REFERRAL OF A PROJECT FOR A DECISION ON THE NEED FOR ASSESSMENT UNDER THE *ENVIRONMENT EFFECTS ACT 1978*

REFERRAL FORM

The *Environment Effects Act 1978* provides that where proposed works may have a significant effect on the environment, either a proponent or a decision-maker may refer these works (or project) to the Minister for Planning for advice as to whether an Environment Effects Statement (EES) is required.

This Referral Form is designed to assist in the provision of relevant information in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Seventh Edition, 2006). Where a decision-maker is referring a project, they should complete a Referral Form to the best of their ability, recognising that further information may need to be obtained from the proponent.

It will generally be useful for a proponent to discuss the preparation of a Referral with the Department of Planning and Community Development (DPCD) before submitting the Referral.

If a proponent believes that effective measures to address environmental risks are available, sufficient information could be provided in the Referral to substantiate this view. In contrast, if a proponent considers that further detailed environmental studies will be needed as part of project investigations, a more general description of potential effects and possible mitigation measures in the Referral may suffice.

In completing a Referral Form, the following should occur:

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once DPCD is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the project could pose a significant risk to environmental assets. Responses should include:
    - a brief description of potential changes or risks to environmental assets resulting from the project;
    - available information on the likelihood and significance of such changes;
    - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.
- A CD or DVD copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 2MB.**

- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

The party referring a project should submit a covering letter to the Minister for Planning together with a completed Referral Form, attaching supporting reports and other information that may be relevant. This should be sent to:

Postal address

Minister for Planning
PO Box 500
EAST MELBOURNE VIC 3002

Couriers

Minister for Planning
Level 17, 8 Nicholson Street
EAST MELBOURNE VIC 3002

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to ees.referrals@dpcd.vic.gov.au is encouraged. This will assist the timely processing of a referral.

PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

Name of Proponent:	
Authorised person for proponent:	Trevor Boyd
Position:	Director – M80 Ring Road Upgrade
Postal address:	3 Bristol Street Essendon Airport VIC 3041
Email address:	Trevor.boyd@roads.vic.gov.au
Phone number:	03 9094 4602
Facsimile number:	03 9094 4601
Person who prepared Referral:	Anton Newton
Position:	Senior Delivery Engineer
Organisation:	VicRoads
Postal address:	3 Bristol Street Essendon Airport VIC 3041
Email address:	Anton.newton@roads.vic.gov.au
Phone number:	03 9094 4647
Facsimile number:	03 9094 4601
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	George Ward Consulting Pty Ltd Planning and Environmental Consultant Contact: George Ward 03 9589 3155 Ecology Partners Pty Ltd Ecological Consultants (Terrestrial surveys) Contact: Aaron Organ 03 9940 1411 Biosis Research Pty Ltd Ecological Consultants (aquatic surveys) Contact: Chris Bloink 03 9646 9499

2. Project – brief outline

Project title: M80 Ring Road Upgrade Project, Melbourne

Project location: (describe location with AMG coordinates and attach A4/A3 map(s) showing project site or investigation area, as well as its regional and local context)

The project extends along the 38km corridor of the existing Ring Road from Laverton North/Altona North at the southern end (12 km due west of Melbourne CBD) to Greensborough at the eastern end (17km north east of Melbourne CBD). (Refer to Locality Plan – attachment A)

	Latitude			Longitude		
	degrees	minutes	seconds	degrees	minutes	seconds
Southern end –Westgate Freeway	37	49	35	144	48	54
Western Highway intersection	37	46	04	144	47	45
Sunshine Avenue intersection	37	44	56	144	49	53

Calder Highway intersection	37	43	33	144	51	35
Steele Creek Bridge	37	43	15	144	51	56
Tullamarine Freeway intersection	37	42	12	144	53	18
Hume Highway intersection	37	41	25	144	57	34
High Street	37	41	03	145	00	37
Plenty Valley Highway	37	41	04	145	04	02
Greensborough Highway Eastern end	37	41	41	145	05	29

Short project description (few sentences)**:**

The proposal by the Victorian Roads Corporation (VicRoads) is to upgrade the M80 Ring Road over its entire length of 38km over a period of 10 years. The upgrade will generally involve increasing capacity of the road by the addition of lanes and intersection modification as well as safety improvements. Three initial priority areas will be commenced in the short term. They are Steele Creek Bridge (length 150m), Western Highway to Sunshine Avenue (length 5.00km) and Calder Freeway to Hume Highway (length 10.00km).

