sometimes among rock outcrops on higher ground.

Quarries are considered unlikely to occur in the activity area, as there is no known source of stone suitable for Aboriginal artefact manufacture within the bounds of the study area.

Aboriginal quarries are the sites where Aboriginal people took stone from rocky outcrops to make chipped or ground stone tools for many different purposes. Not all types of stone were suitable for making tools, so an outcrop of good stone that could be easily quarried was a valuable resource. Aboriginal people quarried different types of stone, each with its own special value and use. Stone tools were made from greenstone, silcrete, quartz, quartzite, basalt and chert. Pigments were made from quarried ochre, and grinding tools were made from sandstone.

Some quarries are small, consisting of just a single protruding boulder. Other quarries incorporate many outcrops and areas of broken stone that can cover thousands of square metres.

Stone Arrangements are considered unlikely to occur in the activity area, as none of the previous investigations across the study area have identified evidence of these site types and the impacts of agriculture and pastoralisation since European settlement of the region is likely to have impacted or destroyed any such sites.

Aboriginal stone arrangements are places where Aboriginal people have positioned stones deliberately to form shapes or patterns. The purpose of these arrangements is unknown because their traditional use ceased when European settlement disrupted Aboriginal society. They were probably related to ceremonial activities.

Stone arrangements occur where there are plenty of boulders, such as volcanic areas, and where the land could support large bands of people. Surviving stone arrangements are rare in Victoria, and most are in the western part of the State.

Stony Rises are considered likely to occur in the activity area. The majority of the study area lies on the slopes and old lava flows of Mt. Atkinson and comprise the textbook undulating basalt landscape upon which these site types occur.

Stony Rises are a geological formation that emerges from the smooth lava fields of the western plains of Victoria, a fertile region that for tens of thousands of years supported the lives of its indigenous Aboriginal people. Stony Rises occur in a number of forms but generically comprise loosely consolidated rocks and boulders elevated above the surrounding plain. Ephemeral lakes occur at low points often adjacent to the Stony Rises, and are often interspersed with low-lying, poorly-drained plains (Joyce 2003). Stony rises provided vantage points to local Aboriginal tribes across the tribal territory.

Stony Rises are considered an area of Aboriginal archaeological sensitivity as they are likely to contain stone artefact sites. Stony Rises are known to be the site of Aboriginal stone huts and stone circle arrangements, and can also contain hearth sites. Previous studies have shown a tendency for stone artefacts located in surface and/or subsurface contexts on stony rises. Artefact distribution patterns commonly comprise isolated stone artefacts and diffuse low density artefact scatters occurring across the volcanic plans, with moderate to higher densities of stone artefacts occurring on stony rises and that only occasional isolated stone artefacts may occur away from stony rises. The most significant sites are located on the stony sites near watercourses. Scarred trees may occur where mature native vegetation is located in proximity to former swamps.

Aboriginal Burials are considered unlikely to occur in the activity area. Although Aboriginal people have a long history of occupation in Victoria, burial practices in the volcanic plains areas varied greatly over time, and between different Aboriginal groups. Stony areas and areas with dense clayey soils may have been less likely to involve interment, due to the difficulty involved with digging through the clays. Other burial practices such as cremation, stowage of bodies in trees or rock clefts, or even left in the open are all less likely to have left archaeological traces to the present day. Equally, burials under cairns or stone arrangements are likely to have been impacted or destroyed by the clearance of the study area for agricultural or pastoral activities or the development of housing, roads and railway lines.

Aboriginal burials are normally found as clusters of human bones eroding from the ground, or exposed during ground disturbance. Aboriginal customs for honouring and disposing of the dead varied greatly across Victoria, but burial was common. Aboriginal burial sites normally contain the remains of one or two people, although cemeteries that contain the remains of hundreds of people buried over thousands of years have been found. Sometimes the dead person was buried with personal ornaments and artefacts. Charcoal and ochre are also often found in burial sites.

Although Aboriginal burials are quite rare in Victoria, they have been found in almost every kind of landscape, from coastal dunes to mountain valleys. They tend to be near water courses or in dunes surrounding old lake beds. Many burials have been found on high points, such as dune ridges, within surrounding flat plains. They are often near or within Aboriginal occupation sites such as oven mounds, shell middens or artefact scatters.

Aboriginal mortuary trees are considered unlikely to occur in the activity area. Although it's possible this practice may have been utilised within the study area, due to the hard nature of the soils and the clearance of native vegetation rom the area following European settlement it is unlikely any remnant native trees which might retain human remains are still present within the study area.

Accounts of Aboriginal mortuary trees are contained in newspaper reports (Mount Ararat Advertiser 1858), ethnohistorical accounts (Bride 1983[1898]: 322), oral history (Ron Howlett, personal communication 2003), and unpublished diaries (Johns 1877). These accounts describe the following treatment of Aboriginal human remains: the corpse was allowed to decompose. Later, the remains were recovered and sometimes the bones of limbs were distributed among relatives to be kept as relics. Then, postcranial remains were bundled and placed in a hollow tree, sometimes with the skull. On other occasions, the skull was deposited in a hollow tree while postcranial remains were given to a relative for placement at a later date, possibly also in a hollow tree (article: 70).

The Chief Protector of Aborigines, George Augustus Robinson, recorded several different forms of treatment of the dead by the northern Djab Wurrung clans in his 1841 journal (Clark 1987: 15, 1998: 335, 368), including placement in trees. The ethnographic record for southwestern Victoria also indicates that while low-ranking individuals were usually placed in simple burials, higher-ranking individuals were subject to more complex rituals that included placement in trees (Dawson 1881: 62–66; Howitt 1996 [1904]: 455–457; article: 63).

The study of the Moyston Mortuary Tree and references to additional mortuary trees within the region demonstrate a local pattern of mortuary practices in southwestern Victoria. While burials in lunettes, earth mounds, and sand dunes are more common in the region, more complex practices also existed in southwestern Victoria in the late pre-contact to early post-contact periods (Sprague 2005: 70; article: 69-71).

2.1.7 Desktop Assessment – Summary of the Results and Conclusions

The results of the desktop assessment indicate that the study area contains Aboriginal archaeological sites and areas of Aboriginal cultural heritage sensitivity. A total of 18 Aboriginal archaeological sites have previously been recorded within the study area, and another four sites are known to occur within 50 m of the boundary to the study area. These sites all consist of stone artefact scatters or LDADs consisting of stone artefacts. These sites are predominantly responsible for the presence of Aboriginal cultural heritage

sensitivity within the study area (as the land within a 50 m radius of an Aboriginal archaeological site is considered an area of Aboriginal archaeological sensitivity), however the desktop assessment identified additional areas of sensitivity in the southern half of the study area, in association with the waterways within and in proximity to the study area. These areas of sensitivity have implications for the future development of the area, and therefore warranted closer inspection in the form of pedestrian survey.

The study of previous archaeological reports in the region also indicated that the study area contains areas of Aboriginal cultural heritage potential, in addition to the areas of sensitivity identified in the desktop assessment. These previous studies have indicated that areas of elevation, stony rises, and areas in relative proximity to fresh water supplies are highly likely to contain Aboriginal cultural heritage in the region, associated with how Aboriginal people utilised the landscape in the past. Combined with the information gathered on the geology, geomorphology, and ecological and land use history of the study area, it is apparent that landforms and vegetation highly conducive to Aboriginal exploitation and use would have been present in the study area in the past, particularly around the peak and slopes of Mt. Atkinson. These areas may therefore contain Aboriginal cultural heritage that would have implications for the future development of the area, and thus these areas also warranted further investigation in the form of field survey.

3 FIELD SURVEY

The field survey of the study area included vehicular, pedestrian and visual survey to detect the presence of Aboriginal cultural heritage in or associated with the activity area.

The activity area was surveyed between 17 June 2014 and 20 June 2014 by Ecology and Heritage Partners Pty Ltd Archaeologist/Cultural Heritage Advisor Terence MacManus, with Shane Clark representing the RAP applicant for the study area, the Boon Wurrung, and Mike Haley representing the Aboriginal stakeholder group for the area, the Bunurong. Although the Wurundjeri were invited to participate in the assessment, they contacted Ecology and Heritage Partners shortly before the proposed fieldwork dates in order to withdraw from the project, as they felt it would not be appropriate to attend the survey in light of their RAP application rejection by the Aboriginal Heritage Council.

A summary of the Archaeological Survey attributes appears in Appendix 2, Page 126.

3.1.1 Methodology of the field survey

The field survey took the form of a pedestrian, vehicular and visual survey in which the three participants walked 2 m apart in a stratified random sampling strategy targeting the areas of visibility within the properties of the study area to which access was granted (Map 9, Page 110). The stratification of the random sampling methodology was based on several factors, including the aforementioned property access, the location of previously-recorded sites, areas of cultural heritage sensitivity, areas of prior disturbance such as development or road/rail construction, and areas which lay on landforms likely to contain Aboriginal cultural heritage, such as the peak and slopes of Mt. Atkinson.

The decision was made to reinspect each of the previously-registered sites within the study area as part of this assessment, so as to record the most up-to-date details of the sites for future considerations of the area. In order to do so, access was arranged for each of the properties which contained registered Aboriginal archaeological sites, and it was ensured that each of these properties were subject to pedestrian survey, in order to determine whether any additional, associated Aboriginal cultural heritage material may be present.

The study area was assessed for the presence of any remnant native trees which might bear evidence of cultural scarring, and the geomorphological character of the study area was surveyed for evidence of caves, cave entrances and/or rock shelters.

3.1.2 Visibility, Exposure and Coverage

3.1.2.1 Ground Surface Visibility

Ground surface visibility (GSV) was highly variable throughout the study area.

Developed areas:

Several sections of the study area have been developed for residential use, road and railway construction, and the installation of high voltage power lines and underground utilities such as electricity, gas, telecommunications, sewerage, potable water and stormwater drainage. In these areas of disturbance, GSV

was extremely low, with asphalt or housing footprints obscuring the natural ground surface (Plates 1 to 3). In areas where utilities had been installed there were some areas of GSV, however the introduction of fill to the area as part of the utility installations and the grading or removal of the natural topsoils of the area had limited the effectiveness of this visibility (Plates 3 to 7).

Agricultural/pastoral areas:

The majority of the study area comprised land used for agricultural or pastoral purposes. These areas had extremely variable GSV, ranging from some sections of 100% visibility where ploughing had recently occurred or stock had worn away the grass, to areas of 0% visibility where fallow or stony ground had overgrown with weeds, native grasses and exotic paddock grasses (Plates 8 to 13). The majority of the study area had GSV between 0% and 10%, with visibility greatest in isolated areas such as around the bases of extruding basalt boulders, along vehicle and stock-worn tracks, at the bases of shrubs and dense clusters of grasses or in small naturally-occurring clearings of vegetation (Plates 14 to 16).

3.1.2.2 Effective Survey Coverage

Effective survey coverage calculations are based on the percentage of ground surface exposure, and provide a measure for the 'detectability' of artefacts and the level of survey sampling effort within each landform in the activity area. The calculation assesses the level of average GSV across the study area in each landform, the extent of isolated exposures with higher or lower GSV than the average and, a calculation of the area within each landform surveyed.

An overview of the effective survey coverage in each landform within the activity area is provided in Table 5.

Table 5: Effective Survey Cover Calculations within the Activity Area

Landform	Total Area (Ha)	Average Landform GSV (%)	Average Landform GSV (Ha)	Isolated Exposure Area (Ha)	Isolated Exposure GSV (%)	Detection Area (ha)	Detection Area (%)	Area of Activity Area Surveyed (ha)	Percentage of Activity Area Surveyed (%)	Effective Survey Coverage (%)
Lower Slope	62.51	15	9.38	0.80	80	10.02	16.0	48.71	77.9	12.5
Mid Slope	28.21	20	5.64	1.00	80	6.44	22.8	28.21	100	22.8
Crest	6.93	20	1.39	0.50	100	1.89	27.2	6.93	100	27.2
Undulating Plain	857.44	10	85.74	3.00	100	88.74	10.3	817.04	95.3	9.9
Disturbed Areas	114.91	10	11.49	6.00	100	17.49	15.2	101.39	88.2	13.4
Total	**1070**	**11**	**113.64**	**11.30**	**18.1**	**124.58**	**11.6**	**1002.28**	**93.7**	**10.9**

3.1.3 Limitations of the Field Survey

The field survey was limited by several factors. Chief amongst these was the lack of access to some of the properties within the Mt. Atkinson PSP area. The inability to contact some of the landholders in order to gain permission to enter their property, the refusal of access to properties by landowners or the exclusion of

properties from pedestrian survey due to the time constraints of the days allotted for the survey program, meant that properties 3, 5, 9-16, 18-24, 27, 28, 36-39, 41, 43-46 and 53-61 were not intensively surveyed. This limitation was partially overcome by undertaking visual surveys of these areas from adjoining properties or vantage points in the landscape, and determining the likelihood of the landforms within those areas to contain Aboriginal cultural heritage (Table 5).

Similarly, some of the properties to which access was obtained were extremely large, making pedestrian survey of the entire area in these sections untenable. Survey of these areas therefore partially involved the use of vehicles to drive towards sections of greater likelihood or visibility within the properties, whereupon the survey team disembarked and performed targeted pedestrian survey. As a result, it is possible that some surface Aboriginal cultural heritage might have been missed by the survey team as they were driving from area to area. However, the likelihood that any Aboriginal cultural heritage may have been identified in the areas of extremely poor GSV that were driven past is considered to be low.

3.1.4 Results of the Field Survey

3.1.4.1 Landforms

The field survey confirmed the landforms identified during the desktop assessment (Table 5). The eruption cone of Mt. Atkinson comprises the major landscape feature of the region, with much of the remainder of the study area set on the undulating slopes and basaltic flows of this feature (Plates 17 to 21) (

Map 9, Page 110). These slopes and basaltic eruptions form a wide undulating plain dotted with small to medium-sized stony rises characteristic of the Victorian Volcanic Plains bioregion and geomorphological units.

More specifically, the field survey determined that the study area comprises three particularly distinctive extents of stony rises, present throughout Properties 31, 33, 34 and 35 (Map 9, Page 108). These areas include the eruption cone of Mt. Atkinson and also include two areas to the east of the cone itself, which are further elevated over the undulating plain in this region (Plates 22 and 23). Within these elevated rises, large extruding basalt boulders were identified and little previous disturbance of the area was evident indicating the sections of these areas were likely unploughed due to these inclusions. These elevated landforms are considered to be highly likely to contain Aboriginal archaeological camping or knapping sites, and were thus identified as areas of high cultural heritage sensitivity (Map 9, Page 108).

Surrounding these areas of elevation, the landscape consists of a wide undulating and generally sloping plain, falling away from the eruption cone of Mt. Atkinson in all directions. To the east of Mt. Atkinson, this plain extends approximately 1.4 km and surrounds the two elevated rises in this section of the study area (Plate 24). To the southeast however, this landform extends approximately 400 m, before falling sharply towards the lower gently undulating plains that comprise the majority of the southeastern section of the study area. The outfall of the slope on the southern side of Mt. Atkinson is more gradual, extending approximately 1.25 km before a gentler fall towards the undulating low plains (Plate 25). Two smaller rises are also present in the south eastern section of the study area, where undulating stony rises are located close together forming a distinct rise in the landscape (Plate 26). On the northern slopes of Mt. Atkinson, the field survey identified a much more abrupt drop in the landscape, with the elevated undulating unit

extending as little as approximately 70 m before falling sharply into the low undulating plains that comprise the majority of the northwestern section of the study area (Plate 27). The northern section of the study area is almost entirely comprised of these low undulating plains, however two moderately elevated wide stony rises were identified, one in the very northwestern corner of the study area at the location of VAHR 7822-3809 (Mt. Atkinson PSP AS 1) (Plate 28) and one following a narrow section of low plains landform within Properties 32 and 33. These elevated undulating landforms were considered to be of moderate cultural heritage sensitivity, and likely to have been favoured locations for camping or resource utilisation by Aboriginal people in the past, and were thus identified as areas of moderate cultural heritage sensitivity (Map 9, Page 108).

The remainder of the study area was found to conform to the general low undulating plains of the Victorian Volcanic plain bioregion, with some very shallow stony rises present scattered across the landscape (Plates 29 and 30). This landform was considered to be of low Aboriginal cultural heritage sensitivity, and would likely have been the location of resource extraction and expedient utilisation as Aboriginal groups moved between areas in the past.

3.1.4.2 Aboriginal Cultural Heritage and Areas of Aboriginal Cultural Heritage Likelihood

The few mature native trees within the study area were examined, and no cultural scarring was located. There are no caves, cave entrances or rock shelters present within the activity area.

Several areas of cultural heritage sensitivity were identified during the field survey. These areas were predominantly located atop elevated sections of the landscape, such as the crests of minor or medium-sized stony rises, but also included the crest and slopes of Mt. Atkinson and come areas of gradually sloping land where previous disturbance of the area appeared to be minimal. These areas of sensitivity are shown in detail on Map 9, Page 110.

The field survey involved reinspection of the 18 Aboriginal sites previously recorded within the study area. Although not all reinspection of the sites resulted in the identification of new or previously-recorded Aboriginal cultural heritage at the marked locations, a total of 178 artefacts were identified in relation to previously-recorded sites within the study area[5]. Several of these artefacts may represent new cultural heritage associated with the existing registrations, however in some cases (such as the artefacts identified with VAHR 7822-0206 [Mt. Atkinson]), it is likely they represent previously-identified material. The field survey also identified an additional two Aboriginal archaeological sites; one artefact scatter of 41 artefacts and one LDAD consisting of 16 artefacts spread across the study area. The majority of the LDAD artefacts were identified in relation with elevated land such as small to medium-sized stony rises, and were also identified in areas of generally good visibility such as alongside extruding basalt boulders or along farm vehicle tracks.

The details of these sites are expounded below.

Previously Unrecorded Sites

[5] In cases where no artefacts could be relocated at previously-identified sites, the originally recorded site location, extent and significance is considered to be upheld. This is due to the likelihood that changing taphonomic conditions such as weathering and visibility of the surface may mean that the artefacts remain in the area in a subsurface or obscured context, rather than the site having been removed or destroyed.

- VAHR 7822-3809 (Mt. Atkinson PSP AS 1): this site consists of 41 artefacts identified in the northwestern corner of the study area, within property number One, and also within the footprint area of the Outer Metropolitan Ringroad (Map 10, Page 109; Plates 31 to 33). These artefacts were all found on the surface, across the mid-slope of a small rise in the southern section of the property. This rise elevates from the generally flat and slightly undulating plain to the north, and is bounded by a railway cutting at the southern boundary of the property. This railway cutting is likely to have removed any artefacts which may have been present in that area, however the site may be related to the previously-identified site VAHR 7822-3694 (Troups Road Low Density Artefact Scatter) which is located approximately 75 m southwest of the extent of this newly-identified site extent. Further details on this site are presented in Section 5.
- VAHR 7822-3802 (Mt. Atkinson PSP LDAD): this site consists of 16 artefacts found scattered across the entire study area (Map 10, Page 109; Plates 34 to 37). These artefacts were generally identified in areas of greater visibility, and therefore likely represent the 'background scatter' of Aboriginal occupation throughout the wider region. Further details on these artefacts are presented in Section 5.

Previously Recorded Sites

- VAHR 7822-0206 (Mt. Atkinson) originally comprised a large scatter of quartz, quartzite and silcrete flaked pieces, although the site card and associated report do not specify the number and spread of these artefacts at the site location. The field survey identified a total of 178 artefacts within the general region marked on the current VAHR 7822-0206 site card (Plates 38 to 40).
- VAHR 7822-1534 (Mt. Atkinson IA 1) originally comprised one quartz debris flake. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 41).
- VAHR 7822-1535 (Mt. Atkinson IA 2) originally comprised two quartz debris flakes and two quartz cores. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 42).
- VAHR 7822-1536 (Mt. Atkinson IA 3) originally comprised three quartz flakes. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 43).
- VAHR 7822-1537 (Mt. Atkinson IA 4) originally comprised one quartzite flake. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 44).
- VAHR 7822-1538 (Mt. Atkinson IA 5) originally comprised one quartz core and three quartz flakes. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 45).
- VAHR 7822-1539 (Mt. Atkinson IA 6) originally comprised one quartz core, one broken quartz scraper and two quartz debris flakes. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 46).

- VAHR 7822-1540 (Mt. Atkinson IA 7) originally comprised one quartzite flake. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 47).
- VAHR 7822-1541 (Mt. Atkinson IA 8) originally comprised one quartz flake, one quartzite core flake and one silcrete scraper (Plate 48).
- VAHR 7822-1542 (Mt. Atkinson AS 1) originally comprised six quartz debris flakes, one quartz core and one quartzite debris flake. The site was reinspected during the field survey, and one new silcrete whole flake was identified in association with this site (Plates 49 and 50).
- VAHR 7822-1543 (Mt. Atkinson AS 2) originally comprised 16 stone artefacts made from silcrete, quartz, quartzite and black volcanic basalt. The site was reinspected during the field survey, and 17 artefacts were identified in association with the site. It is unclear whether any or all of these artefacts were the same as those originally recorded, but it is clear that they were found within and around the same site location (Plates 51 and 52).
- VAHR 7822-1544 (Mt. Atkinson AS 3) originally comprised a total of 17 stone artefacts made from silcrete, quartz, quartzite and black volcanic basalt. The site was reinspected during the field survey, and two broken quartzite flakes were identified in association with the registered site. These flakes were identified along the same vehicle track in which the original artefacts were recorded, and it is unclear whether they represent two of the same artefacts as the original recording, or two previously unrecorded artefacts (Plates 53 and 54).
- VAHR 7822-1546 (Mt. Atkinson AS 5) originally comprised a total of 10 stone artefacts made from quartz, silcrete and quartzite. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 55).
- VAHR 7822-1547 (Mt. Atkinson AS 6) originally comprised a total of seven stone artefacts made from silcrete and quartzite. The site was reinspected during the field survey and one piece of quartzite flaking debris was identified in association with the site. This artefact appears to be a previously unrecorded artefact, as it was found on the adjoining basalt boulder extruding from the slope of Mt. Atkinson to the artefacts previously recorded for the site (Plates 56 and 57).
- VAHR 7822-1548 (Mt. Atkinson AS 9) originally comprised one silcrete backed blade. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 58).
- VAHR 7822-1549 (Mt. Atkinson AS 10) originally comprised one quartzite broken flake. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 59).
- VAHR 7822-1550 (Mt. Atkinson AS 11) originally comprised one silcrete blade and two silcrete debris flakes. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 60).

- VAHR 7822-1551 (Mt. Atkinson AS 12) originally comprised one silcrete core. The site was reinspected during the field survey, however no artefacts were identified at the registered location (Plate 61).

Areas of Aboriginal Likelihood

A total of six large areas of particular Aboriginal likelihood were identified during the field survey (Map 9, Page 110):

- The relatively undisturbed land in the northwestern corner of the study area (within property numbers 1, 6 and 7) between the location of 7822-3809 (Mt. Atkinson PSP AS 1) and the LDAD artefacts found in property number 7;
- The more elevated undulating land immediately south of Greigs Road, in property number 32;
- The peak and upper slopes of Mt. Atkinson, running through property numbers 27, 29, 31, 32, 40, 41 and 42, and the upper to mid slope running through property numbers 33, 34 and 35. This is considered one entire area of sensitivity due to the shared elevation between the undulating sections of this slope;
- The elevated outlook of land in the east of the study area overlooking the low plains in the south eastern section of the study area, within property number 48;
- The elevated stony rises in the southern end of the study area overlooking the surrounding low undulating plains, within property numbers 51 and 52;
- The very stony undulating rise in the southeastern corner of the study area, between the boundary of the study area and the alignment of a shallow drainage line, in property number 52.

Table 5 displays a list of the properties where sites or areas of sensitivity have been identified within the study area. A visual representation of this information is presented in Map 9, Page 108.

Table 6: Results of Field Survey: Sites and areas of sensitivity within the study area.

MPA Property Identification Number	Assessment: Pedestrian/Vehicular/Visual Only	Sites present: Y/N	Sensitivity assessment
1	Pedestrian	Yes: VAHR 7822-3809 (Mt. Atkinson PSP AS 1).	High.
2	Pedestrian/Vehicular	No.	Low.
3	Visual Only - Assessed from Property 1 and 2.	No.	Moderate.
4	Pedestrian/Vehicular	No.	Low.
5	Visual Only - Assessed from Property 4 and 6.	No.	Moderate.
6	Pedestrian	No.	Moderate.
7	Pedestrian	Yes: VAHR 7822-3802 (Mt. Atkinson PSP LDAD).	Moderate.
8	Pedestrian	No.	Low.

MPA Property Identification Number	Assessment: Pedestrian/Vehicular/Visual Only	Sites present: Y/N	Sensitivity assessment
9	Visual Only - Assessed from Western Freeway.	No.	Low.
10	Visual Only - Assessed from Western Freeway.	No.	Low.
11	Visual Only - Assessed from Greigs Rd.	No.	Low.
12	Visual Only - Assessed from Greigs Rd.	No.	Low.
13	Visual Only - Assessed from Greigs Rd.	No.	Low.
14	Visual Only - Assessed from Greigs Rd.	No.	Low.
15	Visual Only - Assessed from Greigs Rd.	No.	Low.
16	Visual Only - Assessed from Property 17 and Greigs Rd.	No.	Low.
17	Pedestrian	Yes: VAHR 7822-3802 (Mt. Atkinson PSP LDAD).	Low.
18	Visual Only - Assessed from Property 17 and Greigs Rd.	No.	Low.
19	Visual Only - Assessed from Greigs Rd.	No.	Low.
20	Visual Only - Assessed from Greigs Rd.	No.	Low.
21	Visual Only – Assessed from Greigs Rd.	No.	Low.
22	Visual Only - Assessed from Property 25, Greigs Rd and Troups Rd S.	No.	Low.
23	Visual Only - Assessed from Property 25 and Troups Rd S.	No.	Low.
24	Visual Only - Assessed from Property 25.	No.	Low.
25	Pedestrian/Vehicular	Yes: VAHR 7822-3802 (Mt. Atkinson PSP LDAD).	Low to Moderate.
26	Vehicular	No.	Low.
27	Visual Only - Assessed from Property 25 and 29.	No.	Low to Moderate.
28	Visual Only - Assessed from Property 25.	No.	Low.
29	Pedestrian/Vehicular	No.	Low to Moderate.

