Outer Metropolitan Link to Melbourne Airport and Bulla Bypass

DESKTOP ASSESSMENT REPORT

Name of Activity:	OMR Link to Melbourne Airport and Bulla Bypass
Sponsor:	VicRoads
Cultural Heritage Advisor:	Andrew Long & Associates
Author(s):	Jonathan Howell-Meurs and Eden Alley-Porter (Andrew Long & Associates)

This public access version has been edited to omit location and grid reference details of Aboriginal cultural heritage

Report Date: 08/08/11

EXECUTIVE SUMMARY

This investigation was undertaken by searching relevant Commonwealth, State and local registers for any known heritage sites or places in the Project Area. Background research was also undertaken into the cultural heritage context and environmental history of the Project Area. This involved reviewing existing information on the Project Area including reports from previous heritage surveys undertaken in or within the project study area, published works about cultural heritage in the relevant geographic region, and historical and ethno-historical accounts of Aboriginal occupation of the relevant geographic region.

All proposed alignments will impact at least one registered Aboriginal cultural heritage place and Options C – G will likely impact two sites. In terms of unregistered Aboriginal cultural heritage, those options which utilise existing road alignments are preferable over those which traverse previously undeveloped or minimally disturbed land as the potential to impact upon previously undisturbed Aboriginal cultural heritage is significantly greater in these areas than along pre-existing road alignments. On this basis Option E is to be preferred over Option H for example.

In terms of non-Aboriginal cultural heritage sites and places, there is a greater degree of variation between the proposed options. Four of the proposed options (Option C, D, H and the OMR/Tullamarine Interchange will not impact on any non-Aboriginal cultural heritage sites (including registered or inventory sites and heritage overlays).Option A will likely impact one heritage item and Options B, E, F, G and F-G will impact three places. Those listed on the Heritage Register and Inventory are considered to be of state significance.

Overall, considering both Aboriginal and Non-Aboriginal cultural heritage, Options H and the OMR/Tullamarine Interchange are most preferable as they will only impact upon one site each. Options A, C and D are ranked second; Option G, third; Option E, fourth; Options B, fifth. Options F and F-G are ranked last as, although they impact a similar number of sites to Option E, they will impact two places listed on the Victorian Heritage Register. In the cases of Options B and F-G, and, to a lesser degree, Option F, each option will materially impact the register site H0625 – Glenara. The outcome of these overall rankings are in agreement with discussions held with Heritage Victoria.

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PART 1: RESULTS OF CULTURAL HERITAGE ASSESSMENT

This stage of assessment involved the completion of a Desktop Assessment to identify cultural heritage issues and constraints affecting the Project Area. The Desktop Assessment involved minimal consultation with cultural heritage stakeholders outside of researching existing registers and heritage report information.

1. PERSONNEL AND ASSESSMENT METHODOLOGY

1.1. CULTURAL HERITAGE ADVISOR

This desktop assessment has been authored by David Mathews and Jonathan Howell-Meurs of Andrew Long & Associates (Cultural Heritage Advisor to the sponsor), qualified archaeologists and heritage consultants, experienced in professional Aboriginal heritage assessment and evaluation since 1991.
The authors of this desktop assessment are:

- **Jonathan Howell-Meurs**, Senior Project Manager
  Bachelor of Arts (Honours), University of Melbourne (1994)
  Master of Arts, University of Melbourne (1997)
  Industry experience – 12 years

- **Eden Alley-Porter,** Archaeologist
  Bachelor of Arts (Archaeology), James Cook University (2002)
  Industry experience – 5 years

1.2. DESKTOP ASSESSMENT METHODOLOGY

The Desktop Assessment into the Aboriginal and non-Aboriginal cultural heritage present in the project study area was conducted between October 2010 and November 2010.

This investigation was undertaken by searching relevant Commonwealth, State and local registers for any known heritage sites or places in the Project Area. These included:

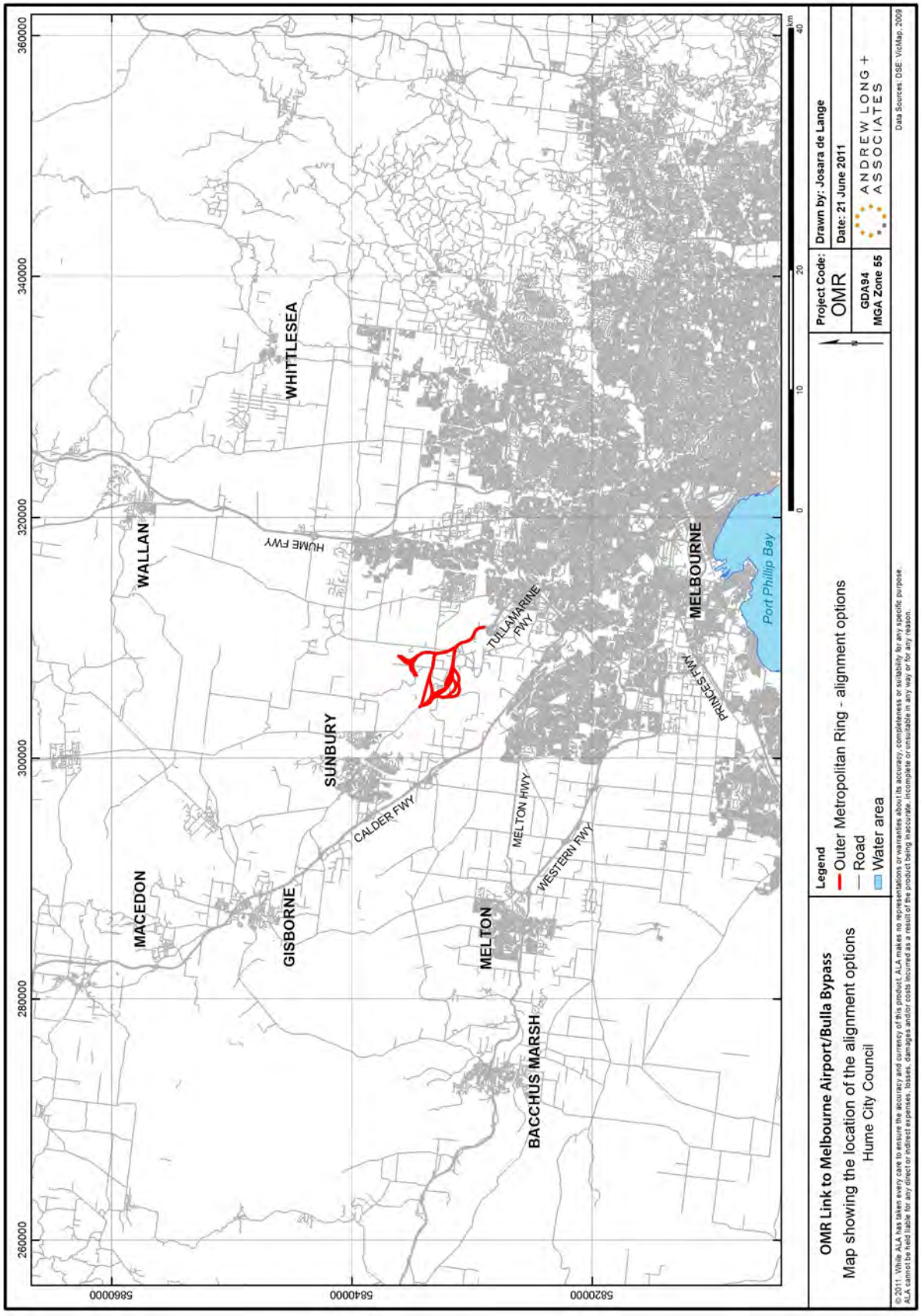
- Aboriginal Heritage Register (Aboriginal Affairs Victoria);
- Victorian Heritage Register and Victorian Heritage Inventory (Heritage Victoria);
- National Heritage List and Commonwealth Heritage List (Australian Government Department of Environment and Water Resources);
- Local Council Heritage Overlays and/or Planning Schemes (Local Government);
- Register of the National Estate (Australian Heritage Council); and
- National Trust Register (National Trust Victoria).