This referral is for the project as a whole.

NOTE: Following appointment of the Tulla Sydney Alliance Partners the initial stage from *Tullamarine Freeway to Sydney Road* was extended to include the project area from immediately north of the Calder Freeway interchange to Sydney Road. The new description is *Calder Freeway to Sydney Road* however some reference to the original stage remains in this referral and in technical supporting reports. Where relevant to assessment of environmental impacts a consideration of the effects of the revised project stage has been included.

3. Project description

Aim/objectives of the project (what is its purpose / intended to achieve?):

Upgrade of the existing M80 Ring Road to remove current capacity and safety constraints and accommodate project traffic into the future.

Background/rationale of project (describe the context / basis for the proposal, eg. for siting):

The M80 Ring Road Upgrade proposal involves widening and other improvements along the Western and Metropolitan Ring Roads for the entire 38 km length from the Princes Freeway at Laverton North to the Greensborough Highway at Greensborough. Works will occur over more than 5 years with initial stages commencing in between late 2009 and early 2010. With a total budget of $2.25 billion the project will be jointly funded by the Commonwealth and State Governments.

The project was identified as significant for both the State and the Commonwealth in accordance with the strategic directions in the AusLink White Paper (2004). In July 2007, the M80 Ring Road Upgrade was identified as a priority in the State Government's, National Transport Links - Growing Victoria's Economy, for Federal funding under AusLink 2.

The Australian Government has committed $900 million for the project under the Nation Building Programme. Funds that have been released to date are as follows:

- $9 million for planning and preconstruction works in 2008/09;
- $5 million in 2008/09 to make an early start on improving traffic capacity, the State contributed a further $3 million;
- $15 million in December 2008 to commence early works in 2009

Main components of the project (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):

General description of proposed works

The existing Ring Road comprises variable cross sections with two, three and four lanes in different segments. (Refer to attachment B) The planned works will assist safety, ease congestion and improve travel times and reliability, especially during peak periods. The upgrade will generally involve increasing capacity of the road by widening to a minimum of three through lanes and a single auxiliary lane each way and intersection modification as well as safety improvements.

Design for the project upgrade will be carried out in stages according to project priorities and delivery methods. Three initial priority areas will be commenced in the short term. They are Steele Creek Bridge, Calder Freeway to Sydney Road (Hume Highway) and Western Highway to Sunshine Avenue.

Early Works - Steele Creek Bridge

Proposed works for the upgrade of the Steele Creek Bridge situated 750m north of the Calder Highway interchange are for a simple widening of the carriageways. The widening of the bridge will increase the capacity of the structure from three lanes to four lanes each way. Widening works will be carried out on the inside of the structure to create an additional lane in each direction.

Conceptual design drawings for this project segment are included in attachment C.

It is proposed to deliver this segment of the project by an allaiance contract arrangement.

Initial Stage 1 - Calder Freeway to Sydney Road (Hume Highway)

Upgrade of the Calder Freeway to Sydney Road segment is proposed to increase road capacity, improve efficiency, travel times and reliability of passenger and freight movement and address particular safety issues on all interchanges and at Moonee Ponds Creek.

