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Roads Corporation (trading as VicRoads)
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Preliminary Assessment of Alternatives and Draft Study Program

Palmers Road Corridor (Western Freeway to Calder Freeway)

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Client: Roads Corporation (trading as VicRoads)

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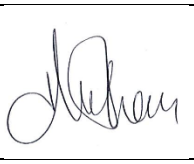
3	3 February 2015	Final. Reissue with changed report title. No other changes.	Helana Wretham Associate Director – Transport	

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Executive Summary

AECOM Australia Pty Ltd was engaged by VicRoads to document a response to the Minister for Planning's requirement that an Environment Effects Statement (EES) be prepared for Stage 2 and 3 of the upgrade of the Palmers Road corridor, between the Western and Calder Freeways. These sections of the corridor encompass:

- Robinsons Road
- Westwood Drive
- Calder Park Drive.

The Palmers Road corridor between Sayers Road and Western Freeway has undergone a Planning Scheme Amendment process. For the section between Western Freeway and Calder Freeway, the Minister required that consideration be given to whether an alternative corridor could be developed to provide the primary north-south arterial route through the area, and also that VicRoads consider alternatives within the preferred Palmers Road corridor.

The Palmers Road corridor was identified and set aside in the 1997 Melton East Strategy Plan which set out the land use and transport network through the Caroline Springs-Hillside-Sydenham area. This document was a review and update of a 1993 MESP, which was also embedded with the local planning scheme. All development in the area since has been required to consider the key principles of the MESP, which has included designing subdivisions and locating activity centres away from the Palmers Road corridor to enable its development ultimately as a six-lane dual carriageway arterial.

Adjacent corridors – referred to in this report as the 'Kings Road corridor' and the 'Gourlay Road corridor', in reference to the northernmost road names in each corridor – have been reviewed and considered as to whether they are 'potentially suitable alternatives'. Constraints in these other corridors such as the width of the road reserve being too narrow for a six-lane arterial, existing traffic volumes, proximity of activity centres and conflict between local traffic and arterial through traffic all contribute to the justification for developing the Palmers Road corridor as the primary arterial in accordance with original intentions.

As the land surrounding the majority of the Palmers Road corridor has been almost fully developed, the potential no longer exists for variations to the alignment within the corridor. The section of Calder Park Drive north of the Sunbury rail corridor is the exception where minor refinements to the alignment and interchange with Calder Freeway are possible.

VicRoads has undertaken a number of specialist studies to identify and assess potential impacts along the corridor. While much of the documentation provided focuses on the section between Dunnings Road, Point Cook and the Western Freeway, the section between Western Freeway and Calder Freeway has been subject to the following assessments:

- Ecology
- Land use planning
- Noise
- Social
- Transport.

In stating the reasons for requiring an EES, the Minister expects VicRoads to pay particular attention to impacts associated with amenity (noise), social (severance and dislocation), landscape visual and recreational values (focussing on Organ Pipes National Park), biodiversity and cultural heritage.

An outline scope of works has been developed by way of a gap analysis between the work done to date and the potential scoping requirements for a future EES (as informed by other recent road EES' and the Minister for Planning's decision following the Palmers Road Corridor EES referral). The existing social impact assessment documentation will need to be updated to reflect current policy, legislation and relevant census data, while the noise assessment should consider the minor realignment of Calder Park Drive at the Calder Freeway Interchange. A landscape and visual

assessment has not been undertaken and will be required, and site investigations are necessary for the cultural heritage assessment to confirm the locations of recorded sites and the presence of previously unrecorded sites.

1.0 Introduction

1.1 Background

VicRoads engaged AECOM Australia Pty Ltd to address the preliminary work requirements identified by the Minister for Planning in his decision dated 13 November 2009. This report provides a review of the strategic and master planning documentation for the Melton East area in order to assess and report on the availability of potentially suitable alternatives for developing a major north-south arterial route linking Dunnings Road (Laverton), the Western Freeway and the Calder Freeway. The current preferred alignment is referred to as the 'Palmers Road corridor' which includes the following (from south to north):

- Palmers Road
- Robinsons Road
- Westwood Drive
- Calder Park Drive.

The project involves the upgrade of the corridor to a primary arterial comprising six lanes (three in each direction) to accommodate increasing volumes of through traffic that are forecast to traverse the area in the future.

On 30 June 2009, VicRoads submitted a referral for the project to the Department of Planning and Community Development (DPCD) in accordance with the *Environment Effects Act 1978*. The project was referred in three stages:

1) Dunnings Road to Western Freeway
2) Western Freeway to Western Highway
3) Western Highway to Calder Freeway

On 13 November 2009, the Minister for Planning decided that an Environment Effects Statement (EES) was required for Stages 2 and 3 because of the potential for the alignment to result in significant effects in relation to residential amenity and well-being, landscape values and Aboriginalcultural heritage, see Appendix A.

The Reasons for Decision (Appendix A) also outline a number of procedures and requirements applying to the preparation of an EES. One such requirement - 2(i)a – is:

> '*the proponent is to provide a preliminary report on the availability of potentially suitable alternatives for developing appropriate arterial route capacity and future road network performance in this region either generally along the proposed stages two and three of the Palmers Road corridor or along an alternate north-south corridor*'.

As such, part of AECOM's engagement by VicRoads is to review the strategic documentation associated with Melton East and the surrounding growth areas and focus on identifying whether any potentially suitable north-south alternative arterial routes are present. As the Melton East area is essentially fully developed, identification of alternative corridors is limited to the existing north-south roads either side namely:

- the Gourlay Road corridor (Christies Road, Caroline Springs Boulevard and Gourlay Road) and
- the Kings Road corridor (Mt Derrimut Road, Station Road, Kings Road).

The scope of this report extends south of the Western Freeway where alternative corridors require connections to the section of the Palmers Road corridor south of the Western Freeway, as shown in Appendix B.

1.2 Objectives

The objectives of this report are to;

- Assess and report on the availability of suitable alternatives for developing a major north-south arterial route in this region, in the context of strategic land-use and transport planning.
- Determine an appropriate study area for the EES;
- Undertake a review and identify gaps in the investigations undertaken to date, to inform the scope of further investigations that could be required for an EES, particularly in the context of the key matters identified under requirement 2 (ii) of the Minister for Planning's 'Decision on Project'; and
- Recommend to VicRoads a scope for the draft EES study program to be prepared under requirement 2 (iii) of the Minister for Planning's 'Decision on Project'.

1.3 Approach

AECOM undertook a review of existing documentation, consultation with key stakeholders and a site visit in developing this strategic options assessment and gap analysis.

1.3.1 Review of existing documentation

The following documents were reviewed:

- 2009 EES Referral
- Strategic documents
    - Precinct Structure Plans
        - Robinsons Road Employment Area North PSP
        - Robinsons Road Employment Area South PSP
        - Truganina Employment Area PSP
        - Truganina South Community PSP
    - Outer Western Suburbs Transport Strategy (2001)
    - Growth Area Framework Plans
        - Caroline Springs
        - Wyndham
    - Growth Corridor Plans Managing Melbourne's Growth (June 2012)
        - Incorporating the West Growth Corridor Plan
    - Melton East Strategy Plan (June 1997)
    - Melton Planning Scheme, particularly the following sections:
        - Municipal Strategic Statement Clause 21.04 (1999)
        - Local Planning Policies Clause 22.07 (1999)
        - Development Plan Overlay 43.04 Schedule 1 (1999) and 13
    - Brimbank Integrated Transport Strategy (2007) Sections
    - Brimbank Planning Scheme, particularly the following sections:
        - Municipal Strategic Statement (1999) Clauses 21.10, 21.11& 21.12
        - Local Planning Policies Clause 22.01-2 (1999)
        - Development Plan Overlay 43.04 Schedule 1 (1999) and Schedule 13 (1999)
- Specialist studies: those reviewed in the preparation of this report are identified in Table 1.

Table 1 Specialist reports reviewed

Discipline	Reports
Flora and Fauna	- Ecology Partners, Palmers Road Corridor and Calder Park Interchange: Targeted Flora Survey, Victoria, August 2010. - Ecology Partners, Palmers Road Corridor Upgrade: Conservation Management Plan for Matters of National Ecological Significance, March 2011 - Ecology Partners, Palmers Road Corridor and Fauna Assessment, and Net Gain Analysis, West Melbourne, Victoria, March 2009 - Ecology Australia, Palmers Road Corridor – Desktop Flora and Fauna Review, December 2004
Traffic Modelling	- Veitch Lister Consulting Pty Ltd, Transport Modelling for Palmers Road Corridor (Calder Freeway to Dunnings Road), March 2009 - Maunsell AECOM, Palmers Road PSA Traffic Modelling Review and Scoping Study 2008
Social	- Maunsell Australia Pty Ltd, Palmers Road Corridor Project Social Impact Assessment, March 2009
Land Use	- Maunsell/AECOM, Palmers Road Land Use Assessment, March 2009.
Heritage	- Heritage Insight, Palmers Road Corridor Desktop Cultural Heritage Assessment, 2007 (extends south to Sayers Road) - Heritage Insight, Palmers Road Corridor Strategy – Cultural Heritage Desktop Assessment, November 2004
Noise	- AECOM, Palmers Road: Corridor Traffic Noise Impact Assessment, July 2009.
Access Management	- Maunsell Australia Pty Ltd, Palmers Road PSA: Access Management Strategy, February 2009.
Landscape and Urban Design	- VicRoads Technical Consulting – Landscape and Urban Design, Land Use and Corridor Integration Report, July 2009 (unpublished).
Air	- Bassett Consulting Engineers, Palmers Road Air Quality Assessment, July 2009

1.3.2 Site visit and consultation

A site visit along the three corridors was undertaken on 29th May 2012 and stakeholder consultation meetings were undertaken as identified in Table 2.

Table 2 Stakeholders consulted

Stakeholder	Date	Personnel
Brimbank City Council	29th May 2012	Michael Mielczarek *Senior Strategic Planner*
Melton Shire Council	29th May 2012	Bob Baggio *Planning Manager*
Growth Areas Authority	5th June 2012	Mark Knudson *Director, Infrastructure Coordination*
DPCD	6th June 2012	Emma Dean *Senior Planner*
Department of Transport	6th June 2012	Laura Mahoney *Team Leader Transport Strategies* Jeremy Hanlin *Manager Strategic Planning and Priorities*
DPCD (Environment Assessment Unit)	28th June 2012	Geoff Ralphs *Deputy Chief Environmental Assessment Officer* Elissa Bell *Senior Environmental Assessment Officer*

2.0 Strategic context for the Palmers Road Corridor

A number of strategies and plans have been developed and implemented over the past to shape the land use and transportation network in the Caroline Springs, Taylors Hill, Brimbank and Sydenham area. The key document is the Melton East Strategy Plan which, as discussed below, sets out the land use and transport network pattern which has been adopted into the local planning scheme, the Outer Western Suburbs Transport Strategy and the Growth Corridor Plans for the West Growth Corridor.

2.1 Melton East Strategy Plan 1997 and Melton Planning Scheme

The underlying document that has guided development in the Melton East area is the *Melton East Strategy Plan 1997* (GHD 1997) (MESP). The MESP sets out the framework '*by which council and government may participate with the private sector in the management of urban development in the Area to produce a high quality of living environment for future residents, an efficient and environmentally sustainable level of public transport service and infrastructure and compatibility with its local regional and metropolitan context*' (GHD 1997, p4).

The 1997 document is a review of a 1993 version of the plan which was referred to in the Melton Urban Development Zone (introduced in 1994 prior to the amalgamation of local councils and the standardisation of planning schemes). The formal adoption of the MESP provided the '*basis for planning scheme amendments and rezonings*' (GHD, p4). It also invited the preparation of alternative approaches for development underwritten by comprehensive justification.

After amalgamation and the introduction of new format planning schemes, and during development of the Melton East area, and still today, the land is subject to a Development Plan Overlay Schedule 1 (DPO1). Section 2 of the DPO1 (dated both 29 July 1999 and current[1]) states '*Before deciding to approve a Development Plan, the responsible authority must consider … the provisions of the Melton East Strategy Plan*'. The planning controls applicable to each property are identified within the Contract of Sale, and therefore the MESP has been public information and available to the developers and purchasers since the DPO1 was implemented.

The MESP is also embedded in the Melton Planning Scheme in Clause 21.04-2 Melton East Growth Area. Within this clause, a number of strategies are identified to guide development in this area, the first of which is to '*adopt the Melton East Strategy Plan (revised) 1997*'. Furthermore, this clause also requires that '*all development plans shall be prepared in accordance with the strategic principles outlined in the* Melton East Strategy Plan (Revised) 1997'.

That the MESP is so embedded in the planning scheme underlines its importance and credibility as a strategic planning document for the Shire of Melton. This document is publicly available on the Shire of Melton website[2].

Section 6 of the MESP discusses transportation within and through the area, and integration of transport services to the surrounding areas. A network of primary and secondary arterial routes was identified as follows:

- Primary arterial road network
    - Keilor-Melton Road
    - Western Highway / Freeway
    - The six lane north-south connection between Calder Park Drive and Westwood Drive [*note: this is the northern extent of the Palmers Road corridor]*

[1] DPO1 viewed online 19 Jun 2012: http://planningschemes.dpcd.vic.gov.au/melton/ordinance/43_04s01_melt.pdf
[2] MESP is available online at: http://www.melton.vic.gov.au/Files/MeltonEastStrategyPlan.pdf

- Secondary arterial route
    - Gourlay Road, connective between Keilor-Melton Road and the Western Freeway
    - Rockbank Middle Road
    - Taylors Road
    - Hume Drive, extended west to Gourlay Road

The primary arterial road network is clearly shown in Figure 1, with the Palmers Road corridor providing the north-south spine through the centre of the development. Figure 2 shows how this transport network has dictated the shape and land use pattern within the Melton East area through dividing the area in neighbourhoods and suburbs to support a population of between 59,500 to 81,000. The Palmers Road corridor is discussed within the MESP as a key strategic principle, and is therefore referenced in the current planning scheme for the purpose of providing a six-lane north south arterial and sets out high level design principles to protect the corridor for this purpose. These design principles are shown in Figure 3.

Development over time has seen the implementation of the MESP and its strategic principles. While the Palmers Road corridor has not yet been developed to its full extent as intended within the MESP, the 40m wide corridor with no direct residential access required by the MESP has been protected for that purpose. Where direct access does currently exist, Melton Council officers advised that the planned road reserve is sufficiently wide to facilitate the implementation of a limited access arterial route.

Furthermore, Melton planning officers highlighted that key community infrastructure such as schools and activity centres have been developed in order to be accessible from the secondary arterials to ensure that the designated primary arterial can be developed and used as intended within the broader regional context. The activity centres, for example, are shown in Figure 4.

Figure 1 Indicative transport network (Figure 9, GHD 1997)

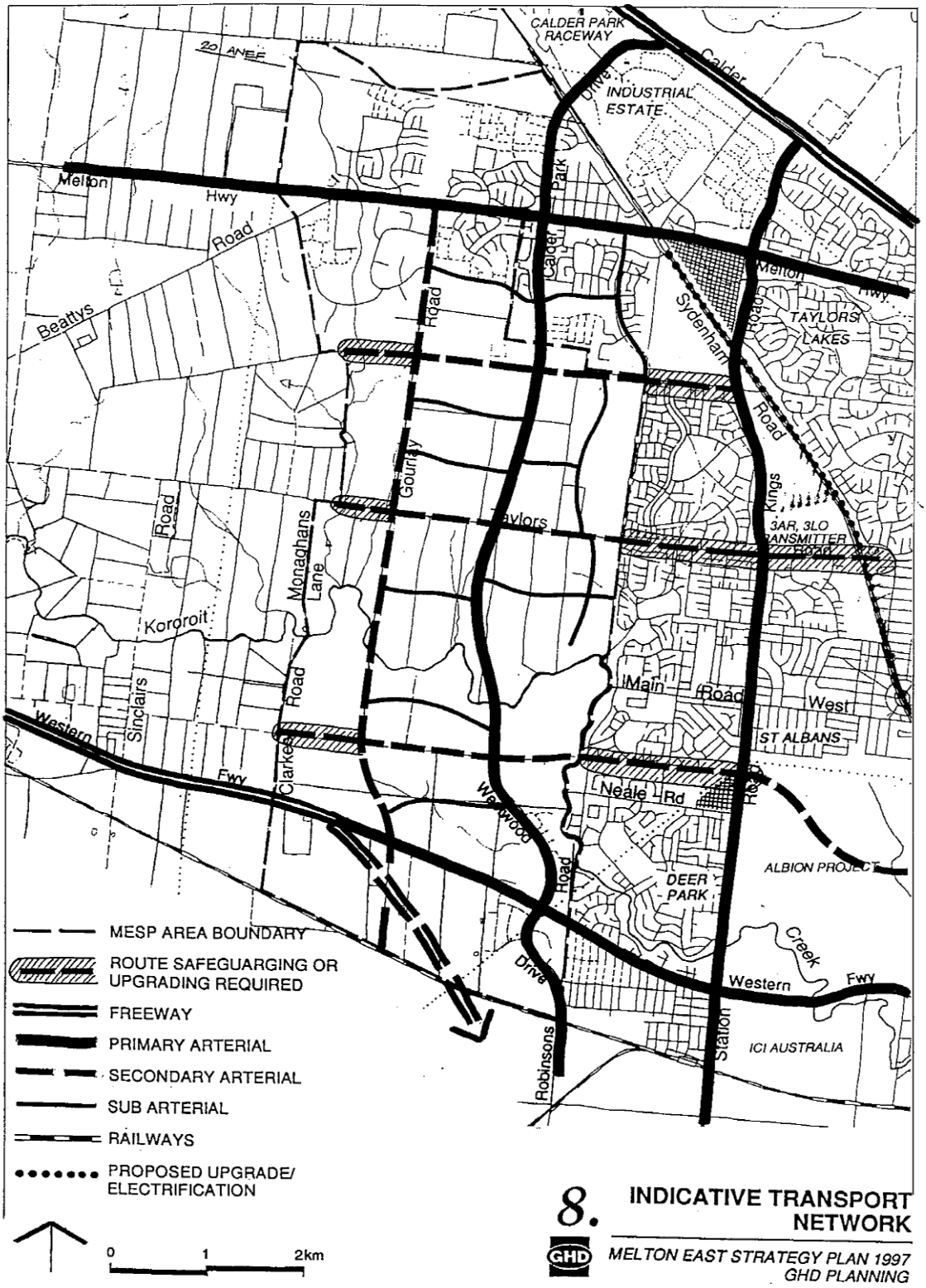


Figure 2 MESP neighbourhoods, suburbs and areas (Figure 1, GHD 1997)