MPA Property Identification Number	Assessment: Pedestrian/Vehicular/Visual Only	Sites present: Y/N	Sensitivity assessment
30	Pedestrian/Vehicular	No.	Low.
31	Pedestrian/Vehicular	Yes: VAHR 7822-0206 (Mt. Atkinson).	Low, Moderate and High areas of sensitivity present.
32	Pedestrian/Vehicular	Yes: VAHR 7822-1535 (Mt Atkinson IA 2), VAHR 7822-1538 (Mt Atkinson IA 5), VAHR 7822-1539 (Mt Atkinson IA 6), VAHR 7822-1546 (Mt Atkinson AS 5) and VAHR 7822-1547 (Mt Atkinson AS 6).	Low, Moderate and High areas of sensitivity present.
33	Pedestrian/Vehicular	Yes: VAHR 7822-1534 (Mt Atkinson IA 1), VAHR 7822-1537 (Mt Atkinson IA 4), VAHR 7822-1538 (Mt Atkinson IA 5), VAHR 7822-1540 (Mt Atkinson IA 7) and VAHR 7822-1541 (Mt Atkinson IA 8).	Low, Moderate and High areas of sensitivity present.
34	Pedestrian/Vehicular	No.	Low to Moderate.
35	Pedestrian/Vehicular	Yes: VAHR 7822-1536 (Mt Atkinson IA 3).	Low, Moderate and High areas of sensitivity present.
36	Visual Only – Assessed from Greigs Rd.	No.	Low.
37	Visual Only – Assessed from Greigs Rd.	No.	Low.
38	Visual Only - Assessed from Property 25.	No.	Low.
39	Visual Only - Assessed from Property 25 and 40.	No.	Low.
40	Pedestrian/Vehicular	Yes: VAHR 7822-3802 (Mt. Atkinson PSP LDAD).	Low to Moderate.
41	Visual Only – Assessed from Property 40.	No.	Low to Moderate.
42	Pedestrian/Vehicular	No.	Low to Moderate.
43	Visual Only - Assessed from Property 51 and Troups Rd S.	No.	Low.
44	Visual Only - Assessed from Property 51 and Troups Rd S.	No.	Low to Moderate.
45	Visual Only - Assessed from Property 51.	No.	Low.
46	Visual Only - Assessed from Property 51.	No.	Low to Moderate.
47	Pedestrian/Vehicular	No.	Low to Moderate.

MPA Property Identification Number	Assessment: Pedestrian/Vehicular/Visual Only	Sites present: Y/N	Sensitivity assessment
48	Pedestrian/Vehicular	Yes: VAHR 7822-3802 (Mt. Atkinson PSP LDAD), VAHR 7822-1542 (Mt Atkinson AS 1) VAHR 7822-1543 (Mt Atkinson AS 2) and VAHR 7822-1546 (Mt Atkinson AS 3).	Low to Moderate.
49	Pedestrian/Vehicular	No.	Low to Moderate.
50	Pedestrian/Vehicular	No.	Low to Moderate.
51	Pedestrian/Vehicular	Yes: VAHR 7822-1549 (Mt. Atkinson AS 10).	Low to Moderate.
52	Pedestrian/Vehicular	Yes: VAHR 7822-1548 (Mt. Atkinson AS 9).	Low to Moderate.
53	Visual Only - Assessed from Property 1.	No.	Low.
54	Visual Only - Assessed from Property 1.	No.	Low.
55	Visual Only - Assessed from Property 7.	No.	Low.
56	Visual Only - Assessed from Property 8.	No.	Low.
57	Visual Only - Assessed from Property 8.	No.	Low.
58	Visual Only – Assessed from Property 8.	No.	Low.
59	Visual Only - Assessed from Greigs Rd.	No.	Low.
60	Visual Only – Assessed from Greigs Rd.	No.	Low.
61	Visual Only – Assessed from Greigs Rd.	No.	Low.

3.1.4.3 Previous Ground Disturbance

Several areas of previous ground disturbance were identified during the field survey:

- The alignments of Greigs Road and Meskos Road, and their associated road reserves;
- The alignment of the railway line running through the northern end of the study area;
- The locations of housing, farm sheds, concreting and dam constructions within the farm properties and the bitumen car parking area surrounding the BP and McDonald's shared complex off the Western Freeway (Plates 1, 2 and 3); and
- The large area of imported fill and machine disturbance/excavations across the land between the railway line and the Western Freeway, east of the BP and McDonald's shared complex (Plates 6 and 7).

Some of these areas of observed disturbance will also be indicative of unobserved disturbance. For example, it is highly likely that the location of dwellings include subsurface pipelines and services such as water, sewerage and gas, or electrical cabling, which may not run directly from the nearest road to the house. Equally, some grading of land in the northern section of the study area may have occurred in association with the construction of the Western Freeway or the BP and McDonald's shared complex, which may no longer be apparent in the context of the low undulating plains to the north of the study area.

Plate 1: Study area facing south across Properties 4 and 5, showing disturbance relating to development of area for shared BP and McDonalds car park and service complex (photo courtesy of Google Street View).

Plate 2: Study area facing south within Property 33, showing area of residential development.

Plate 3: Study area facing northeast towards boundary of Property 19, showing landscaped road reserve in foreground and areas of disturbance at gate and sealed driveway.

Plate 4: Study area facing south towards railway line from Meskos Road showing road, rail and electrical cabling installations and disturbance.

Plate 5: Study area facing north from Greigs Rd. road reserve, showing alignment of the railway and associated disturbance.

Plate 6: Study area facing southeast across area of fill disturbance in Property 8, showing variable grass cover.

Plate 7: Close-up of area of imported fill in Property 8, showing visibility, and clay and concrete inclusions throughout.

Plate 8: Study area facing southwest across recently ploughed area of good visibility in Property 25.

Plate 9: Study area facing southeast from southern slope of Mt. Atkinson, across one of the VAHR 7822-3802 (Mt. Atkinson PSP LDAD) locations, showing poor visibility.

Plate 10: Study area facing south across rise in Property 1, at location of 7822-3809 (Mt. Atkinson PSP AS 1) showing variable GSV across area.

Plate 11: Study area facing south along western property boundary of Property 17, towards location of an artefact from VAHR 7822-3802 (Mt. Atkinson PSP LDAD) showing variable GSV across area.

Plate 12: Study area facing south across large area of stock-worn GSV in Property 17.

Plate 13: Study area facing east from mid-slope of Mt. Atkinson, showing poor GSV and across part of area associated with VAHR 7822-0206 (Mt. Atkinson).

Plate 14: Study area facing north across crest of Mt. Atkinson, showing GSV around extruding basalt, and across part of area associated with VAHR 7822-0206 (Mt. Atkinson).

Plate 15: Study area facing southeast across area of natural exposure on Property 25.

Plate 16: Study area facing west within Property 32, showing location of artefact from VAHR 7822-3802 (Mt. Atkinson PSP LDAD) identified on area of exposure along stock-worn track.

Plate 17: Study area facing north towards Mt. Atkinson from mid-slope, on Property 40.

Plate 18: Study area facing northwest from crest of Mt. Atkinson, the drop-off on to the undulating plains of the outskirts of the study area.

Plate 19: Study area facing northeast from the eastern mid-slope of Mt. Atkinson, across the undulating plains/rises landform.

Plate 20: Study area facing south across low undulating plains towards southern boundary of the study area.

Plate 21: Study area facing west from western boundary of Property 51, showing low plains landform.

Plate 22: Study area facing west from elevated stony rise in Property 33, with Mt. Atkinson visible to the left of photo.

Plate 23: Study area facing south across elevated stony rise in Property 35, showing the extent of elevation over the surrounding low plain.

Plate 24: Study area facing northeast across undulating moderately-elevated landform.

Plate 25: Study area facing southwest from southeastern boundary of Property 414, showing gradual slope to the low undulating plains in far background.

Plate 26: Study area facing north across edge of stony rise in southeastern corner of study area. Note: the drainage line in this area is located to left of photo.

Plate 27: Study area facing northeast across relatively abrupt drop from moderately elevated landscape to the low undulating plains of the study area.

Plate 28: Study area facing north from upper slope of moderately elevated rise at location of VAHR 7822-3809 (Mt. Atkinson PSP AS 1), showing slope towards low undulating plains to the north.

Plate 29: Study area facing south from edge of moderate elevation in Property 51, across area of low elevation and sensitivity.

Plate 30: Study area facing west from Property 17, across Properties 16 and 15, showing generally flat landform of the low undulating plains in the north of the study area.

Plate 31: View across area of greatest artefact density at VAHR 7822-3809 (Mt. Atkinson PSP AS 1), facing west.

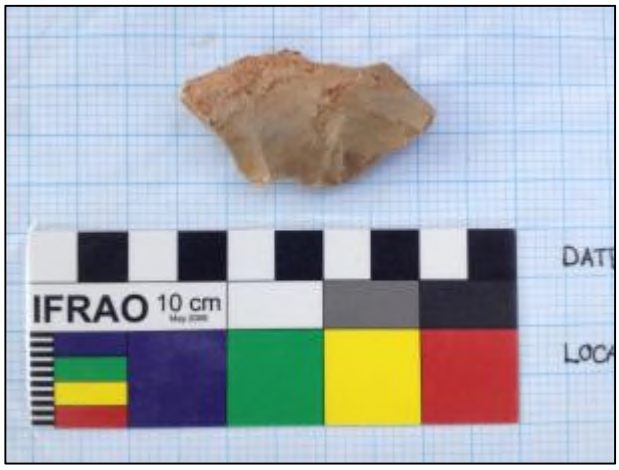


Plate 32: Example of artefact identified at VAHR 7822-3809 (Mt. Atkinson PSP AS 1) (silcrete complete flake).

Plate 33: Example of artefact identified at VAHR 7822-3809 (Mt. Atkinson PSP AS 1) (hornfels complete flake).

Plate 34: Location of artefact 1 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD), facing north towards Mt. Atkinson.

Plate 35: Artefact 1, identified at VAHR 7822-3802 (Mt. Atkinson PSP LDAD) (quartz broken flake).

Plate 36: Location of artefacts 2 and 3 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD), facing south.

Plate 37: Artefact 3, identified at VAHR 7822-3802 (Mt. Atkinson PSP LDAD) (banded silcrete complete flake).

Plate 38: View across artefact locations at VAHR 7822-0206 (Mt. Atkinson), facing northeast..

Plate 39: Sample of artefacts identified at VAHR 7822-0206 (Mt. Atkinson).

Plate 40: Further sample of artefacts identified at VAHR 7822-0206 (Mt. Atkinson).

Plate 41: Location of registered site VAHR 7822-1534 (Mt. Atkinson IA 1), facing east.

Plate 42: Location of registered site VAHR 7822-1535 (Mt. Atkinson IA 2), facing southeast.

Plate 43: Location of registered site VAHR 7822-1536 (Mt. Atkinson IA 3), facing northeast.

Plate 44: Location of registered site VAHR 7822-1537 (Mt. Atkinson IA 4), facing northwest.

Plate 45: Location of registered site VAHR 7822-1538 (Mt. Atkinson IA 5), facing north.

Plate 46: Location of registered site VAHR 7822-1539 (Mt. Atkinson IA 6), facing west.

Plate 47: Location of registered site VAHR 7822-1540 (Mt. Atkinson IA 7), facing north.

Plate 48: Location of registered site VAHR 7822-1541 (Mt. Atkinson IA 8), facing west.

Plate 49: Location of registered site VAHR 7822-1542 (Mt. Atkinson AS 1), facing south.

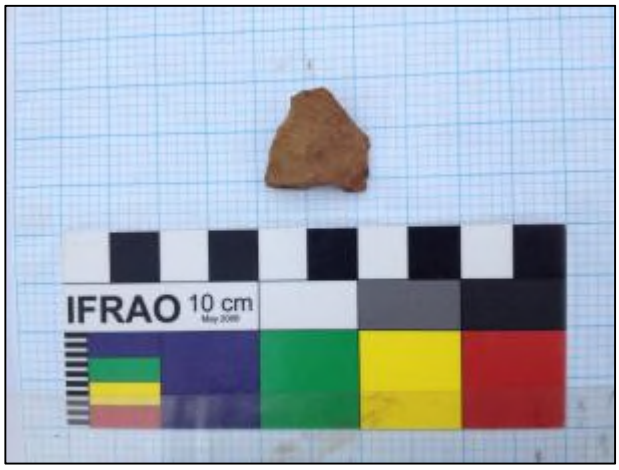


Plate 50: Artefact identified at registered site VAHR 7822-1542 (Mt. Atkinson AS 1).

Plate 51: Location of registered site VAHR 7822-1543 (Mt. Atkinson AS 2), facing southwest.

Plate 52: Sample of artefacts identified at registered site VAHR 7822-1543 (Mt. Atkinson AS 2).

Plate 53: Location of registered site VAHR 7822-1544 (Mt. Atkinson AS 3), facing north along vehicle track.

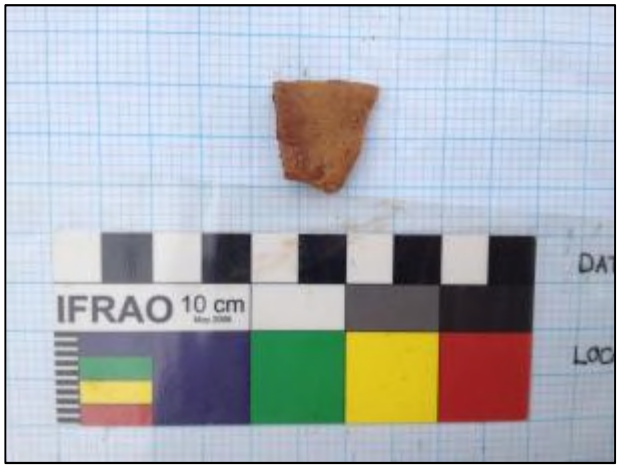


Plate 54: Artefact identified at registered site VAHR 7822-1544 (Mt. Atkinson AS 3) (quartzite flake).

Plate 55: Location of registered site VAHR 7822-1546 (Mt. Atkinson AS 5), facing north.

Plate 56: Location of registered site VAHR 7822-1547 (Mt. Atkinson AS 6), facing northeast.

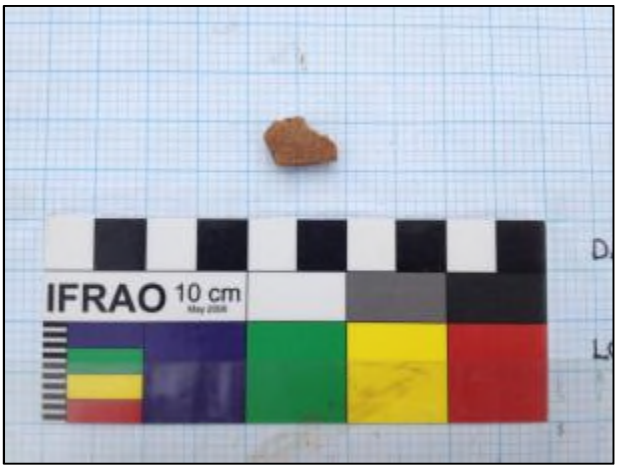


Plate 57: Artefact identified at registered site VAHR 7822-1547 (Mt. Atkinson AS 6) (quartzite debris flake).

Plate 58: Location of registered site VAHR 7822-1548 (Mt. Atkinson AS 9), facing west.

Plate 59: Location of registered site VAHR 7822-1549 (Mt. Atkinson AS 10), facing southwest.

Plate 60: Location of registered site VAHR 7822-1550 (Mt. Atkinson AS 11), facing south along vehicle track.

Plate 61: Location of registered site VAHR 7822-1551 (Mt. Atkinson AS 12), facing southwest.

3.1.5 Field Survey – Summary of results and Conclusions

The field survey identified several Aboriginal sites and areas of Aboriginal cultural heritage sensitivity across the study area (Map 9, Page 108). As predicted by the results of the desktop assessment, these areas were primarily located on the elevated slopes of the Mt. Atkinson eruption cone and associated basaltic flows, but were also present in isolated locations within the generally lower undulating plains. This pattern of site location is characteristic of Aboriginal cultural heritage within the Victorian Volcanic plains geographical region, and has implications for the future development of the area. These implications are discussed further in Part 2 of this report.

Although the field survey included pedestrian assessment at each previously-registered site location within the study area, surface artefacts could only be identified at 5 of the 18 sites. In most cases, this appears to be partially a matter of GSV at these locations, with many of the site locations being overgrown with weeds and grasses (Plates 42 – 48, 55 and 58 – 61). However, this could also be the result of site formation processes since the original recording, with artefacts having eroded out of the site and been transported downslope via wind, water and animal movement, or being obscured by the aggradation of Aeolian or water-borne silts. The inability to relocate the artefacts from these sites could also be the result of inferior GPS recording at the time providing inaccurate locations for the sites. This last possibility was managed by the use of the field maps attached to the original site card recordings, however in many cases these maps were extremely basic, without well-defined scales or identifying features which could be used to effectively orient oneself within the changed landscape since their original recording. The reinspected sites where artefacts were able to be identified were in generally good condition, with few indicators of disturbance or adverse impact since their original recording, and therefore their original site significance assessments are still considered accurate (Appendix 5, Page 127). The sites where artefacts could not be identified during the reinspection were all originally recorded as of low significance, and until subsurface testing is carried out in these locations to help determine whether further material is present, this assessment it considered to remain accurate.

The field survey also identified two new Aboriginal archaeological sites within the study area, which are not associated with any of the previously-recorded sites listed on the VAHR. These sites consist of one medium-

density artefact scatter with a discrete site boundary and one Low-Density Artefact Distribution (LDAD) which is scattered across a wide area, but with no discrete site boundary. The locations of these sites and artefacts will have implications for any future development of the area, and are discussed in greater detail in Sections 4 and 5, and Part 2 of this report.

The field assessment identified several areas of Aboriginal cultural heritage likelihood throughout the study area. The field assessment found that the highly elevated areas on the crest of Mt. Atkinson (where Aboriginal site VAHR 7822-0206 [Mt. Atkinson] is also located), the upper slopes and crests of two distinctive stony rises in Properties 33, 34 and 35, and the rise upon which VAHR 7822-3809 (Mt. Atkinson PSP AS 1) is located were all highly likely to contain Aboriginal cultural heritage material (or further, unidentified Aboriginal cultural heritage material). In addition to this, areas considered to have moderate potential for containing Aboriginal cultural heritage were identified throughout Properties 1, 3, 5 – 7, 25, 27, 29, 31 – 35, 40 – 42, 44 and 46 – 52. The likelihood of cultural heritage material being present in these areas has implications for any future development of the region, and are discussed in further detail in Part 2 of this report.

4 DETAILS OF ABORIGINAL CULTURAL HERITAGE IN THE STUDY AREA

4.1 Aboriginal Cultural Heritage in the Study Area

A total of 20 Aboriginal archaeological sites are located within the study area (Map 12, Page 114). Eighteen of these sites were previously recorded within the study area, and were reinspected as part of the field survey:

Table 7: Sites Reinspected during Field Survey.

Site	Name	Number of Artefacts Identified	Reinspected?	Artefacts identified at site during field survey
VAHR 7822-0206	Mt. Atkinson	Unspecified	Yes	178
VAHR 7822-1534	Mt Atkinson IA 1	1	Yes	0
VAHR 7822-1535	Mt Atkinson IA 2	4	Yes	0
VAHR 7822-1536	Mt Atkinson IA 3	3	Yes	0
VAHR 7822-1537	Mt Atkinson IA 4	1	Yes	0
VAHR 7822-1538	Mt Atkinson IA 5	4	Yes	0
VAHR 7822-1539	Mt Atkinson IA 6	4	Yes	0
VAHR 7822-1540	Mt Atkinson IA 7	1	Yes	0
VAHR 7822-1541	Mt Atkinson IA 8	3	Yes	0
VAHR 7822-1542	Mt Atkinson AS 1	8	Yes	1
VAHR 7822-1543	Mt Atkinson AS 2	16	Yes	17
VAHR 7822-1544	Mt Atkinson AS 3	17	Yes	2
VAHR 7822-1546	Mt Atkinson AS 5	10	Yes	0
VAHR 7822-1547	Mt Atkinson AS 6	7	Yes	1
VAHR 7822-1548	Mt Atkinson AS 9	1	Yes	0
VAHR 7822-1549	Mt Atkinson AS 10	1	Yes	0
VAHR 7822-1550	Mt Atkinson AS 11	3	Yes	0
VAHR 7822-1551	Mt Atkinson AS 12	1	Yes	0

Two of these sites were previously unidentified, and were registered as part of this assessment:

Table 8: New Sites Identified during Field Survey.

Site	Name	Artefacts identified at site during field survey
VAHR 7822-3809	Mt. Atkinson PSP AS 1	41
VAHR 7822-3802	Mt. Atkinson PSP LDAD	16

The site gazetteer in Appendix 3, Page 127 presents a summary of the sites identified during the field survey, whilst Appendix 5, Page 127 presents the results of the reinspection of the previously-identified sites within the study area.

4.1.1 Assessment of the Aboriginal Cultural Heritage

4.1.1.1 Site Formation Processes

Site formation processes were assessed through a study of the landform, soil types, stratigraphy and taphonomic processes.

No subsurface investigation of the sites was undertaken as part of this assessment, meaning that the stratigraphy of the sites was not able to be investigated thoroughly. However, visual assessment of the surface characteristics of the soil and site setting allowed some interpretation of the site formation processes.

The sites on the crests of rises such as Mt. Atkinson or the centre of extruding stony basalt rises appear to have been formed via the geological processes which are gradually pushing the basalt boulders up from below. In several of these locations, the presence of the artefacts atop large slabs of rock themselves may in fact be the result of their direct deposition on to the rock surface, and the high erosional winds and water of these areas preventing an accumulation of silts which would bury them. In areas adjacent to the extruding boulders, it is unclear whether these may represent relatively recent exposure of artefacts previously obscured by Aeolian silts due to the extrusion of the basalt boulders, or whether these too represent surface artefacts which were never concealed (or a combination of both processes happening concurrently).

The sites on the slopes of the rises, or on the undulating plains, appear to have undergone a series of burial and exposure events via wind and water movement across the slope. The discovery of artefacts on the surface and partially-buried at these locations make it unclear whether the sites were in the process of eroding or aggrading (or a combination of both across the site), and the lack of subsurface testing at these locations makes it unclear whether further artefacts are present beneath the surface. It is however clear that the site formation processes at each of these sites are dynamic, and still active.

4.1.1.2 Artefact Analysis

The artefact analysis focused on determining patterns of raw material use, technology and typology. Due to the scope of the assessment, only the artefacts from the newly-identified sites in the area were subject to intensive analysis, to better facilitate their recording on the VAHR. Artefacts found in association with existing sites only had their raw material, colour and artefact type recorded in association with their GPS location. Attributes recorded for each artefact from the newly-discovered sites include:

- Raw material, type and colour;
- Tool type (where applicable);
- Flake scars (where applicable);
- Fracture type;
- Platform quantity, type, width and thickness (where applicable);
- Termination type (where applicable);
- Retouch type (where applicable);
- Retouch location (where applicable); and
- Dimensions and mass.

The artefact attribute table for the newly-identified sites within the study area is presented in Appendix 4, Page 129. Details of the artefacts from the reinspected sites are found with the Place Inspection forms for each site, copies of which are attached in Appendix 5, Page 127.

Raw Material

The raw material type and colour of each artefact identified during the field assessment was recorded. This information can be used to help establish a pattern of site use and chronology across the sites, as it is likely that any related material (matching type and colour) may have been produced at the same time, representing a discrete event that can be used as a relative baseline for contextualising the remainder of the artefacts.

The raw materials of the sites identified during the field survey are presented in Tables 5 and 6 below, whilst the raw material data for the previously-recorded sites which were revisited during the survey is contained within the Place Inspection forms attached in Appendix 5, Page 127.

Artefact Types

The artefact type and knapping (production) method of each artefact identified during the field assessment was recorded. This information can be used to help establish a reduction sequence of artefacts across the site, and also help to contextualise a site-use pattern based on artefact typology (i.e. the presence of cores indicating knapping was taking place on site, and the presence of tools suggesting compound activities such as toolkit maintenance or woodworking were also taking place).

The artefact types of the sites identified during the field survey are presented in Tables 5 and 6 below, whilst the artefact type data for the previously-recorded sites which were revisited during the survey is contained within the Place Inspection forms attached in Appendix 5, Page 127.