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

- Any reports from previous heritage surveys undertaken in or within the project study area or on any relevant cultural heritage matters;
- Any published works about cultural heritage in the relevant geographic region;

- Any historical and ethno-historical accounts of Aboriginal occupation of the relevant geographic region.

Map 1 – Location of Project Area



2. RESULTS OF THE DESKTOP ASSESSMENT

2.1. PHYSICAL BACKGROUND

The following section provides background information on the physical context of the Project Area. This information is used to model past human use of the landscape and the potential for archaeological remains or other types of heritage in the area. The Project Area contains ten (10) alignment options connecting the proposed OMR to the Tullamarine Freeway, which range in length from 9.6km to 11.8km in length.

2.1.1. Flora and Fauna

As a result of high summer temperatures, low rainfalls and shallow volcanic soils, the Project Area supports few native trees and shrubs, and is generally dominated by grassland with localised grassy wetlands occurring around seasonally flooded depressions (LCC 1991, 84–5; Peel 1974, 6). European settlement has significantly altered the regional vegetation. The activity of grazing has affected the potential for remnant vegetation to exist, with areas along watercourses likely to contain native trees and grasses (e.g. e.g. kangaroo grass (*Themeda trianda Australis*) and wallaby grass (*Austrodanthonia fulva*). The area generally comprises open grasslands characterised by a thick cover of introduced grasses with few mature trees and other native vegetation. Intact examples of grassy, herb rich vegetation are restricted to narrow railway reserves and small reserves of public land (LCC 1985, 57). The once prolific Myrrnong (*Microseris scapigera*) is now listed as endangered and does not occur within the current project study area (LCC 1985, 230). Remnant stands of Yellow Box (*Eucalyptus melliodora*), Blackwood (*Acacia melanoxylon*), Swamp Gum (*Eucalyptus ovata* var. *ovata*) and River Red Gum (*Eucalyptus camuldulensis*) woodland are now restricted to reserves and river/creek corridors.

The conservation status of native Grassland species in Victoria is poor (Duncan and Mueck 1992, 10; Frood and Calder 1987) and therefore the retention and management of remnants which maintain a largely native species composition is of value. Western Plains Grassland as a community survives in only a fraction of its original distribution and is still being lost to development (Stuwe 1986). The Grassland Community is endangered in Victoria and it has been accepted for listing under Schedule 2 of the *Flora and Fauna Guarantee Act* 1988 (FFG Act) by the Scientific Advisory Committee. Additionally, two Environmental Protection and Biodiversity Conservation Act 1999 listed communities may occur within area including Grey Box Grassy Woodlands and, Derived Native Grasslands of South Australia (endangered) and Grassy Eucalypt Woodlands of Victorian Volcanic Plain (critically endangered).

Prior to modification by European land practices, Plains Grasslands were abundant in a number of plant-food resources important to Aboriginal people. The tubers of the Vanilla Lily (*Arthropodium minus*) and Daisy Yam (*Microseris lanceolata*) and Myrrnong (*Microsis scapigera*), all once found on the plains in abundance, were eaten raw or roasted (Zola and Gott 1992, 54). Water plants found in swampy lowlands and along creek banks would also have been consumed (e.g. Common Reed, Water Ribbons) (Zola and Gott 1992, 12). Plants were used for non-culinary purposes; such as making nets, baskets, and ornaments. Kangaroo Grass (*Themeda triandra),* was used in the manufacture of fishing nets (Zola and Gott 1992, 58), while Tussock grass fibres were used to make string for bags, baskets and mats. Bark from larger trees such as River Red Gum, was used for manufacturing canoes, containers and other implements, as well as for shelter.

2.1.2. Regional Geology and Geomorphology

The project study area is situated on the Stony Undulating Plains of the Western District in Victoria.The undulating plains were formed by basaltic lava flows during volcanic eruptions in the Late Quaternary and overly Ordivician and Silurian marine sediments, the latter including silcrete boulders. The incised valleys were formed by stream downcutting through the basalt plain and underlying sediments, creating deep gorges with marked escarpments. Alluvial sediments were deposited in the valleys as sea levels rose and fell during the Pleistocene, forming alluvial terraces on the sides of the valleys (Rosengren 1986, 14-21).

The underlying geology of the project study area is unnamed sheetflow basalt, containing deposits of basalt, minor scoria and ash.[1] There are pockets of Bulla Granodiorite rock from the Devonian period, located in the Bulla region adjacent to Deep Creek and also in the area to the east of Moonee Ponds Creek.

2.2. HISTORICAL BACKGROUND

The following section provides background information on the history of Aboriginal and European settlement within the Project Area. Its purpose is to provide a historical context for the field investigation which would form part of a future detailed study.

2.2.1. Aboriginal Pre-Contact History

The following section reviews the available ethnohistorical data relevant to the Aboriginal people who occupied wider project study area at the time of European contact. This type of review aims to identify ways in which Aboriginal people lived in and interacted with their environment. It can also help to point to the archaeological traces of these activities within the present day landscapes. Although the ethnohistorical record has the potential to provide useful information about Aboriginal society at contact, it should be noted that the information it provides is necessity incomplete, has no significant time-depth, and describes a society that even in the earliest observations had already undergone an unknown degree of social change.

It should also be noted that not all sources of information are equal, that information has been gathered from both trained and untrained observers, and that all documentation consulted here has been subject to a degree of bias. The ethnohistorical record presents a European perspective of Aboriginal society at a time when traditional lifestyles were being severely disrupted, and conclusions drawn from this record should be treated with the appropriate level of caution.

The main sources used in this section are listed below.

- The explorers H. Hume and W.H. Hovell who were the first Europeans to discover a route through the Great Dividing Range in Victoria on their exploration from Sydney to Geelong in 1824-25, traversing the Project study area on 14 December near Mt Fraser, Beveridge. Both men kept diaries which are reproduced in Bland (1965) and Andrews (1981).

- Robert Brough Smyth (1830-1889), was an Honorary Secretary to the 'Board for the Protection of Aborigines'. Smyth's compilation, *The Aborigines of Victoria* (1878), arose from his efforts to gather information and artefacts relating to Victorian Aboriginal culture at a time during which Aboriginal people were dispossessed from their land. The work relied heavily upon sources such as A. Howitt and W. Thomas.