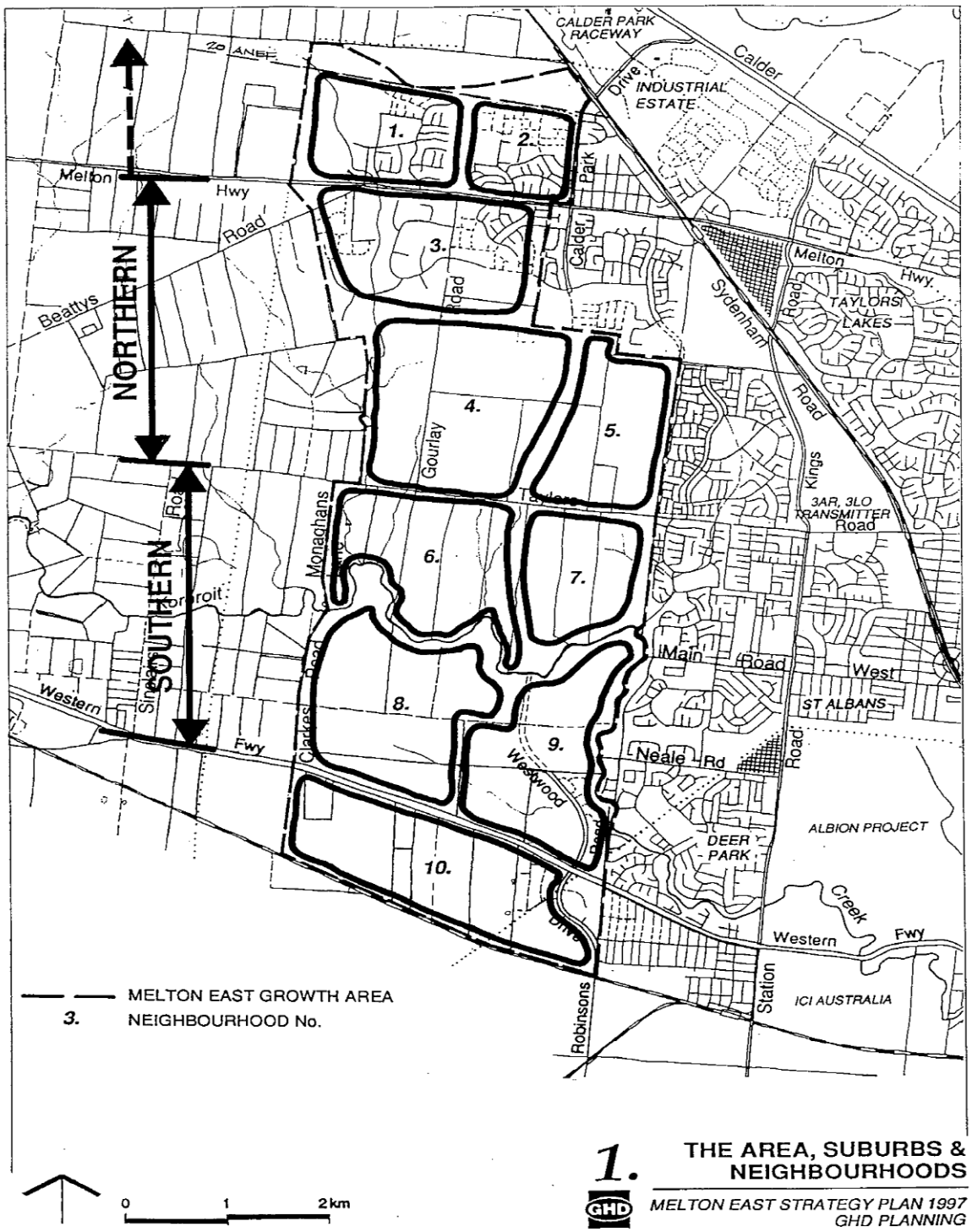


Figure 3 Design principles for Palmers Road corridor (Figure 9, GHD 1997)

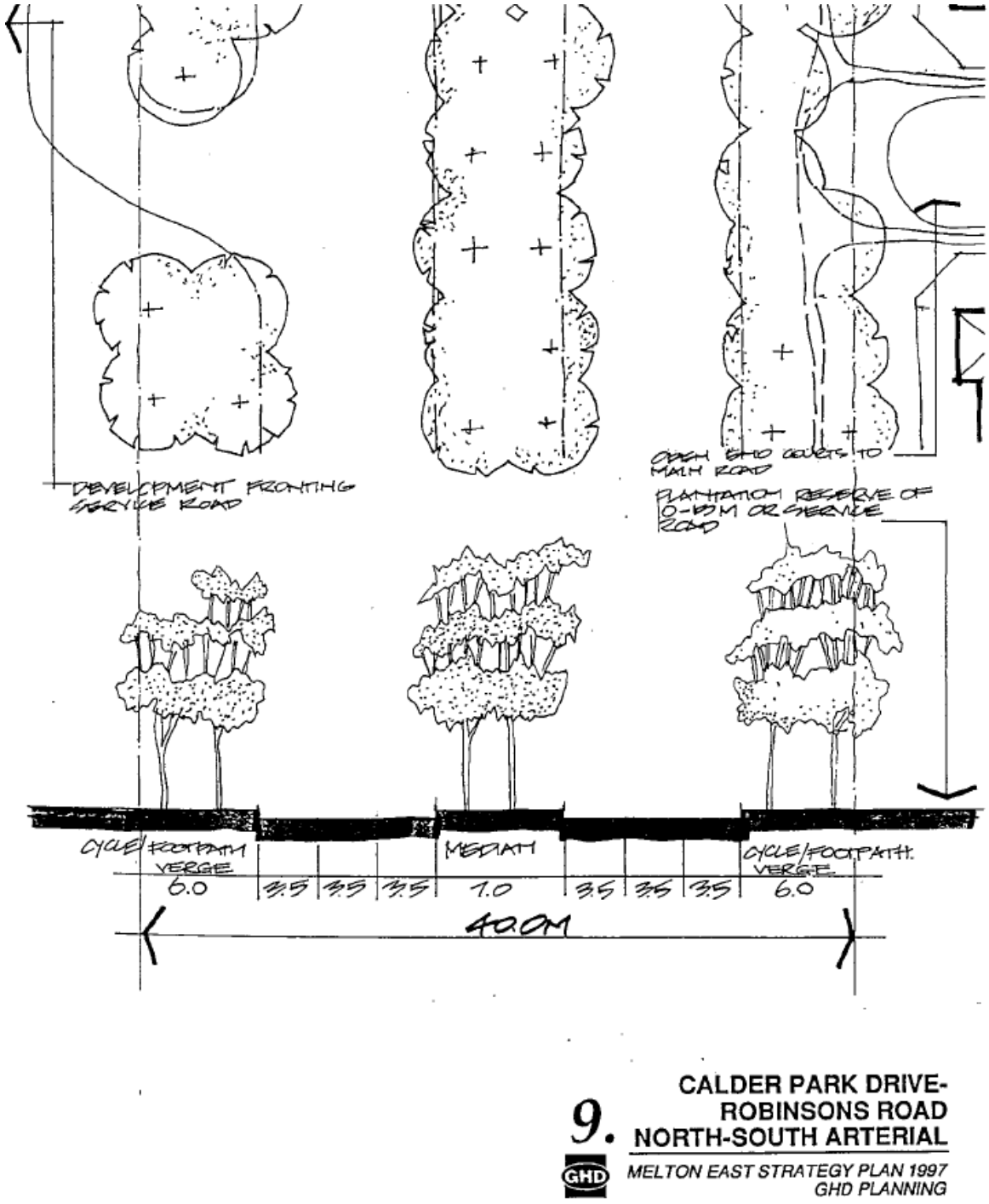
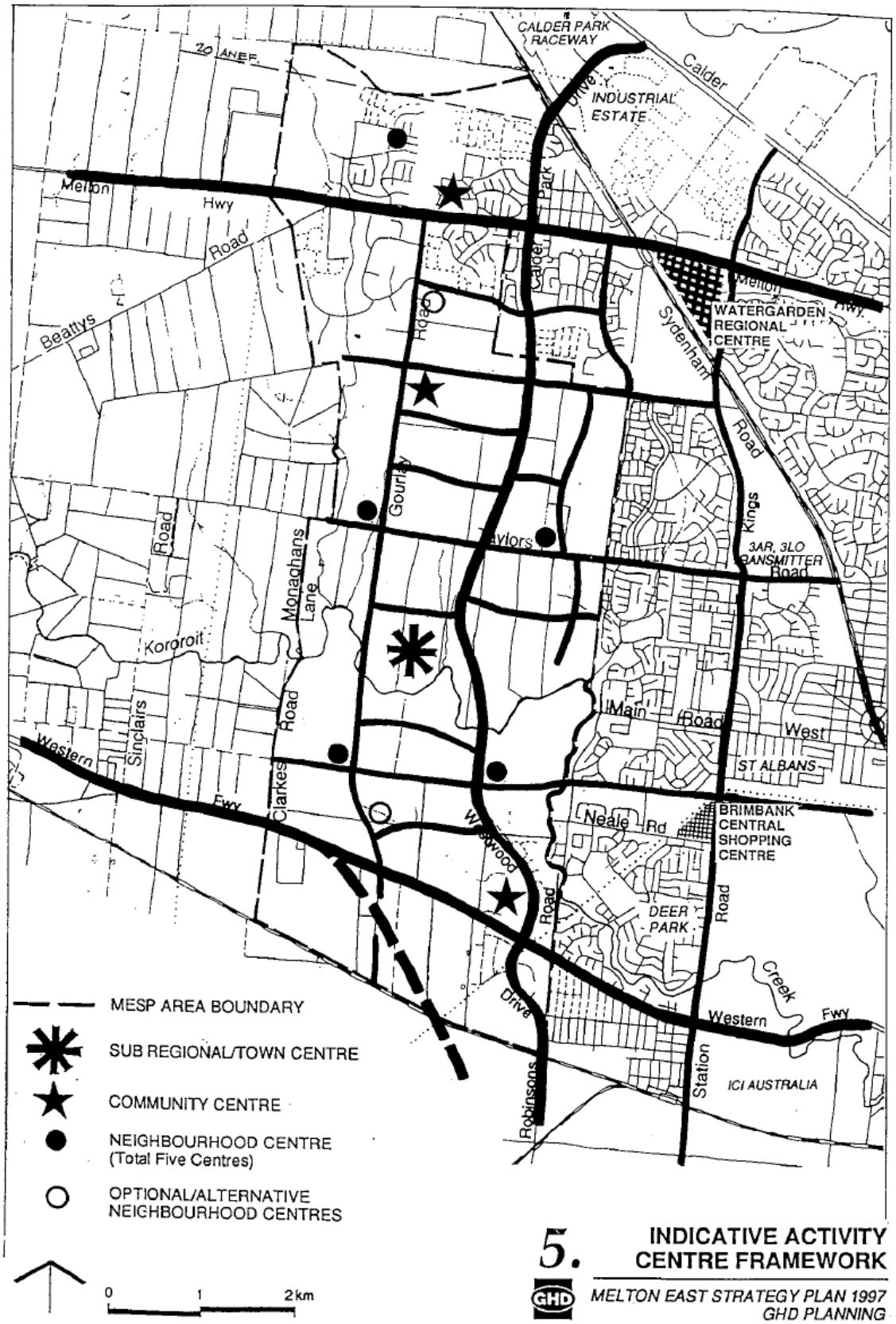


Figure 4 Activity and Regional centre locations (Figure 5, GHD 1997)



2.2 Outer Western Suburbs Transport Strategy 2001

The *Outer Western Suburbs Transport Strategy: Framework for Transport Network Development, 2001* (the OWSTS) provides an integrated transport strategy for the outer western suburbs within the municipalities of Wyndham, Melton and Brimbank, and identifies strategic and regional scale transport projects to address the medium and long term needs of the area as development continues to increase the population and demand for the existing infrastructure.

The OWSTS sets out a staged program of infrastructure upgrades to meet the growing demands within a context of relatively low public transport patronage with commuter rail services supported by feeder buses. Rail travel depends on widely spaced stations with increasing distances between rail corridors. The arterial and collector road network serves the developed areas of the region, and are relied on for both local and through traffic and public transport.

In terms of north-south arterials and improving connectivity to the existing freeways, the OWSTS identifies that diamond interchanges will be required at both Calder Park Drive and Kings Road. Kings Road was prioritised because of the greater existing catchment and was completed in January 2012. Further south, a need to progressively widen and duplicate Calder Park Drive, as part of the Palmers Road corridor, is identified by the OWSTS which states (p29) that *'longer distance movements should be encouraged to utilise Calder Park Dr'.* This is because the OWSTS (p29) has adopted '*the principles of the Melton East Strategy Plan (GHD 1997) that outlined a regular pattern of north-south and east-west collector roads and arterials*'. In relation to planning considerations and the road network, the OWSTS (p50) states that '*Calder Park Dr has been identified as the principal north-south arterial through the precinct. Beyond the medium term it will likely require a 6 lane cross-section'*. This is one component of the overall strategy to meet the future transport needs in the outer west.

The strategy and the staged implementation of the projects it identifies are based on road demands and forecast traffic volumes on major arterial roads in the western suburbs. Sections of Palmers Road are forecast to carry up to 35,000 vehicles per day (vpd) by 2021. However, this dataset also estimates that Gourlay Road (west of Calder Park Dr) will carry 22,000 vpd by 2021, whereas Melton Council are currently duplicating this road based on traffic volumes in the order of 24,000 vpd. This suggests that the traffic volumes estimated in the OWSTS are underestimating the current and future scenarios.

2.3 Growth Corridor Plans – Managing Melbourne's Growth 2012

The Growth Areas Authority (GAA) is the organisation responsible for the planning of Melbourne's growth corridors. The primary goal of the GAA is to '*develop communities in growth areas that are socially, environmentally and economically sustainable'*[3]. The *Growth Corridor Plans – Managing Melbourne's Growth* (GAA 2012) (the GCP) articulates strategic overarching principles for development within the growth areas. The GCP defines broad principles that are to be applied in each of the growth areas. The Melton East area lies within the West Growth Corridor.

A key principle that has been considered in the GCP is Principle 2 '*Integrate Transport and Land Use Planning*', this principle is crucial to the GCP in '*delivering economically, socially and environmentally sustainable new communities*' (GAA 2012, p18). The GCP has developed a multi-modal transport network including a principle public transport network (PPTN), arterial road, and freight network to support communities and activity centres.

The arterial road network has been developed with consideration to SmartRoads, which as discussed below in Section 2.4, seeks to manage conflicting road users within the road network by prioritising separate routes for different forms of transport. The GCP has developed a grid-based road network of arterial roads and PPTN routes alternating at 1.6km intervals across the West Growth Corridor, such that primary arterial routes are every second road in the grid, with an approximate spacing of 3.2km. Designing the road network to cater for different purposes will provide greater efficiency in the operation and management of the broader network. Due to the forecast growth in the Sunbury and

[3] GAA website: http://www.gaa.vic.gov.au/About_Us/

Melton areas, pressure on the major roads will increase, and accessibility to and from the planned employment centres is therefore reliant on a well-planned and efficient transport network.

As the Palmers Road corridor is planned as the westernmost primary arterial in the established urban area, the GAA has relied on this primary arterial as the 'seed' for the transport network within the West Growth Corridor. Developing the corridor as intended is a critical element of the fully developed road network (M. Knudsen, Director Infrastructure Coordination at GAA, *pers. Comm.,* 5/6/12). The Palmers Road corridor would operate as a primary arterial route, flanked by PPTN routes approximately 1.6km either side, which will assist VicRoads and local authorities to operate the network in accordance with the SmartRoads guidelines.

Such a network is provided within the GCP and its long term success depends on it being progressively implemented as planned, and that includes the Palmers Road corridor as the primary north-south arterial in the western growth corridor (M. Knudson, *pers. Comm*. 5/6/12).

The grid layout and prioritisation of road space within the West Growth Corridor as shown in Figure 5 will meet the long term accessibility goals for the transport network that underline economic development in the growth area if progressively implemented according to the GCP. Key features of the network in the Melton East area include the following:

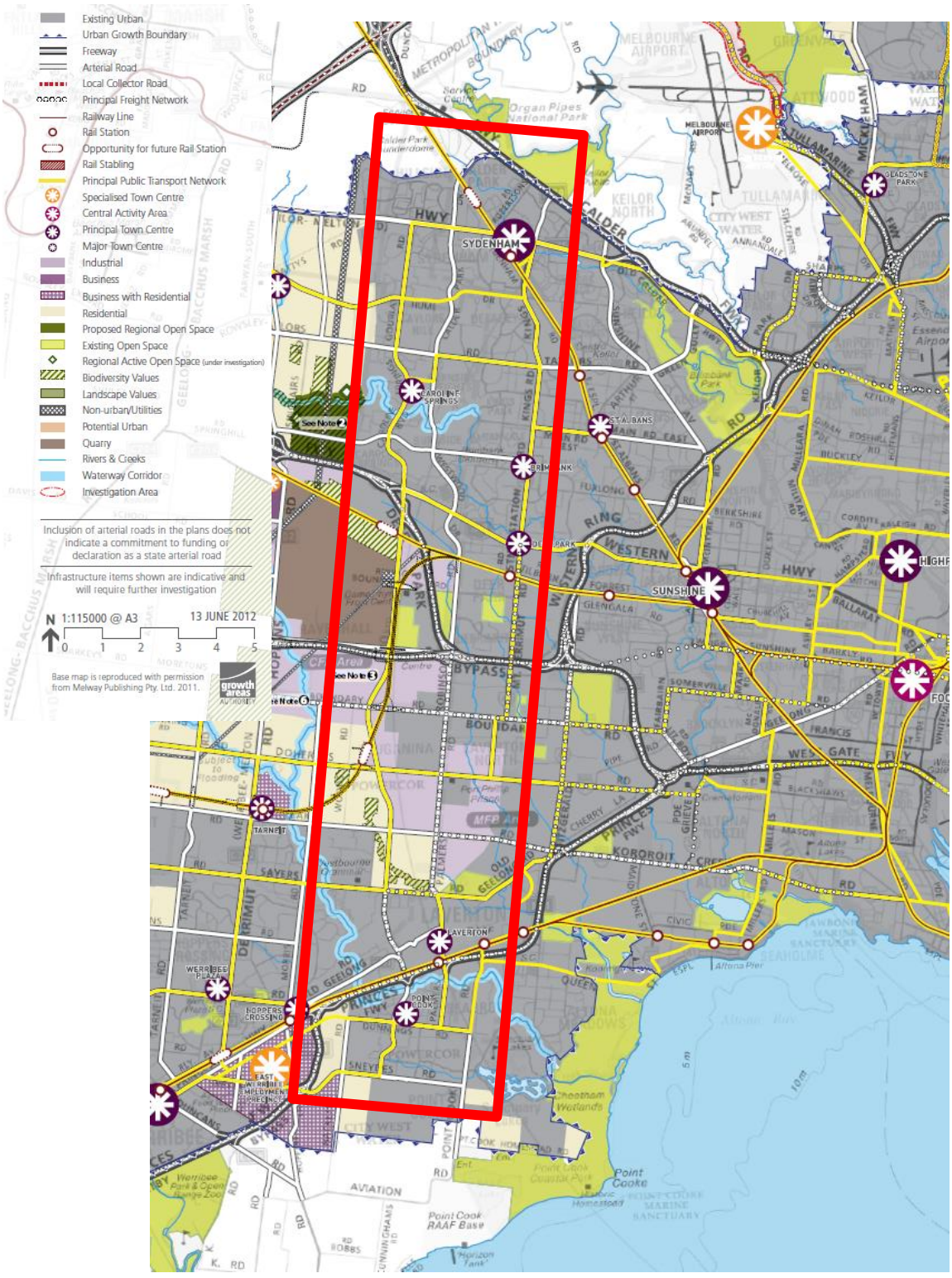
- The Palmers Road corridor between Sayers Road in Laverton and the Calder Freeway is designated an 'arterial road'.
- The following adjacent north-south corridors are shown as follows part of the PPTN (north of the Western Freeway):
    - Christies Road – Caroline Springs Boulevard – Gourlay Road (the Gourlay Road corridor)
    - Mt Derrimut Road – Station Road – Kings Road (the Kings Road corridor)

Both of these adjacent corridors are designated as part of the PPTN, and are broadly in keeping with the GCP road network philosophy as they are generally 1.5km to 2.5km from the Palmers Road corridor. This designation builds upon and further supports the *Growth Area Framework Plans 2006* for Melton-Caroline Springs which identifies:

- The Gourlay Road corridor as part of the PPTN bus route
- The Palmers Road corridor as an 'arterial road'.