Table 9: Artefact Types Identified at VAHR 7822-3809 (Mt. Atkinson PSP AS 1)

Artefact Type	Material Type					Total
	Silcrete	Quartzite	Quartz	Hornfels	Chert	
Tools						
Whole Flake with Usewear	-	1	-	1	-	**2**
Geometric Microlith/Bondi Point	1	-	-	-	-	**1**
Scrapers (thumbnail, steep edge, etc.)	-	-	-	-	-	**-**
Blades	-	-	-	-	-	**-**
Broken Tool	1	-	-	-	-	**1**
Other						
Core Fragment	1	-	-	-	-	**1**
Whole Flake	14	4	3	-	-	**21**
Broken Flake	12	1	-	-	-	**13**
Flaking Debris/ Angular Fragments	1	-	3	-	-	**4**
Core Rejuvenation Flake	-	-	-	-	-	**-**
Total	**30**	**6**	**6**	**1**	**-**	**43**

Table 10: Artefact Types Identified at VAHR 7822-3802 (Mt. Atkinson PSP LDAD)

Artefact Type	Material Type					Total
	Silcrete	Quartzite	Quartz	Crystal Quartz	Chert	
Tools						
Whole Flake with Usewear	-	-	-	-	-	**-**
Geometric Microlith	-	-	-	-	-	**-**
Scrapers (thumbnail, steep edge, etc.)	-	-	-	-	-	**-**
Blades	1	-	-	-	-	**1**
Broken Tool	-	1	-	-	-	**1**
Other						
Core Fragment	-	1	-	-	-	**1**
Whole Flake	7	1	2	-	-	**10**
Broken Flake	2	1	-	-	-	**3**

Artefact Type	Material Type					Total
	Silcrete	Quartzite	Quartz	Crystal Quartz	Chert	
Flaking Debris/ Angular Fragments	-	-	-	-	-	-
Core Rejuvenation Flake	-	-	-	-	-	-
Total	**10**	**4**	**2**	**-**	**-**	**16**

4.1.1.3 Shell Analysis

Shell material is generally identified to the Genus level and, where more specific identification is not possible, to a Family or Order level. Where there is no ambiguity in the identification of individual species the material is recorded to the species level.

No shell was present in any of the sites within the study area; neither the previously recorded sites, nor those newly-recorded during the field survey.

4.1.1.4 Faunal Analysis

No faunal remains of sufficient age or taxa to be associated with Aboriginal activities were present in any of the sites within the study area; neither the previously recorded sites, nor those newly-recorded during the field survey.

4.1.1.5 Radiometric Dating

No samples of organic matter suitable for C14 dating, nor any samples of inorganic matter suitable for thermo-luminescence dating, were recovered during the assessment.

4.1.1.6 Statistical Analysis

Due to the scope of the assessment, detailed statistical analysis was not undertaken for the sites within the study area. Additionally, the low numbers of artefacts found at most of the sites, and the lack of any subsurface testing to help establish stratigraphy and relative chronology of the artefacts, would have limited the effectiveness of such analysis if it had been pursued.

4.1.2 Aboriginal Stakeholder Information Regarding the Aboriginal Cultural Heritage

The representatives of the Bunurong and Boon Wurrung communities were asked if they knew of any information of the area contained in oral histories or stories that they wished included in this report. The representatives did not have any oral histories relating to the study area for inclusion in this report, however noted that it was likely the peak of Mt. Atkinson could have been an important feature for the Aboriginal people of the area in the past, possibly used as a meeting place or landscape marker, and may have been related to stories or ceremonies that have since been lost (Mike Haley, Shane Clark, personal communication 2014).

4.1.3 Results of the Assessment of the Aboriginal Cultural Heritage

A total of 20 Aboriginal archaeological sites are present within the study area:

- VAHR 7822-0206 (Mt. Atkinson);
- VAHR 7822-1534 (Mt. Atkinson IA 1);
- VAHR 7822-1535 (Mt. Atkinson IA 2);
- VAHR 7822-1536 (Mt. Atkinson IA 3);
- VAHR 7822-1537 (Mt. Atkinson IA 4);
- VAHR 7822-1538 (Mt. Atkinson IA 5);
- VAHR 7822-1539 (Mt. Atkinson IA 6);
- VAHR 7822-1540 (Mt. Atkinson IA 7);
- VAHR 7822-1541 (Mt. Atkinson IA 8);
- VAHR 7822-1542 (Mt. Atkinson AS 1);
- VAHR 7822-1543 (Mt. Atkinson AS 2);
- VAHR 7822-1544 (Mt. Atkinson AS 3);
- VAHR 7822-1546 (Mt. Atkinson AS 5);
- VAHR 7822-1547 (Mt. Atkinson AS 6);
- VAHR 7822-1548 (Mt. Atkinson AS 9);
- VAHR 7822-1549 (Mt. Atkinson AS 10);
- VAHR 7822-1550 (Mt. Atkinson AS 11);
- VAHR 7822-1551 (Mt. Atkinson AS 12);
- VAHR 7822-3809 (Mt. Atkinson PSP AS 1); and
- VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

These sites predominantly comprise surface stone artefact scatters comprising fewer than 10 artefacts, with greater densities of artefacts found on the crest of Mt. Atkinson and the tops of stony rises throughout the region. This supports the predictions made by the site prediction statement, which indicated greatest likelihood for sites to occur on the elevated sections of the study area, and in stony areas unlikely to have been historically impacted by farming activities or prior developments. The presence of single artefacts across the area associated with VAHR 7822-3802 (Mt. Atkinson PSP LDAD) also supports the predictive statement, which indicated likelihood for low quantities of Aboriginal stone artefacts to be found across the entire region.

5 DETAILS OF ABORIGINAL CULTURAL HERITAGE IDENTIFIED DURING THE FIELD SURVEY

This section details the characteristics of the new Aboriginal archaeological sites identified during the field survey. As the scope of this assessment is to identify any future constraints to development of the region following a successful rezoning application, the details of the previously-recorded Aboriginal archaeological sites are not included here. Instead, these details are presented in Appendix 5, Page 127 as it is considered the revisiting of these sites has not altered the potential impacts of the site's presence on any future development within the region.

5.1 VAHR 7822-3809 (Mt. Atkinson PSP AS 1)

5.1.1 Location of VAHR 7822-3809 (Mt. Atkinson PSP AS 1)

Primary Grid Coordinate: GDA 94, Zone 55, E 295328.8, N 5820670.5 (Figure 2).

Cadastral details are:

- Lot: 1, Title Plan: TP82908.

5.1.2 Extent of VAHR 7822-3809 (Mt. Atkinson PSP AS 1)

VAHR 7822-3809 (Mt. Atkinson PSP AS 1) extends approximately 185 m from north to south, and approximately 55 m from east to west at its widest point. The site extends predominantly across the middle slope but also across the crest of a small rise in the northern section of the study area, between the Western Freeway and the alignment of the railway line running from east to west through the study area. The artefacts atop the crest were found in low quantity and it is not known if the site extends beyond the disturbed area of railway alignment to the south.

It should be noted that the Ground Surface Visibility of the area was quite poor at the time of the survey, particularly atop the crest of the rise (Plate 62). This may have affected the survey's ability to fully determine the extent of the surface artefact scatter as artefacts could only be seen in areas of exposure. Additionally, it was noted that several of the artefacts were partially buried and therefore it is likely that a subsurface component of the site also exists; the extent of any such subsurface expression of the site is unknown.

5.1.3 Nature of VAHR 7822-3809 (Mt. Atkinson PSP AS 1)

VAHR 7822-3809 (Mt. Atkinson PSP AS 1) consists of 43 artefacts made from silcrete (70%, n = 30), quartzite (14%, n = 6), quartz (14%, n = 6) and hornfels (2%, n = 1). These raw materials display a small intra-material colour and quality variability, and it seems likely that most artefacts sharing material and colour were knapped from the same source cores. The presence of a fine-grained beige silcrete core within the site further suggests that some of this knapping may have been occurring within the site itself. This core was found to be relatively small and intensively flaked, and was likely discarded due to having reached the end of its use-life; this means that it was no longer possible to effectively knap useful flakes from what remained of

the core. Whether this core was knapped in one event, or represents a partially-used core carried to the site prior to final use and discard, is impossible to determine with the limited set of data available.

The majority of the artefact types present at VAHR 7822-3809 (Mt. Atkinson PSP AS 1) consist of whole and broken unutilised flakes, regardless of raw material type. A high quantity of these artefact types are generally found at locations where knapping has taken place, and is usually indicative of the 'waste' flakes which are produced during core preparation, or flakes that were struck and found to be unsuitable for the intended task resulting in their immediate discard without use. The presence of Angular Fragments at the site also supports this interpretation, as these artefact types are only found in locations where knapping has taken place – however it should be noted that both the identified angular fragments of the site were made from quartz, which held a relatively low number of artefacts and flakes in comparison to the other material types. Additionally, the presence of the single beige silcrete core does not account for the source of the grey or red silcrete artefacts, not the quartzite artefacts of the site. Whilst it is possible the cores for these artefacts were carried from site following knapping, it is also possible that the artefacts were knapped elsewhere and transported to the site prior to discard. The relatively high percentage of broken flakes may obscure this interpretation, as it is possible the missing segments retain evidence of use or retouch, indicating they may have been knapped elsewhere and used across the landscape and discarded at VAHR 7822-3809 (Mt. Atkinson PSP AS 1) following breakage.

The tools found at the site indicate that more activities than just knapping may have been occurring at VAHR 78252-3809 (Mt. Atkinson PSP AS 1). Informal tools such as flakes were utilised for a wide variety of purposes, including butchering activities, woodworking, preparation of hides, the gathering of plants for food and medicines, and even ritual or ceremonial activities. Each of these activities had the opportunity to mark the stone tool as it was being used, chipping or dulling the edge. When the flake became too damaged or blunt for further use, it was then discarded. The utilised flakes of VAHR 7822-3809 (Mt. Atkinson PSP AS 1) tend not to have a great deal of edge-damage or use-wear along their margins, which may indicate they were not used intensively prior to discard. This pattern of use is most often associated with low-intensity occupational sites or sites which may have been utilised for a single/few tasks as people moved across the landscape, with tools being expediently created, utilised, then discarded as the group moved on.

The presence of a single formal tool, a Bondi point, may also indicate that multiple activities were taking place at VAHR 7822-3809 (Mt. Atkinson PSP AS 1). This artefact type is commonly understood to have been hafted into composite tools such as spears or sickles, and was part of the Australian Small Tool Tradition which only came into use in Victoria approximately 5,000 years ago. The use of small, replaceable components such as Bondi points allowed easier toolkit maintenance, as broken components could be swapped out for fresh ones without requiring replacement of the entire tool. It is possible that the Bondi point's presence at VAHR 7822-3809 (Mt. Atkinson PSP AS 1) could indicate toolkit maintenance was taking place on-site, although it is unclear whether this artefact may represent a replaced component, or one of many possible replacements knapped on-site for use in toolkit repair, which was then found insufficient and subsequently discarded. Regardless, its presence does indicate that the site was visited some time during the past 5,000 years, although without an understanding of the site's stratigraphy it is impossible to determine whether this visitation event was associated with the other artefacts present at the site.

5.1.4 Significance of VAHR 7822-3809 (Mt. Atkinson PSP AS 1)

The cultural significance of VAHR 7822-3809 (Mt. Atkinson PSP AS 1) has been assessed against the criteria as defined in Section 4 of the *Aboriginal Heritage Act 2006* (Table 11).

Table 11: Cultural Significance of VAHR 7822-3809 (Mt. Atkinson PSP AS 1)

Criterion	Assessment
Archaeological / Scientific	Moderate. VAHR 7822-3809 (Mt. Atkinson PSP AS 1) contains a moderate density of stone artefacts, including a low number of formal tools and cores, which is not uncommon in the region. The raw materials from which the artefacts were manufactured are also commonly found in the region, but may indicate that knapping was occurring on-site. Due to the likelihood that further artefactual material exists at this location, whether obscured by vegetative cover or lying subsurface, this site has been assessed as having moderate scientific significance for its potential to contain further data that, in association with the surface expression, will provide useful scientific information for interpreting the site's use and chronology comparative to the other sites located in the general local region.
Contemporary / Social	As Byrne *et al*. 2001 illustrate, social significance is a composite of all of the other significance values (specifically aesthetic, scientific and historic). However, social significance varies for different members or groups within society. The contemporary or social significance of a site is related to its association with a particular social group or community. Aboriginal people themselves are the most appropriate people to determine the social significance of any Aboriginal Place or areas of land associated with their heritage. The Bunurong and the Boon Wurrung representatives were invited to provide information on the cultural heritage significance of the site in accordance with Aboriginal tradition, during their participation in the field survey. Both the Bunurong and Boon Wurrung representatives stated that the site has potential for subsurface artefacts which would add to the significance of the site, and therefore the site should not be considered to be of low significance (Mike Haley and Shane Clark, personal communication 2014).
Historical	N/A. The site is prehistoric and there are no documented or oral histories relating to this site. There is no evidence that the site was the location of an important event, nor associated with an historic person or activity.
Spiritual	High. Although no 'ceremonial' or 'ritual' components of the site have been identified, the place may hold spiritual significance for certain members of the Aboriginal community. The Bunurong and Boon Wurrung representatives were invited to provide information on the spiritual significance of the site in accordance with Aboriginal tradition, however neither of the field representatives knew of any spiritual significance to the site. They indicated that further assessment of the area may reveal such significance however, and that the site should be treated with the potential for a spiritual place until proved otherwise (Mike Haley and Shane Clark, personal communication 2014).

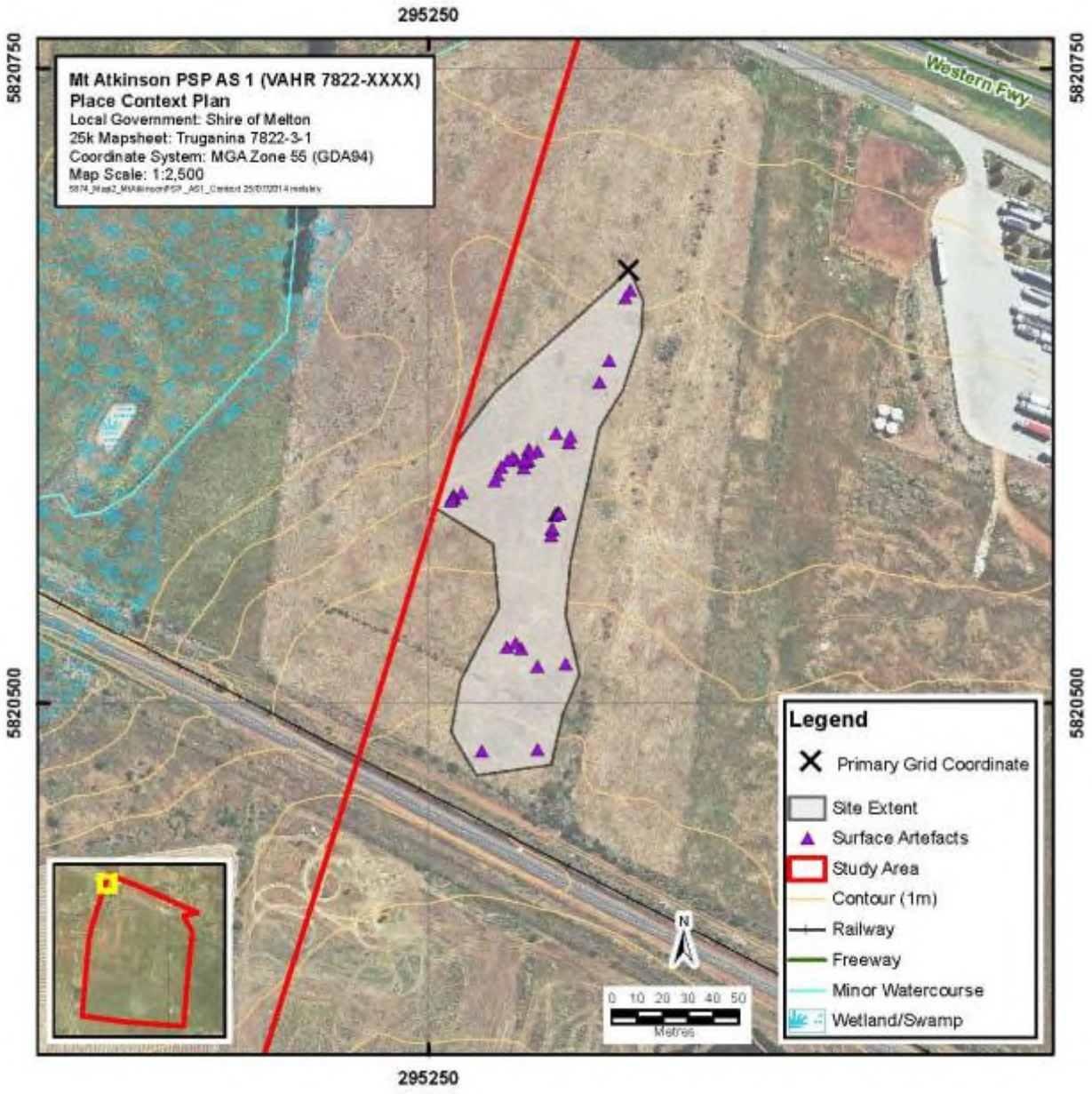


Figure 2: Extent of VAHR 7822-3809 (Mt. Atkinson PSP AS 1)

Plate 62: View of VAHR 7822-3809 (Mt. Atkinson PSP AS 1) facing north from the mid-slope of the rise upon which the site lies.

Plate 63: Sample artefact from VAHR 7822-3809 (Mt. Atkinson PSP AS 1)(quartzite complete flake).

Plate 64: Sample artefact from VAHR 7822-3809 (Mt. Atkinson PSP AS 1)(silcrete complete flake).

Plate 65: Sample artefact from VAHR 7822-3809 (Mt. Atkinson PSP AS 1)(silcrete multi-directional core).

Plate 66: Sample artefact from VAHR 7822-3809 (Mt. Atkinson PSP AS 1)(silcrete complete flake).

Plate 67: Sample artefact from VAHR 7822-3809 (Mt. Atkinson PSP AS 1)(silcrete complete flake).

Plate 68: Sample artefact from VAHR 7822-3809 (Mt. Atkinson PSP AS 1)(silcrete complete flake).

Plate 69: Sample artefact from VAHR 7822-3809 (Mt. Atkinson PSP AS 1)(quartz complete flake).

Plate 70: Sample artefact from VAHR 7822-3809 (Mt. Atkinson PSP AS 1)(fine quartzite complete flake).

Plate 71: Sample artefact from VAHR 7822-3809 (Mt. Atkinson PSP AS 1)(silcrete complete flake).

5.2 VAHR 7822-3802 (Mt. Atkinson PSP LDAD)

5.2.1 Location of VAHR 7822-3802 (Mt. Atkinson PSP LDAD)

Coordinates of artefacts (GDA 94, Zone 55) (Figure 3):

1. E 295797, N 5818177.	9. E 296021, N 5818678
2. E 295952, N 5820218	10. E 296021, N 5818678
3. E 295695, N 5820188	11. E 296030, N 5818684
4. E 295695, N 5820163	12. E 296030, N 5818684
5. E 296218, N 5818666	13. E 296030, N 5818684
6. E 296021, N 5818678	14. E 295335, N 5818642
7. E 296021, N 5818678	15. E 296651, N 5818629
8. E 296021, N 5818678	16. E 296654, N 5818632

5.2.2 Extent of VAHR 7822-3802 (Mt. Atkinson PSP LDAD)

VAHR 7822-3802 (Mt. Atkinson PSP LDAD) consists of a Low-Density Artefact Distribution, therefore does not extend over an area any greater than the individual location of each artefact.

5.2.3 Nature of VAHR 7822-3802 (Mt. Atkinson PSP LDAD)

The nature of VAHR 7822-3802 (Mt. Atkinson PSP LDAD) is of a general 'background scatter' representative of the occupational history of the region. Although the widespread nature of the artefacts themselves mean they have little association with each other in a specific sense (site utilisation or chronology), they are each representative of general landscape usage over time. The locations of these artefacts suggests that the elevated areas of the region were more utilised than the lower plains, with the majority of the artefacts being identified on or near to raised areas such as the undulating stony rises through the middle of the study area, or the side slopes of Mt. Atkinson itself.

The artefacts within this LDAD recording are comprised of a variety of raw material types, including silcrete (62.5%, n = 10), quartzite (25%, n = 4) and quartz (12.5%, n = 2), and represent a range of artefact types such as complete flakes (62.5%, n = 10), broken flakes (25%, n = 4), utilised flakes (6.25%, n = 1) and a multi-directional core (6.25%, n = 1). These indicate a wide range of activities were taking place across the landscape, from artefact knapping to the use of pre-knapped artefacts for carrying out specific tasks. Unfortunately, due to the extremely low numbers at each artefact location it is impossible to extract meaningful data for establishing site use or chronology at these locations, although it is possible that related material might be present nearby in areas of poor visibility, or subsurface.

5.2.4 Significance of VAHR 7822-3802 (Mt. Atkinson PSP LDAD)

The cultural significance of VAHR 7822-3802 (Mt. Atkinson PSP LDAD) has been assessed against the criteria as defined in Section 4 of the *Aboriginal Heritage Act 2006* (Table 11).

Table 12: Cultural Significance of VAHR 7822-3802 (Mt. Atkinson PSP LDAD)

Criterion	Assessment
Archaeological / Scientific	Low. VAHR 7822-3802 (Mt. Atkinson PSP LDAD) contains a low density of artefacts representing common artefact types, made from common materials to the region, across a wide area. Whilst some of the artefacts may be related due to relative proximity, the majority are located far from one another and any link between the artefacts remains extremely tenuous. Therefore, the scientific data which can be extracted from this site is necessarily low, being restricted to generic statements of landscape use in the past.
Contemporary / Social	As Byrne *et al*. 2001 illustrate, social significance is a composite of all of the other significance values (specifically aesthetic, scientific and historic). However, social significance varies for different members or groups within society. The contemporary or social significance of a site is related to its association with a particular social group or community. Aboriginal people themselves are the most appropriate people to determine the social significance of any Aboriginal Place or areas of land associated with their heritage. The Bunurong and the Boon Wurrung representatives were invited to provide information on the cultural heritage significance of the site in accordance with Aboriginal tradition, during their participation in the field survey. Both the Bunurong and Boon Wurrung representatives stated that the site has potential for subsurface artefacts which would add to the significance of the site, and therefore the site should not be considered to be of low significance (Mike Haley and Shane Clark, personal communication 2014).
Historical	N/A. The site is prehistoric and there are no documented or oral histories relating to this site. There is no evidence that the site was the location of an important event, nor associated with an historic person or activity.

Criterion	Assessment
Spiritual	**High**. Although no 'ceremonial' or 'ritual' components of the site have been identified, the place may hold spiritual significance for certain members of the Aboriginal community. The field representatives of the Bunurong and Boon Wurrung were invited to comment on the spiritual significance of each artefact location. The representatives did not know of any spiritual significance that might once have been associated with the site (Mike Haley and Shane Clark, personal communication 2014).