- Alfred William Howitt (1830-1908) was an explorer, natural scientist and pioneer authority on Aboriginal culture and social organisation in south-east Australia. Howitt's papers written in the 1880's were praised as setting a new standard of ethnographic description and analysis. Howitt drew much of his information from over fifty correspondents around Victoria. He summarised much of his previous work in *The Native Tribes of South-east Australia* (1904).

- Rev. G. Langhorne established the first Government Reserve near the Yarra River in 1837- 39, providing early statistics and observations of Aboriginal people from the region. Many of these are reproduced in Cannon (1982).

- William Thomas (1793-1867) was one of four 'Assistant Protectors of Aborigines' under G.A. Robinson and allocated the Port Phillip, Westernport and Gippsland districts. Thomas established a protectorate station at Narre Warren (1840-42) then later on the Merri Creek (1841-1851) at the confluence of the Yarra River. Thomas kept a detailed diary and records his data and ethnographic collections were basic sources for Smyth (1878). When the Protectorate was abolished at the end of 1849 only Thomas remained in government service, his new position being 'Guardian of the Aborigines'. His official and unofficial body of work provide a valuable resource on Aboriginal people

[1] http://mapshare2.dse.vic.gov.au/MapShare2EXT/imf.jsp?site=geovic – accessed 17 June 2011

of the Merri Creek. The Public Record Office holds Thomas's official reports and monthly, quarterly and half-yearly returns. The Mitchell Library (NSW) holds his personal journals and diaries and a few official returns. Many of Thomas's drawings, letters and reports have been reproduced in *Historical Records of Victoria*, volumes 2A and 2B (Cannon 1982; 1983).

A number of useful secondary sources of information exist relating to Aboriginal people of the wider Project study area. A small number of settler's letters and recollections are reproduced in local histories and Bride (1969), providing a non-government perspective. Ellender and Christiansen (2001) examined many primary sources for references to Aboriginal people of the Merri Creek and summarised the results in *People of the Merri Merri* (2001). Barwick (1984) and Clark (1990) constructed language boundaries and established geographic regions of Victorian Aboriginal clans. .

A wide variation exists in the nomenclature of Aboriginal clans. In this ethnography, quotes retain the original authors spelling; however, commonly used spelling is generally used throughout (with common variations included in brackets).

Aboriginal Clans

The basic unit of Aboriginal social organisation in Victoria was the clan: a group based on kinship through the male line with a shared historical, religious and genealogical identity. The clan was a land-owning unit whose territory was defined by ritual and economic responsibilities. Groups of neighbouring clans speaking the same dialect and sharing political and economic interests identified themselves by a language name. In many cases this name used the suffix *(w)urrung*, meaning 'mouth or way of speaking' (Barwick 1984, 105-6).

The Project study area is located within the traditional language boundary of the *Woi wurrung* (Wurundjeri) people who occupied the watershed bounded on the north by the Great Dividing range from Baw Baw west to Mt Macedon and by the Werribee River (Clark 1990, 380).

Several *Woi wurrung* clans were noted in proximity to the Project study area:

- *Marin balug;*
- *Talin willam balug;*
- *Kurrung jang balug;*
- *Gunung willam balluk; and*
- *Wurundjeri willam.*

The *Woi wurrung* clan most closely associated with the project study area were the *Marin balug* (meaning 'Marin people' - Marin being the locality name for Saltwater River (Maribyrnong River and Jacksons Creek).

The general location of the *Marin balug* has been described by Barwick (1984, 124) as between Kororoit Creek and Saltwater (Maribyrnong) River and Jacksons Creek, with headquarters based around Sunbury. The headman of the clan was 'Bungarie' who was noted by Thomas as a chief belonging to 'a great family' of Mt Macedon (Barwick 1984, 122). Robinson (1840 in Clark 1990, 384) infers a clan at George Evan's Station, 'Emu Bottom', on Jacksons Creek, three miles north of Sunbury. From an estimated 100 people in the area prior to contact, Parker recorded only 19 local Aboriginal people in 1844.

The *Kurrung jang balug* people were known as the Bacchus Marsh or Werribee clan and were associated with Mt Cottrell, Kororoit Creek and Werribee River. Clan headman 'Betbenjee' and his kinsman 'Derrimut' were taken to Tasmania by Fawkner. Derrimut became a member of the native police and was an influential mediator of *Wada Wurrung* access to the Yarra River area (Clark 1990, 383). The very few survivors of the early pastoral invasion found refuge amongst various *Bun wurrung* clans (Clark 1990, 383).

The *Gunung willam balluk* people occupied the eastern drainage area about Mt Macedon, extending south to Werribee River. The family group headed by 'Ningulabul' extended north to Mt William, and were custodians of sacred sites around Gisborne important to many Kulin clans, including Mt William quarry (Barwick 1984, 121). The *Talling willum* associated with Toolern Creek were probably a family sub group of the *Gunung willam balluk*. The *Talling willum* headman 'Murrumbean' had significant influence amongst the *Woi wurrung* and was

second only to that of his 'cousin' and brother in law 'Billibellary' (Clark 1990, 382). *Gunung willam balluk* people often travelled southward from Mt Macedon to corroborees held at Melton (Du Cros 1989, 28).

Wurundjeri willam (meaning 'white gum tree dwellers') occupied an area east of the Maribyrnong River and Jacksons Creek, associated with the Yarra River, Plenty River, Merri Creek and their catchments (Clark 1990, 385; Barwick 1984, 124). Alfred Howitt documented a further three divisions within the *Wurundjeri willam*:

- The true '*Wurunjerri'*, under the headman, *Jakka-jakka*, occupied the Yarra flats and the upper part of that river to its source, including the northern slopes of the Dandenong Mountains, thence by Gardiner's Creek to the Yarra River, and by it to the Darebin Creek. Howitt (1904, 310), later in the text, also refers to the Boi-berrit clan residing west of Saltwater Creek as the 'real wurundjerri'.

- The *Kurnsje-berreing*, in two subdivisions:

  a under the headman *Billi-billeri* [see text box below for more information], lived at and held custody of the Aboriginal stone quarry near Lancefield [Mt William], occupied the site of Melbourne and the country up the eastern side of the Saltwater River and its western branch to Mount Macedon, also the western half of the country lying between the Saltwater and Plenty Rivers;

  b under the headman *Bebe-jan*, the country on the Darebin Creek, and on the Yarra River thence to about Warrandyte, and also the watershed of the Plenty River and Diamond Creek.

- The *Boi-berrit*, under their headman *Bungerim*, lived on the western side of the Saltwater River [Maribyrnong], with their headquarters about Sunbury, and the western end of Mount Macedon (Howitt 1904, 71-2).

The *Woi wurrung* were one of several language groups that made up the Kulin Nation. The *Woi wurrung*, and neighbouring groups, *Bun wurrung*, *Daung wurrung)*, and *Ngurai-illam-wurrung* shared over 70% common language. The neighbouring groups to the west, *Wada wurrung* and *Dja Dja wurrung*, spoke a language belonging to the Western Kulin language groups (Clark 1990, 19; Ellender and Christiansen 2001, 16, 36). In early references language groups were often referred to by their geographic region: *Woi wurrung* were known as the Yarra people, *Bun wurrung* the Western Port people, *Daung wurrung* the Goulburn people and *Wada wurrung* were known as the Geelong or *Barrabool* people.