Further to the east, and east of the Sunbury rail corridor, is Sunshine Avenue, also identified in the GCP as an 'arterial road'. This is between 3.5km east of the Palmers Road corridor at the north, and more than 6.5km east where the 'arterial road' designation ends at the intersection with the Western Ring Road.

Figure 5 Extract from West Growth Corridor Plan[4] – transport designations with Palmers Road and adjacent corridors in box



[4] Full plan available online at: http://webadmin.gaa.vic.gov.au/Assets/Files/GCP%20-%20Chapter%204%20West%20Corridor%20Plan.pdf

2.4 SmartRoads

SmartRoads is a policy aligned with the *Transport Integration Act 2010* (Vic). With respect to the operation of the transport network the policy focuses on the efficient movement of people and goods, and the promotion of public transport, cycling and walking. VicRoads (2012, p9) states that SmartRoads outlines '*an approach for managing the many competing demands for limited road space'*, by either giving priority to different transport modes depending on the time of day, or prioritising routes for particular modes. The best example of this is that designating a route as part of the PPTN, thereby prioritises the route for public transport. Likewise, where a route is designated as a Preferred Traffic Route, such as Palmers Road, the priority and available capacity is designated to efficiently move traffic and facilitate network access.

SmartRoads embodies six key strategies for effectively managing congestion:

- Reducing the overall demand for travel by ensuring that land use planning, and the community objectives it embodies, is coordinated with transport management policies.
- Encouraging higher occupancy travel modes that use road space more efficiently.
- Encouraging more environmentally sustainable travel modes, such as walking and cycling.
- Making existing roads operate more effectively through better management of and response to incidents, more efficient operation of traffic signals and traffic lanes, and better information for road users to make smarter travel choices.
- Facilitating access and mobility for trucks on appropriate truck routes, particularly at times of the day that reduce the impact on communities.
- Targeting investment in road improvements and new transport links, such as in growth areas, and ensuring that these links provide sustainable long-term capacity improvements.

Under SmartRoads, VicRoads have developed Network Operating Plans showing priority modes within each local council area. The Shire of Melton Network Operating Plan (VicRoads 2010), identifies the Palmers Road corridor as the 'Future Preferred Traffic Route', and Caroline Springs Boulevard is designated a Bus Priority Route, consistent with its classification as part of the PPTN as discussed above. In long term planning, this prioritisation represents the dedication of traffic lanes solely for bus use during peak times.

2.5 Precinct Structure Planning

The Precinct Structure Planning Guidelines, launched in 2009, provide direction to organisations responsible for developing Precinct Structure Plans (PSPs) with a series of PSP Notes detailing particular aspects of the design. The PSP Note *Our Roads: Connecting People* (GAA 2009) sets out the network design principles and fundamental network components, including:

- Strategic arterials (primary or declared arterials),
- Local arterials (secondary arterials)
- Connectors
- Local access streets.

The PSP Note supports and reiterates the 1.6km (1 mile) arterial road grid defined in the GCP, with the strategic (primary) and local (secondary) arterials alternating at 1.6km intervals. The primary arterials are designed for higher volume and longer distance through traffic, and are therefore compatible with the intended Preferred Traffic Route designation as per the City of Melton Network Operating Plan (VicRoads 2010). The PSP Note requires that road reserves for the primary arterials are at least 40m wide. Within the Melton East area, the two secondary arterials are constructed and operating approximately 1.6km either side of the Palmers Road primary arterial reservation, in reserves that are at least 34m wide, in compliance with the PSP Note (GAA 2009).

The hierarchy within the road network is supported by different design elements set out by the PSP Note *Our Roads: Connecting People*. These elements are necessary for inclusion with the structure

plans to ensure effective implementation and operation of the relevant component, both in its own right and as part of the broader network.

The majority of the Palmers Road corridor is 40m wide, and as stated above, the underlying assumption for the development of the transport network in the West Corridor Growth Plan is that the corridor would be developed as intended such that the broader transport network can operate efficiently in accordance with the SmartRoads guidelines.

3.0 North-south arterial corridors

This section responds to the Minister's requirement that '*the proponent is to provide a preliminary report on the availability of potentially suitable alternatives for developing appropriate arterial route capacity and future road network performance in this region either generally along the proposed stages two and three of the Palmers Road corridor or along an alternate north-south corridor'*.

Within the Melton East area, three north-south corridors exist within the existing transport network. These are referred to, for the purposes of this report, as:

- the Palmers Road corridor,
- the Gourlay Road corridor to the west, and
- the Kings Road corridor to the east.

While each corridor is used for north-south travel through the area, the strategic documentation and land use pattern has developed such that each corridor serves a different purpose. The existing conditions of each corridor are discussed in the following sections, as is the possibility of upgrading the Gourlay Road or Kings Road corridor as the primary arterial instead of the Palmers Road corridor.

A significant number of environmental and heritage investigations have been undertaken for the Palmers Road corridor, but not for the Gourlay or Kings Road corridors. Therefore, a high level discussion of impacts for each alignment will be based on land use, traffic and social implications for developing each corridor.

3.1 Palmers Road corridor

3.1.1 Existing conditions

The Palmers Road corridor is shown in Figure 5 (extracted from the 2012 West Growth Corridor Plan). This shows the major road network both within the currently established urban areas and the future growth corridor further west. The GCP adopts a grid pattern of alternating arterial and public transport routes at 1.6km intervals based on the SmartRoads framework, and accommodates existing land use constraints such as railway lines, a quarry, water treatment facility and native grassland reserves. The grid pattern will assist with the prioritisation of conflicting transport demands onto routes designated arterial or PPTN and is consistent with the designation within the MESP of the Palmers Road corridor as a primary arterial route. The GAA stated that as the land use has been designed around the Palmers Road corridor being a primary arterial, the corridor is not compatible with the PPTN, in that residences are intentionally poorly connected to the Road and there are limited collector roads.

As the growth corridor is progressively developed, pressures on designated routes will continue to increase and it is the purpose of the SmartRoads program to prioritise the competing demands.

The upgrade of the Palmers Road corridor has been identified as a long term project to be implemented in stages, with Stage 1 (south of the Western Freeway) to occur in the short term. A planning scheme amendment process is currently underway and an independent panel hearing was held on 23 May 2012. If approved, this will grant the approvals necessary to reserve the land and proceed with construction.

As such, this Strategic Options report does not consider alternative alignments south of the Western Freeway as this would make redundant the work done to date and the design interaction with the Williams Landing Station and direct connectivity into the Point Cook area.

North of the Western Freeway, potentially suitable alternatives to the Palmers Road corridor include the:

- Gourlay Road corridor to the west
- Kings Road corridor to the east.

Consideration of potential options further east or west have not been considered, as these corridors already exist as secondary arterials and should a primary arterial be developed further afield it would not serve this area effectively and would result in additional congestion on these corridors.

3.1.2 Short-term future

As discussed above, the MESP and growth area plans have dictated a land use pattern around a primary six-lane dual carriageway arterial. The corridor has been progressively established to service the demand of the developing residential areas, and currently comprises a single carriageway with one lane in each direction

The only section that has not yet been constructed is the crossing of Kororoit Creek at Westwood Drive. This section extends approximately 650m, and Melton Shire Council advised in a meeting on 29 May 2012 that all applicable permits[5] for this link have been obtained, and construction is scheduled for completion by mid-2014. This will create a continuous road corridor with few 'friction points' between the Stage 1 upgrade south of the Western Freeway and the Calder Freeway, albeit with a capacity significantly below the ultimate intention beyond the Western Freeway intersection.

Both Melton Council officers and the GAA believe that immediately following the completion of Westwood Drive, the corridor will begin to function as an arterial road carrying through traffic that currently utilises the Gourlay Road or Kings Road corridors.

3.1.3 Upgrade to primary arterial

A high level summary of the land use, traffic and social implications is presented below. This has been based on the documentation discussed above and discussions with Melton and Brimbank Council officers, GAA, DPCD and DOT. The summary is centred on the existing road reserve, as areas beyond the road reserve have already been developed and as such, minor variations to the existing Palmers Road corridor (but generally along stages two and three) no longer exist. A detailed assessment of impacts is not provided as equivalent assessment has not been undertaken for the adjacent corridors.

Land use

The 40m road reserve has been incorporated and protected within the residential areas to ensure that the 6-lane arterial could be developed progressively to meet demand. Activity centres and community facilities have been located away from this corridor to prevent use by short trip local traffic, and the residential areas are designed with no direct access from the arterial. Where existing direct access occurs, the corridor is of sufficient width to facilitate the implementation of a limited access arterial via restricted direct access.

Traffic

Following completion of the last section of Westwood Drive, the Palmers Road corridor will immediately attract traffic as an arterial. The Kings Road corridor is currently serving both an arterial and PPTN purpose. As the role of the Palmers Road corridor develops as a designated arterial route and preferred traffic route, it will relieve 'through traffic' pressure off the two adjacent parallel routes. Palmers Road has been planned to serve the function of an arterial route with the adjacent parallel routes better serving to support local traffic and public transport.

Social

Prior to the development within the area, the MESP designated the function of the Palmers Road corridor as a six-lane arterial road. Residents purchasing land in the newly formed subdivisions would have known of the DPO1 that was applied across the land which referred to the MESP, alerting residents to the future proposed function of this route, the limited access and crossing opportunities at specified locations.

A Social Impact Assessment (SIA) was undertaken in 2009 for the Palmers Road Corridor upgrade project which identified that although amenity impacts, mainly related to traffic noise, may be experienced along the direct corridor, the easing of congestion issues along the Gourlay Road and Kings Road corridors would result in a net social benefit for the area.

The SIA consulted residents and the existing levels of congestion were identified as a major concern throughout the SIA process. Maunsell (2009, pii) found that 'the need for urgent implementation of the

[5] Permits obtained include planning permit for the removal of native vegetation, Cultural Heritage Management Plan approval, and EPBC approval (based on Referral No.2011-5909)

(Palmers Road corridor upgrade) was repeatedly stated by all interviewed'. Respondents to the SIA also believed that implementation of the project would 'provide greater road safety to road and pedestrian traffic' (Maunsell 2009, pii).

A small number of residential properties with direct access exist at the southern end of Westwood Drive; however the road reserve is such that sufficient land is available to provide a service lane for these properties.

Other matters

The following is a brief snapshot of the environmental issues identified within the technical investigations undertaken to date within the Stage 2 and 3 sections of the Palmers Road corridor.

- Eight known Aboriginal heritage sites (all artefact scatters) are present within the Palmers Road study corridor. Six of the sites have been assessed as 'Low Scientific Significance', and two have been assessed as 'Moderate'. The relevant part of the corridor is considered to be of Moderate to High archaeological sensitivity due to its proximity to Kororoit Creek.
- A desktop assessment identified four non-Aboriginal heritage sites which have previously been recorded within or very close to the Palmers Road corridor.
- A Noise assessment found that existing noise levels range between 46-60dB(A), which may increase to 78dB(A) in the worst affected area, near Earlington Boulevard in Caroline Springs.
- Flora surveys identified that two plants of the EPBC listed Spiny Rice Flower within the proposed road reserve between the Western Freeway (Deer Park Bypass) and Melbourne-Ballarat railway. Ten specimens of the FFG listed Tough Scurf-pea were sighted on the south side of Kororoit Creek.

  The corridor supports significant vegetation communities including the state listed '*Heavier Soils* Plains Grassland' (EVC 132_61) and the EPBC listed 'Natural Temperate Grassland of the Victorian Volcanic Plan'
- Fauna surveys did not observe any listed species, however, suitable habitat exists within the corridor for the EPBC and FFG listed Golden Sun Moth, Striped Legless Lizard and Growling Grass Frog. There is also foraging and fly-over habitat for FFG listed species such as the Grey Headed Flying Fox and Swift Parrot. Desktop surveys identified a number of listed species as having been previously sighted within 10km of the corridor.

While these matters will require consideration prior to approval, mitigation measures are available and at this stage the identified issues are not of the sort that could be considered a 'fatal flaw' and preclude the consideration of this corridor for development.

3.2 Gourlay Road corridor

3.2.1 Existing conditions

Caroline Springs Boulevard and Gourlay Road have been designed as secondary arterials within the broader transport network in accordance with the MESP as shown in Figure 1. This corridor is the spine of the Caroline Springs residential development and provides both direct access to the Caroline Springs activity centre and community infrastructure, and is part of the PPTN, linking Caroline Springs to Watergardens via Gourlay Road and the Melton Highway. It is also seen as a future public transport corridor linking residences to the proposed Caroline Springs railway station. .

It has been designed to distribute traffic onto collector roads and into the residential areas.

Table 3 provides an overview of each section of the Gourlay Road corridor, and is followed by a discussion of the land use and transport issues and considerations associated with it.

Table 3 Overview of Gourlay Road corridor

Section of corridor	Description
Christies Road (south of Ballarat Road)	Currently, Christies Road extends south of the Western Freeway as far as the proposed site for the Caroline Springs railway station. The GCP shows this as part of the PPTN and a southward extension to this crossing the Regional Rail Link corridor.
Caroline Springs Boulevard (between Ballarat Road and Taylors Road)	Caroline Springs Boulevard comprises a four lane dual carriageway within a 34m wide reserve and was designed as a secondary arterial with sufficient capacity to service the residential estate it bisects, and provide access to activity centres and local residences. It currently carries 24-26,000 vehicles per day, and by nature of its design and original purpose within the wider transport network it contains a high number of 'friction points' at roundabout intersections with the minor east-west arterials to distribute traffic into the residential areas.
Gourlay Road (between Taylors Road and Melton Highway)	Gourlay Road carries a similar volume of traffic as Caroline Springs Boulevard and is currently being duplicated to a four lane dual carriageway in response to the existing levels of demand (approximately 24,000 vpd). This route is utilised by Bus Route 460 as the primary public transport corridor linking the Caroline Springs estate to the Watergardens shopping centre. Importantly, Gourlay Road ends in a signalised T-intersection at the Melton Highway with no current direct access to the Calder Freeway. Currently, to reach the freeway, traffic is be required to make a right-turn onto Melton Highway and left onto either Calder Park Drive or Kings Road. Extending over a kilometre on the north side of Melton Highway at the Gourlay Road intersection is the suburb of Hillside which has been developed through the past 3 to 15 years.

3.2.2 Upgrade to primary arterial

A high level summary of the land use, traffic and social implications is presented below, based on the documentation discussed above and discussions with Melton and Brimbank Council officers, GAA, DPCD and DOT. Detailed assessments of the potential impacts associated with upgrading the corridor to a six-lane arterial have not been undertaken.

Land use

The majority of the corridor is already four lanes, with the northern section of Gourlay Road currently undergoing duplication. While the Gourlay Road section may be able to accommodate six lanes, Caroline Springs Boulevard sits within a 34m wide road reserve (appropriate for a secondary arterial) which is narrower than required for a primary arterial (refer Section 2.5). The corridor also directly serves activity centres and community facilities (including schools) which have been purposefully placed on this secondary arterial, which was designed to carry local traffic and public transport to these centres.

In the north, the Gourlay Road ends at the T-intersection north of which is the suburb of Hillside, part of which has been developed in the past 3-5 years. In the south, Christies Road would require linking to Palmers Road Stage 1 around constraints posed by the Western Freeway, the Melbourne Remand Centre and Dame Phyllis Frost Centre, the Regional Rail Link corridor, the Boral Quarry and land zoned Industrial 2 (IN2Z) earmarked for future development.