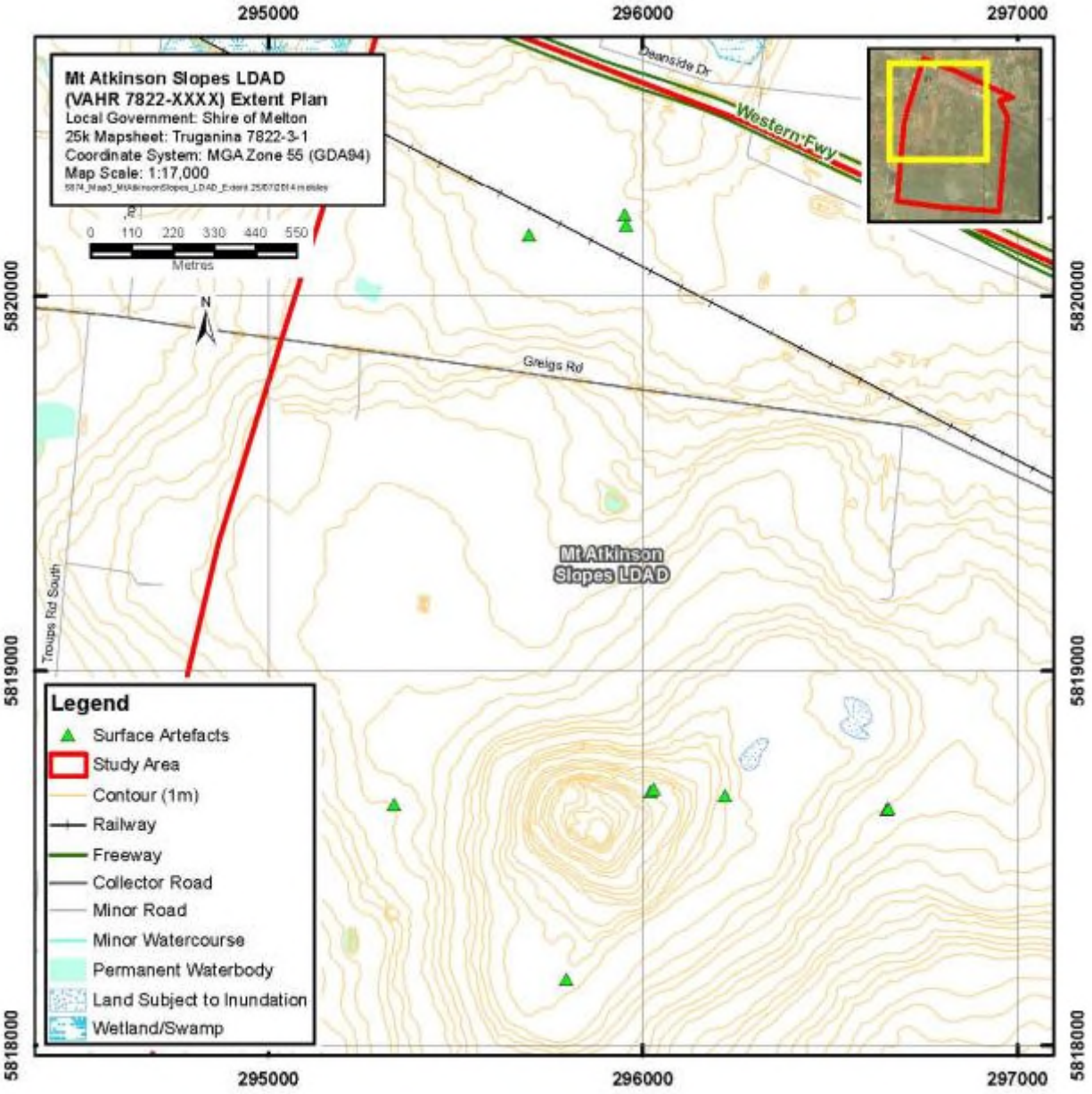


Figure 3: Extent of VAHR 7822-3802 (Mt. Atkinson PSP LDAD)

Plate 72: Artefact 1 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

Plate 73: Artefact 2 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

Plate 74: Artefact 3 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

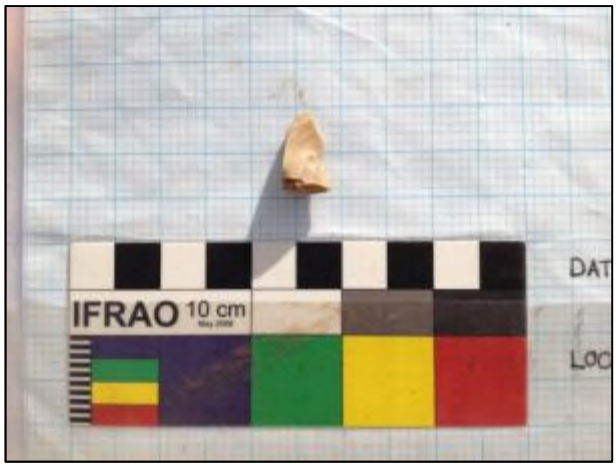


Plate 75: Artefact 4 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

Plate 76: Artefact 5 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

Plate 77: Artefacts 6 to 10 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

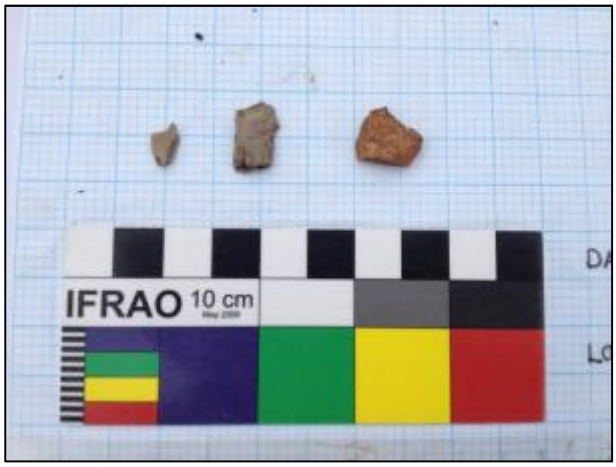


Plate 78: Artefacts 11 to 13 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

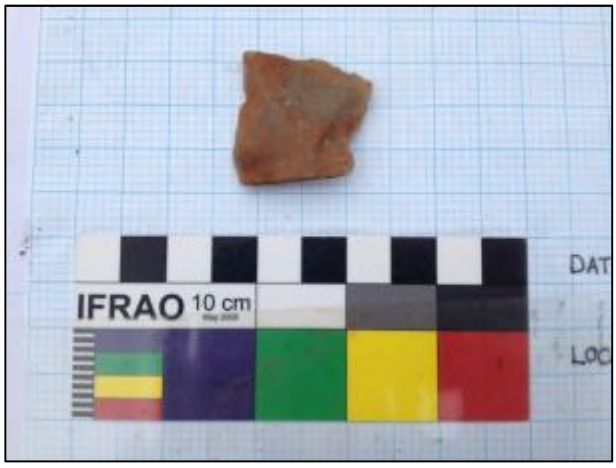


Plate 79: Artefact 14 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

Plate 80: Artefact 1 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

Plate 81: Artefact 16 from VAHR 7822-3802 (Mt. Atkinson PSP LDAD).

PART 2

IMPLICATIONS OF THE ASSESSMENT ON FUTURE DEVELOPMENT PLANS FOR THE REGION.

6 REQUIREMENTS FOR FUTURE CULTURAL HERITAGE MANAGEMENT PLANS WITHIN THE STUDY AREA

The purpose of this AHIA was to provide a general overview of Aboriginal cultural heritage within the study area, for the purposes of informing future land use and the future urban structure of the PSP.

The *Aboriginal Heritage Act 2006* (the Act) and *Aboriginal Heritage Regulations 2007* (the Regulations) require that a mandatory CHMP be prepared for any high impact activity taking place within an area of cultural heritage sensitivity. Additionally, a *voluntary* CHMP may be undertaken for proposed high impact activities which are not located within areas of legislative cultural heritage sensitivity, but which are located in areas likely to contain Aboriginal cultural heritage (this satisfies the requirement under the Act to avoid harm to Aboriginal cultural heritage in areas where it is likely to be present). As such, any future development of the area must consider the implications of their proposed activities on the cultural heritage values of the study area as identified in this assessment.

As a result of this assessment, a total of 20 Aboriginal cultural heritage places have been identified within the boundaries of the study area. The extent of these places, and an area of 50 m surrounding the extent of the Place or location of the individual artefacts associated with the Place (in the case of an LDAD recording) are considered areas of cultural heritage sensitivity under the Regulations (r. 22) and are therefore triggers for a Mandatory CHMP. In addition, any land within 200 m of a named waterway or prior waterway is considered an area of cultural heritage sensitivity under the Regulations (r. 23, 24). Areas of sensitivity under these Regulations have been identified within the study area.

The field assessment also identified several areas of Aboriginal cultural heritage likelihood. Whilst these areas do not trigger a mandatory CHMP, a voluntary CHMP is recommended for any future high impact activities within those areas in order to satisfy best practice, and to avoid risk of unexpected discovery of cultural heritage material during works, thereby causing unnecessary delays to development.

Table 10 presents an overview of the requirements for mandatory CHMPs within the properties of PSP area No 1082, the properties where voluntary CHMPs are recommended and the properties for which it is unlikely further Aboriginal cultural heritage assessment will be necessary. This information is also presented in Map 14, Page 117.

Table 13: Cultural heritage requirements for future development in the Mt. Atkinson PSP area.

MPA Property Number	Mandatory CHMP Required	Voluntary CHMP Recommended	No Further Assessment Required
1	☑		
2			☑
3		☑	
4			☑
5		☑	
6		☑	
7	☑		
8			☑
9			☑
10			☑
11			☑
12			☑
13	☑		
14			☑
15			☑
16	☑		
17	☑		
18			☑
19			☑
20			☑
21			☑
22			☑
23			☑
24			☑
25	☑		
26			☑
27	☑		
28			☑
29		☑	
30			☑
31	☑		
32	☑		

MPA Property Number	Mandatory CHMP Required	Voluntary CHMP Recommended	No Further Assessment Required
33	☑		
34	☑		
35	☑		
36			☑
37			☑
38			☑
39			☑
40	☑		
41	☑		
42	☑		
43			☑
44			☑
45			☑
46			☑
47	☑		
48	☑		
49	☑		
50			☑
51	☑		
52	☑		
53			☑
54			☑
55			☑
56			☑
57			☑
58			☑
59			☑
60			☑
61			☑

7 MANAGEMENT RECOMMENDATIONS

This assessment is intended to inform master planning for a precinct structure plan. Therefore at this stage potential impacts to the sites within the study area are unknown. Further investigation of the sites within the study area as part of activity-specific CHMPs will provide detailed management recommendations for these sites. The following generic recommendations are given to facilitate appropriate management of these sites in the interim, and to identify future possible constraints to proposed development activities within the study area.

Recommendation 1: Site management of VAHR 7822-0206 (Mt. Atkinson)

This site is located within Property 31, and is considered a site of high significance. Future high impact activities in the region should aim to avoid impact to this site, preferably utilising the site location as part of public open space. If impact to the site's location cannot be avoided by future activities, then a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 2: Site management of VAHR 7822-1534 (Mt. Atkinson IA 1)

This site is located within Property 33, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 3: Site management of VAHR 7822-1535 (Mt. Atkinson IA 2)

This site is located within Property 32, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 4: Site management of VAHR 7822-1536 (Mt. Atkinson IA 3)

This site is located within Property 48, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 5: Site management of VAHR 7822-1537 (Mt. Atkinson IA 4)

This site is located within Property 33, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 6: Site management of VAHR 7822-1538 (Mt. Atkinson IA 5)

This site is located within Property 33, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 7: Site management of VAHR 7822-1539 (Mt. Atkinson IA 6)

This site is located within Property 32, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 8: Site management of VAHR 7822-1540 (Mt. Atkinson IA 7)

This site is located within Property 33, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 9: Site management of VAHR 7822-1541 (Mt. Atkinson IA 8)

This site is located within Property 33, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 10: Site management of VAHR 7822-1542 (Mt. Atkinson AS 1)

This site is located within Property 48, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefacts not identified during this assessment, and to establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 11: Site management of VAHR 7822-1543 (Mt. Atkinson AS 2)

This site is located within Property 48, and is considered a site of moderate significance. Future high impact activities in the region should aim to avoid impact to this site, preferably utilising the site location as part of public open space. If impact to the site's location cannot be avoided by future activities, then a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 12: Site management of VAHR 7822-1544 (Mt. Atkinson AS 3)

This site is located within Property 48, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefacts not identified in this assessment, and to establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 13: Site management of VAHR 7822-1546 (Mt. Atkinson AS 5)

This site is located within Property 31, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefacts not identified in this assessment, and to establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 14: Site management of VAHR 7822-1547 (Mt. Atkinson AS 6)

This site is located within Property 32, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 15: Site management of VAHR 7822-1548 (Mt. Atkinson AS 9)

This site is located within Property 52, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 16: Site management of VAHR 7822-1549 (Mt. Atkinson AS 10)

This site is located within Property 51, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 17: Site management of VAHR 7822-1550 (Mt. Atkinson AS 11)

This site is located within Property 49, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 18: Site management of VAHR 7822-1551 (Mt. Atkinson AS 12)

This site is located within Property 51, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 19: Site management of VAHR 7822-3809 (Mt. Atkinson PSP AS 1)

This site is located within Property 1, and is considered a site of moderate significance. Future high impact activities in the region should aim to avoid impact to this site, preferably utilising the site location as part of public open space. If impact to the site's location cannot be avoided by future activities, then a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 20: Site management of VAHR 7822-3802 (Mt. Atkinson PSP LDAD)

This site is located within Properties 7, 17, 25, 40, and 48, and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however if impact to the site's locations cannot be avoided by future activities, then a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to establish the true nature and extent of the site at each of the recorded artefact locations, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 21: Areas of Cultural Heritage Sensitivity

Areas of legislative cultural heritage sensitivity are present in Properties 1, 7, 13, 16, 17, 25, 27, 31, 32, 33, 34, 35, 40, 41, 42, 47, 48, 49, 51 and 52. If any high impact activity is proposed within these areas of sensitivity, then a mandatory CHMP will be required under the *Aboriginal Heritage Act 2006*.

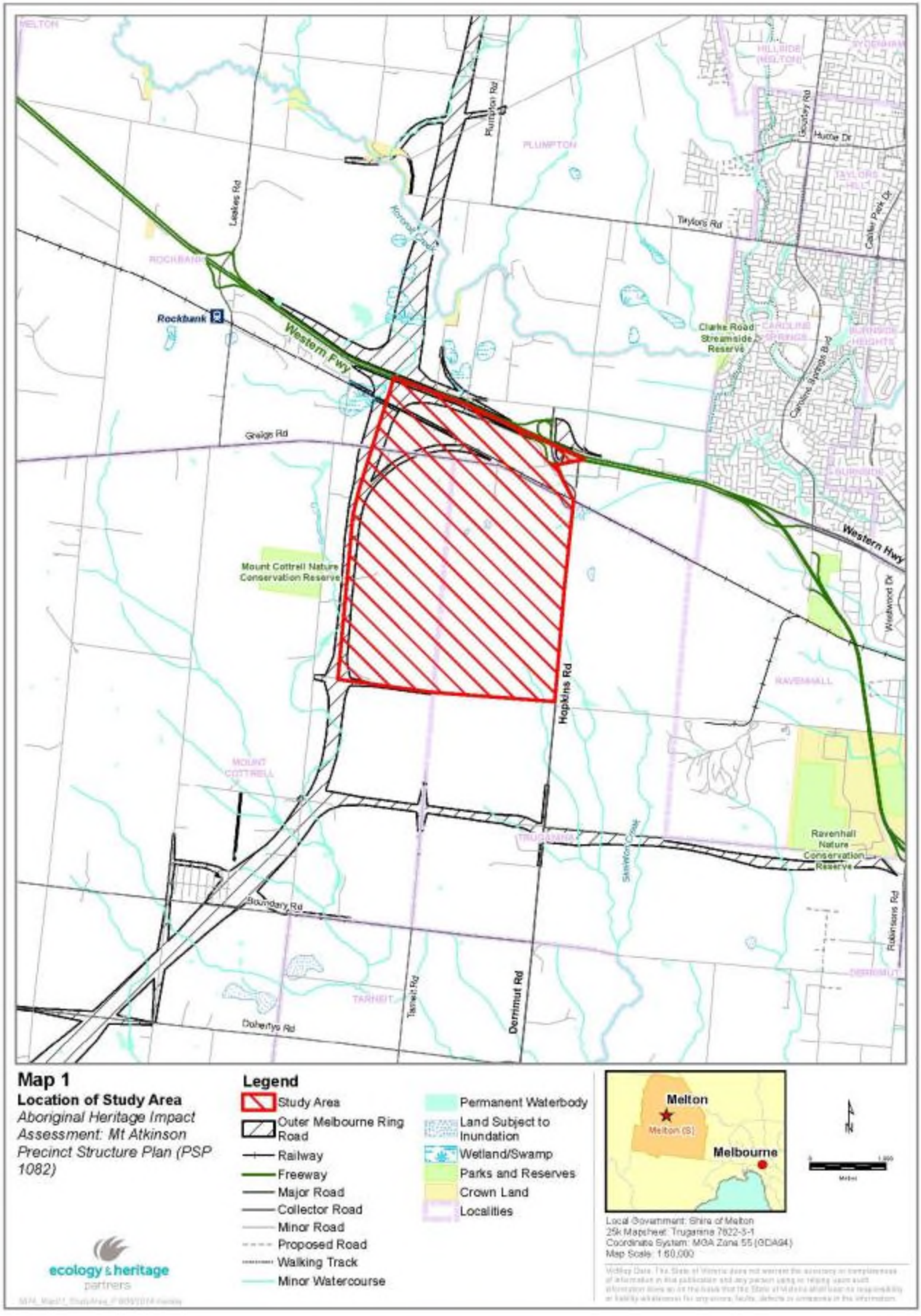
Recommendation 22: Areas of Cultural Heritage Likelihood

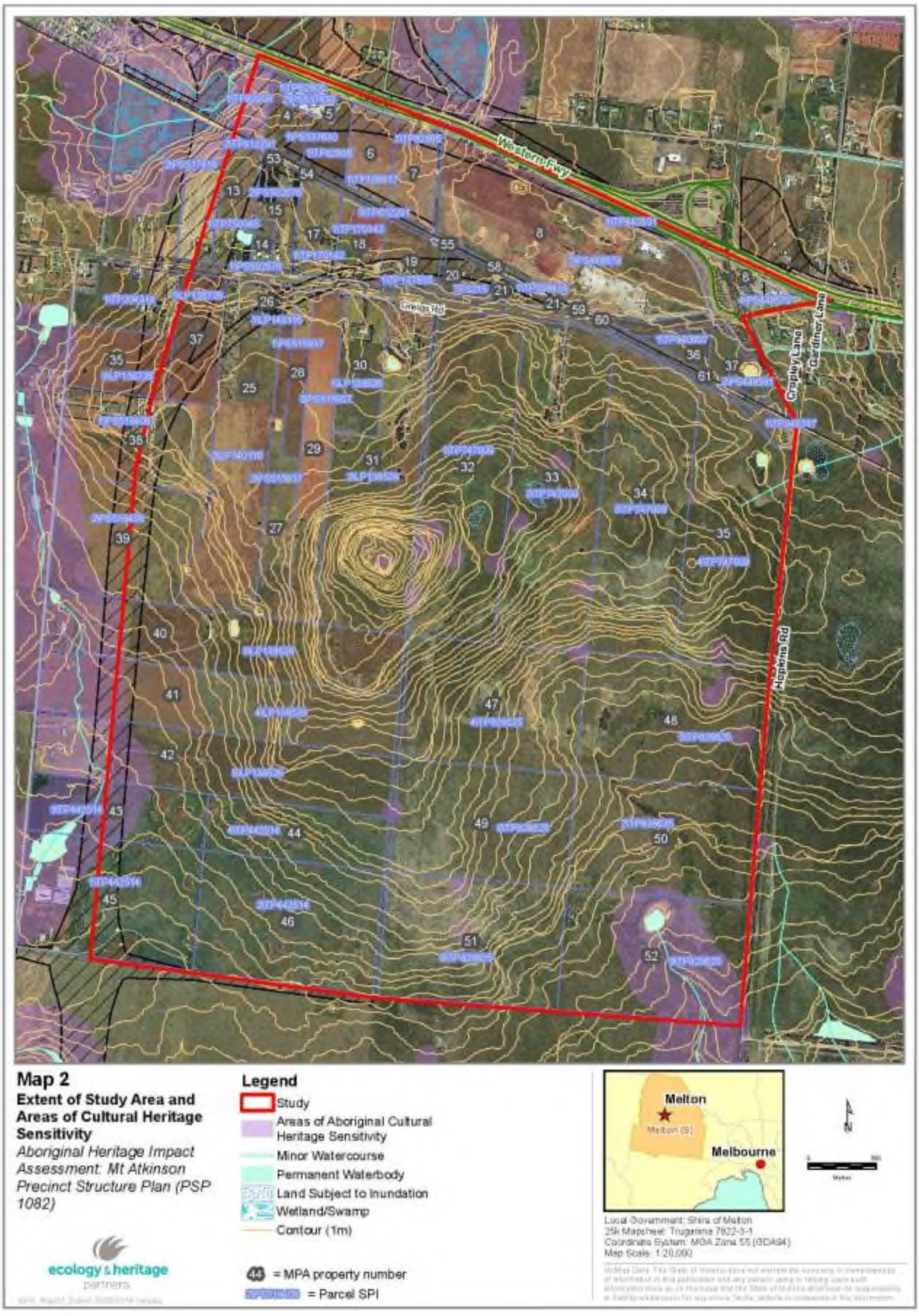
The field survey identified areas of cultural heritage likelihood within Properties 1, 3, 5, 6, 7, 25, 27, 29, 31, 32, 33, 34, 35, 40, 41, 42, 44, 47, 48, 49, 50, 51 and 52. If any high impact activities are proposed within these areas of likelihood, then a voluntary CHMP is recommended to manage any potential Aboriginal cultural heritage in these areas.

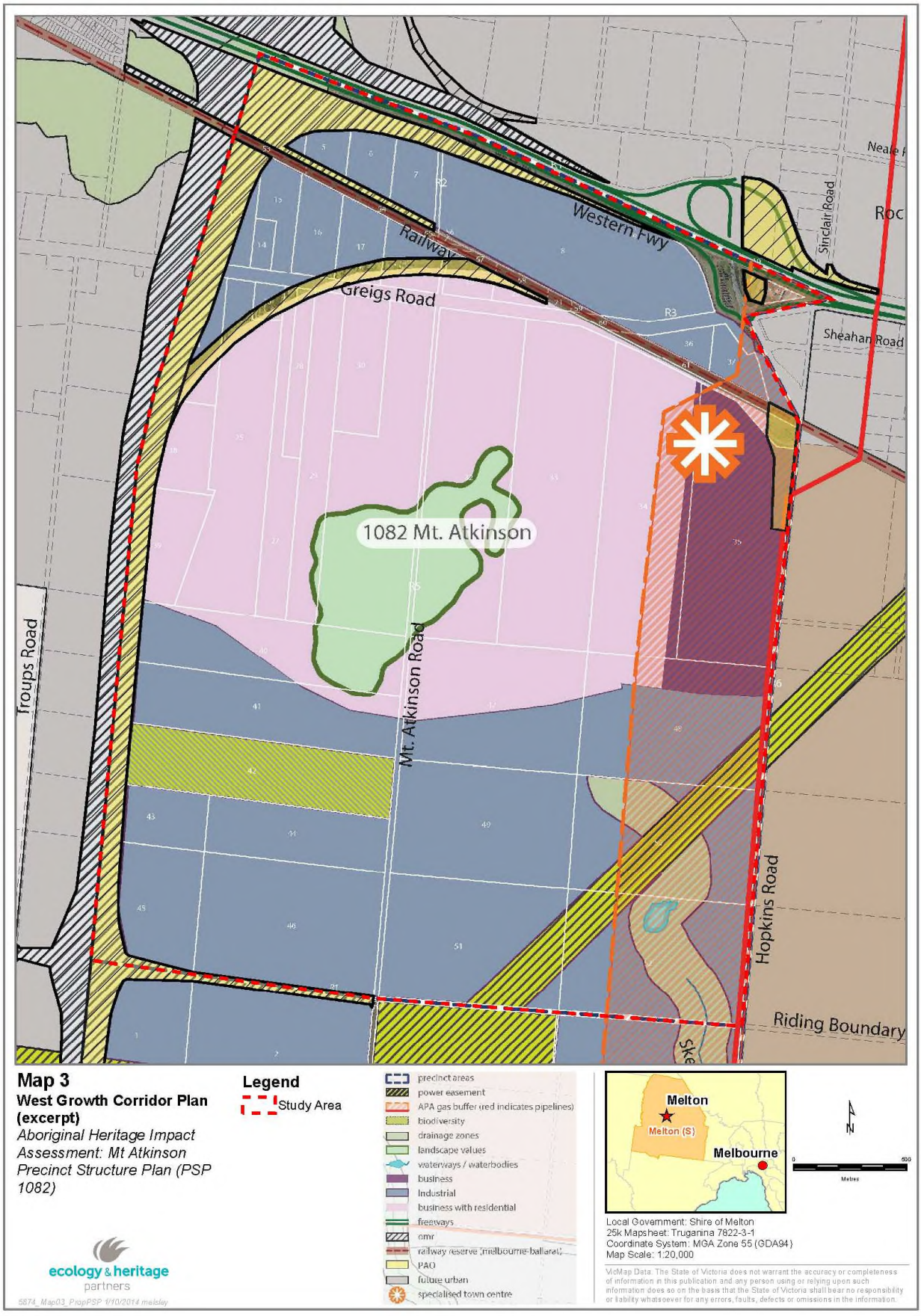
Recommendation 23: Areas with no areas of Cultural Heritage Sensitivity or areas of Cultural Heritage Likelihood

This assessment identified that Properties 2, 4, 8, 9, 10, 11, 12, 14, 15, 18, 19, 20, 21, 22, 23, 24, 26, 28, 30, 36, 37, 38, 39, 43, 44, 45, 46, 50, 53, 54, 55, 56, 57, 58, 59, 60 and 61 did not contain any areas of Aboriginal cultural heritage sensitivity or likelihood. No further Aboriginal cultural heritage investigations will therefore be required for these areas prior to development.