The Kulin groups intermarried and traded allowing marriages to be of distant blood and 'safe travel' areas to be wide-spread (Barwick 1998, 13, 28). However, the relations between East and West Kulin clans were often hostile. According to William Buckley 'the contests between the 'Watourings of Geelong' (*Wada wurrung*) and the 'Wawarongs' (*Woi wurrung*) of the Yarra were fierce and bloody (William Buckley cited in Cannon 1982, 182) and violence between the two clans was noted in 1839 at ceremonial gatherings on the Yarra (Cannon 1983, 454). Thomas noted that the Mt Macedon *Gunung willam balluk* clan camped apart from the Yarra group and camped with the *Taungurong* instead. He also noted in 1839 that the 'Goulburn' (*Daung wurrung*), 'Waverongs' (*Woi wurrung*) and '*Bunurongs*' had a 'kind of confederacy' against the Geelong clans (Thomas cited in Cannon 1982, 612). Parker noted in many letters to Robinson considerable enmity between the Macedon 'tribe' and the '*Barrubul*' (Geelong) 'tribe' (Lakic & Wrench 1994, 95, 103).

Seasonal Movements

Seasonal availability of food and water dictated Aboriginal movements. Aboriginal people established regular camping spots along creek and rivers, frequenting them according to season. Hume & Hovell noted drought conditions near the project study area in the summer of 1825 (Bland 1965). Ten years later in winter 1835 John Batman was overwhelmed by the luxuriant growth and abundance of wildlife around Sunbury. On June 1st 1835, as he made his way up the Maribyrnong River toward Sunbury, he noted:

> *'we came to a small river or creek, which we were obliged to follow up as we could not cross, and I also expected to find at the head of it some fresh water. We followed this stream about 10 miles, we saw great numbers of ducks and teal the creek was about 50 to 60 yds wide in some places less, we saw several places on going up which the natives had made with stones across the creek to take fish I suppose in summer time. The walls were built of stones about 4 feet high and well done and well planned out, two or three of these places following each other down the stream with gates to them*

which they appear to stop with a bundle of bushes - we saw those in about 10 or 12 different places up this stream' (Batman 1835 June 1st) .

Robinson, during a stay at Sunbury in the summer of 1840 describes the surrounding country as 'truly luxuriant', 'rich and verdant' with abundant kangaroo grass, she oak and cherry tree and stunted gum. He noted a series of deep waterholes from which Parker obtained 'black fish and eels' and the abundance of eagles, wild pigeons and birds including turkey buzzards. The plains were full of waterholes and extremely wet (Clark 1998 Vol. 1, 117, 120).

The *Woi wurrung* in general were observed utilising mountain ranges in summer and winter. Smyth (cited in Ellender 1997, 14) noted that in winter when the plains were wet, Aboriginal people moved north to the ranges and caught koalas, wombats, wallaby, ants and grubs until the warmer months arrived when they returned to the plains to hunt waterfowl and collect eggs. Smyth also noted that during the summer the most common vegetable food in the Yarra district was the heart of the tree fern from cool gullies (1878, vol. 1, 140-1), and it is likely that this was the time when Aboriginal groups would have visited mountain environments to obtain this resource. Smyth observed the nature of Aboriginal use of mountain ranges as follows:

> *'It is certain that the blacks in the proper season occasionally visited the glens and ravines on both sides of the chain, but they did not live there. They visited them for the purpose of obtaining woods suitable for making weapons, feathers for ornament, birds and beasts for food and for the tree fern, the heart of which is good to eat, and for other vegetable products.' (Smyth 1878, vol. 1, 33-4)*

Langhorne noted in December 1838 that the 'blacks of the district about the latter end of the month left for the mountainous parts, taking with them all our boys'. In January he noted that most of the Aboriginal people were camped along the sea coast about Arthur's Seat in *Bun wurrung* territory (Cannon 1982, 234). Smyth (cited in Ellender 1997, 14) suggested summer saw the Aboriginal people settled on the rivers and coast, fishing, eeling, hunting kangaroo, echidna, possum, burning the grass, collecting grass seed and resins, plant food and bark. A squatter on the Merri Creek near its confluence with the Yarra River noted that '*as the marshes dried up in summer, the 'blacks' repaired thither in quest of eels, which were embedded in great numbers in the mud….for this purpose they used a long slender spear with attached a pointed piece of iron*' (Kerr 1872, 20). Thomas (cited in Bride 1969, 399) also noted that the warmer months were the time for travelling and that the average travelling distance for a group was 6-9 miles per day. The clan chief or headman directed the movements and knew the location of clan members at all times. Summertime camps were quickly established using a few boughs as windbreaks. Winter camps were more permanent: huts were made from a few sheets of bark and large villages of up to 150 huts could quickly be established.

Seasonal availability of resources also influenced when and where large gatherings for trade and ceremony could take place.

Language

The following *Woi wurrung* Aboriginal words and their meanings are relevant for the project study area.

- *Woi* – no (Clark 1990, 379).
- *Wurrung* – lip, speech, speaking people (Clark 1990, 379).
- *Woi wurrung* – no lip or *woi* speaking people (Clark 1990, 379).
- *Wurundjeri willam* - meaning 'white gum tree dwellers'.
- *Buttlejork* (Batterjork) - flock of Turkeys (Symonds 1985, 23).
- *Marin Balug* – meaning Marin People from "Mare.in.alk: at the big water, the Saltwater River (Robinson cited in Clark 1990, 384)
- *Kurrung jang balug* - meaning red ground (Clark 1990, 383)

Trade and Exchange

The *Wurundjeri willam* had an extensive network of political, economic and social relations with neighbouring clans, including those from other language groups.

The *Wurundjeri willam* were caretakers of the Mount William stone axe quarry (c. 30 km north of the project study area), which was a major source of stone axe heads that were traded over a wide area of south-east Australia. The quarry and its resources held great social significance for Aboriginal people, particularly those responsible for its care and distribution (McBryde 1984, 271). Axes would have passed along travel routes, including Jacksons Creek, Deep Creek and the Maribyrnong River as the stone made its way to important gatherings on the Yarra River (McBryde 1978, 1984). Although there are no first hand descriptions of the operations of Mount William, in 1882 and 1884 William Barak, a Wurundjeri man who witnessed the final operations of the quarry, described aspects of the custodial control over this resource to Alfred Howitt (1904, 311) in the following way:
'There were places … in which the whole tribe had a special interest. Such a place was the 'stone quarry' at Mount William... When neighbouring tribes wanted stone for tomahawks they usually sent a messenger for Billibellary [then acted as the quarry's guardian]. When they arrived they camped around about the place. Billibellary's father when he was alive split up the stones and gave it away for presents such as 'rugs, weapons, ornaments, belts, necklaces'.

Although *Billibellary* was the main custodian for Mt William, several other men from the Mt Macedon and Sunbury area were also guardians of the quarry and would take over custodianship on behalf *Billibellary* (McBryde 1984, 271). While some stone was transported to gatherings for trade, in other instances, Aboriginal people from neighbouring tribes were able to visit the quarry, with prior permission from the custodians, to obtain raw materials. Access without permission had serious repercussions. Given the importance of this resource, Sunbury and Macedon Aboriginal people would have been particularly occupied with this aspect of their responsibility, particularly organising safe passage for other clans to the quarry or dealing with infringements (McBryde 1984, 273).