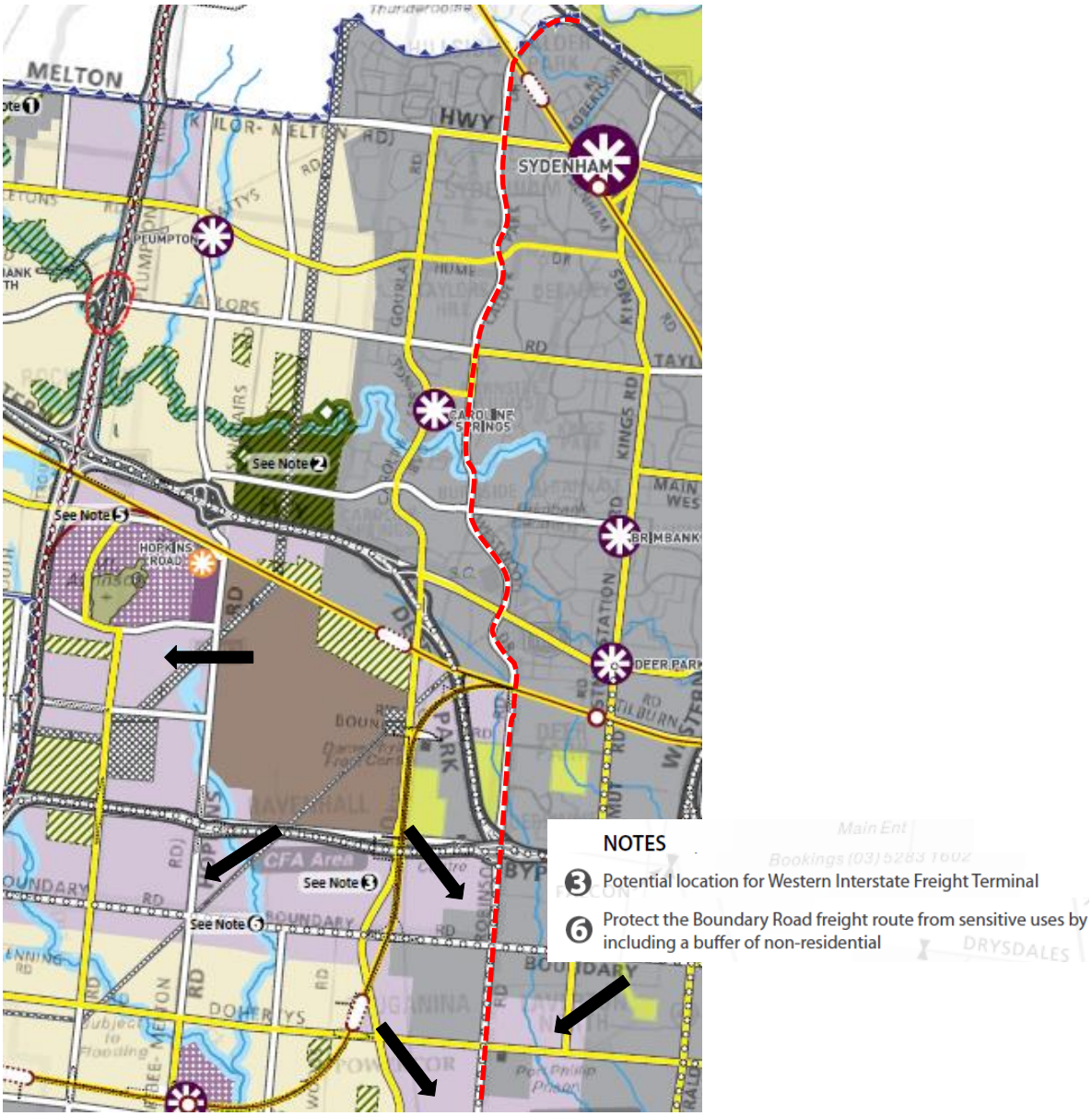
Traffic

The Gourlay Road section of the corridor currently carries approximately 24,000 vpd, and is being duplicated to cope with demand. As a secondary arterial with a design capacity of up to 40,000 vpd (refer 2.5), there is insufficient spare capacity to accommodate an additional 40,000+ vpd that will be provided for by a primary arterial.

The addition of arterial traffic, coupled with this existing volume of short trip local traffic would be expected to significantly congest the area. The number of 'friction points', particularly within Caroline Springs at the roundabout intersections with collector roads intended to distribute traffic into the residential areas is not compatible with an arterial route which would be expected to carry a significant volume of freight traffic generated by the industrial/employment centres south of the Western Freeway.

The volume of freight was a concern raised by the Shire of Melton on 29 May 2012. A significant desire line for this traffic, generated by the future industrial land at the southern end of the Gourlay Road corridor (refer Figure 6), is likely to be northbound to the Calder Freeway. Accessing the freeway via this corridor would result in freight traffic using the secondary arterial of Caroline Springs Boulevard and the capacity-constrained Gourlay Road.

Figure 6 Employment / industrial corridor (shaded purple with arrows)



The remaining growth corridor has been planned on the assumption that the Palmers Road corridor is the primary arterial, and that the Gourlay Road corridor is part of the PPTN which connects residential areas in Caroline Springs to Watergardens Shopping Centre, the Caroline Springs activity centre and the proposed Caroline Springs Station. Changing the designation of the Gourlay Road corridor to instead become a primary arterial would require reconsideration of the growth area transport network.

To retain some connectivity in accordance with the GCP, a new link would be required to the Palmers Road Stage 1 alignment through land designated in the West Growth Area Plan as 'industrial' land, which is designated Industrial 2 Zone. This area is currently undeveloped, and is subject to Precinct Structure Plans which, according to Melton Shire, will be progressed after the West Park Industrial Estate.

A possible option to utilise the north-south section of the Western Freeway for linking across to the Palmers Road corridor would adversely impact on that section of freeway and reduce the efficiency it creates.

Social

The social impacts of developing the Gourlay Road corridor would be greatest within Caroline Springs, where Caroline Springs Boulevard sits within a 34m road reserve that may require widening and therefore acquisition of a significant number of residential and commercial properties. Direct access to a number of properties would decrease the efficiency of the arterial. A six-lane arterial road cannot be accommodated within this 34m wide reserve.

While access to the activity centre, community facilities and residential areas may not be directly impacted, impacts will be felt in these areas through fewer opportunities for side road traffic (i.e. longer delays at intersections). Also the arterial would become more congested at these 'friction points'. The volume of freight traffic, as discussed above, would be required to use Caroline Springs Boulevard (with its local traffic, high number of friction points, some direct access, and activity centres including schools). This would be expected to have significant amenity and safety impacts in a corridor not designed to accommodate such traffic, especially in areas of high pedestrian movements.

A direct and efficient connection to the Calder Freeway would require the acquisition of a significant number of dwellings through Hillside. In addition, options to connect to the freeway through Hillside are restricted by existing land uses including Cana Catholic Primary School, the Sunbury rail corridor, a significant SP Ausnet terminal station, the Calder Park Raceway, as well as two proposed projects: a railway stabling and maintenance yards and the Outer Metropolitan Ring Road. A diamond interchange may also intersect land within the boundary of the Organ Pipes National Park. If the existing right-angle turns were retained in this area, primary arterial traffic would congest Melton Highway and reduce the efficiency of both the north-south and east-west arterials. It would also increase road safety concerns.

3.3 Kings Road corridor

Like the Gourlay Road corridor, the Kings Road corridor has been designed as a secondary arterial within the broader transport network in accordance with the MESP as shown in Figure 1. This corridor serves the residential areas of Cairnlea, St Albans, Albanvale, Kings Park, Delahey, Taylors Lakes and Sydenham providing both direct access to a number of commercial activity centres and community infrastructure, and is part of the PPTN. It is also seen as a future public transport corridor linking residences to the Deer Park Station, which will experience a significant uplift in use following the proposed electrification of the rail corridor.

The Kings Road corridor has been designed to distribute traffic onto collector roads and into the residential areas.

3.3.1 Existing conditions

Table 4 provides an overview of each section of the Kings Road corridor, and is followed by a discussion of the land use and transport issues and considerations associated with it.

Table 4 Overview of Kings Road corridor

Section of corridor	Description
Mt Derrimut Road (south of Tilburn Road and the adjacent Ballarat railway corridor)	South of Tilburn Road and the Ballarat railway corridor, Mt Derrimut Road sits within a wide road reserve that could potentially accommodate a six lane dual carriageway. As per Christies Road (refer Table 3), a link across to the Stage 1 upgrade of the Palmers Road corridor would be required south of the Western Freeway through industrial land that is either recently developed or undergoing construction.
Station Road (between Tilburn Road and Main Road West)	Station Road varies considerably along its length. Between Tilburn Road and Ballarat Road, it is four lanes on a single carriageway with a large number of residential properties having direct access. An industrial facility owned by Orica on the eastern side has potential heritage significance, and advice provided by Brimbank City Council on 29 May 2012 indicated that the Council's heritage officers are in discussions with Orica to include this site under a Heritage Overlay. North of Ballarat Road, Station Road widens significantly to dual carriageway and varies between four to six lanes, plus turning lanes at some intersections. There are long sections which have direct property access, and others in which a service lane is provided.
Kings Road (north of Main Road West)	Kings Road has recently been duplicated to a four-lane dual carriageway in response to the demand, and during the site inspection on 29 May 2012 works were still occurring but drawing to a close. This work has included the construction of a diamond interchange to improve access to and from the Calder Freeway, which was prioritised ahead of the Calder Park Drive interchange based current demand.

Similar to the Gourlay Road corridor, a number of activity centres have been intentionally developed along this corridor, because of its designation as a secondary arterial. In doing so, this ensures that the Palmers Road corridor can be developed as the primary arterial in accordance with the MESP which established the land use pattern for this area. However, in the meantime, this corridor is considered to be serving a primary arterial function, as it is the first 'arterial' road to the west of the Sunbury rail corridor, as shown in Figure 7.

Figure 7 Kings Road corridor relative to the Sunbury rail corridor

3.3.2 Upgrade to primary arterial

A high level summary of the land use, traffic and social implications is presented below, based on the documentation discussed above and discussions with Melton and Brimbank Council officers, GAA, DPCD and DOT. Detailed assessments of the potential impacts associated with upgrading the corridor to a six-lane arterial have not been undertaken.

Land use

The direct access to residential areas and presence of commercial centres such as Watergardens, Delahey Village and Brimbank Central Shopping Centre would create a tension between the local traffic and arterial road uses, and arterial road users would likely utilise the Palmers Road corridor, following completion of the missing section of Westwood Drive. The direct connectivity of this corridor to these activity centres underlines its importance in the PPTN, and it is seen as the future public transport corridor linking Watergardens, residential areas and a proposed Deer Park rail station which, if the Ballarat line is electrified at least to Caroline Springs would create an opportunity for a significant increase in accessibility to the central business district.

There is sufficient land within the majority of the road reserve to potentially accommodate a six lane dual carriageway, except for a narrow section of Station Road. As per Christies Road (refer Table 3), a link across to the Stage 1 upgrade of the Palmers Road corridor would be required. This link is significantly constrained by the West Park industrial estate (which is partially established) and a Melbourne Water retarding basin. Boundary Road could be used to provide this link, however the right angle turns would be inefficient.

Traffic

The corridor was driven along at approximately 2pm on 29 May 2012, at which time a high level of traffic was observed consistent with the rationale for the recent Kings Road duplication. Demand on Station Road in particular has increased significantly with the recent development of Cairnlea. As

large sections of the corridor are already six lanes, it is unlikely that this corridor can accommodate the uplift in demand commensurate with designation as a primary arterial, over and above the local traffic movements.

Social

Significant social and business impacts would arise from widening Station Road between Tilburn Road and Ballarat Road. This would require the acquisition of a number of residential and commercial properties along a 800m section of Station Road, of which approximately half would directly impact the potential heritage significance of the Orica site.

As with the Gourlay Road corridor, the designation of the Kings Road corridor as a primary arterial would create safety and amenity impacts along a corridor not designed for that purpose, and particularly within activity centres which have high volumes of pedestrian traffic.

3.4 Summary

As discussed in Section 2.0, there has been more than 15 years of land use and strategic growth area planning which has and continues to shape development in the Melton East area. Each major plan has adopted the principles of the previous plan or strategy, which all identify the Palmers Road corridor as the primary arterial.

One of the underlying assumptions behind the transport network within the GCP for the western growth corridor was consistent with these plans and strategies – that Palmers Road would be developed as a primary arterial. Application of SmartRoads to prioritise road use in order to maximise accessibility to employment centres underpins GAA's goal to deliver and sustain economic development in the growth areas. At a broad scale, adopting a different primary arterial would undermine the ability to achieve this goal and the viability of the current plans and development which they have shaped.

The Palmers Road corridor has provision and is intended to ultimately carry more than 40,000 vpd which would otherwise be required to share the Kings or Gourlay Road corridors. Both these corridors are already intended and designed, within the broad network, to carry 12,000 to 40,000 vpd.

At a local level, it would be highly undesirable and inappropriate to develop the Gourlay Road corridor as the primary arterial due to indirect access to the freeway, the high cost and impact of acquiring residential properties and freight traffic heading south from the Calder Freeway to the industrial sites.

Due to the narrow road reserve through Caroline Springs, coupled with the friction points at the intersections and existing capacity constraints on Gourlay Road, the loss of IN2Z land south of the Western Freeway, and the significant safety amenity impacts that would arise from the uplift in traffic (particularly freight) this option is considered to **not represent a suitable alternative** to the Palmers Road corridor.

For the Kings Road corridor the potentially significant and avoidable cost arising from the property acquisition required to widen and upgrade Station Road, the social (and potentially) heritage impact of that acquisition, the existing volume of traffic along the corridor, and the presence of activity centres and areas of residential development along the corridor all contribute to this option being considered as **not representing a suitable alternative** to the Palmers Road corridor. Furthermore, a link across to Stage 1 of the Palmers Road corridor upgrade would require acquisition and displacement of industrial properties from land designated within the GCP as a significant employment centre to underpin economic development in the growth corridor.

A tabulated summary of how each corridor responds to the Palmers Road corridor upgrade project objectives is provided in Appendix C.

Finally, based on the strategic documentation and land use, social and transport issues associated with the potential alternatives, all stakeholders consulted in the development of this report strongly support the already planned development of the Palmers Road corridor as the primary arterial for north-south travel in the west of Melbourne between the Princes and Calder Freeways.

In addition, development in the fringing areas along the Palmers Road corridor has been such that there is little (to no) opportunity for the Road to be further developed outside the existing reservation.

It is for these reasons that it is recommended that the study area for the Palmers Road Corridor EES be generally confined to the existing alignment.

4.0 Approvals Required

4.1 *Environment Effects Act 1978* (Vic.)

Following DPCD's acceptance of this report and the reserved Palmers Road corridor as the alignment to be assessed in response to the Minister's decision, DPCD will prepare Scoping Requirements to confirm the scope of any specialist investigations and the overall content of the EES.

Upon completion of the EES, it will be endorsed for public exhibition by DPCD and exhibited for four weeks. If necessary, an independent panel will be appointed to consider the documentation and any submissions received and recommend to the Minister for Planning as to whether the project should be approved. The Minister will then prepare a Ministerial Assessment Report.

Concurrent with the EES and panel inquiry, a Planning Scheme Amendment will be prepared for the small areas of Public Acquisition Overlay. Following the Ministerial Assessment Report, the Planning Authority decides whether or not to adopt the Planning Scheme Amendment.

4.2 *Environmental Protection and Biodiversity Conservation Act 1999* (Cwlth)

On 22 May 2009 the (then) Department of the Environment, Water, Heritage and the Arts (DEWHA) determined that the proposed upgrade of the Palmers Road corridor was a 'controlled action' and required approval by the Commonwealth Minister for the Environment, Water, Heritage and the Arts prior to the commencement of construction.

In addition, DEWHA determined that a decision would be made based on 'preliminary documentation' as stated in correspondence to VicRoads dated 29 May 2009.

This preliminary documentation is due to be exhibited independently of any Victorian environmental assessment process following DPCD's acceptance of this report and agreement that the EES study area will be confined to the Palmers Road corridor.

4.3 Cultural Heritage Management Plan

Under section 49 of the *Aboriginal Heritage Act 2006* (Vic) a Cultural Heritage Management Plan (CHMP) must be prepared for any project for which an EES has been required. This is a separate process, and although the process can run concurrently with the EES process, formal approval of a CHMP is required under the *Aboriginal Heritage Act 2006* (Vic) prior to receiving any further approvals.

CHMPs typically take 3-4 months to prepare, inclusive of field investigations and potentially sub-surface testing, after which Aboriginal Affairs Victoria (AAV) have a 30 day statutory period in which to make a decision.

5.0 Gap Analysis

5.1 EES Scoping Requirements

5.1.1 Minister's requirements

Following confirmation that the Palmers Road corridor is the appropriate corridor for a north-south arterial, the Minister's requirements sets a context for an EES with a narrow scope focussing on specific issues of concern along the corridor.

Attachment 1, requirement 2(ii) of the Minister's Reasons for Decision states that '*the EES is to give particular attention to* … (emphasis added):

- *Changes to the amenity and environmental quality of the adjacent residential areas from construction and operation, particularly due to increased **noise levels**;*
- ***Social impacts** (e.g. severance and dislocation) for residences and communities along the proposed arterial route;*
- *Effects on the **landscape**, visual and recreational values of areas in the vicinity of the proposed arterial road, in particular the Organ Pipes National Park;*
- *Residual impacts on **biodiversity** and associated native vegetation, in particular listed protected fauna and flora, and ecological communities; and*
- *Impacts on **cultural heritage** (Aboriginal and non-Aboriginal) within or adjacent to the proposed road*.'

These five considerations could necessarily be the focus of a targeted EES, and it is on this basis the remainder of this report has been undertaken.

5.1.2 Typical requirements for linear transport projects

EES Scoping Requirements are broadly consistent for road upgrade or duplication projects as the types of issues encountered are similar (albeit within different local contexts). They also reflect the environment described in the referral, and the reasons for requiring an EES, for example, areas of ecological significance, presence of protected species and potential impacts on communities.

The Minister requirements, discussed above, have been included in various forms within the scoping requirements for the following recent road projects:

- Western Highway: Beaufort to Ararat
- Princes Highway East: Sale to Traralgon.

The Scoping Requirements for these projects have been reviewed to provide an indication of the level of assessment that could potentially be required for Palmers Road. This review is provided in Appendix D, and from this review, a high level summary of the potential scoping requirements for Palmers is presented in Table 5.

Table 5 Summary of typical EES Scoping Requirements for other linear road projects that are of potential relevance to the Palmers Road Corridor

Areas requiring particular attention for Palmers Road (from Minister's Reason for Decision)	Typical (summarised) scoping requirement's that are potentially relevant to the Palmers Road corridor
Changes to the amenity and environmental quality of the adjacent residential areas from construction and operation, particularly due to noise.	***Objective**: To minimise air emissions, noise, visual, landscape and other adverse amenity effects.* The EES should: - Characterise the ambient noise environment and identify sensitive receptors in the corridor - Identify and assess the potential for the project to increase noise levels at sensitive receptors - Identify proposed design and management measures to avoid, mitigate and manage any potential noise effects on sensitive receptors during construction and subsequently, to ensure the project will comply with applicable policy.
Social impacts (e.g. severance and dislocation) for residences and communities along the proposed arterial route.	***Objective:** To protect residents' well-being and minimise any dislocation of residents or severance of communities, to the extent practicable.* The EES should include an assessment of: - The existing social and community conditions in the vicinity of the project, including the settlement pattern, the distribution of residents in the vicinity of the site, and their demographic characteristics, and patterns of community interaction and social foci; - Potential effects on places with particular cultural, recreational or aesthetic values; - The potential for residents and communities, or parts of communities in the vicinity of the project, to be affected through dislocation, severance of accessibility or reduction of their amenity; and - Proposed measures to address potential adverse social effects, having regard to these, the likely residual effects on local residents and communities.
Effects on the landscape, visual, and recreational values of areas in the vicinity of the proposed arterial road, in particular the Organ Pipes National Park	***Objective:** To minimise air emissions, noise, visual, landscape and other adverse amenity effects.* Characterise the existing landscape character - Identify and assess potential effects from key vantage points (Organ Pipes National Park) - Identify measures to minimise and mitigate visual amenity effects - Identify residual effects on the visual amenity of sensitive receptors.