MAPS


Map 1
Location of Study Area
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Outer Melbourne Ring Road
Railway
Freeway
Major Road
Collector Road
Minor Road
Proposed Road
Walking Track
Minor Watercourse
Permanent Waterbody
Land Subject to Inundation
Wetland/Swamp
Parks and Reserves
Crown Land
Localities
Melton
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:60,000
ecology & heritage partners
Rockbank
Western Fwy
Western Hwy
Mount Cottrell Nature Conservation Reserve
Ravenhall Nature Conservation Reserve
Clarke Road Streamside Reserve
Hopkins Rd
Dennimut Rd
Boundary Rd
Doherty's Rd
Tarneit Rd
Leakes Rd
Plumpton Rd
Taylors Rd
Geelgs Rd
Robinsons Rd
Westwood Dr
Hunter Dr
Caroline Springs Blvd
PLUMPTON
ROCKBANK
MOUNT COTTRELL
TARNEIT
RAVENHALL


Western Fwy
Grieves Rd
Grigsby Lane
Gardiners Lane
Hopkins Rd
Map 2
Extent of Study Area and Areas of Cultural Heritage Sensitivity
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study
Areas of Aboriginal Cultural Heritage Sensitivity
Minor Watercourse
Permanent Waterbody
Land Subject to Inundation
Wetland/Swamp
Contour (1m)
44 = MPA property number
= Parcel SPI
Melton
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:20,000


Western Fwy
Railway
Greigs Road
Sinclair Road
Sheahan Road
1082 Mt. Atkinson
Troups Road
Mt. Atkinson Road
Hopkins Road
Riding Boundary
Map 3
West Growth Corridor Plan (excerpt)
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
precinct areas
power easement
APA gas buffer (red indicates pipelines)
biodiversity
drainage zones
landscape values
waterways / waterbodies
business
industrial
business with residential
freeways
omr
railway reserve (melbourne-ballarat)
PAO
future urban
specialised town centre
Melton
Melton (S)
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:20,000
VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.
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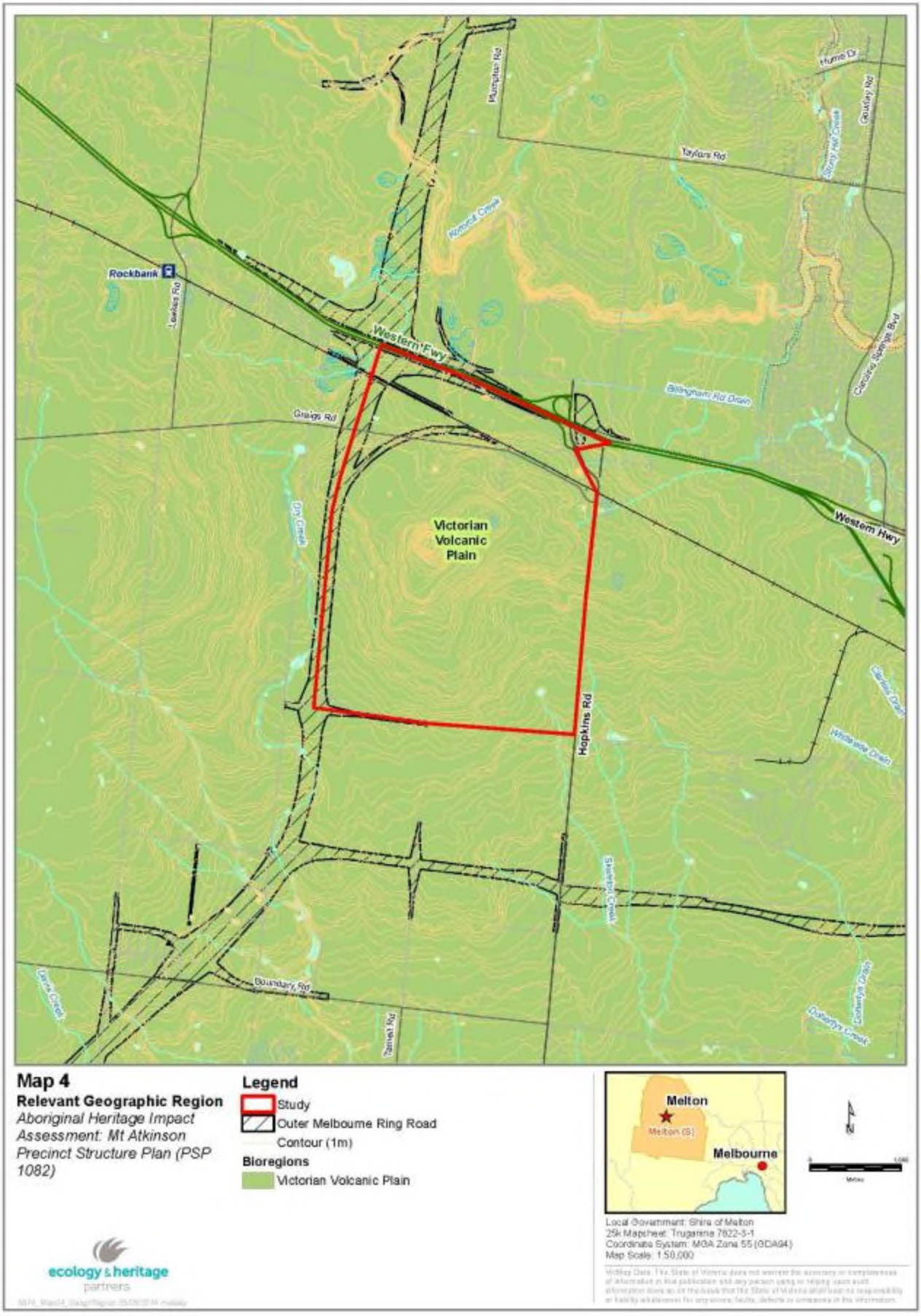
5874_Map03_PropPSP 1/10/2014 melsley

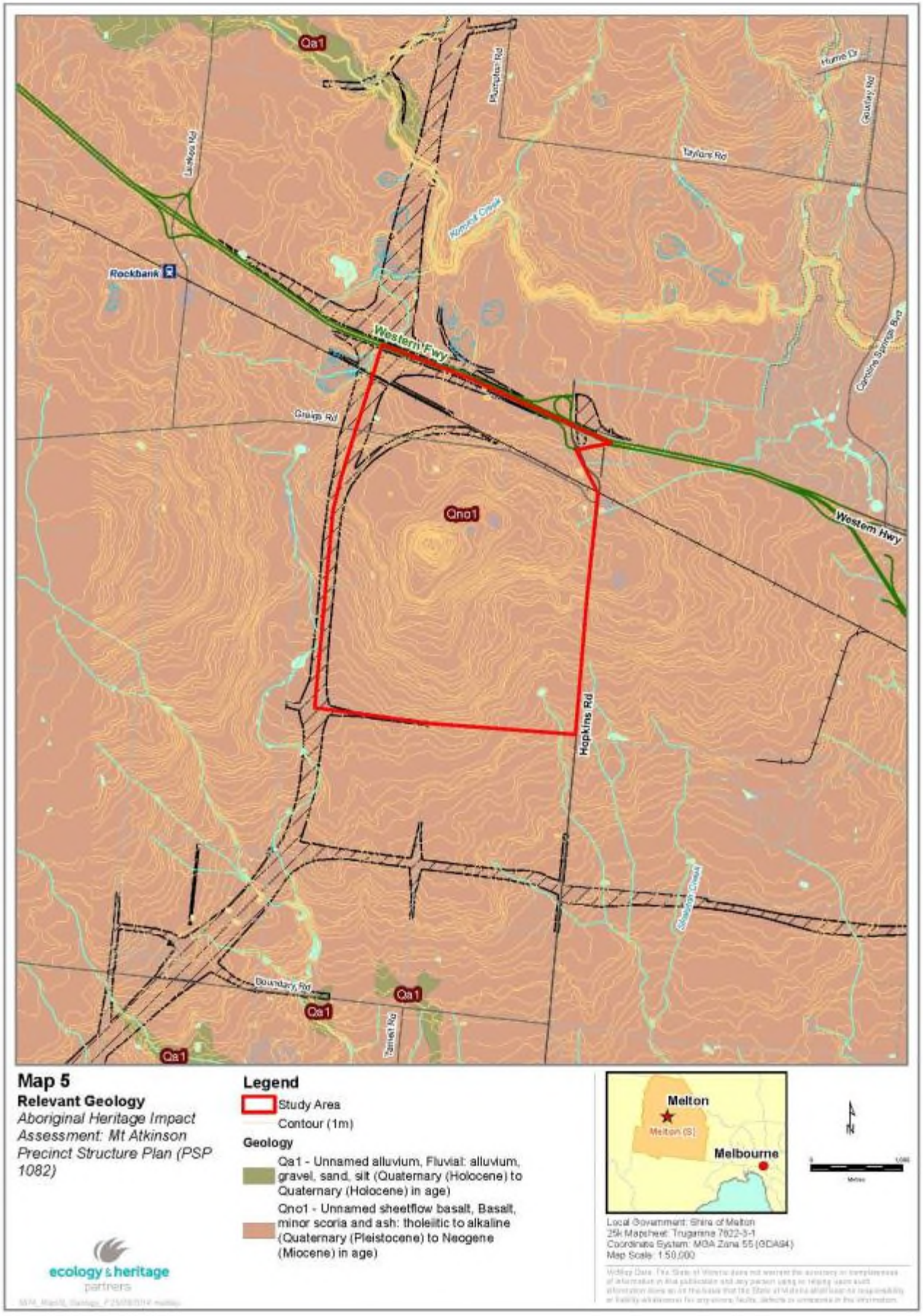


Map 4

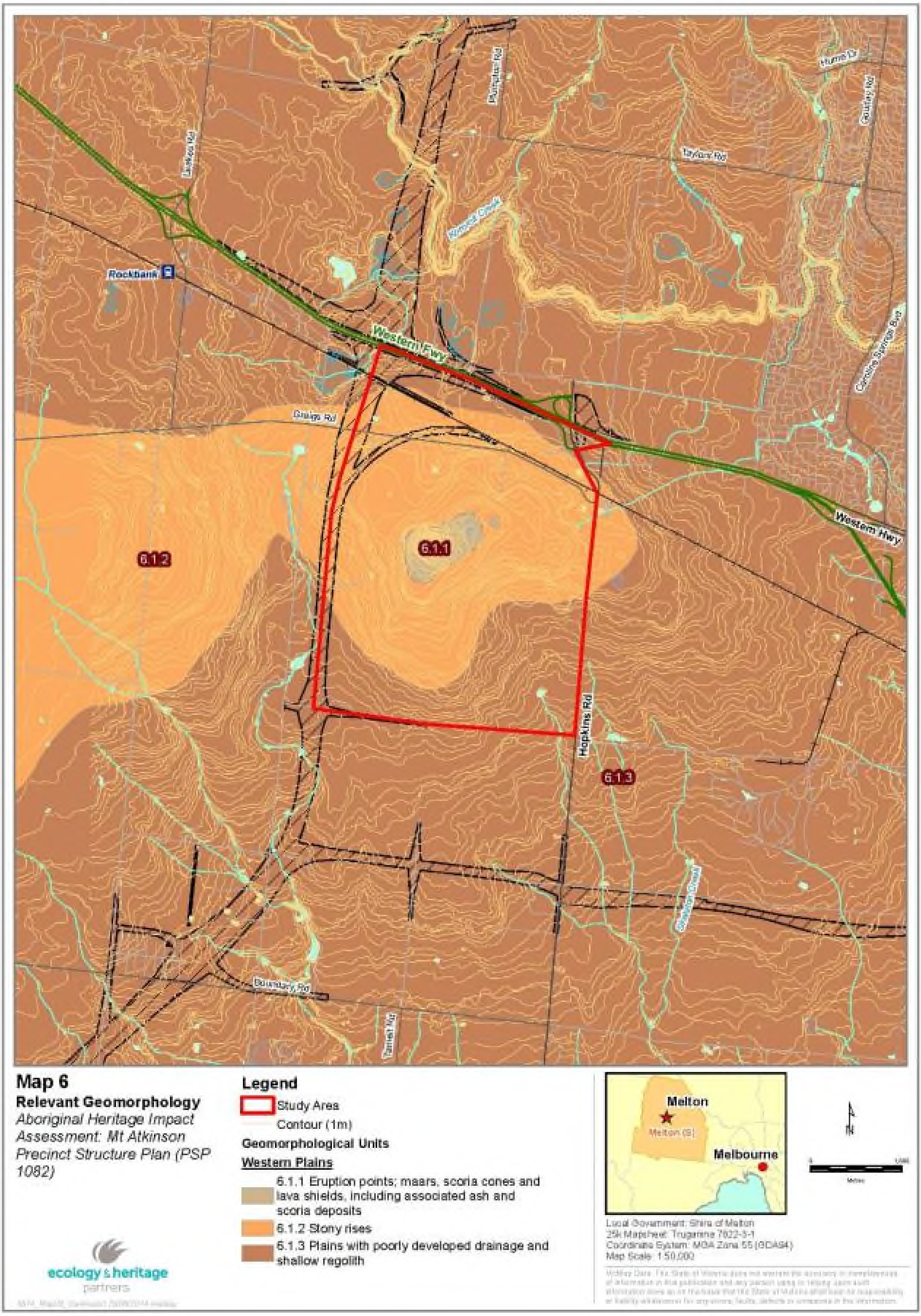
Relevant Geographic Region

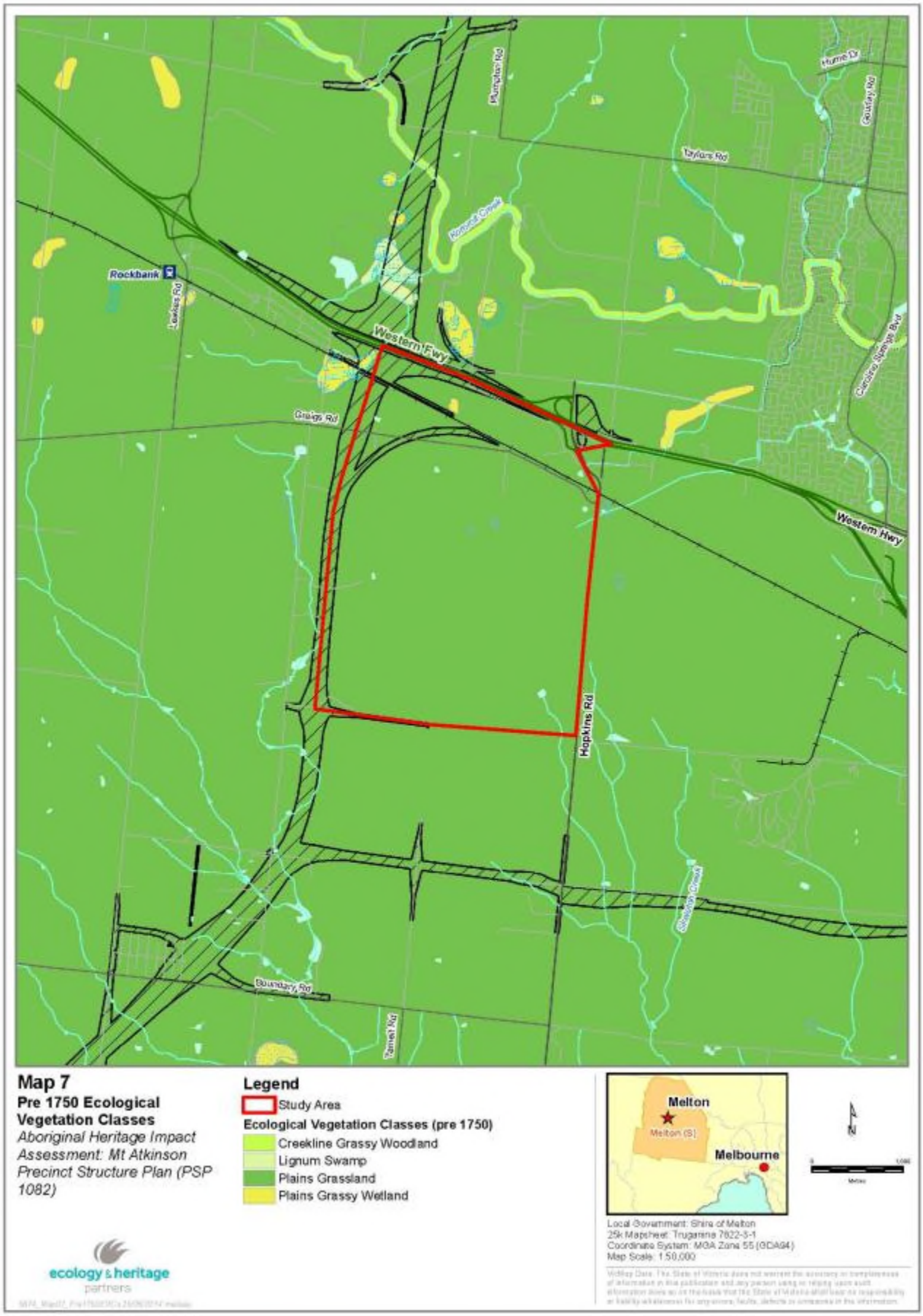
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)

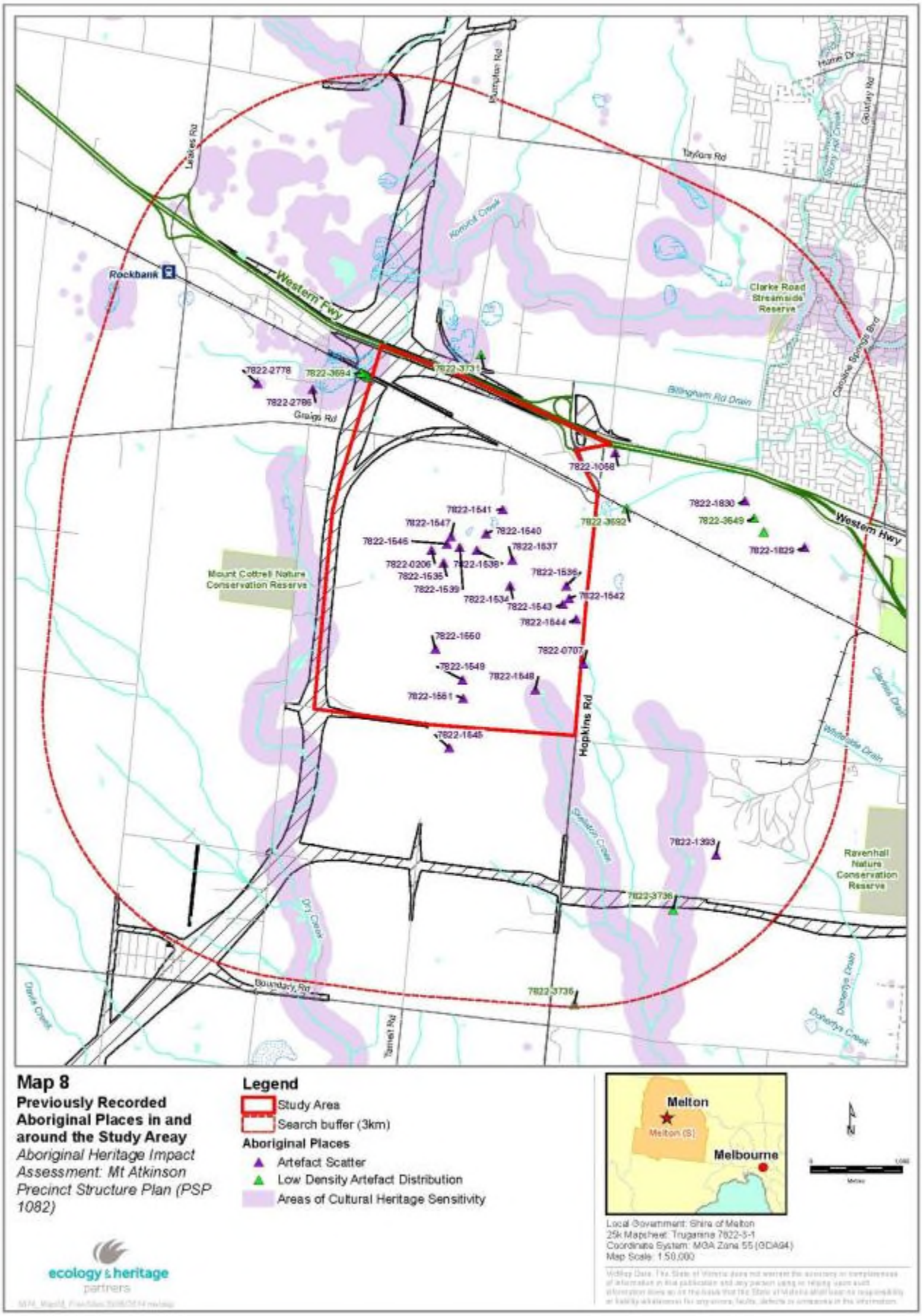
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:50,000



Map 5
Relevant Geology
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)


Rockbank
Western Fwy
Western Hwy
Greigs Rd
Hopkins Rd
Boundary Rd
Taylors Rd
Hume Dr
6.1.1
6.1.2
6.1.3
Map 6
Relevant Geomorphology
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Contour (1m)
Geomorphological Units
Western Plains
6.1.1 Eruption points; maars, scoria cones and lava shields, including associated ash and scoria deposits
6.1.2 Stony rises
6.1.3 Plains with poorly developed drainage and shallow regolith
Melton
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:50,000
ecology & heritage partners


Rockbank
Leakes Rd
Western Fwy
Pumpkin Rd
Hume Dr
Grasby Rd
Taylors Rd
Kinnears Creek
Caroline Springs Blvd
Briggs Rd
Western Hwy
Hopkins Rd
Boundary Rd
Tarneit Rd
Map 7
Pre 1750 Ecological Vegetation Classes
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Ecological Vegetation Classes (pre 1750)
Creekline Grassy Woodland
Lignum Swamp
Plains Grassland
Plains Grassy Wetland
Melton
Melton (S)
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:50,000



Map 8

Previously Recorded Aboriginal Places in and around the Study Areay

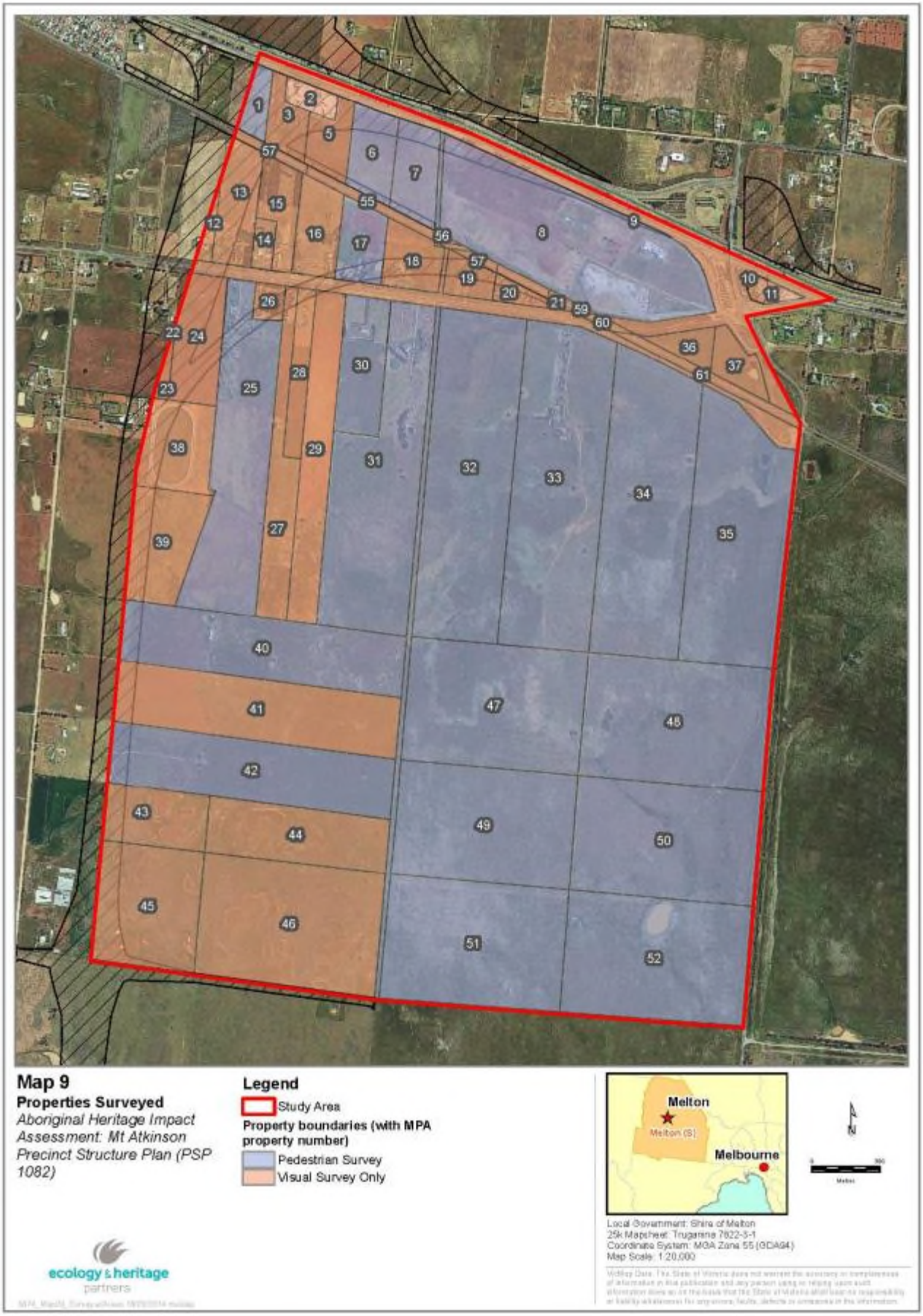
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)