The following is a summary of the proposed scope of project work for this segment:

- Main carriageway – 3 through lanes with 1 or 2 auxiliary lanes between interchanges;
- Sydney Road Interchange – Upgrade to an Urban (fast) Diamond Interchange configuration;
- Jacana Tunnel – Cross-section modified to provide 3 through lanes with 1 auxiliary lane

- Moonee Ponds Creek Alignment – Improve the vertical and horizontal alignment through the Moonee Ponds Creek and achieve (at least) the minimum desirable standards as outlined in VicRoads Road Design Guidelines;
- Tullamarine Freeway Interchange – Upgrade interchange to eliminate/minimise weaving and merging;
- Freeway Management System (FMS) – FMS to be provided and fully integrated with the entire M80. FMS will include the following:
    - Lane Use Management System (in particular through the Jacana tunnels)
    - Variable Message Signs (VMS)
    - Variable speed signs - mounted on gantries as required
    - CCTV Cameras
    - Freeway Data Stations
    - Freeway Ramp Signals
- Bridge widening at Tullamarine Freeway Interchange, Merlynston Creek and Sydney Road;
- Bridge strengthening to accommodate High Productivity Freight Vehicles;
- Upgrading of bridge barriers to appropriate performance level;
- Noise Attenuation to meet VicRoads noise policy requirements;
- Landscape and Urban Design as required.

Conceptual design drawings for this project segment are included in attachment D

It is proposed to deliver this segment of the project by an alliance contract arrangement.

Initial Stage 2 - Western Highway to Sunshine Avenue
Upgrade of the Western Highway to Sunshine Avenue segment is proposed to increase road capacity, improve travel times and reliability for freight and passenger movement and address identified safety issues.
The following is a summary of the proposed scope of project work for this segment:

- Main carriageway – 3 through lanes with 1 auxiliary lane between Western Highway and Sunshine Avenue interchanges;
- Western Highway Interchange – review of adequacy of signal phases and turn lane storage to improve flow;
- Former Sunshine Tip Site – widening of ground level structures;
- Furlong Road Interchange – no works proposed;
- Sunshine Avenue Interchange – review of adequacy of signal phases and turn lane storage to improve flow;
- Freeway Management System (FMS) – FMS to be provided and fully integrated with the entire M80. FMS will include the following:
    - Variable Message Signs (VMS)
    - Variable speed signs - mounted on gantries as required
    - CCTV Cameras
    - Freeway Data Stations
    - Freeway Ramp Signals
- Bridge widening at Tilburn Road, Western Highway Interchange, Jones Creek, St Albans Road and the Melbourne – Murray railway line, and Furlong Road Interchange;
- Bridge strengthening to accommodate High Productivity Freight Vehicles;
- Upgrading of bridge barriers to appropriate performance level;
- Noise Attenuation to meet VicRoads noise policy requirements;
- Landscape and Urban Design as required.

Conceptual design drawings for this project segment are included in attachment E.

It is proposed to deliver this segment of the project by a design and construct contract arrangement.

Balance of Project Works
The remaining segments of the Ring Road will be completed according to priorities which are yet to be defined. These segments are broadly defined at this time as:

- Princes Highway to Western Highway
- Sunshine Avenue to Calder Freeway (including Calder Freeway interchange)
- Sydney Road (Hume Highway) to Greensborough Highway

A conceptual design for the carriageway improvements of the whole project route is contained in the drawings in attachment F. The scope of project works that are proposed in order to achieve project objectives include:

- Road widening to a minimum of three through lanes and auxiliary lanes between consecutive interchange ramps in each direction where required and justified;
- Installation of Ramp Metering at all entry ramps except freeway to freeway interchanges, where ramp metering shall be provided at upstream entry ramps on the adjacent freeway; and
- Freeway Management System (FMS) devices as necessary. Options include:
    - Variable Messaging;
    - Variable Speed Limits; and
    - Lane Use Management Systems (LUMS).

The method of contracting proposed for the balance of the project is yet to be determined.

Ancillary components of the project (eg. upgraded access roads, new high-pressure gas pipeline; off-site resource processing):

Ancillary components could include:

- Modification of existing utilities and related road infrastructure where necessary
- Materials sourcing
- Waste disposal including contaminated soil should this be identified during construction works
- Construction works sites and access routes
- Provision of net gain offsets

Key construction activities:

Construction activities for the project will comprise the normal road building processes including:

- Excavation and stockpiling of topsoil
- Break up of existing structures and road pavement where necessary
- Placement of sub grade and road materials
- Rolling and compaction
- Trenching and placement of services, drainage and culverts
- Relocation of services
- Bitumen, asphalt laying and surfacing
- Road finishing, line marking and furniture placement
- Erection of signalling, signage, noise walls and other structures
- Bridge construction including excavation, pile driving (possible), formwork construction, concrete pouring, dismantling
- Landscaping and general clean up

Key operational activities:

Use of the Ring Road as currently operating with improvements to efficiency and safety.