Areas requiring particular attention for Palmers Road (from Minister's Reason for Decision)	Typical (summarised) scoping requirement's that are potentially relevant to the Palmers Road corridor
Residual impacts on biodiversity and associated native vegetation, in particular listed protected flora and fauna, and ecological communities	***Objective:*** *To avoid or minimise effects on flora and fauna species and ecological communities listed under the Flora and Fauna Guarantee Act 1988 or the Environment Protection and Biodiversity Conservation Act 1999, as well as to comply with requirements under Victoria's Native Vegetation Management - A Framework for Action, 2002.* - Characterise the native vegetation and terrestrial and aquatic habitat located in the project area. - Provide evidence to demonstrate that adequate information has been compiled on the potential and actual presence of threatened species and ecological communities. - Identify and assess potential effects of the proposed project and relevant alternatives on existing native vegetation, habitat (quality and continuity), listed flora and fauna species and ecological communities. - Identify potential effects of the project on the dispersion and distribution of weeds and pathogens; - Specify any measures to avoid, minimise and mitigate biodiversity impacts, especially on threatened or other listed species - Outline any obligations arising from Victoria's Biodiversity Strategy and Victoria's Native Vegetation Management - A Framework for Action. - Outline an offset strategy for unavoidable clearing of native vegetation The EES should also include a separate summary assessment addressing effects on, and avoidance, mitigation and management measures for, matters of national environmental significance

Areas requiring particular attention for Palmers Road (from Minister's Reason for Decision)	Typical (summarised) scoping requirement's that are potentially relevant to the Palmers Road corridor
Impacts on cultural heritage (Aboriginal and non-Aboriginal) within or adjacent to the proposed land	***Objective:*** *To protect Aboriginal and non-Aboriginal cultural heritage* For Aboriginal heritage, the EES should: - Provide relevant information on pre-contact and contemporary activities in the project area by Aboriginal people; - Clearly document consultation undertaken to gain the knowledge and views of local Aboriginal communities - Describe field investigations undertaken to locate Aboriginal cultural heritage sites within the project area - Identify any cultural heritage sites located prior to or during the EES process and characterise both the scientific and cultural significance of each site. The investigation should be undertaken in consultation with Aboriginal Affairs Victoria, traditional owners and Registered Aboriginal Parties and in accordance with relevant legislation, in particular the *Aboriginal Heritage Act 2006;* - Discuss the potential for unknown sites in the area, highlighting any areas of cultural heritage sensitivity; - Identify and assess potential effects of the project on known significant sites and potential unknown sites; - Identify proposed measures to avoid, mitigate or manage potential effects on known and unknown sites of cultural significance; and - Assess likely residual effects of the project on Aboriginal cultural heritage and values in the project area. For non-Aboriginal heritage, the EES should: - Provide a historical context of the project area. - Provide an inventory of any non-Aboriginal heritage places of significance in the project area. - Identify measures to avoid, mitigate or manage potential effects on known and potential unknown sites of significance. Include details of any proposed measures - Identify residual effects of the project on non-Aboriginal heritage and values in the project area.

5.2 Existing Work and Gaps

This section provides a summary of the work done to date and aligns it with typical (summarised) scoping requirements that are potentially relevant to the Palmers Road corridor (see Table 5). This has resulted in the identification of gaps within the existing specialist reports that are likely to require addressing as part of an EES process.

This gap analysis is indicative only, as it cannot be confirmed until the Scoping Requirements for the Palmers Road corridor upgrade are released.

VicRoads have provided a number of specialist reports to AECOM for review and consideration as part of the gap analysis. These reports and their study boundary are listed in Table 6.

Table 6 Specialist investigations for Stages 2 and 3 of the Palmers Road corridor

Discipline	Study Area
Entire corridor (Sayers Road to Calder Freeway interchange)	
Noise	AECOM (2009) *Palmers Road Corridor: Traffic Noise Impact Assessment.*
Social	Maunsell (2009) *Palmers Road Corridor Project: Social Impact Assessment.*
Biodiversity	Ecology Partners (2009). *Palmers Road Corridor and Calder Park Interchange: Flora and Fauna Assessment, and Net Gain Analysis, West Melbourne, Victoria*
	Ecology Partners (2010) *Palmers Road Corridor and Calder Park Interchange: Targeted Flora Survey, Victoria*
	Ecology Partners (2011) *Palmers Road Corridor Upgrade: Conservation Management Plan for Matters of National Ecological Significance*
Cultural Heritage	Heritage Insight (2004) *Palmers Road Corridor Strategy – Cultural Heritage Desktop Assessment*.
Land Use Planning	Maunsell (2009) *Palmers Road Land Use Impact Assessment Final Report.*
Transport	Maunsell (2009) *Palmers Road PSA Access Management Strategy*

5.2.1 Noise

Summary

Noise measures were undertaken along the corridor at four locations – Hillside, Burnside, Deer Park and Taylors Hill. Based on a number of factors, such as estimated traffic volumes and proportion of heavy vehicles, road surface and traffic speed, AECOM (2009) modelled the future traffic noise at 758 receptor locations and identified the five most affected residences as listed in Table 7.

Table 7 Summary of 2009 noise assessment

Discipline	Existing noise ($L_{10, 18h}$)	Future ($L_{1-, 18h}$)
2 Earlington Boulevard, Caroline Springs	53	78
1 Earlington Boulevard, Caroline Springs	56	75
2/15 Answer Close, Sydenham	61	74
15 Hepburn Place, Sydenham	61	74
3 Hume Drive Development	66	74

The report concluded that the VicRoads Traffic Noise Reduction Policy would not apply for most of the corridor (as it is an existing alignment), and that as noise modelling is based on 70km/h, modelled noise levels would likely increase with a speed limit of 80km/h.

Gaps

The noise assessment does not address:

- Increased ambient noise levels since monitoring was undertaken between September 2008 and May 2009.
- Identification of any applicable mitigation measures and application of the VicRoads Traffic Noise Reduction Policy following completion of Westwood Drive.

5.2.2 Social

Summary

The social impact assessment undertaken by Maunsell (2009) described the demographics for the relevant local government areas focussing on population growth, age structure, vehicle ownership and employment. Consultation and interviews with stakeholders such as the local authorities, land owners and community focus groups identified community facilities and valued places, and general values. The value categories identified include amenity, traffic and road safety, transport efficiency, access and mobility, severance and dislocation and environment.

The high level SIA used the objective based evaluation method based on the policy and legislation that was applicable at that time. The assessment criteria used were drawn from the outcomes of the consultation and reflected stakeholder values and community assets. The SIA found that the development of the corridor would improve access in most areas of the alignment, and alleviate congestion experienced along parts of this corridor and adjacent corridors. While amenity impacts (particularly noise) were identified as a concern, the SIA concluded that the community generally supported the development of the corridor as the primary north-south arterial.

Gaps

The 2009 SIA is based on old policy information. An updated impact assessment based on current project objectives should be undertaken drawing from revised evaluation objective and assessment criteria that reflect changed policy context since March 2009.

5.2.3 Landscape

Summary

VicRoads Technical Consulting undertook a landscape and urban design evaluation for the corridor. The report discusses the integration between the upgraded corridor and the surrounding land uses, identifies three different landscape types along the corridor, and presents a number of concept designs for railway grade separations and the Calder Park Driver freeway interchange. A number of recommendations are identified to facilitate integration of the upgrade into the surrounding land uses.

While a concept drawing has been prepared, the potential visual or landscape impact of it has not been considered.

Gaps

The report will need to be updated, or a new report commissioned, to assess any visual and landscape impacts on the Organ Pipes National Park that may arise from the proposed Calder Park Drive interchange over the Calder Freeway.

Biodiversity

Summary

Ecology Partners surveyed the corridor between Western Freeway and Calder Freeway for the presence of seven EPBC listed species:

- Flora
    - Spiny Rice Flower (*Pimelea spinescens* subsp. *spinescens*)
    - Small golden Moths Orchid (*Diuris basaltica*)
    - Sunshine Diuris (*Diuris fragrantissima*)

- Maroon Leek-orchid (*Prasophyllum frenchii*)

- Fauna
  - Striped Legless Lizard (*Delma Impar*)
  - Golden Sun Moth (*Synemon plana*)
  - Growling Grass Frog (*Litoria raniformis*).

The areas surveyed included:

- Calder Park Freeway interchange, northern side of the Freeway
- Calder Park Drive, vicinity of the Bendigo rail corridor
- Westwood Drive, vicinity of Kororoit Creek
- Robinsons Road, between Melton rail corridor and Ballarat Road.

In addition to the fauna species listed above, a number of listed species may also occur in the corridor. While none were observed, twelve nationally listed species have been previously recorded in the local area. For flora, EPBC listed Spiny Rice Flower was observed, and the EPBC listed community *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP) and FFG listed community *Plains Grassland* was identified in thecorridor. Ten specimens of the FFG-listed (Vulnerable) Tough Scurf-pea (*Cullen tenax*) were also observed on the southern side of Kororoit Creek.

Ecology Partners also prepared a Conservation Management Plan for the matters of national environmental significance, which identifies the potential impacts and presents mitigation measures for the Spiny Rice Flower, NTGVVP, Growling Grass Frog (*Litoria raniformis*), Golden Sun Moth (*Synemon plana*) and Striped Legless Lizard (*Delma impar*).

A net gain assessment was undertaken in 2009 for the entire corridor between Sayers Road, Truganina and the Calder Freeway Interchange. The 2009 assessment considers the entire corridor in total and calculates an overall offset requirement. A 2011 net gain assessment was undertaken for the section between Sayers Road and Western Freeway alone, however a comparison between the two assessments to determine the offsets required for the section between Western Freeway and Calder Freeway cannot be undertaken as the EVC areas and mapping which supports the net gain calculations in both reports are inconsistent within the section south of the Western Freeway. This may be attributable to different vegetation quality observed during surveys at different times.

Gaps

Missing from the suite of documentation provided and reviewed to date are the following important considerations:

- Clarification of the net gain assessment and offset requirements specific to the EES section of the corridor.
- Consultation with DSE to ensure consistency of mitigation and management measures with current policy requirements.

5.2.4 Cultural Heritage

Summary

Heritage Insight undertook desktop cultural heritage assessments in 2004 and in 2007 for the entire corridor between Dunnings Road (Point Cook) and the Calder Freeway. These assessments relied on desktop sources to identify known Aboriginal and non-Aboriginal heritage sites, as well as areas of potential sensitivity within 50m of the road reserve.

At the time of the 2007 assessment, six Aboriginal heritage sites (all artefact scatters) and four non-Aboriginal heritage sites had been previously recorded within the road reserve area and registered with AAV and Heritage Victoria respectively. Four areas of aboriginal heritage sensitivity were also identified within the road reserve.

A high level impact assessment was undertaken which assumed destruction of each site regardless of their exact position as field surveys to clarify their locations had not been undertaken. Such field work

is a recurring recommendation throughout the 2007 assessment Management measures were identified in accordance with the applicable legislation at the time, which for Aboriginal heritage has changed significantly with the introduction of the *Aboriginal Heritage Act 2006* (Vic).

Gaps

The existing heritage investigations do not include:

- Field investigations to clarify the location of previously recorded sites (and potentially identify any previously unrecorded sites)
- Consultation with RAPs
- Mitigation and management measures in accordance with current legislation and policy.

A CHMP will also need to be prepared for the project.

6.0 Draft study program

This section responds to the Minister's requirement that *'a draft study program is to be prepared by the proponent to set out the proposed investigations and their scheduling'*.

As an initial step, a risk assessment was completed to identify potential impacts of the project on the environment and to consolidate the priorities for the EES, having regard for the Minister's decision and subsequent discussions with DPCD in early 2013.

The assessment used available information on existing conditions and past experience on similar projects to prioritise the risks into three categories:

- Category A (potential impact requires detailed investigation and assessment as part of the approvals process)
- Category B (potential impact requires moderate levels of investigation and targeted assessment as part of the approvals process)
- Category C (potential impact requires minimal attention as part of the approvals process).

As set out in Table 8, the category for each potential impact was based on the following:

- Level of sensitivity
- Potential scale and severity of impacts
- Capacity for management of potential impacts.

Table 8: Impact categories

Category	Level of sensitivity	Potential scale and severity of impacts	Capacity for management of potential impacts
A	High sensitivity, significant assets or values under threat.	High impact.	Complex and detailed management measures required.
B	Moderate sensitivity, some significant assets or values may be affected.	Medium impact.	Standard management measures are available that can be adopted with some tailoring.
C	Significant assets or values absent or probably avoidable.	Low impact.	Standard management measures are available.

Categories are assigned on the basis of the highest impact category (i.e either - level of sensitivity; potential scale or capacity for management of potential impacts). If a risk area triggers one category A rating and two category B ratings; it would be rated overall with an A rating.

The results of the risk assessment supported the Minister's decision to focus on five key matters (biodiversity, noise, social, landscape and cultural heritage). The risk assessment is provided in Appendix F and the results summarised below.

The following matter was categorised as an 'A' Risk (potential impact requires detailed investigation and assessment as part of the approvals process):

- Biodiversity.

The following matters were categorised as 'B' Risks (potential impact requires moderate levels of investigation and targeted assessment as part of the approvals process):

- Landscape
- Cultural Heritage (Aboriginal)

- Social
- Noise.

The following matters were categorised as 'C' Risks (potential impact requires minimal attention as part of the approvals process):

- Cultural Heritage (non-Aboriginal)
- Geology and Soils
- Surface water
- Groundwater.

6.1 Outline Scope of Work

The outline scope of work in this section is based on the risk category afforded and addressing the gaps identified in Section 5.2.

6.1.1 Biodiversity

Much of the ecological investigations have been undertaken, and therefore further work is to involve the consolidation and refinement of previous work into a single report applicable for this section of the corridor. This report would inform the EES and public exhibition without reference to the section south of the Western Freeway, and draw on up to date knowledge of the project area.

Overall, the scope of work for biodiversity should include:

- Summary of fieldwork / studies undertaken
- Review measures to avoid, minimise and mitigate biodiversity impacts, especially on threatened or other listed species known to occur in the general area (i.e. Kororoit Creek), to ensure they are in accordance with current policy (i.e. current salvage and translocation requirements)
- Clarify any obligations and identify an offset strategy for Stages 2 and 3 arising from Victoria's Biodiversity Strategy and Victoria's *Native Vegetation Management – A Framework for Action*. This will require survey to determine current vegetation quality within the corridor.

6.1.2 Noise

The scope of work for the noise study should include:

- Characterise the ambient noise environment and identify sensitive receptors in the project area
- Identify and assess the potential for the project to increase noise levels at sensitive receptors in line with the VicRoads Traffic Noise Reduction Policy 2005
- Identify proposed design and management measures to avoid, mitigate and manage any potential noise effects on sensitive receptors during construction in line with EPA guidelines and for operation in line with the VicRoads Noise Reduction Policy 2005.

6.1.3 Social

The social impact assessment should be updated in light of revised legislation, policy and census data to:

- Identify the existing social and community conditions in the vicinity of the project, including the settlement pattern, the distribution of residents in the vicinity of the site, and their demographic characteristics, and patterns of community interaction and social foci.
- Identify and assess potential effects on places with particular cultural, recreational or aesthetic values.
- Determine the potential for residents and communities, or parts of communities in the vicinity of the project, to be affected through dislocation, severance of accessibility or reduction of their amenity.
- Propose measures to address potential adverse social effects, and identify the likely residual effects on local residents and communities.

6.1.4 Landscape

The landscape (visual) impact assessment should focus on areas of value along the corridor (consult the social impact assessment) with particular focus on the Organ Pipes National Park:

- Characterise the existing landscape character at areas of value
- Identify and assess potential effects on views over and from areas of value
- Identify measures to minimise and mitigate visual amenity impacts
- Identify residual effects on visual amenity.

6.1.5 Cultural Heritage (Aboriginal and non-Aboriginal)

The scope of work for Aboriginal cultural heritage should focus on supplementing the existing report with the following tasks:

- Undertake site investigations of known 'hot spots' to clarify the location of previously recorded sites and confirm whether any previously unrecorded sites are present.
- Consult with Registered Aboriginal Parties and Aboriginal Affairs Victoria
- Preparation of a CHMP in accordance with the *Aboriginal Heritage Act 2006* (Vic).

The existing cultural heritage assessment should be supplemented with the following tasks for non-Aboriginal cultural heritage:

- Undertake site investigations of known 'hot spots' to clarify location of previously recorded sites and confirm whether any previously unrecorded sites are present
- Consult with Heritage Victoria as required
- Assess potential impacts and develop mitigation measures.

6.1.6 Additional studies

Following on from discussions with DPCD in early 2013, matters not specifically discussed in the Minister's Decision under the *Environment Effects Act 1978* (Vic) (Appendix A) were identified as requiring documentation in the EES. These matters were geology and soils, surface water and groundwater. The risk assessment confirmed that these matters were of a lower order of importance, and it is therefore recommended that these studies be undertaken primarily through desktop assessment.

The geology and soils assessment should:

- Describe ground conditions in the corridor
- Provide an overview of the potential effects of road construction on any key issues – this might include soil stability, erosion and the exposure and disposal of any waste or hazardous soils (e.g., high salinity soils)
- Identify measures to avoid, mitigate and manage any potential effects, including any relevant design features of the road or techniques for construction
- Identify residual effects of road construction and operation activities on soils in the corridor, including any limitations to future land use activities
- Where relevant, investigations should take account of the requirements of *State Environment Protection Policy (Prevention and Management of Contaminated Land).*

The surface water assessment should:

- Describe key surface water assets in the corridor in terms of water quality and hydrology
- Provide an overview of the potential effects of the construction and operation of the road on surface water quality and hydrology, particularly with regard to Kororoit Creek
- Identify measures to avoid, mitigate and manage any potential effects including any relevant design features of the road and preventative techniques for construction

- Identify residual effects of road construction and operation activities on waterways in the project area
- Where relevant, investigations should take account of the requirements of *State Environment Protection Policy (Waters of Victoria).*

The groundwater assessment should:

- Describe groundwater in the project area in terms of location, behaviour, and quality, including its protected beneficial uses
- Identify potential effects of road construction and operation activities on groundwater
- Identify measures to avoid, mitigate and manage any potential effects including any relevant design features of the road or techniques for construction
- Identify residual effects of road construction and operation activities on groundwater in the project area
- Where relevant, investigations should take account of the requirements of *State Environment Protection Policy (Groundwaters of Victoria).*

6.2 Indicative Schedule

The timing for undertaking the work above is subject to a number of factors, including agreement from DPCD that the Palmers Road Corridor EES be generally confined to the existing Palmers Road reservation and confirmation of the specialist investigation scopes following issue of the EES Scoping Requirements.