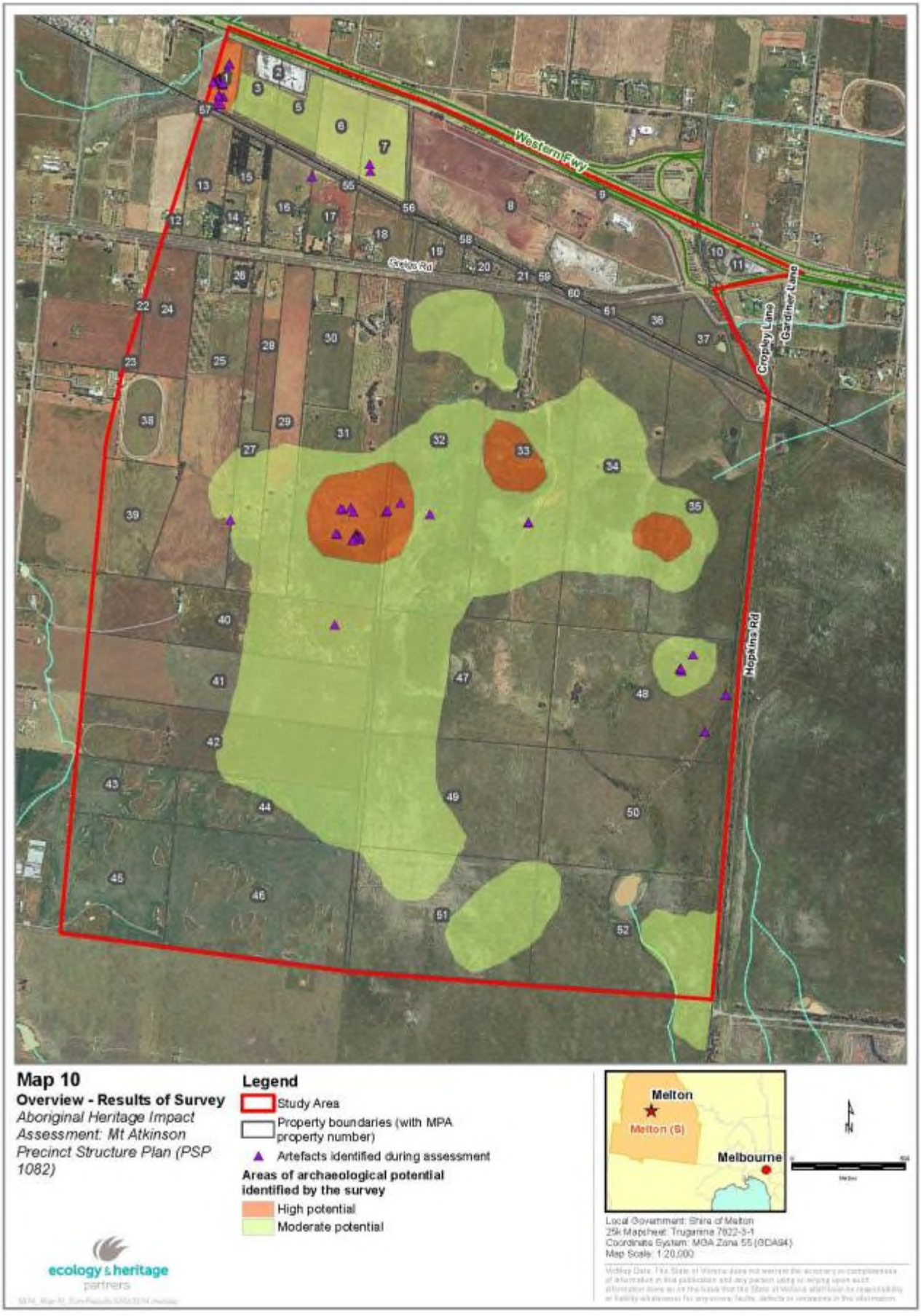
Legend

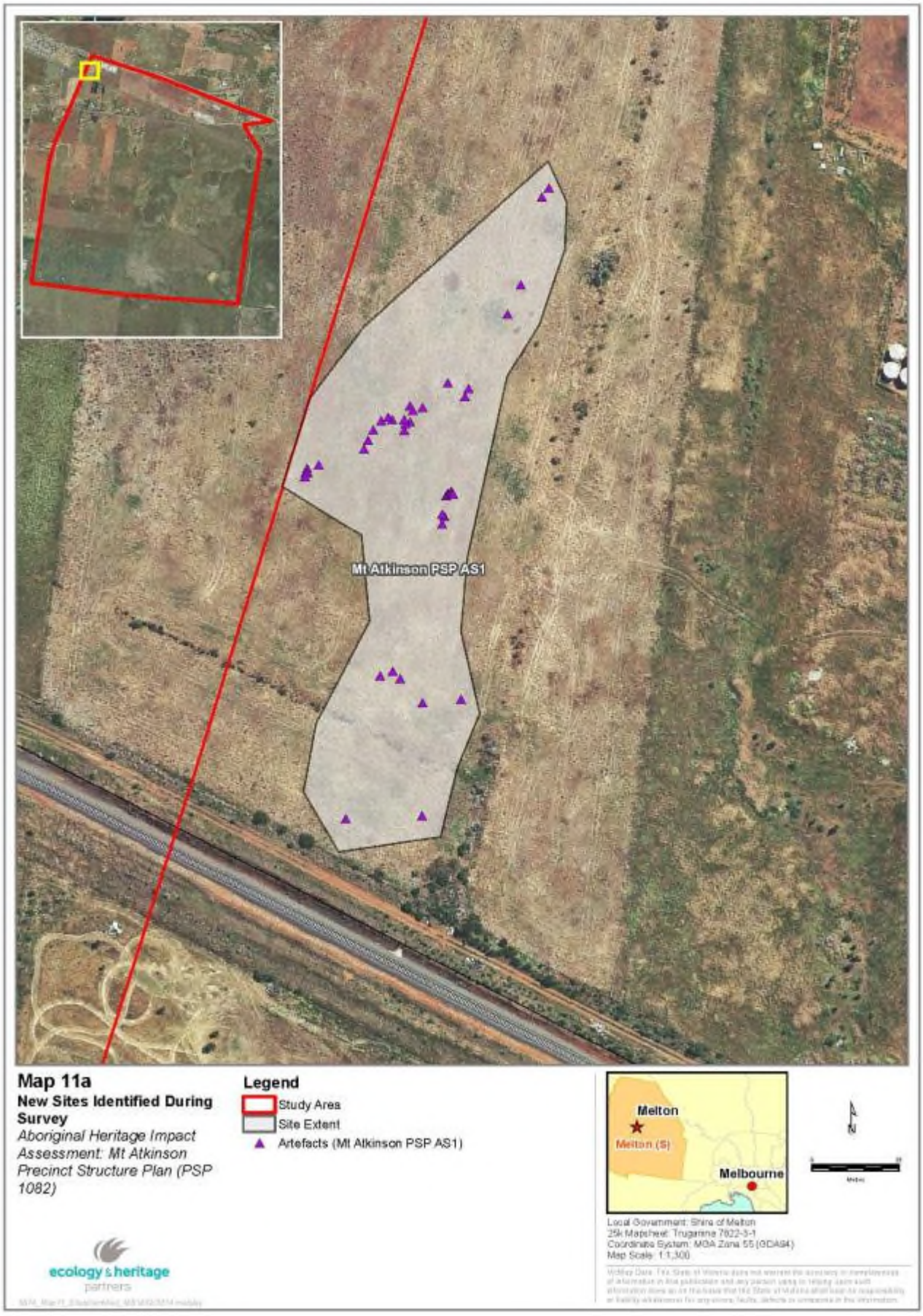
- Study Area
- Search buffer (3km)

Aboriginal Places

- Artefact Scatter
- Low Density Artefact Distribution
- Areas of Cultural Heritage Sensitivity

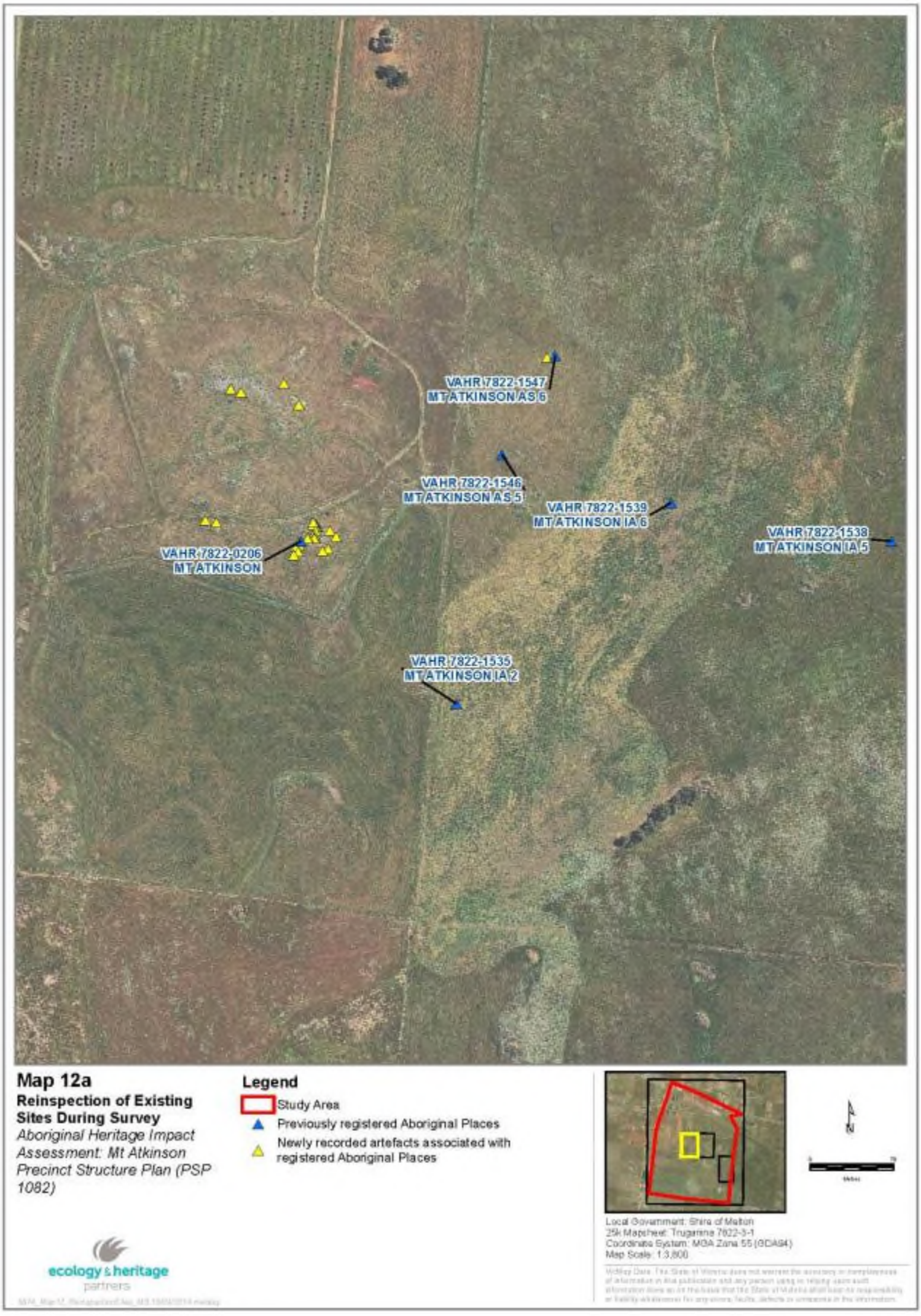

Map 9
Properties Surveyed
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Property boundaries (with MPA property number)
Pedestrian Survey
Visual Survey Only
Melton
Melton (S)
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:20,000
ecology & heritage partners

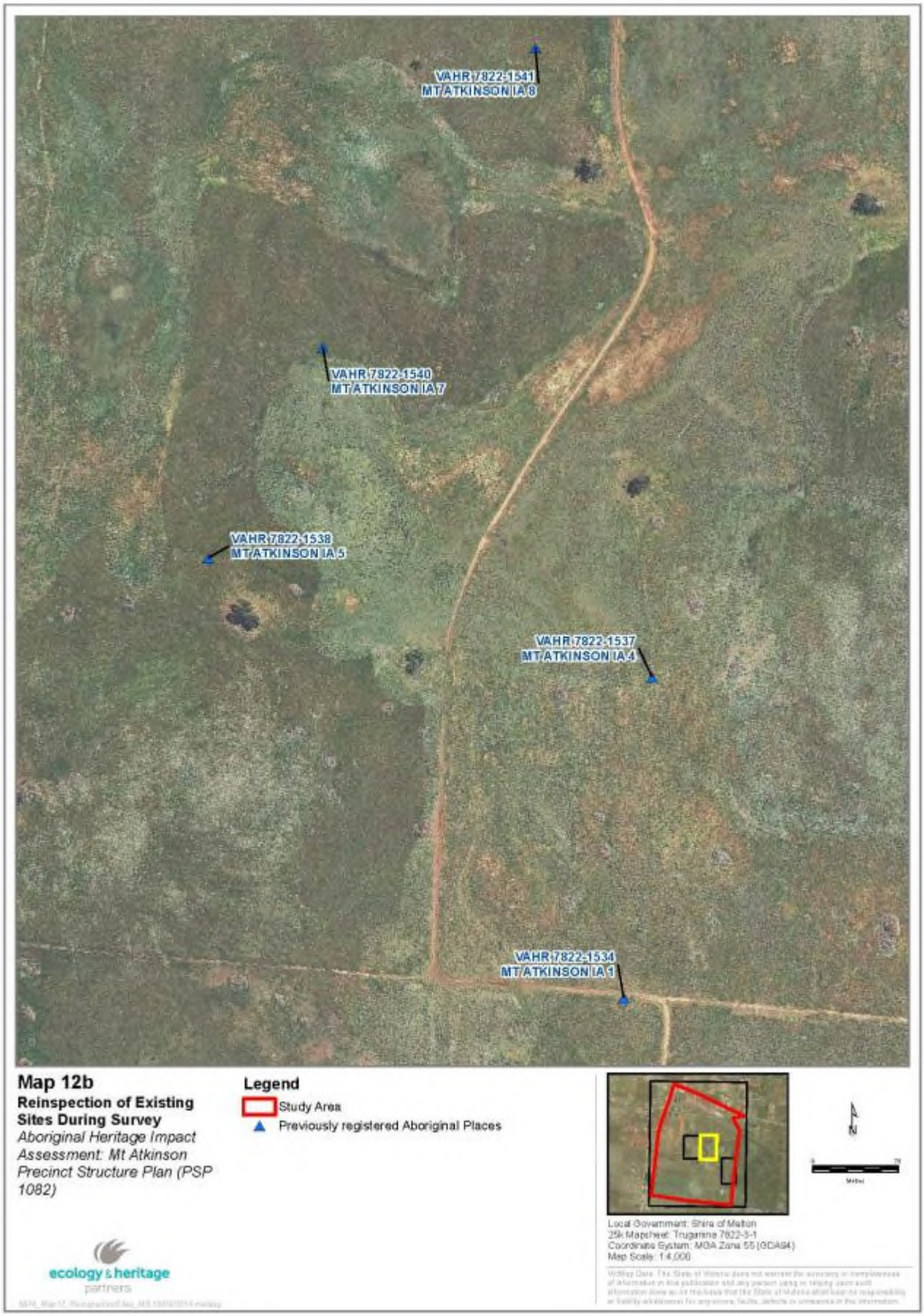

Western Fwy
Eccles Rd
Gardiner Lane
Cropley Lane
Hopkins Rd
Map 10
Overview - Results of Survey
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Property boundaries (with MPA property number)
Artefacts identified during assessment
Areas of archaeological potential identified by the survey
High potential
Moderate potential
Melton
Melton (S)
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:20,000
ecology & heritage partners


Mt Atkinson PSP AS1
Map 11a
New Sites Identified During Survey
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Site Extent
Artefacts (Mt Atkinson PSP AS1)
Melton
Melton (S)
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:1,300
ecology & heritage partners

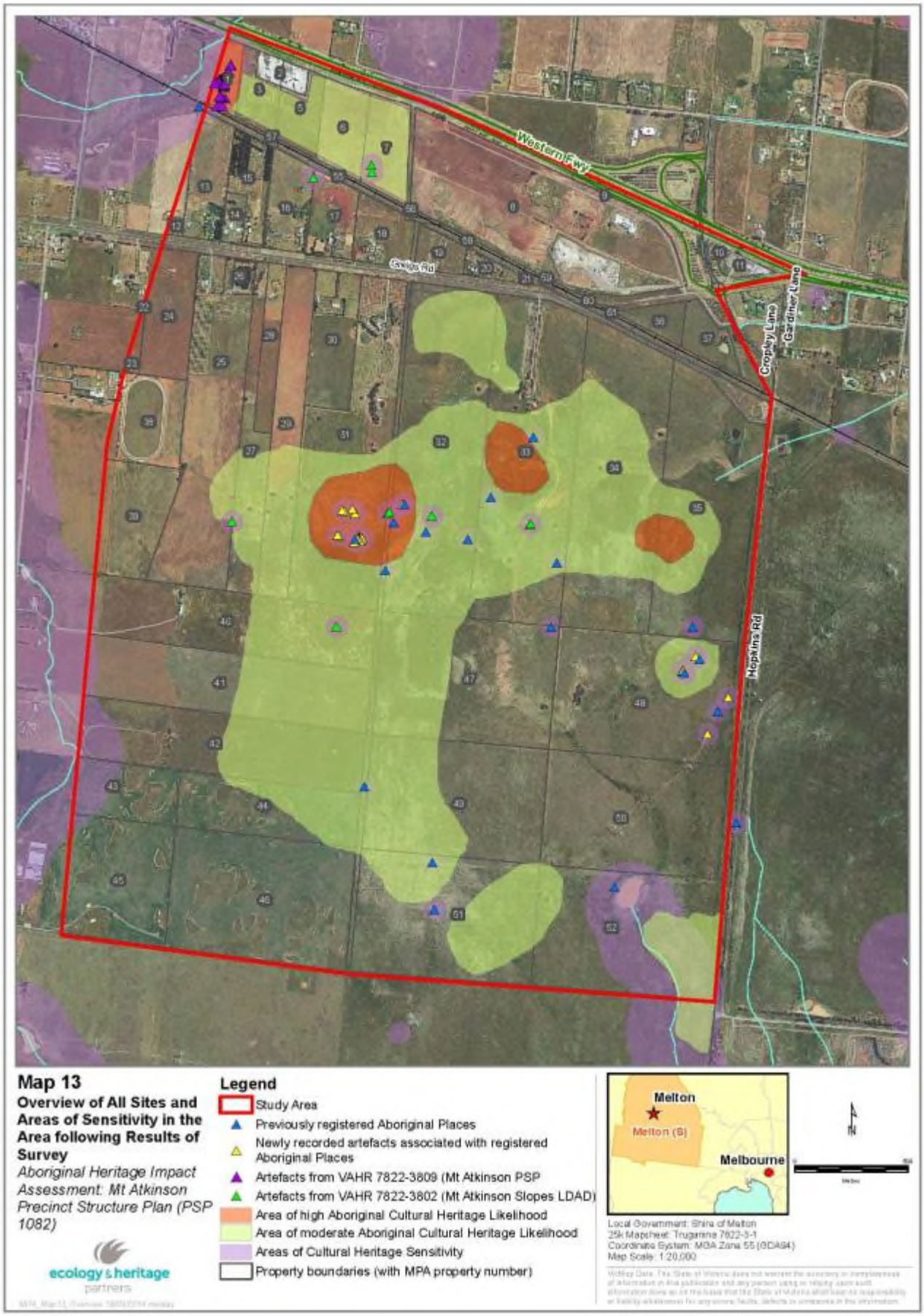

Western Fwy
Gretna Rd
Map 11b
New Sites Identified During Survey
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Artefacts (Mt Atkinson PSP LDAD)
Melton
Melton (S)
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:10,650
ecology & heritage partners

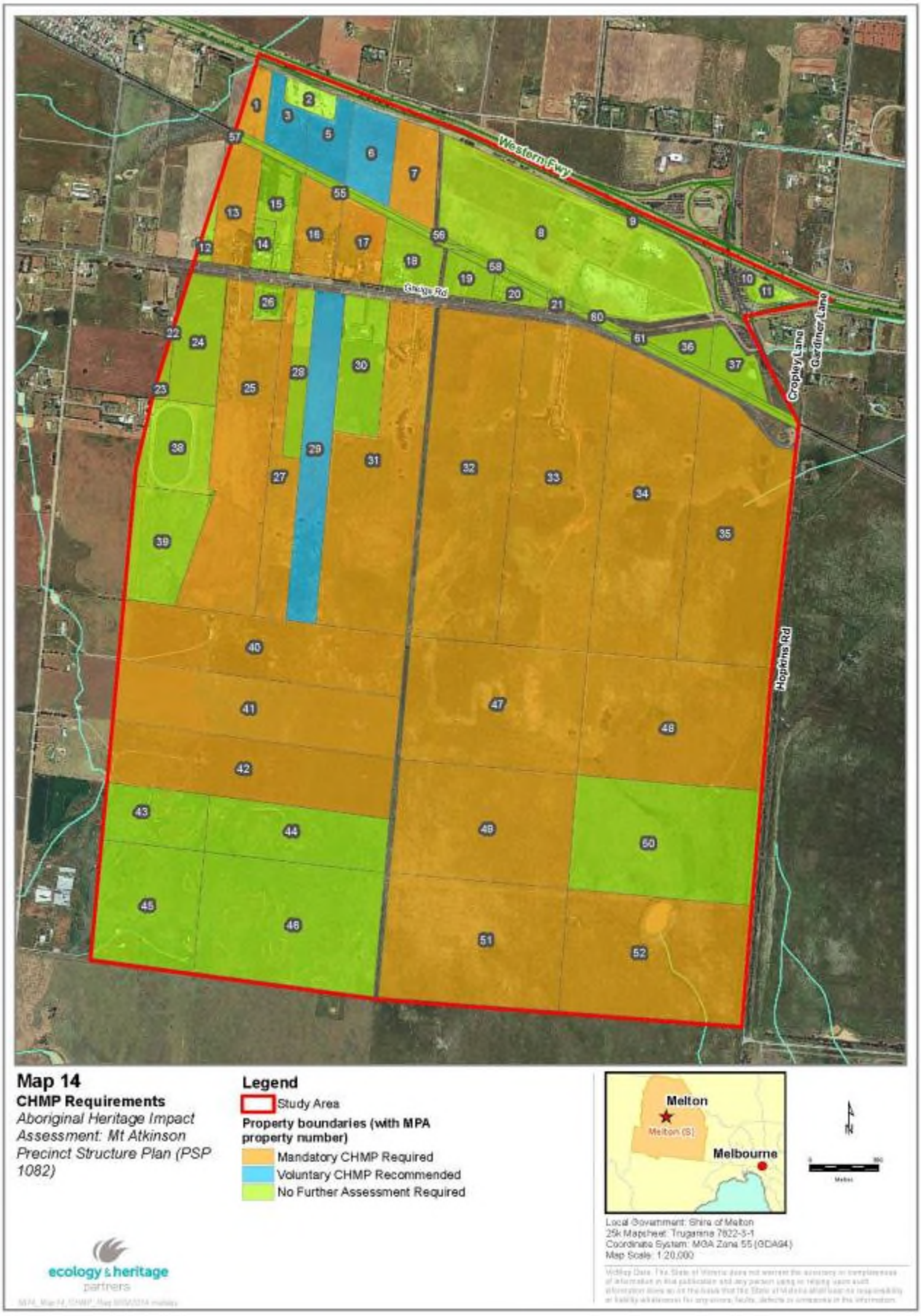

Western Fwy
Troups Rd
Cropley Lane
Gardiner Lane
Hopkins Rd
VAHR 7822-3694
Troups Road Low Density Artefact Scatter 2
VAHR 7822-1541
MT ATKINSON IA 8
VAHR 7822-1547
MT ATKINSON AS 6
VAHR 7822-1546
MT ATKINSON AS 5
VAHR 7822-1540
MT ATKINSON IA 7
VAHR 7822-1538
MT ATKINSON IA 5
VAHR 7822-0206
MT ATKINSON
VAHR 7822-1537
MT ATKINSON IA 4
VAHR 7822-1539
MT ATKINSON IA 6
VAHR 7822-1535
MT ATKINSON IA 2
VAHR 7822-1536
MT ATKINSON IA 3
VAHR 7822-1534
MT ATKINSON IA 1
VAHR 7822-1542
MT ATKINSON AS 1
VAHR 7822-1543
MT ATKINSON AS 2
VAHR 7822-1544
MT ATKINSON AS 3
VAHR 7822-1550
MT ATKINSON AS 11
VAHR 7822-0707
BQ 1
VAHR 7822-1549
MT ATKINSON AS 10
VAHR 7822-1548
MT ATKINSON AS 9
VAHR 7822-1551
MT ATKINSON AS 12
Map 12 Overview
Reinspection of Existing Sites During Survey
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Previously registered Aboriginal Places
Newly recorded artefacts associated with registered Aboriginal Places
N
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:20,500
ecology & heritage partners


VAHR 7822-1547
MT ATKINSON AS 6
VAHR 7822-1546
MT ATKINSON AS 5
VAHR 7822-1539
MT ATKINSON IA 6
VAHR 7822-1538
MT ATKINSON IA 5
VAHR 7822-0206
MT ATKINSON
VAHR 7822-1535
MT ATKINSON IA 2
Map 12a
Reinspection of Existing Sites During Survey
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Previously registered Aboriginal Places
Newly recorded artefacts associated with registered Aboriginal Places
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:3,800


VAHR 7822-1541
MT ATKINSON IA 8
VAHR 7822-1540
MT ATKINSON IA 7
VAHR 7822-1538
MT ATKINSON IA 5
VAHR 7822-1537
MT ATKINSON IA 4
VAHR 7822-1534
MT ATKINSON IA 1
Map 12b
Reinspection of Existing Sites During Survey
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Previously registered Aboriginal Places
ecology & heritage partners
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:4,000


VAHR 7822-1536
MT ATKINSON IA 1
VAHR 7822-1542
MT ATKINSON AS 1
VAHR 7822-1543
MT ATKINSON AS 2
VAHR 7822-1544
MT ATKINSON AS 3
Hopkins Rd
VAHR 7822-0707
BQ 1
Map 12c
Reinspection of Existing Sites During Survey
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Previously registered Aboriginal Places
Newly recorded artefacts associated with registered Aboriginal Places
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:4,200
ecology & heritage partners


Western Fwy
Gardiner Lane
Cropley Lane
Hopkins Rd
Map 13
Overview of All Sites and Areas of Sensitivity in the Area following Results of Survey
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
ecology & heritage partners
Legend
Study Area
Previously registered Aboriginal Places
Newly recorded artefacts associated with registered Aboriginal Places
Artefacts from VAHR 7822-3809 (Mt Atkinson PSP
Artefacts from VAHR 7822-3802 (Mt Atkinson Slopes LDAD)
Area of high Aboriginal Cultural Heritage Likelihood
Area of moderate Aboriginal Cultural Heritage Likelihood
Areas of Cultural Heritage Sensitivity
Property boundaries (with MPA property number)
Melton
Melton (S)
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:20,000


Western Fwy
Grigg Rd
Cropley Lane
Gardiner Lane
Hopkins Rd
Map 14
CHMP Requirements
Aboriginal Heritage Impact Assessment: Mt Atkinson Precinct Structure Plan (PSP 1082)
Legend
Study Area
Property boundaries (with MPA property number)
Mandatory CHMP Required
Voluntary CHMP Recommended
No Further Assessment Required
Melton
Melbourne
Local Government: Shire of Melton
25k Mapsheet: Truganina 7822-3-1
Coordinate System: MGA Zone 55 (GDA94)
Map Scale: 1:20,000
ecology & heritage partners

APPENDICES

Appendix 1: Heritage Legislation

A1.1 Victorian *Aboriginal Heritage Act 2006*

The *Aboriginal Heritage Act 2006* protects Aboriginal cultural heritage in Victoria. A key part of the legislation is that Cultural Heritage Management Plans (CHMPs) are required to be prepared by Sponsors (the developer) and qualified Cultural Heritage Advisors in accordance with the *Aboriginal Heritage Act 2006* and the accompanying *Aboriginal Heritage Regulations 2007*. A CHMP is the assessment of an area (known as an 'activity area') for Aboriginal cultural heritage values, the results of which form a report (the CHMP) which details the methodology of the assessment and sets out management recommendations and contingency measures to be undertaken before, during and after an activity (development) to manage and protect any Aboriginal cultural heritage present within the area examined.