Traditional Life
There is very little documented information regarding specific clan activities in the project study area. However, despite a lack of immediate references within the project study area, many accounts of *Woi wurrung* Aboriginal people in the wider area are relevant. Daily life, albeit romanticised, is depicted in an 1864 painting of Aboriginal people on the Merri Creek (Plate 1). Harrison (1923), who resided at Yan Yean during the period c. 1837–1844, provides some information on Aboriginal people living in the Plenty River area. His description of 'diet, housing and clothing' provides some information on subsistence strategies.

> *Aboriginal diet - chiefly of fish (caught by spearing) also: iguana, possum, kangaroo, grubs (from roots of wattle trees) and the bulb–like roots of yams and murnongs…*
> *Housing 'nuamas' - strips of bark or long branches of trees, supported at an angle against a fallen log of a tree, away from the weather side…*
> *Clothing - (in winter) opossum skins joined together by the sinews of kangaroos and other animals…*
> *Men carried spears, boomerangs; women, yam sticks…*
> *(Harrison 1923, 20)*

Personal adornments of the *Wurundjeri willam* noted by Thomas included impressive patterned scarring on the skin, tooth avulsion and nose piercing (Thomas cited in Cotter 2005, 9-10).

The *Wurundjeri willam* method of fire making was by drilling on a flat piece of the dry wood of the *Djel-wuk* (Hedicaria Cunninghami 'Native Mulberrry') which was plentiful in the mountains and along the Yarra River (Howitt 1904, 771).

Aboriginal Post-Contact History
The development of the township of Melbourne resulted in the loss of traditional lands and resources, the spread of disease, social breakdown and removal of both groups and individuals to reserves and mission stations. Aboriginal people from other clans and language groups were attracted to Melbourne for a variety of reasons, making it difficult to identify and document the ethnohistory and post-contact history of specific Aboriginal clan groups after the period of initial settlement.

One of the few early references to Aboriginal associations to the project study area involves William Barak, a *Wurundjeri willam* clan member, who was to become the sole *Woi wurrung ngurungaeta* [clan headman]. Barak is believed to have been born at the Brushy Creek Gorge near the confluence of the Brushy Creek and the Yarra River in c. 1822-3. It has been documented that a European settler in Warrandyte shot *Woi wurrung* people in January 1840, and Barwick suggests that this may be the reason William Barak and his family chose to camp elsewhere (Barwick 1998, 36).

A reserve for the use of Aboriginal people (772 ha.) was established at Pound Bend, Warrandyte, in 1841 and revoked in 1861. William Thomas, an assistant Aboriginal protector, who had responsibility for the Aboriginal clans from the Melbourne area, secured the reserve.[2] It appears that the reserve was only used sporadically by Aboriginal people. No evidence has been found of rations having been distributed from the depot, although Barwick revealed that Thomas requested neighbouring settlers to 'issue a pair of blankets annually and keep a small supply of flour, sugar and tea for the needy' (Barwick 1998, 36). Others suggest that the only use Aboriginal people made of the reserve was to camp near gangs of wattle bark strippers [Aboriginal workers] who operated nearby. An inter-tribal rally is believed to have been held at Pound Bend in 1852, instigated by Aboriginal people following a traditional travelling route between Heidelberg and Healesville.

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

The Wurundjeri Tribe Land and Compensation Cultural Heritage Council Inc. (WTLCCHC) are currently the Registered Aboriginal Party (RAP) for the project study area and will be the key decision maker in matters involving cultural heritage management.

2.2.2. Non-Aboriginal Post-Contact History

Early European use of the hard red plains west of the Sydney Road was focused on sheep grazing and probably some cattle grazing, whereas typically, cropping occurred on the heavy, cracking clays to the east of the Sydney Road (Peel 1974, 20). However, the terraces around the Maribyrnong River were used for market gardening.

In the past the undulating plains and steeply incised valleys surrounding the Maribyrnong River, may have formed a strategic base for Aboriginal people exploiting important freshwater and riverine resources provided by the river, and silcrete outcrops present on the valley slopes (which provided a local source of raw material for the extraction and production of stone tools). The presence of this diverse range of resources suggests the valleys and plains of the project study area are likely to have been a focus for Aboriginal occupation.

Early European land use for grazing activities which resulted in the clearing of vegetation and ploughing, and the more recent use of parts of the project study area for horse riding purposes will have impacted upon the preservation of archaeological materials relating to Aboriginal occupation of the area.

European settlement of the Sunbury area commenced during the mid-1830s, with John Aitken settling just west of Sunbury at Mt. Aitken in 1836 (Symonds 1985, 21). Several of Aitken's runs, including the Mt Aiken property, are located to the west of the current project study area. Aitken was a sheep farmer, and his 'well-bred merinos'were praised by Governor Bourke's aide, Cpt. King during their visit to the area in 1837 (Symonds 1985, 21). Aitken went on to become a leading flock master in the Bulla district, with his sheep winning many of the awards at the 2nd Melbourne Show of 1842. Aitken took up large sections of land around Gisbourne and Mt Aitken, as well as the "Dry Creek" run near Kilmore and also a run north of Bendigo (Symonds 1985, 22). Aitken's homestead was built from bluestone on the south-western slopes of Mt Aitken. The Mt Aitken run was leased by George Watson and Mr. Hewitt sometime after 1854 when Aitken returned to Britain. In 1867, Henry Beattie took over the lease and bred Hereford cattle. In 1907, the Aitken run was bought by Chas Widdis of Gippsland, who then sold it to S and J.N. Howell, and it then passed to Mr. LePatourel in 1919 (Symonds 1985, 22). The Aitken run was then subdivided into smaller farms and sold.

The current project study area is located on land that was theTullamarine pastoral run (Spreadborough and Anderson, Settled District map). Some of the early landholders of pastoral runs located between Jacksons Creek and Deep Creek included W.J.T. Clark, W. Fanning and M. Loeman (Symonds 1985, 213). In 1844 William Fanning purchased 150 acres of land on what was known as "Tullamarine Island", which is the area south of

[2] A system of 'Protectors' similar to the system established by George Augustus Robinson in Tasmania was established in 1838. George Augustus Robinson was brought to the Port Phillip colony to set up the protectorate system and was assisted by four regional sub-protectors: Thomas, Parker, Dredge and Sievewright.

Sunbury Road, enclosed by Jacksons Creek and Deep Creek on Loemans Road (Symonds 1985, 41). Here he set up his farm, which his wife looked after while Fanning undertook contract carting to the goldfields during the 1850s. The Fanning's built their Sunnyside homestead during the 1850s at the village of Bulla Bulla (Symonds 1985, 41-42). Bulla Bulla was surveyed in 1847, and by 1853, Bulla Bulla consisted of 12 wooden houses, the Deep Creek Inn and Tulip Wright's hotel, with the first post office opening within this hotel in 1850, then moving to another building (Symonds 1985, 49). During the 1850s, traffic to and from the goldfields passed through the Bulla region, causing some problems with the steep sloping roads. During this time several businesses commenced at Bulla Bulla, including a kaolin clay works used to manufacture porcelain, as well as a large flour mill and brickworks (Symonds 1985, 50). In 1854, Bulla Bulla became known as Bulla. By 1870, the population of Bulla was approximately 200 people, with 2630 in the Bulla district, and 263 dwellings in an area of 73,500 acres (Symonds 1985, 51). By the 1880s, Bulla contained four hotels, a hunt club, several churches and a grocery store and wine saloon. In the 1860s, the State Government introduced the New Industry Act that gave special assistance to enterprising people to develop virgin land (Symonds 1985, 117). Early settlers to the Bulla area, such as W. J. t Clark took advantage of this assistance and started to grow grapes. The Sunbury region was the area where most of the new land opened up, and it became the main wine producing area in the state.