Notionally, it has been assumed that DPCD will commence preparation of the Scoping Requirements (a 20 day statutory period, followed by exhibition) in March 2013. VicRoads will seek to confirm the scopes prior to engaging specialists in order to target effort and minimise rework in the event the EES Scoping Requirements are broader than anticipated.

The indicative timeline, assuming an EES with a narrow scope focussing on the five issues of concern to the Minister, is provided in Appendix E which accounts for holiday periods. It should be noted, however, that there are seasonal constraints that will apply for the specialist investigation as set out below which may delay the schedule as indicated:

- Additional ecological survey is not anticipated, however if this assumption is incorrect seasonal constraints require that targeted surveys occur from **spring through to early summer**, or as agreed with the Department of Sustainability and Environment
- Heritage surveys to validate the location of sites found in the desktop assessments and to determine the presence of previously unrecorded sites are best undertaken when ground surface visibility is high, typically through **summer and autumn**
- Work associated with updating the social impact assessment, undertaking noise monitoring and the visual impact assessment is not constrained by seasonal requirements, and will be undertaken upon confirmation of scope.

7.0 Conclusion

The Palmers Road corridor is a core element of the Growth Corridor Plan for Melbourne's west. The land use pattern in the Melton East area has been designed to accommodate a primary north-south arterial along the Palmers Road corridor, including fewer intersections with feeder roads into the residential areas, almost no direct property access, and no community facilities or activity centres on the corridor. Each of these land use factors would generate short distance local traffic which would conflict with longer distance, higher speed arterial traffic.

Adjacent north-south corridors between the Western and Calder Freeways – Kings Road corridor to the east and Gourlay Road Corridor to the west – are not considered to be potentially suitable alternatives. This is due to constraints such as the width of the existing road reserve, the number of friction points at intersections with local streets, the location of activity centres, existing levels of local traffic and designation as part of the principal public transport network. Furthermore, the primary arterial intentions for the Palmers Road corridor underpins the road network set out in the Growth Corridor Plans for Melbourne's west, which is designed to create an efficient transport network to facilitate the sustainable economic development within the growth corridor.

As the land surrounding the majority of the Palmers Road corridor has been almost fully developed, the potential no longer exists for variations to the alignment within the corridor. The section of Calder Park Drive north of the Sunbury rail corridor is the exception where minor refinements to the alignment and interchange with Calder Freeway are possible.

Therefore, the EES required by the Minister for Planning should focus on the Palmers Road corridor/reservation as the study area and be targeted towards the issues of concern identified in the Reasons for Decision. The areas requiring particular attention were identified as; amenity (noise), social (severance and dislocation), landscape and visual (particularly at Organ Pipes National Park), biodiversity and cultural heritage.

VicRoads have previously engaged a number of specialist investigations which are likely to require limited further work following the issue of the Scoping Requirements and confirmation of scope. The work identified to date is primarily related to updating the information obtained for the reports which were completed in 2009, some field surveys, preparation of a CHMP and a visual impact assessment.

An EES process which focuses on these five primary concerns could be completed within 14 months of DPCD preparing the Scoping Requirements for public exhibition.

References

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Glossary

AAV	Aboriginal Affairs Victoria
CHMP	Cultural Heritage Mangement Plan
DPCD	Department of Planning and Community Development
GAA	Growth Areas Authority
GCP	*Growth Corridor Plans – Managing Melbourne's Growth*
MESP	*Melton East Strategy Plan 1997*
OWSTS	*Outer Western Suburbs Transport Strategy: Framework for Transport Network Development*
PPTN	Principal Public Transport Network
PSP	Precinct Structure Plan
vpd	vehicles per day

Appendix A

Reasons for Decision for an EES

REFERRAL NUMBER 2009R00011

For Public Notice via Internet

REASONS FOR DECISION UNDER *ENVIRONMENT EFFECTS ACT 1978*

Title of Proposal: Palmers Road Corridor Project

Proponent: VicRoads

Description of Project:

The objective of the Palmers Road Corridor Project is to create a major north-south arterial road in the west of Melbourne, running 25 km between Point Cook in the south to Calder Park in the north. It involves the augmentation and linking of some existing local roads to create one major arterial road with six lanes, catering for cars, trucks, buses, bicycles and pedestrians. Some completely new sections of road would be required, as well as a bridge over Kororoit Creek and culverts at other creek crossings. It is also proposed to include a raised interchange where the route concludes at the Calder Freeway in the north. It would be constructed over a period of 5 to 15 years in three stages:

- Stage One: Dunnings Road to Deer Park Bypass (in 5 to 10 years);
- Stage Two: Deer Park Bypass to Western Freeway (in 10 to 15 years); and
- Stage Three: Western Freeway to Calder Freeway (in 10 to 15 years).

Decision:

The Minister for Planning has decided that:

- an Environment Effects Statement (EES) is not required for stage one of the Palmers Road Corridor Project (i.e. Dunnings Road to Deer Park Bypass), as described in the referral accepted on 30 June 2009; and
- an EES is required for stages two and three of the Palmers Road Corridor Project (i.e. from Deer Park Bypass to Calder Freeway), as described in the referral accepted on 30 June 2009.

Reasons for Decision:

- There is potential for significant adverse effects associated with the northern section of the corridor (stages two and three), in relation to residential amenity and well-being, landscape values and Aboriginal cultural heritage.
- The opportunity to avoid or minimise potentially significant effects associated with the northern section of the corridor, through route, design or mitigation measures is uncertain.
- An integrated assessment of the potential environmental effects of the proposal and alternatives is needed to facilitate sound decision-making for stages two and three of this new arterial corridor.
- An EES would provide an effective and integrated basis for assessing potential environmental effects of the northern section (stages two and three).
- The potential effects associated with the southern section of the corridor (stage one) are relatively minor and can be effectively addressed through a PSA process.

Date of Decision: 13 NOV 2009

REFERRAL NUMBER 2009R00011

Attachment 1

DECISION ON PROJECT: Palmers Road Corridor Project

1. Assessment though an Environment Effects Statement (EES) under the *Environment Effects Act 1978* is required for stages two and three of this project (i.e. from Deer Park Bypass to the Calder Freeway) for the reasons set out in the attached Notice of Reasons for Decision.

2. The procedures and requirements applying to the preparation of this EES, in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (2006), are as follows:

   (i) Before commencing the EES process and to inform the development of scoping requirements for the EES:

   - The proponent is to provide a preliminary report on the availability of potentially suitable alternatives for developing appropriate arterial route capacity and future road network performance in this region, either generally along the proposed stages two and three of the Palmers Road corridor or along an alternate north-south corridor.
   - The preliminary assessment of alternatives is to consider variations to the current proposal (in terms of the alignment or part thereof and its design (e.g. in relation to its capacity, mitigation measures and so forth), as well as alternative alignments.

   (ii) The EES is to give particular attention to the investigation of potential environmental effects of the proposed arterial road development (i.e. the portion encompassed by stages two and three), and relevant alternatives (see above), including associated environmental mitigation and management measures, particularly regarding:

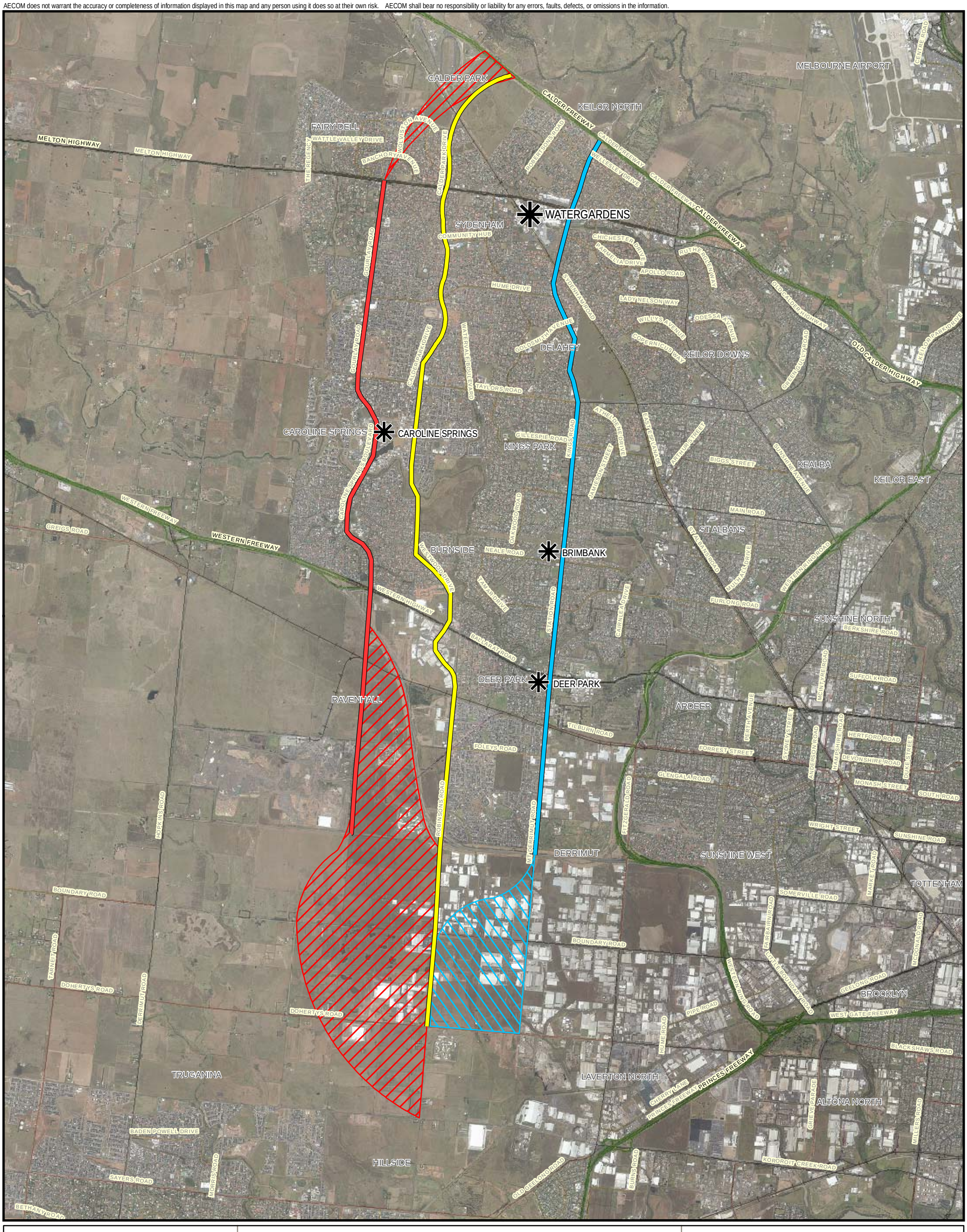
   - Changes to the amenity and environmental quality of the adjacent residential areas from construction and operation, particularly due to increased noise levels;
   - Social impacts (e.g. severance and dislocation) for residences and communities along the proposed arterial route;
   - Effects on the landscape, visual and recreational values of areas in the vicinity of the proposed arterial road, in particular the Organ Pipes National Park;
   - Residual impacts on biodiversity and associated native vegetation, in particular listed protected fauna and flora, and ecological communities; and
   - Impacts on cultural heritage (Aboriginal and non-Aboriginal) within or adjacent to the proposed road.

   (iii) A draft study program is to be prepared by the proponent to set out the proposed investigations and their scheduling. This, together with the preliminary assessment required under (i), will inform the matters to be investigated and documented in the EES, which will be set out in detail in 'scoping requirements' to be prepared for the project by DPCD.

   (iv) DPCD will convene an inter-agency group (Technical Reference Group (TRG)) to advise both itself and the proponent with respect to the studies and preparation of the EES.

Appendix B

Study corridors



PROJECT ID 60267382
CREATED BY DJB
LAST MODIFIED DJB 05 Jun 2012

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DATUM GDA 1994, PROJECTION MGA ZONE 55

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Kilometers

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LEGEND

- Palmers Road corridor
- Gourlay Road corridor
- Kings Road corridor
- Notional connection to existing corridor - Gourley Road
- Notional connection to existing corridor - Kings Road
- Activity Centres (Shopping centres)

PALMERS ROAD - POTENTIAL ALTERNATIVE CORRIDORS

VicRoads

Map Document: P:\60267382\4. Tech work area\4.99 GIS\02_Maps\60267382_FigFx_Options_05Jun12.mxd

A3 size

Appendix C

Summary of alternatives against project objectives

Appendix C Summary of alternatives against project objectives

Project Objective	Palmers Road corridor	Gourlay Road corridor	Kings Road corridor
a) Road Safety - Provide an ultimate facility that promotes the reduction of crashes	- Separates arterial traffic from local traffic and activity centres - Activity centres located away from the corridor	- Mixing of arterial traffic and local traffic potentially reduces road safety - Activity centres developed on corridor generates low speed destination traffic	- Mixing of arterial traffic and local traffic potentially reduces road safety - Activity centres developed on corridor generates low speed destination traffic
b) Access and Mobility - Provide an ultimate facility that caters for future growth - Provide an ultimate facility that promotes bicycle and pedestrian travel	- Provides capacity for an additional 40,000+ vpd - Eases congestion on existing PPTN. - Corridor generally wide enough for typical primary arterial cross section - Cross section allows adequate bicycle facilities to be incorporated into design	- Existing traffic volumes reaching capacity associated with secondary arterials - Congestion on PPTN will increase over time - 34m width in the corridor is inadequate for a primary arterial - Reserve already narrow and large sections require retrofitting of bicycle facilities	- Existing traffic volumes reaching capacity associated with secondary arterials - Congestion on PPTN will increase over time - Narrow width of a section of Station Road would require acquisition of residences. - Large sections require retrofitting of bicycle facilities

Project Objective	Palmers Road corridor	Gourlay Road corridor	Kings Road corridor
c) Transport Efficiency - Provide an ultimate facility that caters for predicted long term traffic volumes - Provide an ultimate facility that caters for long term public transport needs - Provide an ultimate facility that caters for commercial access to industrial and employment precincts	- Provides capacity for an additional 40,000+ vpd - Eases congestion on existing PPTN - Separates arterial traffic from local traffic - Limited connectivity to local roads incorporated into neighbourhood design - Corridor already earmarked as primary arterial	- Existing traffic volumes reaching capacity associated with secondary arterials - Current inefficient connectivity to the Calder Freeway - No existing connection to Stage 1 of the Palmers Road corridor upgrade - High number of 'friction points', particularly on Caroline Springs Boulevard - Corridor already designated on PPTN	- Existing traffic volumes reaching capacity associated with secondary arterials - No current connection to the Princes Freeway - Current inefficient connectivity to Stage 1 of the Palmers Road corridor upgrade - High number of 'friction points', particularly at activity centres - Corridor already designated PPTN
d) Environment - Minimise impact on the natural and built environment and retain significant conservation areas	- Minor changes to access for small number of properties - Potential amenity impacts due to traffic noise - Environmental impacts largely understood. Potential ecology and heritage impacts - No physcial impact to Organ Pipes National Park	- Impacts likely on the built environment if efficient connection is constructed to the Calder Fwy - Social impacts likely with upgrading Caroline Springs Boulevard - Acquisition of residences likely with potential widening of Caroline Springs Boulevard - Impacts on the natural environment currently unknown. - Potential impact to Organ Pipes NP if a new diamond interchange is constructed at a location other than that for Palmers Rd.	- Impacts likely on the built environment in linking to Stage 1 of the Palmers Road corridor upgrade. - Acquisition of residences and or industrial buildings likely with widening Station Road. - Impacts on the natural environment currently unknown. - No impact to Organ Pipes NP

Appendix D

Review of EES Scoping Requirements

Appendix D Review of EES Scoping Requirements

Western Highway – Beaufort to Ararat	Sale – Traralgon	Palmers Road Minister's Reasons for Decision
4.2 Road Safety, Efficiency and Capacity	**4.2 Road Safety and Capacity**	
Objective: *To provide for the duplication of the Western Highway between Beaufort and Ararat to address safety, efficiency and capacity issues.* The EES is to: - Outline the rationale for the project in the context of relevant policies, strategies, standards and government commitments; - Describe the implications of relevant alternatives in meeting the project's objectives; - Identify expected or modelled transport outcomes of the project in terms of capacity, traffic volumes, travel times[5], safety and accessibility; - Describe road design features and the alignments that have been adopted to optimise the benefits (including increased safety) of the duplication for road users, having regard to effects on other environmental and social values; - Consider whether design provisions that would enable safer access for vehicles entering and leaving the highway are warranted in specific areas; and - Address potential risk areas to road safety, such as wildlife corridors, and outline any specific measures to avoid, minimise and mitigate road safety issues. 5) The EES should include an explanation of travel time calculations.	***Objective:*** *To provide for the duplication of the Princes Highway between Traralgon East and Kilmany to address safety and capacity issues.* The EES should outline the rationale for the project and implications of relevant alternatives in meeting the project's objectives. Particularly, the EES should: - Identify expected or modelled transport outcomes of the project in terms of capacity, travel times, safety and accessibility; and - Describe road design features and chosen alignment that have been adopted to optimise the benefits (including increased safety) of the duplication for road users, having regard to effects on other environmental and social values.	*Not mentioned in Minister's Reasons for Decision*
4.3 Biodiversity and Habitat	**4.3 Biodiversity and Habitat**	
Objective: *To avoid or minimise effects on flora and fauna species and ecological communities listed under the* Flora and Fauna Guarantee Act 1988 *or the* Environment Protection and Biodiversity Conservation Act 1999*, as well as to comply with requirements under* Victoria's Native Vegetation Management - A Framework for Action, 200*2.* The EES should provide an assessment of any potential direct and indirect effects of the proposed works and relevant alternatives on terrestrial and aquatic biodiversity, habitats and other conservation values. Specifically, the EES should: - Characterise the native vegetation and terrestrial and aquatic habitat located in the project area. Such characterisation should include the existence or potential existence of any species or ecological communities listed under the FFG Act or EPBC Act and any declared weeds or pathogens. The characterisation should	***Objective:*** *To avoid or minimise effects on species and ecological communities listed under the* Flora and Fauna Guarantee Act 1988 *(Vic) or the Env*ironment Protection and Biodiversity Conservation Act 1999 *(Commonwealth) and to comply with requirements under Victoria's* Native Vegetation Management – A Framework for Action*.* ***Objective:*** *To provide for the sustainable long-term management of retained native vegetation and habitat areas within and adjacent to the road reservation along the duplicated highway.* The EES should provide an assessment of any potential direct and indirect effects of the proposed works and relevant	Residual impacts on biodiversity and associated native vegetation, in particular listed protected flora and fauna, and ecological communities