Key decommissioning activities (if applicable):

Not Applicable.

Is the project an element or stage in a larger project?

☐ No ☒ Yes If yes, please describe: the overall project strategy for delivery of all stages and components; the concept design for the overall project; and the intended scheduling of the design and development of project stages).

The M80 upgrade is for the whole of the Ring Road. It is a $2.25 billion project to be completed over 10 years as described above. Early works at Steele Creek and initial stages are proposed for commencement in 2009/2010 and completion 2011. Later stages are subject to funding and timeframes are to be confirmed.

Is the project related to any other past, current or mooted proposals in the region?

☐ No ☒ Yes If yes, please identify related proposals.

The project is an upgrade of the existing M80 Ring Road which was the subject of previous assessments and approvals in the late 1980's and 1990's. An Environment Effects Statement (EES) was prepared for Sunshine to Keilor section in 1989 and subjected to assessment by Victorian planning panel in 1990 with recommendations to the responsible Minister at the time. The EES and its supplementary reports dealt with a full array of environmental issues associated with the establishment of the Ring Road in that segment including reporting on

- Flora and Fauna
- Existing Traffic Conditions
- Future Travel
- Road Traffic Noise
- Air Quality
- Calder Freeway Interchange
- Archaeology
- Landscape Assessment and Concepts
- Open space and recreation
- Community Profile
- Social Impact Assessment
- Property
- Public Transport
- Economic Impact
- Land Use
- Staging and Construction

In 1995 a Planning Assessment Report was prepared and exhibited for the Thomastown section of the Western Ring Road from Mahoneys Road to Dalton Road. Public submissions to this report were the subject of a Minister's appointed Advisory Committee hearing and subsequent approval to proceed in 1996.

4. Project alternatives

Brief description of key alternatives considered to date (eg. locational, scale or design alternatives. If relevant, attach A4/A3 plans):

Over the broad scope of the proposed upgrade alternatives are generally limited. The basic option that has been selected for the Ring Road upgrade is to construct additional lanes and related infrastructure in the centre median area of the existing road as shown on the concept plans (attachment F). The median space was provided in the original design to allow for future expansion. Alternative provision of the new lanes on the outside of the existing carriageway within the road reserve was not seriously considered for this project.

At the various interchanges throughout the project length there may be different solutions available when designs are being completed. Intersection designs have been determined at the concept level for each of the two initial stages described in section 3. However intersection design will not be completed for the balance of the project until later.

Brief description of key alternatives to be further investigated (if known)**:**

At one location (Moonee Ponds Creek) there are a range of improvement options which have been considered. These are being considered because of the alternative safety and traffic flow outcomes, cost implications and environmental impacts including potential social landscape, noise and air quality issues. The options have been progressively narrowed to the point where only two project alternative designs are being investigated.

A final solution to the upgrade of the crossing will not be made until the project alliance partners have completed project design and assessment. The two short listed options for the upgrade of the road across the Moonee Ponds Creek valley (MPC) are:

- *Option 1 – Maintain existing vertical and horizontal geometry, through the widening and interchange upgrades; and*
- *Option 2 – Utilise the existing carriageways to improve the Altona bound horizontal geometry and provide an improved vertical and horizontal alignment for the Greensborough bound carriageway with a new bridge over the Creek on the north side.*

The concept designs for these options are shown in the attachment G.

5. Proposed exclusions

Statement of reasons for the proposed exclusion of any ancillary activities or further project stages from the scope of the project for assessment:

The whole project is being referred to the Minister for a decision on the need for an EES.

6. Project implementation

Implementing organisation (ultimately responsible for project, ie. not contractor)**:**
The Roads Corporation trading as VicRoads.

Implementation timeframe:
Works are proposed for commencement in 2009/2010 and completion progressively in stages over a period of more than 5 years.