In 1919, the Victorian Aero Club purchased a 91 acre paddock at Old Bulla Road where it proceeded through the open farmlands at Essendon and Tullamarine, towards Bulla (Symonds 1985, 72). The Aero Club wished to operate some of the aeroplanes it had purchased from the Central Flying School at Point Cook at this location. In 1935, the Commonwealth Government acquired this land along with 93 acres adjoining it. In the 1950s, debate began about the future site of the Melbourne International Airport, once it was realized that Essendon Airport would not be able to accommodate large jet aircraft (Symonds 1985, 73). There was some public outcry when Tullamarine was suggested as the location for the new airport. Despite this opposition, the Government announced their selection of Tullamarine in May 1959, with works commencing 11 years after this date (Symonds 1985, 73).

Land adjacent to the Maribyrnong River, such as areas in Keilor were utilized for market gardening purposes. Market gardening in the Keilor region began in 1857, when David Milburn 'Davey the Basket-man' sold fruit, vegetables and butter at the roadsides to people travelling to the goldfields (Jennison 1997, 60). Milburn became the first irrigator in Victoria and developed an irrigation method with a hand pump to extract water from the Maribyrnong River. Some of the produce grown in the Keilor region included apricots, which were then replaced by vegetables and flowers due to frost damage, cauliflowers, cabbages, French beans, potatoes, parsnips and tomatoes (Jennison 1997, 60).

The sandy deposits adjacent to watercourses such as Dry Creek and the Maribyrnong River, north of Keilor, were utilized for sand extraction purposes. In early October of 1840, it was during extraction activities by a sand contractor, Mr. Hughes, that the Keilor Aboriginal skull was located near the junction of Dry Creek and the Maribyrnong River (Keilor Centenary Celebrations 1950). In the latter half of the 20th century the wider Maribyrnong River valley has been used for industrial, residential and recreational purposes associated with the growth and expansion of Melbourne.

2.3. PREVIOUS ARCHAEOLOGICAL ASSESSMENTS

There have been limited archaeological assessments within the project study area.

City of Hume: Heritage Study of the Former Shire of Bulla (Moloney and Johnson 1998)
A comprehensive assessment of the heritage values of the former Shire of Bulla was undertaken by Moloney and Johnson in 1998, resulting in the identification of 71 historical sites, potential archaeological sites and a number of cultural landscapes based on age, historical association and in the case of the cultural landscapes, significant geographical elements. All of the sites were identified through the survey of early historical plans with many of the sites remaining unsurveyed at the time of publication. No specific attempt was made to investigate the archaeological values of identified sites.

The majority of identified sites consist of structural remains including farm buildings and public buildings or are areas where the potential for structural/archaeological features to exist such as early squatting and camp sites. Additionally, two of the identified cultural landscapes occur within or in close proximity to the current Project Area:

☐ Waterways- Including Jacksons, Deep and Emu creeks. Moloney and Johnson (1998) considered the 'Waterways' Cultural Landscape to be of State significance having played an important role in the initial European settlement of Port Phillip and in the social history and development of the areas associated with them.

☐ Oaklands– Included the area currently known as Woodlands Historic Park, Gellibrand Hill and the area directly SE of Craigieburn. Moloney and Johnson (1998) considered 'Oaklands' to be of state significance as an area of aesthetic and social importance containing remnant natural landscape as well as rare examples of mid nineteenth century mudbrick and granite structures, early granite quarries and the *Woodlands* historic homestead.

Proposed Walking Tracks in the Woodlands Historic Park near Tullamarine Airport (Stone 2002)

An archaeological survey was conducted at the Woodlands Historic Park, part of which is located within the current project study area (Stone 2002). Ground surface visibility during the survey was around 20% due to the existence of vehicle tracks (Stone 2002, 12). No new archaeological sites were located, although 18 known Aboriginal sites existed within the Woodlands Historic Park prior to the survey (Stone 2002, 9). All 18 sites were located outside the project study area.

2.4. REGISTERED ABORIGINAL AND NON-ABORIGINAL SITES AND PLACES

2.4.1. Aboriginal Sites and Places

The following table presents Aboriginal Heritage Sites and Places that occur within the project area.

Table 1: Known Aboriginal cultural heritage sites within the project area.

Aboriginal Heritage Site No.	Site Name	Site Type	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT		
7822-2106	470 SUNBURY RD, BULLA - 1	ARTEFACT SCATTER		

Table 2: Known Aboriginal cultural heritage sites within 240m of the proposed alignments.

Aboriginal Heritage Site No.	Site Name	Site Type	Easting	Northing
7822-0144	GELLIBRAND HILL CARPARK	Scarred Tree		
7822-0145	PICNIC AREA 1	Artefact Scatter		
7822-0878	GELLIBRAND 2/4	Artefact Scatter		
7822-0994	GELLIBRAND 16	Multiple		
7822-1172	PICNIC AREA 1	Artefact Scatter		
7822-2106	470 SUNBURY RD, BULLA - 1	Artefact Scatter		

The following table presents the Aboriginal Heritage Sites and Places that occur within the potential route alignment options.

Table 3: Known Aboriginal cultural heritage sites within the potential route alignment options.

Alignment A

Aboriginal Heritage Site No.	Site Name	Site Type	Proximity to Alignment	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		

Alignment B

Aboriginal Heritage Site No.	Site Name	Site Type	Proximity to Alignment	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		

Alignment C

Aboriginal Heritage Site No.	Site Name	Site Type	Proximity to Alignment	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		
7822-2106	470 SUNBURY RD, BULLA - 1	ARTEFACT SCATTER	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		

Alignment D

Aboriginal Heritage Site No.	Site Name	Site Type	Proximity to Alignment	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		
7822-2106	470 SUNBURY RD, BULLA - 1	ARTEFACT SCATTER	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		

Alignment E

Aboriginal Heritage Site No.	Site Name	Site Type	Proximity to Alignment	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		
7822-2106	470 SUNBURY RD, BULLA - 1	ARTEFACT SCATTER	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		

Alignment F

Aboriginal Heritage Site No.	Site Name	Site Type	Proximity to Alignment	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		
7822-2106	470 SUNBURY RD, BULLA - 1	ARTEFACT SCATTER	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		

Alignment F-G

Aboriginal Heritage Site No.	Site Name	Site Type	Proximity to Alignment	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		
7822-2106	470 SUNBURY RD, BULLA - 1	ARTEFACT SCATTER	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		

Alignment G

Aboriginal Heritage Site No.	Site Name	Site Type	Proximity to Alignment	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		
7822-2106	470 SUNBURY RD, BULLA - 1	ARTEFACT SCATTER	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		

Alignment H

Aboriginal Heritage Site No.	Site Name	Site Type	Proximity to Alignment	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		

Tulla-OMR Interchange

Aboriginal Heritage Site No.	Site Name	Site Type	Proximity to Alignment	Easting	Northing
7822-0994	GELLIBRAND 16	MULTIPLE COMPONENT	WITHIN DIRECT EXTRAPOLATION OF ALIGNMENT		

Two previously registered Aboriginal cultural heritage places are located within the project study area, comprising one surface artefact scatter and one multiple component place. One of these places, 7822-0994, will likely be impacted by all proposed alignments. This place is ostensibly quite significant given that the original recording of the site included the identification of an extensive scatter of stone artefacts, a hearth and indicated that there may be some intact stratigraphy present. A second place, 7822-2106, is impacted by six of the proposed alignment options.