The preparation of a CHMP is mandatory under the following circumstances:

- If the *Aboriginal Heritage Regulations 2007* require a CHMP to be prepared (s. 47);
- If the Minister of Aboriginal Affairs Victoria requires a CHMP to be prepared (s. 48); or
- If an Environmental Impact Statement (EIS) is required by the *Environment Effects Act 1978* (s. 49).

The *Aboriginal Heritage Regulations 2007* require a CHMP to be prepared:

- If all or part of the proposed activity is a 'high impact activity'; and
- If all or part of the activity area is an area of 'cultural heritage sensitivity'; and
- If all or part of the activity area has not been subject to 'significant ground disturbance'.

The preparation of a CHMP can also be undertaken voluntarily. Having an approved CHMP in place can reduce risk for a project during the construction phase by ensuring there are no substantial delays if sites happen to be found. Monitoring construction works is also rarely required if an approved CHMP is in place.

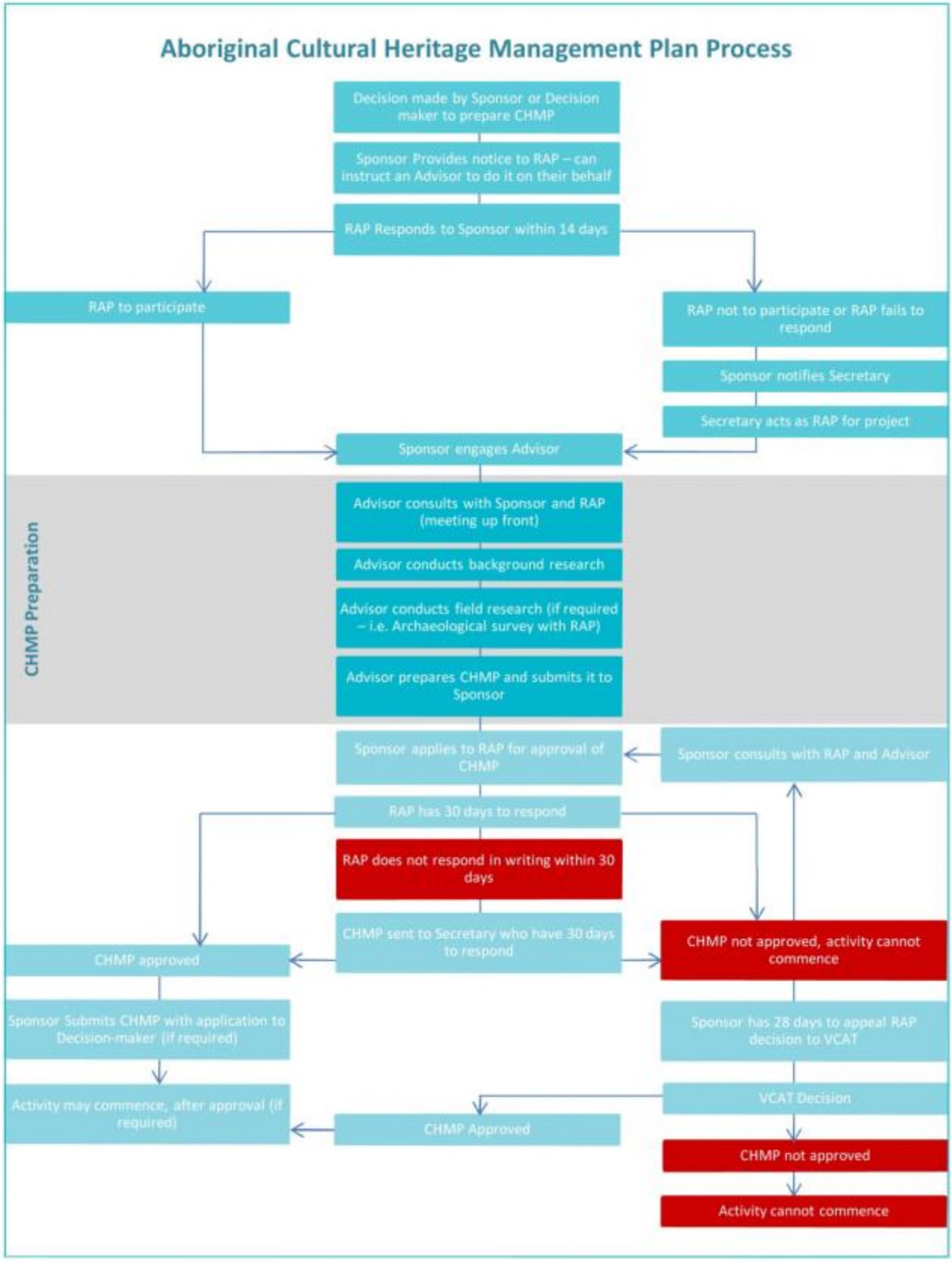
Approval of a CHMP is the responsibility of the Registered Aboriginal Party who evaluates the CHMP and then it is lodged with the Secretary of the Department of Planning and Community Development (DPCD) to take affect or, the Secretary of the DPCD (OAAV).[6] They will be examining the CHMPs in detail with key points including:

- Addressing whether harm to heritage can be avoided or minimised;
- All assessments (including test excavations) must be completed before management decisions are formulated; and
- Survey and excavation must be in accordance with proper archaeological practice and supervised by a person appropriately qualified in archaeology.

There are three types of CHMPs that may be prepared (*The Guide to preparing a CHMP* 2010). These are:

- Desktop; Standard; and Complex.

[6] In 2013, The DPCD was abolished and OAAV was transferred to the Department of the Premier and Cabinet (DPC). However the wording within the Act still retains reference to the Secretary of DPCD


Aboriginal Cultural Heritage Management Plan Process
Decision made by Sponsor or Decision maker to prepare CHMP
Sponsor Provides notice to RAP – can instruct an Advisor to do it on their behalf
RAP Responds to Sponsor within 14 days
RAP to participate
RAP not to participate or RAP fails to respond
Sponsor notifies Secretary
Secretary acts as RAP for project
Sponsor engages Advisor
CHMP Preparation
Advisor consults with Sponsor and RAP (meeting up front)
Advisor conducts background research
Advisor conducts field research (if required – i.e. Archaeological survey with RAP)
Advisor prepares CHMP and submits it to Sponsor
Sponsor applies to RAP for approval of CHMP
Sponsor consults with RAP and Advisor
RAP has 30 days to respond
RAP does not respond in writing within 30 days
CHMP sent to Secretary who have 30 days to respond
CHMP approved
CHMP not approved, activity cannot commence
Sponsor Submits CHMP with application to Decision-maker (if required)
Sponsor has 28 days to appeal RAP decision to VCAT
Activity may commence, after approval (if required)
CHMP Approved
VCAT Decision
CHMP not approved
Activity cannot commence

A desktop CHMP is a literature review. If the results of the desktop show it is reasonably possible that Aboriginal cultural heritage could be present in the activity area, a standard assessment will be required.

A standard assessment involves a literature review and a ground survey of the activity area. Where the results of ground survey undertaken during a standard assessment have identified Aboriginal cultural heritage within the activity area, soil and sediment testing, using an auger no larger than 12 cm in diameter, may be used to assist in defining the nature and extent of the identified Aboriginal cultural heritage (Regulation 59[4]).

Where the results of ground survey undertaken during a standard assessment have identified Aboriginal cultural heritage within the activity area or areas which have the potential to contain Aboriginal cultural heritage subsurface, a complex assessment will be required. A complex assessment involves a literature review, a ground survey, and subsurface testing. Subsurface testing is the disturbance of all or part of the activity area or excavation of all or part of the activity area to uncover or discover evidence of Aboriginal cultural heritage (Regulation 62[1]).

It is strongly advised that for further information relating to heritage management (e.g. audits, stop orders, inspectors, forms, evaluation fees, status of RAPs and penalties for breaching the Act) Sponsors should access the OAAV website (http://www.aboriginalaffairs.vic.gov.au/).

The flow chart above also assists in explaining the process relating to CHMPs.

A1.2 Commonwealth *Native Title Act 1993*

Native Title describes the rights and interests of Aboriginal and Torres Strait Islander people in land and waters, according to their traditional laws and customs. In Australia, Aboriginal and Torres Strait Islander people's rights and interests in land were recognised in 1992 when the High Court delivered its historic judgment in the case of Mabo v the State of Queensland. This decision overturned the legal fiction that Australia upon colonisation was terra nullius (land belonging to no-one). It recognised for the first time that Indigenous Australians may continue to hold native title.

Native Title rights may include the possession, use and occupation of traditional country. In some areas, native title may be a right of access to the area. It can also be the right for native title holders to participate in decisions about how others use their traditional land and waters. Although the content of native title is to be determined according to the traditional laws and customs of the title holders, there are some common characteristics. It may be possessed by a community, group, or individual depending on the content of the traditional laws and customs. It is inalienable (that is, it cannot be sold or transferred) other than by surrender to the Crown or pursuant to traditional laws and customs. Native Title is a legal right that can be protected, where appropriate, by legal action.

Native Title may exist in areas where it has not been extinguished (removed) by an act of government. It will apply to Crown land but not to freehold land. It may exist in areas such as:

- Vacant (or unallocated) Crown land;
- Forests and beaches;
- National parks and public reserves;

- Some types of pastoral leases;
- Land held by government agencies;
- Land held for Aboriginal communities;
- Any other public or Crown lands; and/or
- Oceans, seas, reefs, lakes, rivers, creeks, swamps and other waters that are not privately owned.

Native Title cannot take away anyone else's valid rights, including owning a home, holding a pastoral lease or having a mining lease. Where native title rights and the rights of another person conflict the rights of the other person always prevail. When the public has the right to access places such as parks, recreation reserves and beaches, this right cannot be taken away by Native Title. Native Title does not give Indigenous Australians the right to veto any project. It does mean, however, that everyone's rights and interests in land and waters have to be taken into account.

Indigenous people can apply to have their native title rights recognised by Australian law by filing a native title application (native title claim) with the Federal Court. Applications are required to pass a test to gain certain rights over the area covered in the application. The Native Title Tribunal (NNTT) was established to administer application processes. Once applications are registered, the NNTT will notify other people about the application and will invite them to become involved so all parties can try to reach an agreement that respects everyone's rights and interests. If the parties cannot agree, the NNTT refers the application to the Federal Court and the parties argue their cases before the Court.

As a common law right, native title may exist over areas of Crown land or waters, irrespective of whether there are any native title claims or determinations in the area. Native Title will therefore be a necessary consideration when Government is proposing or permitting any activity on or relating to Crown land that may affect native title[7].

A1.3 Victorian *Planning and Environment Act 1987*

All municipalities in Victoria are covered by land use planning controls which are prepared and administered by State and local government authorities. The legislation governing such controls is the *Planning and Environment Act 1987*. Places of significance to a locality can be listed on a local planning scheme and protected by a Heritage Overlay (or other overlay where appropriate). Places of Aboriginal cultural heritage significance are not often included on local government planning schemes.

A1.4 Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a national framework for the protection of heritage and the environment and the conservation of biodiversity. The EPBC Act is administered by the Australian Government Department of the Environment (DoE). The Australian Heritage Council assesses whether or not a nominated place is appropriate for listing on either the National or Commonwealth Heritage Lists and makes a recommendation to the Minister on that basis. The

[7] The information in this section was taken from the Department of Sustainability and Environment, Fact Sheet on Native Title, 2008

Minister for the Environment, Water, Heritage and the Arts makes the final decision on listing. DoE also administers the Register of the National Estate.

The objectives of the EPBC Act are:

- To provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance;
- To promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources;
- To promote the conservation of biodiversity;
- To provide for the protection and conservation of heritage;
- To promote a cooperative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples;
- To assist in the cooperative implementation of australia's international environmental responsibilities;
- To recognise the role of indigenous people in the conservation and ecologically sustainable use of australia's biodiversity; and
- To promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in cooperation with, the owners of the knowledge.

A1.5 Victorian *Coroners Act 2008*

The Victorian *Coroners Act 2008* requires the reporting of certain deaths and the investigation of certain deaths and fires in Victoria by coroners to contribute to the reduction of preventable deaths. Of most relevance to heritage is the requirement for any “reportable death” to be reported to the police (s. 12[1]). The *Coroners Act 2008* requires that the discovery of human remains in Victoria (s. 4[1]) of a person whose identity is unknown (s. 4[g]) must be reported to the police.

Appendix 2: Archaeological Survey Attributes

ABORIGINAL CULTURAL HERITAGE PLACE ASSESSMENT:
ARCHAEOLOGICAL SURVEY AND EXCAVATION ATTRIBUTES FORM

Project Name: Mt. Atkinson Precinct Structure Plan (PSP 1082) Victoria: Aboriginal Heritage Impact Assessment.

Author/Consultant: Terence MacManus

Cultural Heritage Management Plan #: N/A

Cultural Heritage Permit #: N/A

Survey Attributes

Survey Date: 17.06.2014 – 20.06.2014 Ground Surface Visibility: Highly Variable

Actual Survey Coverage: 1002.28 ha Effective Survey Coverage: 10.9%

Survey Spacing (m): 2 m Transect Width (m): 4 m Number in Crew: 3

Landform: Mt. Atkinson eruption cone and stony rises Vegetation: Exotic and native

Disturbance: Variable throughout

Survey Method	Survey Design	Sample	Survey Type
☑ Pedestrian	☐ Opportunistic	☑ Area	☑ Surface
☑ Vehicular	☐ Random	☐ Transect	
☑ Visual Survey	☐ Systematic	☐ Locality	
	☑ Stratified	☐ Haphazard	
	☐ Other	☐ Other	

Appendix 3: Site Gazetteer

Table A3.1: Site Gazetteer

Site Name &Number	Primary Grid Coordinate (GDA 94, Zone 55)	Site Type	Landform	Cultural Heritage Significance
VAHR 7822-0206 (Mt. Atkinson)	E 295882, N 5818563	Artefact Scatter	Mt. Atkinson Crest	High
VAHR 7822-1534 (Mt. Atkinson IA 1)	E 296746, N 5818174	Isolated Artefact	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1535 (Mt. Atkinson IA 2)	E 296013, N 5818426	Isolated Artefact	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1536 (Mt. Atkinson IA 3)	E 297370, N 5818458	Isolated Artefact	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1537 (Mt. Atkinson IA 4)	E 296771, N 5818458	Isolated Artefact	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1538 (Mt. Atkinson IA 5)	E 296379, N 5818563	Isolated Artefact	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1539 (Mt. Atkinson IA 6)	E 296193, N 5818595	Isolated Artefact	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1540 (Mt. Atkinson IA 7)	E 296480, N 5818749	Isolated Artefact	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1541 (Mt. Atkinson IA 8)	E 296668, N 5819014	Isolated Artefact	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1542 (Mt. Atkinson AS 1)	E 297399, N 5818032	Artefact Scatter	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1543 (Mt. Atkinson AS 2)	E 297332, N 5817972	Artefact Scatter	Mt. Atkinson Slopes/Stony Rises	Moderate
VAHR 7822-1544 (Mt. Atkinson AS 3)	E 297480, N 5817801	Artefact Scatter	Mt. Atkinson Slopes/Stony Rises	Moderate
VAHR 7822-1546 (Mt. Atkinson AS 5)	E 296051, N 5818636	Artefact Scatter	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1547 (Mt. Atkinson AS 6)	E 296096, N 5818719	Artefact Scatter	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1548 (Mt. Atkinson AS 9)	E 297026, N 5817024	Artefact Scatter	Mt. Atkinson Slopes/Stony Rises	Low
VAHR 7822-1549 (Mt. Atkinson AS 10)	E 296222, N 5817134	Artefact Scatter	Stony Rise	Low
VAHR 7822-1550 (Mt. Atkinson AS 11)	E 295921, N 5817470	Artefact Scatter	Stony Rise	Low
VAHR 7822-1551 (Mt. Atkinson AS 12)	E 296231, N 5816925	Artefact Scatter	Undulating Plain	Low

Site Name &Number	Primary Grid Coordinate (GDA 94, Zone 55)	Site Type	Landform	Cultural Heritage Significance
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	E 295329, N 5820671	Artefact Scatter	Stony Rise	Moderate
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	E 295797, N 5818177	Low Density Artefact Distribution	Various	Low

Appendix 4: Artefact Attributes

Table A4.1: Artefact Attributes

Site Name/Number	Artefact Number	Provenance	Material Type	Colour	Artefact Type	Fracture Type	No. Of Platforms	Platform Type	Platform Width (mm)	Platform Thickness (mm)	Termination Type	Flake Scars	Maximum Dimension (mm)	Oriented Length (mm)	Oriented Width (mm)	Oriented Thickness (mm)
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	1	Surface	Silcrete	Grey	Complete Flake	Conchoidal	N/A	Flaked	16	4	Feather	4	49.8	24.8	42.2	8.3
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	2	Surface	Silcrete	Grey	Medial Blade	Conchoidal	N/A	N/A	N/A	N/A	N/A	3	17.2	15.3	9.5	4.3
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	3	Surface	Silcrete	Beige	Complete Flake	Conchoidal	N/A	Plain	19	2	Feather	3	24	13.8	16.2	5.2
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	4	Surface	Silcrete	Beige	Core	Conchoidal	4	N/A	N/A	N/A	N/A	11	34	29	34	29
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	5	Surface	Silcrete	Grey	Complete Flake	Conchoidal	N/A	Plain	13	2	Hinge	4	30.7	17	28	2.2
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	6	Surface	Silcrete	Grey	Bondi Point	Bending	N/A	Missing	N/A	N/A	Feather	3	22	20.3	11.9	1.7
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	7	Surface	Silcrete	Grey	Proximal Flake	Conchoidal	N/A	Crushed	N/A	N/A	N/A	3	19.1	10.1	15.8	6
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	8	Surface	Silcrete	Red	Complete Flake	Conchoidal	N/A	Plain	29	4	Feather	4	46.4	19.8	43.2	8.3

Site Name/Number	Artefact Number	Provenance	Material Type	Colour	Artefact Type	Fracture Type	No. Of Platforms	Platform Type	Platform Width (mm)	Platform Thickness (mm)	Termination Type	Flake Scars	Maximum Dimension (mm)	Oriented Length (mm)	Oriented Width (mm)	Oriented Thickness (mm)
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	9	Surface	Quartzite	Grey	Complete Flake	Conchoidal	N/A	Plain	16	1	Feather	6	41.4	32	26.8	1.3
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	10	Surface	Quartzite	Grey	Complete Flake	Conchoidal	N/A	Plain	24	10	Feather	3	29.8	14.2	30.5	7.2
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	11	Surface	Silcrete	Grey	Broken Flake	Conchoidal	N/A	Crushed	N/A	N/A	Feather	2	23.1	7.8	16.9	2.8
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	12	Surface	Silcrete	Banded Beige/Grey	Medial Blade	Conchoidal	N/A	N/A	N/A	N/A	N/A	2	9	8.2	12.6	1.8
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	13	Surface	Silcrete	Grey	Complete Flake	Conchoidal	N/A	Crushed	5.2	3	Hinge	3	24.3	19.3	9.6	3.8
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	14	Surface	Silcrete	Grey	Complete Flake	Conchoidal	N/A	Flaked	11	4	Hinge	3	32.6	32	21.9	6.1
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	15	Surface	Silcrete	Grey	Distal Flake	Conchoidal	N/A	N/A	N/A	N/A	Feather	4	22.3	22.3	10.2	2
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	16	Surface	Silcrete	Pink	Complete Flake	Conchoidal	N/A	Flaked	6.1	2	Axial	3	36	35.2	11.7	3.8
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	17	Surface	Silcrete	Grey	Debris Flake	Bending	N/A	Plain	7.8	2	Feather	1	9	3.9	7	2.2
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	18	Surface	Silcrete	Grey	Distal Flake	Bending	N/A	N/A	N/A	N/A	Feather	3	19.6	11.9	15	2.9
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	19	Surface	Quartzite	Grey	Complete Flake	Bending	N/A	Plain	6.3	10	Feather	2	29.9	15.1	27.9	9.2

Site Name/Number	Artefact Number	Provenance	Material Type	Colour	Artefact Type	Fracture Type	No. Of Platforms	Platform Type	Platform Width (mm)	Platform Thickness (mm)	Termination Type	Flake Scars	Maximum Dimension (mm)	Oriented Length (mm)	Oriented Width (mm)	Oriented Thickness (mm)
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	20	Surface	Silcrete	Grey	Proximal Flake	Conchoidal	N/A	Plain	4.8	1	N/A	2	21.3	19.8	19.6	2.3
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	21	Surface	Silcrete	Grey	Distal Flake	Bending	N/A	N/A	N/A	N/A	Feather	4	20.1	19.9	9	2.8
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	22	Surface	Silcrete	Grey	Complete Flake	Conchoidal	N/A	Flaked	8	2	Feather	4	28.4	25.8	25	6.2
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	23	Surface	Silcrete	Beige	Distal Flake	Conchoidal	N/A	N/A	N/A	N/A	Feather	3	32	23	24	9
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	24	Surface	Quartz	White	Complete Flake	Bipolar	N/A	Crushed	N/A	N/A	Crushed	3	35.8	35.2	18.9	3.7
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	25	Surface	Quartzite	Grey	Complete Flake	Conchoidal	N/A	Crushed	N/A	N/A	Feather	2	31	23.8	22.3	7.2
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	26	Surface	Silcrete	Banded Beige/Grey	Complete Flake	Conchoidal	N/A	Facetted	11	2	Feather	5	37.9	35.2	18.3	4
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	27	Surface	Quartz	White	Complete Flake	Conchoidal	N/A	Plain	4	2	Feather	2	22.3	22.3	22	3.8
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	28	Surface	Silcrete	Grey	Complete Flake	Conchoidal	N/A	Plain	5	2	Feather	5	24.3	22.2	9	1.8
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	29	Surface	Quartzite	Beige	Complete Tool	Conchoidal	N/A	Plain	32	2	Feather	4	50	43	38	6.4
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	30	Surface	Quartz	White	Angular Fragment	Unknown	N/A	N/A	N/A	N/A	N/A	0	23.2	23.2	13.8	4

Site Name/Number	Artefact Number	Provenance	Material Type	Colour	Artefact Type	Fracture Type	No. Of Platforms	Platform Type	Platform Width (mm)	Platform Thickness (mm)	Termination Type	Flake Scars	Maximum Dimension (mm)	Oriented Length (mm)	Oriented Width (mm)	Oriented Thickness (mm)
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	31	Surface	Quartz	White	Angular Fragment	Unknown	N/A	N/A	N/A	N/A	N/A	0	26.8	26.8	21.9	12
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	32	Surface	Silcrete	Grey	Proximal Flake	Conchoidal	N/A	Plain	13	3	N/A	3	31.9	22.5	21.1	4
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	33	Surface	Silcrete	Beige	Distal Tool	Unknown	N/A	N/A	N/A	N/A	Missing	3	16.2	11	10.1	1.9
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	34	Surface	Silcrete	Grey	Complete Flake	Bending	N/A	Plain	9.8	1	Feather	3	23.9	17.8	18.1	3
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	35	Surface	Hornfels	Dark Grey	Complete Tool	Conchoidal	N/A	Plain	6.1	1	Hinge	3	29.9	28.2	20.5	3
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	36	Surface	Silcrete	Beige	Proximal Flake	Bending	N/A	Plain	4.2	1	N/A	3	3.8	9.9	8.2	2
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	37	Surface	Silcrete	Beige	Proximal Flake	Conchoidal	N/A	Plain	4.3	1	N/A	2	13.2	11.2	10.2	0.9
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	38	Surface	Quartzite	Beige	Distal Flake	Bending	N/A	N/A	N/A	N/A	Feather	3	14	10.2	8.2	1.8
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	39	Surface	Silcrete	Light Grey	Complete Flake	Conchoidal	N/A	Facetted	30	4	Feather	5	31.7	27	27	5.3
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	40	Surface	Silcrete	Grey	Complete Flake	Conchoidal	N/A	Plain	7	3	Plunge	4	34	33	18.8	5
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	41	Surface	Quartz	White	Complete Flake	Conchoidal	N/A	Cortical	17	5	Feather	1	34	25.4	25.8	4.2