Western Highway – Beaufort to Ararat	Sale – Traralgon	Palmers Road Minister's Reasons for Decision
be informed by relevant databases, literature and appropriate seasonal and targeted surveys; - Provide evidence to demonstrate that adequate information (e.g., desktop database searches, targeted surveys and/or modelling) has been compiled on the potential and actual presence of threatened species and ecological communities, having regard to the likelihood and consequence of impact. In the absence of positive identification, a precautionary approach should be taken for the potential existence of listed species and ecological communities listed under the EPBC Act[6]; - Identify and assess potential effects of the proposed project and relevant alternatives on existing native vegetation, habitat (quality and continuity), listed flora and fauna species and ecological communities. Potential effects to be assessed should include barriers to the movement of wildlife, fragmentation of habitat and vehicle road kills. This assessment should address the relevant Potentially Threatening Processes listed under the FFG Act; - Assess any effect of the project on other conservation values, including areas of scientific or other special conservation significance; - Identify and assess potential direct and indirect effects on aquatic habitat values, including on significant aquatic species, that may result from the project and, in particular any proposed waterway crossings; - Identify potential effects of the project on the dispersion and distribution of weeds and pathogens; - Specify any measures to avoid, minimise and mitigate biodiversity impacts, especially on threatened or other listed species; - Outline any obligations arising from Victoria's *Biodiversity Strategy and Victoria's Native Vegetation Management - A Framework for Action*. In particular, the EES should address how vegetation removal has been avoided and minimised by the proposed works; - Outline an offset strategy for unavoidable clearing of native vegetation in the context of both Victoria's Native Vegetation Management - A Framework for Action and Draft Policy Statement 4.1: Use of environmental offsets under the EPBC Act. This offset strategy should describe proposed arrangements for ongoing management of offsets, as well as details on the security of tenure and ownership of offsets;	alternatives on terrestrial and aquatic biodiversity, habitats and other conservation values. Specifically, the EES should: - Characterise the native vegetation and terrestrial and aquatic habitat located in the project area. Such characterisation should include the existence or potential existence of any species or ecological communities listed as threatened under the FFG Act and EPBC Act and any declared weeds or pathogens. Such characterisation should be informed by relevant databases, literature and appropriate seasonal and targeted surveys. - Provide evidence to demonstrate that adequate information (e.g., desktop database searches, targeted surveys and/or modelling) has been compiled on the potential presence of threatened species and ecological communities based on likelihood and consequence of impact. In the absence of positive identification, the precautionary approach should be taken for the potential existence of listed species and ecological communities. - Identify and assess potential effects of the project and alternative alignments on existing native vegetation, habitat (quality and continuity), listed species and ecological communities and weed and pathogen dispersal and distribution. Such assessment should include the relevance of Potentially Threatening Processes listed under the FFG Act and address the requirements of the Victorian Biodiversity Strategy, Victoria's *Native Vegetation Management – A Framework for Action* and relevant provisions of planning schemes. - Identify potential effects of the project on the dispersion and distribution of weeds and pathogens. - Specify any measures to avoid, minimise and mitigate biodiversity impacts, especially on threatened or other listed species.	

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- Identify methods of vegetation rehabilitation for both areas disturbed for construction purposes only and of any sections of existing road to be made redundant; - Describe the proposed approach and measures for long-term management of retained native vegetation and habitat areas within and adjacent to the road reservation along the duplication highway; and - Describe at a level of detail proportionate to the significance of potentially affected assets, the likely residual effects of the project on biodiversity and habitat values. The EES should also include a separate summary assessment addressing effects on, and avoidance, mitigation and management measures for, matters of national environmental significance. This summary must include, but not be limited to, information on the following species and ecological communities listed as threatened under the EPBC Act: - Southern Brown Bandicoot, Golden Sun Moth, Plains Wanderer, Striped Legless Lizard, Growling Grass Frog, Murray Cod, Australian Grayling and Eastern Dwarf Galaxias; - Button Wrinklewort, Spiny Rice-flower, Langi Ghiran Grevillea, Tawny Spiderorchid and Large-fruit Fireweed; - Natural Temperate Grasslands of the Victorian Volcanic Plains; and Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions. 6 The assessment of impacts for matters of national environmental significance should assume the potential presence of a listed protected species or community where there is clearly identifiable habitat for that species or community.	- Outline any obligations arising from Victoria's *Biodiversity Strategy and Victoria's Native Vegetation Management – A Framework for Action*. In particular, the EES should address how vegetation removal has been avoided and minimised by the proposed works, as well as identifying relevant offsets for unavoidable clearing of native vegetation. - Identify an offset strategy in the context of Victoria's *Native Vegetation Management – A Framework for Action and Draft Policy Statement 4.1: Use of environmental offsets under the Environment Protection and Biodiversity Conservation Act 1999*. - Outline within the offset strategy a plan for ongoing management arrangements for any offsets proposed as part of any compensatory measures. Such a plan should include details on the security of tenure and ownership of offsets. - Identify methods of vegetation rehabilitation for any areas disturbed for construction purposes only or of any sections of existing road to be made redundant. - Identify residual effects of the project on biodiversity and habitat. The EES should also include a separate summary assessment addressing effects on and avoidance, mitigation and management measures for, matters of national environmental significance. This summary must include, but not be limited to, information on the following species and ecological communities listed as threatened under the EPBC Act: - Gippsland Red-gum (*Eucalyptus tereticornis subsp. mediana*) Grassy Woodland and Associated Native Grassland ecological community; - Matted Flax-lily (*Dianella amoena*); - Clover Glycine (*Glycine latrobeana*); - River Swamp Wallaby Grass (*Amphibromus fluitans*); - Strzelecki Gum (*Eucalyptus strzeleckii*); - Growling Grass Frog (*Litoria raniformis*); and,	

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	- Dwarf Galaxis (*Galaxiella pusilla*). This section should also include details of the consideration of Draft Policy Statement 4.1 for the identification and management of relevant offsets.	
4.4 Catchment Values	**4.4 Catchment Values**	
Objective: *To protect catchment values, surface water and groundwater quality, stream flows and floodway capacity, as well as to avoid impacts on protected beneficial uses.*	***Objective:*** *To protect catchment values, surface water and groundwater quality, stream flows and floodway capacity, as well as to avoid impacts on protected beneficial uses.*	*Not mentioned in Minister's Reasons for Decision*
4.4.1 Geology and soils The EES should: - Identify and assess potential effects of road construction and operation activities on soil stability, erosion and the exposure and disposal of any waste or hazardous soils (e.g., highly saline or contaminated soils); - Identify proposed measures to avoid, mitigate and manage any potential adverse effects, including any relevant design features of the road or techniques for construction; and - Identify residual effects of road construction and operation activities on soils in the project area, including any implications for future land use activities. Where relevant, investigations should take account of the requirements of *State Environment Protection Policy (Prevention and Management of Contaminated Land)*. If contaminated soils are identified, an assessment should be prepared outlining what is known about the contamination and the further steps to be implemented.	**4.4.1 Geology and soils** The EES should: - Characterise the soils in the project areas (both physical and chemical aspects). - Identify and assess potential effects of road construction and operation activities on soil stability, erosion and the exposure and disposal of any waste or hazardous soils (e.g., high salinity soils). - Identify measures to avoid, mitigate and manage any potential effects, including any relevant design features of the road or techniques for construction. - Identify residual effects of road construction and operation activities on soils in the project area, including any limitations to future land use activities. Where relevant, investigations should take account of the requirements of *State Environment Protection Policy (Prevention and Management of Contaminated Land).*	*Not mentioned in Minister's Reasons for Decision*
4.4.2 Surface Water The EES needs to assess potential project effects related to surface water environments, including on water quality, hydrology and beneficial uses and values. This should be done in the context of the *State Environment Protection Policy (Waters of Victoria)*, and other water-related legislation, policies and strategies. The EES should assess potential effects related to stormwater runoff, as well as the hydrology	**4.4.2 Surface Water** The EES should assess potential effects related to surface drainage, flooding, water quality, hydrology (including tributaries and drains), wetland systems and drainage reserves. Specifically, the EES should: - Characterise surface water environments and drainage	*Not mentioned in Minister's Reasons for Decision*

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and water quality of waterways and floodplains in the surrounding area. The level of detail of investigation should take account of the local conditions, the occurrence of surface water in the area, including perennial or ephemeral wetlands, drainage reserves, and sensitivity of the beneficial uses and values of the respective water environments. Specifically, the EES should: - Characterise surface water environments and drainage features (including tributaries, drains and drainage reserves) in the project area in terms of water quality, hydrology and related beneficial uses and values; - Identify and assess potential short- and long-term effects of the construction and operation of the duplicated highway on surface water quality and hydrology, surface drainage, flooding, the quantity and quality of surface runoff and river health values of the waterways, tributaries, drains, wetland systems or drainage reserves that may be crossed, including the Hopkins River, Fiery Creek, Middle Creek, Charliecombe Creek, Billy Billy Creek and Green Hill Lake. Consideration should also be given to potential effects on the proclaimed special water supply catchment areas located near the project area; - Identify proposed measures to avoid, mitigate and manage any potential effects, including design features for the road, preventative techniques for construction and measures to reinstate affected waterways and drains; and - Describe likely residual effects of road construction and operation activities on waterways in the project area at a level of detail proportionate to the risk to affected assets. - Of particular relevance to road construction activities, the following must be addressed: - Evaluation of the effects of preferred waterway crossing methods and relevant alternatives; - Environmental management practices to be employed at waterway crossings in relation to disturbance of stream beds and banks, construction and removal of temporary barriers and crossings, release of diverted stream flow to watercourses during crossing construction and maintenance of sediment control facilities; - Environmental management practices to be employed generally along the road alignment for activities, especially in disturbed areas within the construction	features (including tributaries, drains and drainage reserves) in the project area in terms of water quality and hydrology. - Identify and assess potential short- and long-term effects of the construction and operation of the highway on surface water quality and hydrology, surface drainage, flooding, the quantity and quality of surface runoff and river health values of the waterways, tributaries, drains, wetland systems or drainage reserves that may be crossed, including the Sheepwash Creek, Flynns Creek, Blind Joe Creek and Nambrok Creek. - Identify measures to avoid, mitigate and manage any potential effects including any relevant design features of the road, preventative techniques for construction and proposed measures to reinstate affected waterways and drains. - Identify residual effects of road construction and operation activities on waterways in the project area. Of particular relevance to road construction activities, the following must be addressed: - Evaluation of the preferred waterway crossing methods and relevant alternatives. - Environmental management practices to be employed at waterway crossings in relation to disturbance of stream beds and banks, construction and removal of temporary barriers and crossings, release of diverted stream flow to watercourse during crossing construction and maintenance of sediment control facilities. - Environmental management practices to be employed generally along the road alignment for activities, especially in disturbed areas within the construction footprint for sediment control and water quality protection. - Contingency plans, in the event of failure of the proposed control measures (i.e. during heavy rainfall or flooding). The EES will need to address all relevant requirements for managing discharges and protecting water quality and beneficial	

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footprint for sediment control and water quality protection; and - Contingency plans, in the event of failure of the proposed control measures (i.e. during heavy rainfall or flooding).	uses, in the context of the *State Environment Protection Policy (Waters of Victoria),* and other water-related policies and strategies.	
4.4.3 Groundwater The EES should assess the potential effects of the project on groundwater, in the context of the State Environment Protection Policy (Groundwaters of Victoria). Specifically it should: - Characterise the groundwater in the project area in terms of location, behaviour, and quality, including its protected beneficial uses under the *State Environment Protection Policy (Groundwaters of Victoria);* - Identify potential effects of road construction and operation activities on groundwater and any potential effects of groundwater quality on road construction and integrity (e.g. salinity); - Identify measures to avoid, mitigate and manage any potential effects including any relevant design features of the road or techniques for construction; and - Describe likely residual effects of road construction and operation activities on groundwater in the project area.	**4.4.3 Groundwater** The EES should: - Characterise the groundwater in the project area in terms of location, behaviour, and quality, including its protected beneficial uses under the *State Environment Protection Policy (Groundwaters of Victoria)*. - Identify potential effects of road construction and operation activities on groundwater and any potential effects of groundwater quality on road construction and integrity (e.g., salinity). - Identify measures to avoid, mitigate and manage any potential effects including any relevant design features of the road or techniques for construction. - Identify residual effects of road construction and operation activities on groundwater in the project area. Where relevant, investigations should take account of the requirements of *State Environment Protection Policy (Groundwaters of Victoria).*	*Not mentioned in Minister's Reasons for Decision*
4.5 Land Use and Traffic Effects		
Objective: *To avoid or minimise disruption and other adverse effects on infrastructure, land use (including agriculture) and households, as well as road users resulting from the construction and operation of the highway duplication.*		*Not mentioned in Minister's Reasons for Decision*
4.5.1 Land Use The EES should identify any likely adverse effects of the project on existing and potential future land use in the vicinity of the project, as well as proposed measures for addressing those effects. In particular the EES needs to: - Characterise the project area in terms of land use (existing and likely), zoning and public infrastructure that support current patterns of economic and social activity; - Describe the consistency of the proposed works and relevant alternatives with	**4.5.1 Land Use** The EES should: - Characterise the project area in terms of land use, zoning and public infrastructure that support current patterns of economic and social activity. - In the context of relevant planning scheme provisions, identify potential long- and short-term effects of the project on existing and potential future land uses, zoning and public	*Not mentioned in Minister's Reasons for Decision*

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the provisions of the planning schemes and other relevant planning strategies. The EES should include an analysis of the proposed works and relevant alternatives against relevant planning scheme provisions, which highlights potential project implications in light of the relevant provisions; - Identify potential long-term and short-term effects of the project on existing and potential future land uses either in the vicinity of the upgraded road or connected to it by the regional network (including induced development). Attention should be given to potential effects of the project on residential uses, agricultural uses, including vineyards, wind farm infrastructure, the Ararat – Ballarat railway; - Identify measures to avoid, mitigate and manage any potential adverse land use effects; and - Assess the likely residual effects of the project on existing and potential future land uses. The EES should also identify whether any planning scheme amendments and planning permits are required to facilitate the project. It should outline what the amendment/permit proposes to do and include an assessment of the amendment and/or project against any relevant considerations and/or requirements, where appropriate.	infrastructure. This should include an identification of key affected stakeholders, potential implications for future shifts in patterns of economic and social activity and associated implications for land use and development. - Assess the consistency of the proposed works and relevant alternatives with the policies and provisions of the Latrobe and Wellington Planning Schemes and other relevant planning strategies. - Identify measures to avoid, mitigate and manage any potential effects. - Identify residual effects of project on existing and potential future land uses. To ensure efficiency of process, it is advised that the EES address requirements for any relevant planning scheme amendments and planning permits where appropriate.	
4.5.2 Traffic The EES should: - Characterise the current traffic conditions, in the context of the road network and in relation to capacity, travel times, safety and accessibility; - Identify and assess potential effects of the project on existing traffic conditions, including traffic movement (i.e. rail, freight, buses, cyclists and pedestrians) and access. The assessment should address potential effects of temporary road closures, heavy vehicles required for construction on nearby existing arterial roads as well as the ability of these roads to accommodate increased traffic during the project's construction; - Identify and assess potential effects of road construction and operation on the rail line and interface, especially near intersections and crossings; and - Identify traffic management and safety principles for the construction and operation phases, covering (where appropriate) road safety, different traffic routes, hours of use, traffic speeds, types of vehicles and emergency services access provisions.	**4.5.2 Traffic** The EES should: - Characterise the current traffic conditions in terms of capacity, travel times, safety and accessibility. - Identify and assess potential effects of the project on existing traffic conditions, including traffic movement and access. This should include potential effects of heavy vehicles required for construction on nearby existing arterial roads and the ability of these roads to accommodate potential effects during the project's construction. - Identify and assess potential effects of road construction and operation on the rail line and interface especially near intersections and crossings. - Identify traffic management and safety principles for the construction and operation phases, covering (where appropriate) road safety, different traffic routes, hours of use,	*Not mentioned in Minister's Reasons for Decision*

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The EES should include assessment of the consistency of the final proposal with the provisions of the *Transport Integration Act 2010*.	traffic speeds, types of vehicles and emergency services access provisions. The EES should include assessment of the consistency of the final project design with objectives of relevant Victorian transport policies.	
4.6 Amenity and Landscape Effects	**4.5 Socio-economic, Land use, Infrastructure and Amenity**	
Objective: *To minimise air emissions, noise, visual, landscape and other adverse amenity effects, during the development and operation of the proposed duplicated highway to the extent practicable.*		*See below*
4.6.1 Air quality The EES should: - Characterise ambient air quality (in terms of dust) and identify sensitive receptors in the project area; - Identify and assess potential effects of road construction activities on sensitive receptors due to an increase in dust or other emissions; - Identify proposed measures to avoid, mitigate and manage any potential effects including any relevant techniques or methods to be used during construction to manage dust and odour and any residual effects; and - Address any relevant requirements of *State Environment Protection Policy (Air Quality Management)* and *State Environment Protection Policy (Ambient Air Quality)* and assess any implications for the project.	**4.5.3 Air quality** The EES should: - Characterise ambient air quality (in terms of dust) and identify sensitive receptors in the project area. - Identify and assess potential effects of road construction activities on sensitive receptors due to an increase in dust or other emissions. - Identify proposed measures to avoid, mitigate and manage any potential effect including any relevant techniques or methods to be used during construction to manage dust and odour and any residual effects. - Address any relevant requirements of *State Environment Protection Policy (Air Quality Management*).	*Not mentioned in Minister's Reasons for Decision*
4.6.2 Noise The EES should: - Characterise the ambient noise environment and identify sensitive receptors in the project area; - Identify and assess the potential for the project to increase noise levels during construction and operation at sensitive receptors. The assessment should include an estimation of noise from all project-related sources and at different periods during the day to establish likely noise levels to be experienced at sensitive receptors; and - Identify proposed design and management measures to avoid, mitigate and manage any potential noise effects on sensitive receptors during construction	**4.5.4 Noise** The EES should: - Characterise the ambient noise environment and identify sensitive receptors in the project areas. - Identify and assess potential ability of road construction and operation to increase noise levels generally and at sensitive receptors. The assessment should include an estimation of noise from all project-related sources and at different periods during the day, to establish likely noise levels to be experienced at sensitive receptors. - Identify proposed design and management measures to	Changes to the amenity and environmental quality of the adjacent residential areas from construction and operation, particularly due to noise