Defined areas of cultural heritage sensitivity are restricted to land within 50 metres of a registered place and land within 200 metres of a named waterway, in this case Deep Creek and Moonee Ponds Creek. Within the current project study area these areas of sensitivity are limited to the western sections of all proposed alignments, in proximity to Deep Creek and the eastern section of the majority of alignments in proximity to Moonee Ponds Creek. As such all alignment options are essentially equal in terms of impacts to these areas of sensitivity.

Map 2 – Identified Aboriginal Heritage Places (Desktop Assessment)

Map 2 has been removed from this verison of the report

2.4.2. Non-Aboriginal Sites and Places

Non-Aboriginal Sites within the project area are listed in the table below.

Table 4: Known Non-Aboriginal cultural heritage sites within the project area.

Site No	Site Name	Site Type	Easting	Northing	Comments
H0625/HO11	Glenara and Glenara Gardens	House			
H1643/HO18	Former State School No. 46	School			
H7822-0204	St Mary's Church Site	Former church site with remnant vegetation			
HO13	War Memorial	memorial			
HO14	St Marys (Anglican) church	Church site			
HO15	Gilbert Alston's Cottage	Residence			
HO20	Glen Loeman	House			
HO12	Former Bulla Shire Hall	Hall			

Table 5: Known Non-Aboriginal cultural heritage sites within 240m of the proposed alignments.

Site No	Site Name	Site Type	Easting	Northing	Comments
H0625/HO11	Glenara and Glenara Gardens	House			
H1643/B2229	Former State School no 46	School			
H7822-0199	Oaklands Junction Township Site	Bluestone culvert, crop marks, brick footings, artefact scatter			
H7822-0204	St Mary's Church Site	Former church site with remnant vegeatation			
HO10	Bluestone road bridge and cutting	Bridge			
HO12	Former Bulla shire Hall	Hall			
HO13	War Memorial	Memorial			
HO14	St Marys (Anglican) church	Church			
HO15	Gilbert Alston's Cottage	House			
HO17	Catenary Bridge	Bridge			
HO19	Sunnyside	House			
HO20	Glen Loeman	House			
HO21	Bulla Presbyterian (Uniting) Church and Manse	Church			
HO22	Lochton and Lochton Stream Mill	Mill			
HO26	Hume and Hovell Memorial	Memorial			
HO27	Oaklands Road Bridge	Bridge			

Site No	Site Name	Site Type	Easting	Northing	Comments
HO208	Bulla Cemetery	Cemetery			
HO212	House	House			
HO274	Oaklands (Sherwood) Hunt Club				
HO275	Mudbrick Cottage (Wayletts Cottage)	House			
HO276	House (Ponderosa)	House			

Non-Aboriginal Sites within the potential route alignment options are listed in detail in the table below.

Table 6: Known Non-Aboriginal cultural heritage sites within the potential route alignment options.

Alignment A					
Site No	Site Name	Site Type	Easting	Northing	Comments
H7822-0204	St Mary's Church Site	Former church site with remnant vegetation			
Alignment B					
Site No	Site Name	Site Type	Easting	Northing	Comments
H0625/HO11	Glenara and Glenara Gardens	House			
H7822-0204	St Mary's Church Site	Former church site with remnant vegetation			
HO20	Glen Loeman	House			
Alignment C					
Site No	Site Name	Site Type	Easting	Northing	Comments
-	-	-	-	-	-
Alignment D					
Site No	Site Name	Site Type	Easting	Northing	Comments
-	-	-	-	-	-
Alignment E					
Site No	Site Name	Site Type	Easting	Northing	Comments
HO13	War Memorial	Memorial			
H7822-0204	St Mary's Church Site	Former church site with remnant vegetation			
H1643/HO18	Former State School No. 46	School			
Alignment F					
Site No	Site Name	Site Type	Easting	Northing	Comments
H7822-0204	St Mary's Church Site	Former church site with remnant vegetation			
H0625/HO11	Glenara and Glenara Gardens	House			
H1643/HO18	Former State School No. 46	School			

Alignment F-G

Site No	Site Name	Site Type	Easting	Northing	Comments
H7822-0204	St Mary's Church Site	Former church site with remnant vegetation			
H0625/HO11	Glenara and Glenara Gardens	House			
H1643/HO18	Former State School No. 46	School			

Alignment G

Site No	Site Name	Site Type	Easting	Northing	Comments
H7822-0204	St Mary's Church Site	Former church site with remnant vegetation			
HO13	War Memorial	Memorial			
HO15	Gilbert Alston's Cottage	Residence			