Site Name/Number	Artefact Number	Provenance	Material Type	Colour	Artefact Type	Fracture Type	No. Of Platforms	Platform Type	Platform Width (mm)	Platform Thickness (mm)	Termination Type	Flake Scars	Maximum Dimension (mm)	Oriented Length (mm)	Oriented Width (mm)	Oriented Thickness (mm)
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	42	Surface	Quartz	White	Debris Flake	Conchoidal	N/A	Cortical	5.1	2	Feather	1	13.7	9.8	8.1	2.4
VAHR 7822-3809 (Mt. Atkinson PSP AS 1)	43	Surface	Silcrete	Beige	Complete Flake	Conchoidal	N/A	Flaked	6.8	2	Feather	4	37.9	36.5	13.2	4.3
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	1	Surface	Quartz	N/A	Complete Flake	N/A	N/A	Plain	N/A	N/A	Feather	N/A	20	19	11.7	5.8
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	2	Surface	Quartzite	N/A	Complete Flake	N/A	N/A	Plain	N/A	N/A	Feather	N/A	28	28	21.8	7.7
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	3	Surface	Silcrete	N/A	Complete Flake	N/A	N/A	Flaked	N/A	N/A	Feather	N/A	30.7	24.7	20.9	4.8
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	4	Surface	Silcrete	N/A	Complete Flake	N/A	N/A	Plain	N/A	N/A	Feather	N/A	27.9	19	8.2	3.7
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	5	Surface	Quartzite	N/A	Multidirectional Core	N/A	4	N/A	N/A	N/A	Feather	5	60	60	51.6	48
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	6	Surface	Silcrete	N/A	Complete Flake	N/A	N/A	Plain	N/A	N/A	Feather	N/A	17	14.2	13.9	3
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	7	Surface	Silcrete	N/A	Complete Flake	N/A	N/A	Plain	N/A	N/A	Feather	N/A	12	12	9.9	4.2
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	8	Surface	Silcrete	N/A	Complete Flake	N/A	N/A	Crushed	N/A	N/A	Feather	N/A	9	6.5	8.4	2.3
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	9	Surface	Silcrete	N/A	Complete Flake	N/A	N/A	Crushed	N/A	N/A	Feather	N/A	12	10.1	8	2.2

Site Name/Number	Artefact Number	Provenance	Material Type	Colour	Artefact Type	Fracture Type	No. Of Platforms	Platform Type	Platform Width (mm)	Platform Thickness (mm)	Termination Type	Flake Scars	Maximum Dimension (mm)	Oriented Length (mm)	Oriented Width (mm)	Oriented Thickness (mm)
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	10	Surface	Silcrete	N/A	Distal Flake	N/A	N/A	N/A	N/A	N/A	Feather	N/A	6.2	4.8	5.2	2.1
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	11	Surface	Silcrete	N/A	Proximal Flake	N/A	N/A	Crushed	N/A	N/A	Feather	N/A	9	6.8	5.1	2
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	12	Surface	Silcrete	N/A	Medial Blade	N/A	N/A	N/A	N/A	N/A	Feather	N/A	14.4	12.4	6.9	2.2
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	13	Surface	Silcrete	N/A	Complete Flake	N/A	N/A	Plain	N/A	N/A	Feather	N/A	14	10	13.3	6.9
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	14	Surface	Quartzite	N/A	Distal Flake	N/A	N/A	N/A	N/A	N/A	Feather	N/A	15	8.9	13	1.8
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	15	Surface	Quartzite	N/A	Medial Flake	N/A	N/A	N/A	N/A	N/A	Feather	N/A	36	28.3	26	2.2
VAHR 7822-3802 (Mt. Atkinson PSP LDAD)	16	Surface	Quartz	N/A	Complete Flake	N/A	N/A	Plain	N/A	N/A	Feather	N/A	21	18	11	1.8

Appendix 5: Place Inspection Forms

Appendix 6: Glossary

Items highlighted in ***bold italics*** in the definition are defined elsewhere in the glossary.

Acronym	Description
Aboriginal Cultural Heritage Likelihood	An area assessed by a Cultural Heritage Advisor as having potential for containing either surface or subsurface Aboriginal archaeological deposits. This term is used in this report to differentiate between *legislated* ***areas of cultural heritage sensitivity*** and areas considered by an archaeologist to be sensitive.
Aboriginal Site	A location containing Aboriginal cultural heritage, e.g. ***Artefact scatter***, ***isolated artefact***, ***scarred tree***, ***shell midden***, whether or not the site is registered in the ***VAHR***, cf. ***Aboriginal cultural heritage place***.
Angular Fragment	An artefact which has technologically diagnostic features but has no discernible ventral or dorsal surface and hence is unidentifiable as either a flake or a core
Area Of Cultural Heritage Sensitivity	An area specified as an area of cultural heritage sensitivity in Division 3 or Division 4 of Part 2 of the *Aboriginal Heritage Regulations 2007*.
Artefact Scatter	Stone artefact scatters consist of more than one stone artefact. Activities associated with this site type include stone tool production, hunting and gathering or domestic sites associated with campsites. Stone artefacts may be flakes of stone, cores (flakes are removed from the stone cores) or tools. Some scatters may also contain other material such as charcoal, bone, shell and ochre.
Assemblage	The name given to encompass the entire collection of artefacts recovered by archaeologists, invariably classified into diagnostic items used to describe the material culture.
Backed	When one margin of a flake is retouched at a steep angle, and that margin is opposite a sharp edge. The steep margin is formed by bi-polar or hammer and anvil knapping. Also used to describe artefacts with backing, e.g. Backed artefact.
Backed Artefact	A class of artefact employed by archaeologists to describe artefacts which are backed. Sometimes divided into elouera, bondi point, microlith and geometric.
Bipolar	A flaking technique where the object to be reduced is rested on an anvil and struck. This process is identified by flakes with platform angles close to 90 degrees as well as apparent initiation from both ends. Some crushing may also be visible.
Burials	Aboriginal communities strongly associate burial sites with a connection to country and are opposed to disturbance of burials or their associated sites. General considerations for the presence of burial sites are the suitability of Subsurface deposits for digging purposes; with soft soil and sand being the most likely. They are more likely near water courses or in dunes near old lake beds or near the coast. Burials are often located near other sites such as oven mounds, ***shell middens*** or ***artefact scatters***.
Chert	A cryptocrystalline siliceous sedimentary stone.
CHMP	**Cultural Heritage Management Plan**. A plan prepared under the *Aboriginal Heritage Act 2006*.
Core	An artefact which has technologically diagnostic features. Generally this class of artefact has only negative scars from flake removal, and thus no ventral surface, however, for the purposes of this research core has been employed to encompass those artefacts which were technically flakes but served the function of a core (ie. The provider of flakes).
Cortex	The weathered outer portion of a stone, often somewhat discoloured and coarser compared with the unweathered raw material.
Decortications	The process of removing cortex from a stone (generally by flaking).

Acronym	Description
Deep Ripping	The ploughing of soil using a ripper or subsoil cultivation tool to a depth of 60 cm or more (see ***significant ground disturbance***).
DEPI	**Department of Environment and Primary Industries.** The Victorian State Government department responsible for management of natural heritage in Victoria.
DPC	**Department of the Premier and Cabinet**. The Victorian State Government department, of which ***OAAV*** is a part, responsible for management of Aboriginal cultural heritage in Victoria.
DoE	**Department of the Environment**. The Commonwealth Government department responsible for management of heritage sites on the World, National or Commonwealth Heritage lists.
DTPLI	**Department of Transport, Planning and Local Infrastructure**. The Victorian State Government department, of which **HV** is a part, responsible for management of historical heritage in Victoria.
Flake	An artefact which has technologically diagnostic features and a ventral surface.
High Impact Activity	An activity specified as a high impact activity in Division 5 of Part 2 of the *Aboriginal Heritage Regulations 2007*.
HV	**Heritage Victoria**. A division of ***DTPLI*** responsible for management of historical heritage in Victoria.
Isolated Finds Or Artefacts	Isolated finds refer to a single artefact. These artefacts may have been dropped or discarded by its owner once it was of no use. This site type can also be indicative of further subsurface archaeological deposits. These site types can be found anywhere within the landscape, however, they are more likely to occur within contexts with the same favourable characteristics for stone artefact scatter sites.
Knapping	The act of striking a nodule of stone (a core) with a harder rock or mineral (hammerstone) in order to detach a sharp-edged sliver of stone (flake).
LDAD	**Low Density Artefact Distribution**. A category of ***Aboriginal Place*** type in the ***VAHR*** comprising single stone artefacts and/or distributions of multiple stone artefacts at concentrations of less than 10 artefacts in a 10 x 10 m area.
Manuport	An object which has been carried by humans to the site.
OAAV	**Office of Aboriginal Affairs Victoria**. A division of ***DPC*** responsible for management of Aboriginal cultural heritage in Victoria.
Oriented Length	Dimension measured according to the following criteria: The length of the flake from the platform, at 90˚ to force indicators such as ring-crack, bulb of percussion, force ripples and striations, to the opposing end. Where there were an insufficient number of features present to take this measurement, such as when the flake was broken, this variable was not recorded (sometimes referred to as percussion length).
Oriented Thickness	Dimension measured at 90˚and bisecting the oriented width dimension. This was done from the ventral surface to the dorsal surface (sometimes referred to as percussion thickness).
Oriented Width	Dimension measured at 90˚and bisecting the oriented length dimension. This was done from one margin to the other. As this measurement and oriented thickness, both rely on oriented length, these were not recorded where the oriented length was not recorded (sometimes referred to as percussion width).
Procurement	The process of obtaining raw material for reduction.
Quarries	Stone quarries were used to procure the raw material for making stone tools. Quarries are rocky outcrops that usually have evidence of scars from flaking, crushing and battering the rock. There may be identifiable artefacts near or within the site such as unfinished tools, hammer stones, anvils and grinding stones.
Quartz	A crystalline form of silica.

Acronym	Description
RAP	**Registered Aboriginal Party**. An Aboriginal organisation with responsibilities relating to the management of Aboriginal cultural heritage for a specified area of Victoria under the *Aboriginal Heritage Act 2006*.
Raw Material	The kind of stone the artefacts were manufactured from.
Reduction	The process of removing stone flakes from another pieces of stone. Generally this is performed by striking (hard hammer percussion) one rock with another to remove a flake.
Registered Cultural Heritage Place	An Aboriginal site recorded in the ***VAHR***, cf. ***Aboriginal site***.
Retouch	Retouch is when a ***flake*** is removed after the manufacture of the original flake. This sequence can be observed when a flake scar is present and encroaches over the ventral surface and thus must have been made after the initial flake removal. Recorded whether retouch was absent or present on the artefact.
Rock Shelter	A concave area in a cliff where the cliff overhangs; or a concave area in a tor where the tor overhangs; or a shallow cave, where the height of the concave area is generally greater than its depth.
Scarred Trees	It is known that the wood and bark of trees have been used for a variety of purposes, such as carrying implements, shield or canoes. The removal of this raw material from a tree produces a 'scar'. The identification of a scar associated with aboriginal custom as opposed to natural scarring can be difficult. The scar should be of a certain size and shape to be identifiable with its product; the tree should also be mature in age, from a time that aboriginal people were still active in the area.
Significant Ground Disturbance	Disturbance of topsoil or surface rock layer of the ground or a waterway by machinery in the course of grading, excavating, digging, dredging or ***deep ripping***, but does not include ploughing other than ***deep ripping***.
Silcrete	A silicified sedimentary stone, often with fine inclusions or grains in a cryptocrystalline matrix. Because of the nature of the grains in silcrete (a hindrance in knapping/flaking predictability) the stone is sometimes heat treated. This exposure to heat can be identified by the presence of pot-lidding as well as a 'lustre' to the stone which is otherwise absent in the stones' natural state. Exposure to sufficient heat homogenises the stone matrix and improves the knapping (flake path) predictive potential (Crabtree & Butler 1964; Mandeville and Flenniken 1974; Purdy 1974; Domanski and Webb 1992; Hiscock 1993; Domanski *et al*. 1994). Similar to indurated mudstone, it has also been demonstrated that silcrete from the hunter valley often turns a red colour after being exposed to heat (Rowney 1992; Mercieca 2000).
Stone Arrangements	Stone arrangements are places where Aboriginal people have deliberately positioned stones to form shapes or patterns. They are often known to have ceremonial significance. They can be found where there are many boulders, such as volcanic areas and are often large in size, measuring over five metres in width.
Taphonomy	The study of the processes (both natural and cultural) which affect the deposition and preservation of both the artefacts and the site itself.
Technology	A form of artefact analysis which is based upon the knapping/ manufacturing process, commonly used to subsequently infer behaviour patterns, cultural-selection and responses to raw material or the environment.
Thumbnail scraper	A conceptual class of artefact employed to describe small rounded retouched flakes with steep margins (based on the classification by Mulvaney and Kamminga 1999).
VAHR	**Victorian Aboriginal Heritage Register**. A register of Aboriginal cultural heritage places maintained by ***OAAV***.

Acronym	Description
VHI	**Victorian Heritage Inventory**. A register of places and objects in Victoria identified as historical archaeological sites, areas or relics, and all private collections of artefacts, maintained by ***HV***. Sites listed on the VHI are not of State significance but are usually of regional or local significance. Listing on the ***VHR*** provides statutory protection for that a site, except in the case where a site has been "D-listed".
VHR	**Victorian Heritage Register**. A register of the State's most significant heritage places and objects, maintained by ***HV***. Listing on the VHR provides statutory protection for that a site.

REFERENCES

Bird, C. F. M. & Frankel, D., 1991. Problems in Constructing a Prehistoric Regional Sequence: Holocene South-East Australia. *World Archaeology* 23 (2):179-192.

Bureau of Meteorology (BOM), 2014. http://www.bom.gov.au. Accessed 29 May 2014.

Bride, T. F., ed. 1983 [1898]. *Letters from Victorian Pioneers: A Series of Papers on the Early Occupation of the Colony, the Aborigines, Etc*. Melbourne, Gordon and Gotch.

Burke, H. and Smith, C., 2004. The Archaeologists Field handbook. Allen & Unwin, Crows Nest, Australia.

Bullers, R. 2014. Mt. Atkinson Precinct Structure Plan (PSP No. 1082), Truganina and Mount Cottrell, Victoria: Post-Contact Heritage Assessment. Unpublished report to Metropolitan planning Authority.

Clark, I. D. 1987. ''The Spatial Organisation of the Chap Wurrung: A Preliminary Analysis,'' in M. Clark, I. Clark, J. Critchett, B. Gott, B. Gunn, and J. R. Poynter, eds., *Australia Felix: The Chap Wurrung and Major Mitchell*. Dunkeld: Dunkeld and District Historical Museum, 1–36.

Clark, I. D., 1990. *Aboriginal languages and Clans: An Historical Atlas of Western and Central Victoria, 1800-1900, Number 37*. Department of Geography and Environmental Science, Monash University, Melbourne, Victoria.

Clark, I. D, ed. 1998. *The Journals of George Augustus Robinson, Chief Protector, Port Phillip Aboriginal Protectorate,* Vol. 2: 1 October 1840–31 August 1841. Melbourne, Heritage Matters.

Coutts, P. J. F., Witter, D. C. & Parsons, D. M., 1977. Impact of European Settlement on Aboriginal Society in Western Victoria. *Records of the Victorian Archaeology Survey*, 4: 17-58.

Crabtree, D. E. and Butler, B. R., 1964. Notes on experiments in flint knapping: 1. Heat treatment of silica minerals. *Tebiwa*, 7: 1–6.

Dawson, J. 1881. *Australian Aborigines; the languages and customs of several tribes of Aborigines in the Western District of Victoria.* Melbourne, Robertson.

DEPI, 2014a. *Bioregions*. http://www.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/biodiversity_bioregions_vic. Accessed 29 May 2014.

DEPI, 2014b. *Geomorphological Framework*. http://www.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/landform_geomorphological framework. Accessed 29 May 2014.

DEPI, 2014c. *Environmental Vegetation Classes*. http://www.dse.vic.gov.au/dse/nrence.nsf/linkview/43fe7df24a1447d9ca256ee6007ea8788062d358172e420c4a256dea0012f71c. Accessed Accessed 29 May 2014.

Domanski, M., Webb, J. A. and Boland, J., 1994. Mechanical properties of stone artefact materials and the effect of heat treatment, *Archaeometry*, 36: 177–208.

Domanski, M. and Webb, J. A., 1992. Effect of heat treatment on siliceous rocks used in prehistoric lithic technology. *Journal of Archaeological Science*, 19: 601–614.

DTPLI, 2014. *Planning Schemes*. http://www.dse.vic.gov.au/planningschemes. Accessed Accessed 29 May 2014.

du Cros, H. 1989. *The Western Region: Melbourne Metropolitan Area: An Archaeological Survey*. Victoria Archaeological Survey and the Western Region Commission, Melbourne, Victoria.

du Cros, H & Rhodes, D. 1998. Aboriginal Archaeological Sensitivities Study of the Waterways and Floodplains of Greater Melbourne. Unpublished report for Melbourne Water Corporation by Biosos Research Pty Ltd, Port Melbourne, Victoria.

du Cros, H. and Murphy, A. 1994. Kororoit Creek Archaeological Overview: Deans Drive Rockbank, to Princes Highway, Laverton North, Victoria. Unpublished report to Melbourne Water.

du Cros, H. and P. Watt. 1993. An Archaeological Survey of a proposed quarry site at Leakes Road, Rockbank Victoria. Report to the Stella Family by du Cros and Associates.

Edmonds, V. and Long, A. 2006. Melbourne 2030 Melton-Caroline Springs Growth Area. Aboriginal Archaeological Desktop Report. Unpublished report to The Built Environment Group- Department of Sustainability and Environment by Andrew Long and Associates.

Ellender, I. 2002. The Yowenjerre of South Gippsland: Traditional Groups, Social Boundaries and Land Succession. *The Artefact* 25(1) pp. 9-18.

Flood, J., 1995. *Archaeology of the Dreamtime*. Angus & Robertson, Sydney.

Flood, J., 1980. *The Moth Hunters: Aboriginal prehistory of the Australian Alps*. Australian Institute of Aboriginal Studies, Canberra.

Gott, J. and Conran, B., 1991. *Victorian Koorie Plants: some plants used by Victorian Koories for food, fibre, medicines and implements*. Yangennanock Women's Group.

Hewitt, G. and Allen, J., 2010. Site Disturbance and Archaeological Integrity: the Case of Bend Road, an Open Site in Melbourne Spanning Pre-LGM Pleistocene and Late Holocene Periods. *Australian Archaeology*, 70: 1-16.

Hewitt, G. and De Lange, J., 2007. Bend Road 2 Phases 1 to 4; Report on Bend Road Archaeological Investigations. Unpublished report for Thiess John Holland by Archaeology Program La Trobe University, Bundoora, Victoria.

Hiscock, P., 1993, Bondaian technology in the Hunter Valley, New South Wales, *Archaeology in Oceania* 28: 65–76.

Holdaway, S. and Stern, N. 2004. A Record in Stone; the studyof Australia's flaked stone artefacts. Museum Victoria, Melbourne, Victoria.

Howitt, A. W., 1996 [1904]. *The Native Tribes of South-East Australia.* Facsimile edition. Canberra, Aboriginal Studies Press.

Howitt, A. W. 2001*The Native Tribes of South-East Australia*. Aboriginal Studies Press, Canberra, Australian Capital Territory.

Johns, R. E., 1877. Unpublished Diary of R. E. Johns. Melbourne: MSF 10075, La Trobe Library, State Library of Victoria.

Joyce, E. B., 2003. *Western Volcanic Plains.* CRC LEME, School of Earth Sciences, University of Melbourne.

Lane, S. 1997. Proposed Wester Freeway – Western Ring Road Connection (Option 2) Archaeological Investigation. Unpublished report to VicRoads.

Mandeville, M. D. and Flenniken, J. J., 1974. A comparison of the flaking qualities of Nehawka chert before and after thermal pretreatment. *Plains Anthropologist* 19: 146–148.

Massola, A. 1959. History of the Coast Tribe. *Victoria Naturalist* 76(7) pp.180-183.

McBryde, I., 1979. Petrology and prehistory: Lithic evidence for exploitation of stone resources and exchange systems in Australia, with an Appendix on the petrology of the greenstone quarries and their products by Alan Watchman. In T. Clough and W. Cummins (eds), *Stone Axe Studies: Archaeological, Petrological, Experimental and Ethnographic*, pp.113-126. London: Council for British Archaeology.

Melbourne Water, Healthy waterways Waterwatch Program. 2014. Accessed 29/05/2014 at http://www.waterwatchmelbourne.org.au/content/your_local_waterway/werribee_catchment/skeleton_creek.asp.

Mercieca, A., 2000. Burnt and broken: an experimental study of heat fracturing in silcrete. *Australian Archaeology* 51, 40–47.

Mulvaney, J. and Kamminga, J., 1999. *The Prehistory of Australia*. Sydney, Allen and Unwin.

Murphy, A. 1998. An overview of the Aboriginal and historic archaeology within Department of Defence land, Rockbank, Victoria. Unpublished report to PPK Environment and Infrastructure Pty Ltd.

Murphy, A. and Morris. A. 2011. APA GasNet Sunbury Gas Pipeline Looping Project Middle Road, Truganina to Taylors Road, Plumpton. An unpublished report to APA GasNet Australia Pty Ltd by Archaeology at Tardis.

Nash, D., 2004. *Aboriginal Plant Use in south-eastern Australia*. Australian National Botanic Gardens, Canberra.

Newby, J. and Muir, S. 1998. Western Freeway and Hopkins Road Archaeological and Heritage Investigation of Proposed Restorations Roads. Unpublished report for VicRoads.

Office of Aboriginal Affairs Victoria. 2014. http://www.dpc.vic.gov.au/index.php/aboriginal-affairs/publications-and-research/aboriginal-cultural-heritage-mini-poster-series. Accessed 29/05/2014.

Parks Victoria. 2012. *Environment*. Accessed 21 May 2012 from http://parkweb.vic.gov.au/explore/parks/wilsons-promontory-national-park/environment.

Presland, G. 1994. *Aboriginal Melbourne: The Lost Land of the Kulin People*. McPhee Gribble Publishers, Melbourne, Victoria.

Presland, G. 1997. *The First Residents of Melbourne's West Region*. Revised Edition, Harriland Press, Forest Hill, Victoria.

Presland, G. 2010. *First People: The Eastern Kulin of Melbourne, Port Phillip and Central Victoria*. Museum Victoria, Melbourne, Victoria.

Purdy, B. A., 1974. Investigations concerning the thermal alteration of silica minerals: an archaeological approach. *Tebiwa* 17, 37–66.

Richards, T., Bennett, C. M., and Webber, H., 2012. A post-contact Aboriginal mortuary tree from southwestern Victoria, Australia. *Journal of Field Archaeology*, Vol. 37, No. 1: 62-72.

Richards, T., Pavlides, C., Walshe, K., Webber, H. and Johnston, R., 2007. Box Gully: new evidence for Aboriginal occupation of Australia south of the Murray River prior to the Last Glacial Maximum. *Archaeology in Oceania* 42 (1): 1-11.

Rowney, M., 1992. Heat treatment on the rocks: A study of heat treatment detection methods. Unpublished B.A. (Hons) thesis, Department of Prehistoric and Historical Archaeology. University of Sydney, Sydney.

Smyth R. Brough. 1876 (1972). *The Aborigines of Victoria and other parts of Australia*. John Ferris, Government Printer, Melbourne, Victoria.

Sprague, R., 2005. *Burial Terminology. A Guide for Researchers*. Oxford, AltaMira Press.

Thomas, W. 1983 Brief Account of the Aborigines of Australia Felix. In T.F. Bride (ed) Letters from Victorian Pioneers Curry O'Neil, Melbourne, 1983, pp 398-437.Thomson, 2003. An Archaeological Assessment of a Property on Hopkins Road, Truganina, Victoria. Unpublished report to BRD Group.

Thompson, M. 2003. An Archaeological Assessment of a property on Hopkins Road, Truganina, Victoria. Unpublished report to BRD Group.

Vines, G. 1990. Historical and Archaeological Survey for the Melton East Structure Plan Study Area. Unpublished report for Gutteridge Haskins and Davey Pty Ltd.

Vines, G. 1993. Hopkins Road archaeological survey. Unpublished report to VicRoads and Gutteridge, Haskins and Davey Pty Ltd.

Vines, G., Nicolson, O. and Matthews, L. 2004. Melton East Growth Corridor Cultural Heritage Study. Unpublished report for Stockland.

Webb, C. 1991. A Predictive Archaeological Assessment of the Melbourne to Adelaide Telecom Optical Fibre Cable Route: The Victorian Section. Unpublished report for Telecom Australia by Department of Archaeology, La Trobe University, Victoria.

Webb, C. 1994. An Archaeological Survey of the Melbourne to Adelaide Telecom Optical Fibre Cable Route – Melbourne to Ballarat. Unpublished report for Telecom Australia by Department of Archaeology, La Trobe University, Victoria.

Williams, E., Virgin, K., and Wright, G. 2013. Regional Rail Link Ballarat Line, Deer Park to Rockbak, Victoria: Cultural Heritage Management Plan. Unpublished report for Regional Rail Link Authority.

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