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and subsequently, to ensure the project will comply with applicable policy. This assessment is to be in the context of current government policy and practicable noise mitigation options, with respect to road management and environment protection.	avoid, mitigate and manage any potential noise effects on sensitive receptors during construction and subsequently, to ensure the project will comply with applicable policy. This assessment is to be in the context of current government policy and practicable noise mitigation options, with respect to road management and environment protection.	
4.6.3 Visual and Landscape Character The EES needs to include an assessment of the potential effects of the project on landscape character, as well as on the visual amenity of residents. More specifically, the EES will need to: - Characterise the existing landscape character, identify sensitive receptors (including dwellings, Buangor Primary School, Langi Ghiran State Park Lookouts, Mount Buangor State Park Lookout, waterways and other recreational or community spaces) in the project area; - Describe the significance of the landscape and its sensitivity to change; - Identify the key features of the proposed project and relevant alternatives, which may result in visual and landscape effects during construction or operation; - Identify and assess the potential changes to the landscape, and associated effects on visual amenity; - Assess the capacity of the landscape as a whole to accommodate the project and any relevant alternatives without significantly diminishing the landscape character; - Assess potential visual effects from key vantage points in the landscape including at sites of topographical prominence and sites with notable natural, scientific, cultural, recreational or aesthetic values. This assessment could involve the use of computer-based simulation of route options or parts of the route options to assist with the evaluation of landscape changes and visual effects; - Assess potential effects of the project and relevant alternatives (including ancillary works, such as acoustic barriers) on identified sensitive receptors in the project area, including dwellings. This assessment should take into account relevant findings of the existing and future land use assessment; - Assess the effects of the project on the visual and landscape character of the project area and adjoining areas taking into account distances and user group	**4.5.5 Visual** The EES should: - Characterise the existing viewshed and identify sensitive receptors (including dwellings and recreational or community spaces) in the project area. - Identify and assess potential effects of the Princes Highway Duplication (including any necessary acoustic barriers and other ancillary works) on the visual amenity of identified sensitive receptors. This assessment should take into account relevant findings of the existing and future land use assessment. - Identify measures to minimise and mitigate visual amenity effects. - Identify residual effects on the visual amenity of sensitive receptors.	Effects on the landscape, visual, and recreational values of areas in the vicinity of the proposed arterial road, in particular the Organ Pipes National Park

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sensitivities to landscape modifications; - Identify measures to avoid, minimise and/or mitigate visual and landscape effects; and - Assess likely residual effects on the visual amenity of sensitive receptors and the landscape character within and adjoining the project area.		
4.7 Social and Economic Effects	**4.5 Socio-economic, Land use, Infrastructure and Amenity**	
Objective: *To protect residents' well-being and minimise any dislocation of residents or severance of communities, to the extent practicable.*	***Objective:*** *To avoid or minimise disruption and other adverse effects on infrastructure, land use (including agriculture, residential and future coal mining) and households, as well as road users during construction and/or resulting from the highway alignment.* ***Objective:*** *To avoid or minimise noise, visual and other adverse amenity effects on local residents during the development and operation of the proposed duplicated highway to the extent practicable*	*See below*
4.7.1 Social Effects The EES should assess the potential social effects of the project, particularly on nearby residents and surrounding communities. It should include an assessment of: - The existing social and community conditions in the vicinity of the project and relevant alternatives, including the settlement pattern, the distribution of residents in the vicinity of the site, and their demographic characteristics, and patterns of community interaction and social foci; - Potential effects on local residents and communities during the construction stage; - Potential effects on places with particular cultural, recreational or aesthetic values, particularly with regard to significant regional locations; - The potential for residents and communities, or parts of communities in the vicinity of the project, to be affected through dislocation, severance of accessibility or reduction of their amenity (in relation to visual amenity, noise other changes to the character of the area) resulting from development of the proposed project or relevant alternatives; and - Proposed measures to address potential adverse social effects, having regard to these, the likely residual effects on local residents and communities.	**4.5.6 Social Impact Assessment** The EES should: - Characterise the existing community (including landholders, residents, surrounding communities and interest groups) within and around the proposed works and relevant alternatives, including residential distribution, social and demographic characteristics and patterns of community interaction and social foci. - Identify and assess potential effects on and opportunities to maximise benefits including those related to potential land acquisition, amenity, accessibility of services and open space, places with particular cultural, recreational or aesthetic values. This assessment should take account of existing and proposed land uses. - Identify local community attitudes towards the project, and any proposed measures to address current and potential concerns. - Identify avoidance, mitigation and management measures to	Social impacts (e.g. severance and dislocation)for residences and communities along the proposed arterial route. Effects on the landscape, visual, and recreational values of areas in the vicinity of the proposed arterial road, in particular the Organ Pipes National Park

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The EES also needs to identify native title interests and briefly outline the process by which these interests are being addressed in light of the *Traditional Owner Settlement Act 2010.*	reduce potential effects, address community concerns or optimise benefits. - Identify residual effects on local communities.	
4.7.2 Economic Effects Objective: To provide net economic benefits for the State, having regard to road user benefits, direct costs, and indirect costs including with the respect to other land uses and economic activities. The EES needs to assess the potential economic effects of the project, including the effects on the local towns and the wider region. Specifically the EES needs to: - Identify the potential economic effects of proposed works and relevant alternatives during construction and operation at the local and regional level in relation to employment, income distribution and existing land uses in the area, (especially key infrastructure or services, agriculture, business and tourism); and - Provide an overall analysis of the costs and benefits of the proposed works and relevant alternatives, including the 'no project' scenario.	**4.5.7 Economic** The EES should: - Identify the economic effects of the proposed works and relevant alternatives at the local and regional level in relation to land uses in the area, including key infrastructure or services, agriculture, business and tourism. - Provide an overall analysis of the costs and benefits of relevant alternatives, including the 'no project' scenario, taking account of other infrastructure changes, land use impacts, biodiversity impacts as well as expected direct and indirect economic benefits.	*Not mentioned in Minister's Reasons for Decision*
4.8 Cultural Heritage	**4.6 Cultural Heritage**	
Objective: *To protect Aboriginal and non-Aboriginal cultural heritage*	***Objective:*** *To protect Aboriginal and non-Aboriginal cultural heritage*	See below
4.8.1 Aboriginal Cultural Heritage The EES should describe and assess the potential effects of the project on both known and currently unknown Aboriginal sites and places of archaeological and/or cultural heritage significance. The assessment should consider the knowledge, values and views of local Aboriginal communities (including traditional owners and relevant Registered Aboriginal Parties). The EES should: - Provide relevant information on pre-contact and contemporary activities in the project area by Aboriginal people; - Clearly document consultation undertaken to gain the knowledge and views of local Aboriginal communities (including traditional owners and relevant Registered Aboriginal Parties);	**4.6.1 Aboriginal Cultural Heritage** The EES should describe and assess the potential effects of the project on both known and as yet unidentified Aboriginal sites and places of archaeological and/or cultural heritage significance. The assessment should consider the knowledge, values and views of local Aboriginal communities (including traditional owners and relevant Registered Aboriginal Parties (RAPs)). The EES should: - Provide contextual information on pre-contact and contemporary activities in the project area by Aboriginal people. - Clearly document consultation undertaken to gain the	Impacts on cultural heritage (Aboriginal and non-Aboriginal) within or adjacent to the proposed land

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- Describe field investigations undertaken to locate Aboriginal cultural heritage sites within the project area, and provide the rationale for the nature of investigations (e.g., why sub-surface investigations were or were not undertaken in particular areas); - Identify any cultural heritage sites located prior to or during the EES process and characterise both the scientific and cultural significance of each site. The investigation should be undertaken in consultation with Aboriginal Affairs Victoria, traditional owners and Registered Aboriginal Parties and in accordance with relevant legislation, in particular the Aboriginal Heritage Act 2006; - Discuss the potential for unknown sites in the area, highlighting any areas of cultural heritage sensitivity; - Identify and assess potential effects of the project on known significant sites and potential unknown sites; - Identify proposed measures to avoid, mitigate or manage potential effects on known and unknown sites of cultural significance; and - Assess likely residual effects of the project on Aboriginal cultural heritage and values in the project area.	knowledge and views of local Aboriginal communities (including traditional owners and relevant RAPs). - Describe field investigations undertaken to locate Aboriginal cultural heritage sites within the project area, and provide the rationale for the nature of investigations (e.g., why sub-surface investigations were or were not undertaken in particular areas). - Identify any cultural heritage sites located prior to or during the EES process and characterise both the scientific and cultural significance of each site. The investigation should be undertaken in consultation with Aboriginal Affairs Victoria, traditional owners and RAPs and in accordance with relevant legislation, particularly the *Aboriginal Heritage Act 2006*. - Discuss the potential for unknown sites in the area, highlighting any areas of sensitivity. - Identify and assess potential effects of the proposed development on known significant sites and potential unknown sites. - Identify proposed measures to avoid, mitigate or manage potential effects on known and unknown sites of cultural significance. - Identify residual effects of the project on Aboriginal cultural heritage and values in the project area. The EES also needs to identify native title interests and briefly outline the process by which these interests are being addressed in light of the *Traditional Owner Settlement Act 2010* (Vic).	
4.8.2 Non-Aboriginal Cultural Heritage The EES should identify, assess and document all non-Aboriginal places of cultural significance within the project area. The EES should assess significance in terms of place types, periods and heritage values. In assessing significance, the proponent should consult the *Heritage Council Criteria for the Assessment of Cultural Heritage Significance* (August 2008), *Victoria's Framework of Historical Themes* (February 2010) and *Guidelines for Conducting Archaeological Surveys* (July 2008). The EES should:	**4.6.2 Non-Aboriginal Cultural Heritage** The EES should identify, assess and document all non-Aboriginal places of cultural significance within the project area. The EES should assess significance in terms of place types, periods and heritage values. In assessing significance, the proponent should consult the *Heritage Council Criteria for the Assessment of Cultural Heritage Significance* and Victoria's *Framework of Historical Themes*.	Impacts on cultural heritage (Aboriginal and non-Aboriginal) within or adjacent to the proposed land

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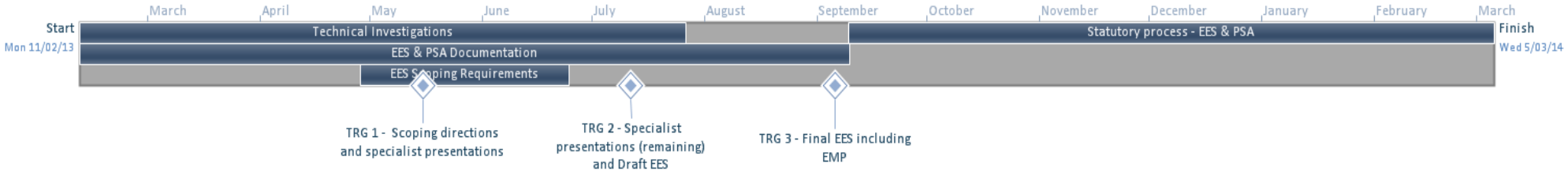
- Identify relevant historical information within the vicinity of the project area and provide a thematic history of the area; - Provide an inventory of any non-Aboriginal heritage places of significance in and within the vicinity of the project area, including the Wodnagerrak Homestead and the former Cobb & Co. Changing Station at Buangor. Survey work may be required to ensure that the inventory is a thorough listing of all non-Aboriginal heritage places in and within the vicinity of the project area; - Establish the cultural heritage significance of any known or newly recorded sites in consultation with Heritage Victoria and the Pyrenees Shire Council and Ararat Rural City Council; - Identify and assess the potential effects of the project on known and recorded sites, including whether the project will affect the setting and context of heritage places; - Identify measures to avoid, mitigate or manage potential effects on known and recorded places of cultural heritage significance. Include details of any proposed measures, such as project redesign, site protection measures, site recording and documentation, funding options and relocation procedures, if necessary, and any requirements under either the Pyrenees or Ararat Planning Schemes and the Heritage Act 1995; and - Identify the residual effects of the project on non-Aboriginal heritage and values in or nearby to the project area.	The EES should: - Provide a historical context of the project area. - Provide an inventory of any non-Aboriginal heritage places of significance in the project area. Survey work may be required to ensure that the inventory is a thorough listing of all non-Aboriginal heritage places in the study area. - Identify and assess potential effects of the proposed development on known significant sites and potential unknown sites; - Identify measures to avoid, mitigate or manage potential effects on known and potential unknown sites of significance. Include details of any proposed measures such as site protection measures, site recording and documentation, and relocation procedures if necessary (e.g., for the Strezleki monument), and any requirements pursuant to either the Latrobe or Wellington planning schemes and the Heritage Act 1995. - Identify residual effects of the project on non-Aboriginal heritage and values in the project area.	

Appendix E

Indicative EES timeline

Appendix E Indicative EES timeline



Appendix F

Risk Assessment

Appendix F Risk Assessment

Topic Area	Key considerations for determining category	Preliminary category
Traffic	The Melton East Strategy Plan enshrined in Melton Planning Scheme – allows for Palmers Road to be main arterial into the future and separates community facilities from this corridor. The Palmers Road corridor is a core element of the Growth Corridor Plan for Melbourne's west. The land use pattern in the Melton East area has been designed to accommodate a primary north-south arterial along the Palmers Road corridor, including fewer intersections with feeder roads into the residential areas, almost no direct property access, and no community facilities or activity centres on the corridor. Each of these land use factors would generate short distance local traffic which would conflict with longer distance, higher speed arterial traffic travelling on this planned six lane north-south connection. The 2011 "western growth areas - north" VITM model around the Palmers Road corridor shows that a six lane reservation is appropriate.	C
Biodiversity	Nationally listed fauna species have been previously recorded in the local area, however, none were observed during surveys (incl. SLL, GSM, GGF). An additional eight fauna species listed in the FFG Act could occur in the corridor. EPBC listed Spiny Rice Flower was observed, and the EPBC listed community NTGVVP and FFG listed community Plains Grassland were identified in the corridor. Ten specimens of the FFG-listed (Vulnerable) Tough Scurf-pea were also observed on the southern side of Kororoit Creek. Construction impacts will be minimised with standard management measures through an EMP. In addition, Ecology Partners have prepared a Conservation Management Plan for the Matters of National Environmental Significance, which presents mitigation measures for the Spiny Rice Flower, NTGVVP, GGF, GSM and SSL.	A
Geology and soils	Impacts to soils and geology are expected to be low; the road will be laid at surface level, with the exception of the one section at the Melbourne-Ballarat rail line that will require cutting. Construction impacts will be minimised with standard management measures through an EMP.	C
Surface Water	The project is likely to have low impact on surface water; noting that a bridge has recently been designed by Shire of Melton to cross over Kororoit Creek and will be built by mid-2014. The Project will therefore involve the provision of a further bridge over the creek. Drainage and floodplain function matters can be dealt with in the detailed design process. Construction water quality issues are considered relatively low impact and can be routinely controlled with standard management measures through an EMP.	C

Topic Area	Key considerations for determining category	Preliminary category
Groundwater	Groundwater impacts are envisaged to be a low risk for the development of the corridor. There is only one section at the Melbourne-Ballarat rail line that will require cutting and it is not expected to interfere with groundwater.	C
Land use	The underlying document that has guided development in the Melton East area is the *Melton East Strategy Plan 1997* (GHD 1997) (MESP). The MESP sets out the framework '*by which council and government may participate with the private sector in the management of urban development in the Area to produce a high quality of living environment for future residents, an efficient and environmentally sustainable level of public transport service and infrastructure and compatibility with its local regional and metropolitan context*' (GHD 1997, p4). The 1997 document is a review of a 1993 version of the plan which was referred to in the Melton Urban Development Zone (introduced in 1994 prior to the amalgamation of local councils and the standardisation of planning schemes). After amalgamation and the introduction of new format planning schemes, and during development of the Melton East area, and still today, the land is subject to a Development Plan Overlay Schedule 1 (DPO1). Section 2 of the DPO1 (dated both 29 July 1999 and current[6]) states '*Before deciding to approve a Development Plan, the responsible authority must consider … the provisions of the Melton East Strategy Plan*'. The planning controls applicable to each property are identified within the Contract of Sale, and therefore the MESP has been public information and available to the developers and purchasers since the DPO1 was implemented. The MESP is also embedded in the Melton Planning Scheme in Clause 21.04-2 Melton East Growth Area. Within this clause, a number of strategies are identified to guide development in this area, the first of which is to '*adopt the Melton East Strategy Plan (revised) 1997*'. Furthermore, this clause also requires that '*all development plans shall be prepared in accordance with the strategic principles outlined in the* Melton East Strategy Plan (Revised) 1997'. The MESP clearly outlines the long term intent to develop the Palmers Road Corridor as a six-lane arterial. Other documents that support the development of Palmers Road to three lanes each way are *Outer Western Suburbs Transport Strategy 2001* and *Growth Corridor Plans – Managing Melbourne's Growth 2012.*	B
Air quality	Air emissions from vehicles using Palmers Road Stages 2 and 3 are not expected to significantly add to the diffuse emissions from the road network as a whole. Construction dust impacts are considered relatively low impact and are routinely controlled with standard management measures through an Environmental Management Plan (EMP).	C

[6] DPO1 viewed online 19 Jun 2012: http://planningschemes.dpcd.vic.gov.au/melton/ordinance/43_04s01_melt.pdf

Topic Area	Key considerations for determining category	Preliminary category
Noise	A significant proportion of the project is a duplication of an existing alignment. Planning for the development of a six lane north-south arterial along the Palmers Road Corridor (Stages 2 & 3) has been in place since 1997 and is contained within the Melton East Strategy Plan. Construction noise impacts are routinely controlled with standard management measures through an EMP.	B
Cultural Heritage (European)	Four registered European heritage sites have been previously recorded within the road reserve area: • DH1-Stone Walls (D7822/0215) Structure – Local historical significance • Robinsons Deer Park Wall (D7822/0590) Structure - Local significance • Drovers Hut (H7822/0160) Building, Structure, Vegetation – High Local Significance • CS H3.3 Stone wall (H7822/0186) Structure – Local historical significance Management of construction impacts to European heritage sites will be investigated and implemented as practicable.	C
Aboriginal Cultural Heritage	Six Aboriginal heritage sites (all artefact scatters) have been previously recorded within the road reserve. Areas of Aboriginal Heritage sensitivity were also identified within the road reserve including • Within 200m either side of Kororoit Creek • East of Calder Park Drive, north of Bendigo rail line • Banks of tributaries of Taylors Creek. A Cultural Heritage Management Plan (CHMP) will be prepared for the development of the corridor in accordance with the *Aboriginal Heritage Act 2006* (Vic).	B
Landscape visual and recreational values	The key visual impact relates to views from Organ Pipes National Park, however, the construction of the Calder Freeway interchange is considered a relatively low impact.	B
Social (severance and dislocation)	The SIA undertaken by Maunsell (2009) found that the development of the corridor would improve access in most areas of the alignment, and alleviate congestion experienced along parts of this corridor and adjacent corridors. The land use pattern in the Melton East area has been designed to accommodate a primary north-south arterial along the Palmers Road corridor, including fewer intersections with feeder roads into the residential areas, almost no direct property access, and no community facilities or activity centres on the corridor.	B