Alignment H

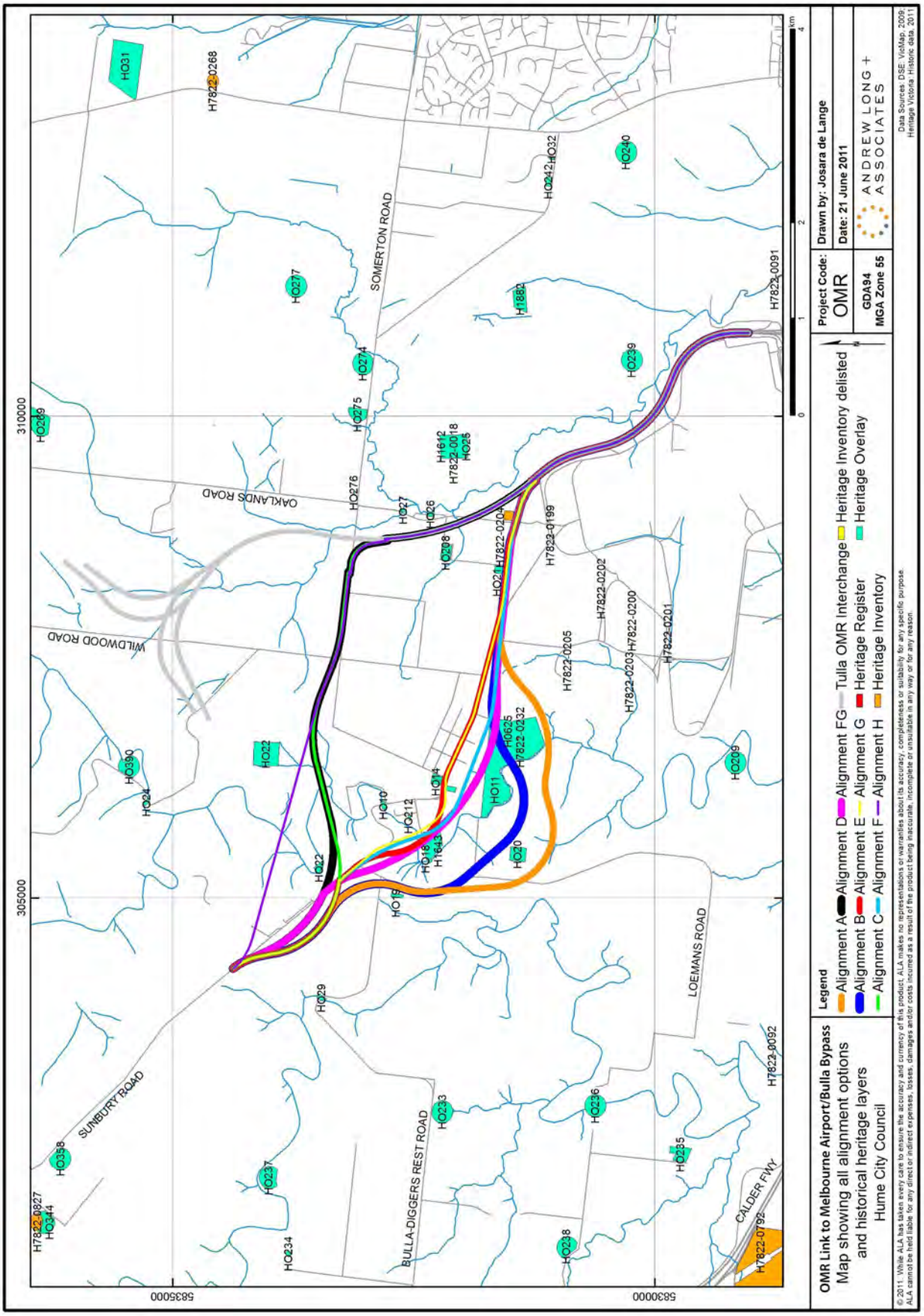
Site No	Site Name	Site Type	Easting	Northing	Comments
-	-	-	-	-	-

Tulla-OMR Interchange

Site No	Site Name	Site Type	Easting	Northing	Comments
-	-	-	-	-	-

A total of eight previously registered non-Aboriginal places are present within the project study area and will likely be affected by at least one of the proposed alignment options. These places comprise two places listed on the Victorian Heritage Register, five places listed on the City of Hume Planning Scheme Heritage Overlay, and one place listed on the Victorian Heritage Inventory.

Map 3 – Identified Historical Heritage Places (Desktop Assessment)



2.5. OPTIONS ASSESSMENT

The following section briefly assesses the ten proposed alignment options in terms of overall impact to known cultural heritage values. In general terms there is very little to differentiate between the proposed alignments with regard to registered Aboriginal cultural heritage sites as so few previously registered sites are present within the project study area. All proposed alignments will impact at least one registered Aboriginal cultural heritage place and Options C – G will likely impact two sites. In terms of unregistered Aboriginal cultural heritage, those options which utilise existing road alignments are preferable over those which traverse previously undeveloped or minimally disturbed land as the potential to impact upon previously undisturbed Aboriginal cultural heritage is significantly greater in these areas than along pre-existing road alignments. On this basis Option E is to be preferred over Option H for example.

In terms of non-Aboriginal cultural heritage sites and places there is a greater degree of variation between the proposed options. Four of the proposed options (Option C, D, H and the OMR/Tullamarine Interchange will not impact on any cultural heritage sites (including registered or inventory sites and heritage overlays). Option A will likely impact one heritage item and Options B, E, F, G and F-G will impact three places. Those listed on the Heritage Register are considered to be of state significance.

Table 7, presents an overall ranking of options based on the numbers of sites impacted and to a lesser degree, the significance of sites impacted. A number of options are given the same ranking as there is essentially nothing which differentiates them in terms of registered cultural heritage sites. On this basis Options H and the OMR/Tullamarine Interchange are most preferable as they will only impact upon one site each. Options A, C and D are ranked second; Option G, third; Option E, fourth; Options B, fifth. Options F and F-G are ranked last as, although they impact a similar number of sites to Option E, they will impact two places listed on the Victorian Heritage Register. In the cases of Options B and F-G, and, to a lesser degree, Option F, each option will materially impact the register site H0625 – Glenara.

Discussions with Heritage Victoria were held with VicRoads on the 11th July 2011. It was advised that Options B, F and F-G would not be acceptable to Heritage Victoria due to its impact on Glenara Estate (H0625/HO11) including the homestead, gatehouse, driveway and gardens. Additionally, views of Option A may be contested under the planning scheme. In relation to the Former State School (H1643/HO18), Heritage Victoria advised that impact from Options E, F and F-G may be manageable It was noted that there is certainly some impact and the alignments may alter the setting of the site.

Table 7: Cultural heritage sites impacted by option and overall ranking of options.

OPTION	ABORIGINAL CULTURAL HERITAGE				NON-ABORIGINAL CULTURAL HERITAGE					OVERVIEW	
	ARTEFACT SCATTER	MULTIPLE COMPONENT	TOTAL SITES	AREA OF SENSITIVITY	VHR SITES	VHI SITES	HO ITEMS	'D' LISTED ITEMS	TOTAL SITES	TOTAL SITES	RANKING
A		1	1	Yes	-	1	-	-	1	2	2
B		1	1	Yes	1	1	1	-	3	4	5
C	1	1	2	Yes	-	-	-	-	-	2	2
D	1	1	2	Yes	-	-	-	-	-	2	2
E	1	1	2	Yes	1	1	1	-	3	5	4
F	1	1	2	Yes	2	1	-	-	3	5	6
F-G	1	1	2	Yes	2	1	-	-	3	5	6
G	1	1	2	Yes	-	1	2	-	3	5	3
H		1	1	Yes	-	-	-	-	-	1	1
OMR/TULLA		1	1	Yes	-	-	-	-	-	1	1

2.6. CONCLUSIONS

All of the options assessed in this report will impact registered cultural heritage sites to a varying degree. All of the options assessed will impact at least one registered Aboriginal cultural heritage place and while it may be possible to ultimately avoid impact to these sites through detailed design, a mandatory Cultural Heritage Management Plan (CHMP) will need to be prepared for the project once a preferred alignment has been selected. There is a high likelihood that additional Aboriginal cultural heritage places will be identified during the preparation of this CHMP. In order to minimise the overall impact of the project on Aboriginal cultural heritage, either registered or unregistered, options which utilise existing road alignments are preferable to those which traverse undisturbed or minimally disturbed 'greenfields' areas.

Generally speaking, impacts to non-Aboriginal cultural heritage can be minimised by utilising existing road alignments rather than entering private property. This is particularly an issue in the central section of Bulla where a number of registered site and places are located along the main road axis of the town. Route Options which deviate from existing road reserves are constrained by a higher level of impact to existing registered places. The exceptions to this are those options which skirt Bulla Township to the north – Options C, D, H and the OMR/Tullamarine Interchange.

PART 3: OTHER INFORMATION

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