Proposed staging (if applicable):
As described in section 3.

7. Description of proposed site or area of investigation

Has a preferred site for the project been selected?

☐ No ☒ Yes If no, please describe area for investigation.
If yes, please describe the preferred site in the next items (if practicable).

General description of preferred site, (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site & surrounds, showing project footprint):

The project site is the existing M80 Ring Road reservation for its entire length including interchange areas and immediately abutting connecting roads where necessary.

The existing Ring Road mainly traverses the volcanic plains region. Generally soils are volcanic in origin and vary in depth according the weathering of the basalt. However there is an outcropping of Silurian marine sandstone/siltstone (the Dargile formation) in the area of Hume Highway and Plenty Road junctions and Moonee Ponds and Darebin Creeks. There are Silurian marine deposits of sandstone/siltsone present in the vicinity of the Maribyrnong River and the junction with Greensborough Highway and Older volcanics of extrusive basalt at the Hume Freeway junction and Steele Creek. Holocene period fluvial deposits of sand, silt and gravel at Moonee Ponds Creek and Edgars Creek and Pliocene sedimentary fluvial deposits of gravel sand and silt at Sydney Road, Steele Creek and Maribyrnong River.

Vegetation along the project route is heavily modified and generally in poor condition with little remnant native vegetation persisting in the road reservation due to road construction works and previous urban development. Landscaping works have been carried out along the length of the Ring Road reservation comprising generally indigenous and non indigenous native vegetation of varying age and density according to the time of planting and local factors. Over substantial portions of the project area in the southern and western part the naturally occurring vegetation would have been *Plains Grassland* (EVC 132). Through the middle north eastern sections of the Road around Thomastown and Bundoora the remnant vegetation is *Plains Grassy Woodland* (EVC 55) while towards the eastern end at the junction with the Greensborough Highway there are adjacent remnants of *Dry Grassy Forest* (EVC22) in poor condition.

The Road passes through gently sloping land at the eastern end and remains at these gradients throughout with the western and southern areas being relatively flat in keeping with the Newer volcanic geology. Levels along the road vary from an absolute height above sea level at the Princes Highway of 23m to 83m at the Greensborough Highway end. Along the route the levels rise to over 115m. The various creek valleys provide steep localised slopes although the road alignment generally avoids the change of gradient by crossing on structure. The exception is Moonee Ponds Creek where the Road exhibits its steepest vertical alignment as it follows the valley slopes.

In this location there is potential for the proposed roadworks to occur outside the existing road reservation. At Moonee Ponds Creek crossing project one of the project design options would involve a curved alignment which makes a minor incursion into the parkland of the Creek valley. (Refer to conceptual options in attachment G) Calculations have been prepared of the area of land to be occupied outside of the road reservation by the additional bridge option and the size of the area is approximately 9000 sq. metres.

Site area (if known): …… 380 (hectares) Approximate area based on average reservation width of 100m.

Route length (for linear infrastructure) ……38…. (km) **and width** …average 100. (m)

Current land use and development:
The land use of the project area is for existing road purposes and the associated access, infrastructure and landscaping.

At the point where one option for the project departs from the road reservation at Moonee Ponds Creek, the area is used for recreational purposes including passive uses such as nature conservation, artificial wetlands and landscape improvement as well as active uses such as multi purpose trail activities. The area is also occupied in part by a high voltage power line easement. (Refer to attachment G)

Description of local setting (eg. adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

The entire length of the Ring Road is within the urban confines of Melbourne. At the eastern Greensborough end it is abutted by residential suburbs and open land awaiting development. For most of the northern segment (Greensborough to Tullamarine Freeway) the road abuts either residential suburbs (Watsonia North, Bundoora, Thomastown, Lalor, Fawkner, Glenroy, Gowanbrae and Gladstone Park) or large industrial precincts at Thomastown and Broadmeadows. The Northern Memorial Park abuts the Road on the south side at Fawkner. With the exception of a minor deviation at Moonee Ponds Creek described above the road will be entirely within the existing road reservation and will not require new land acquisition.

On the western segment (Western Highway to Tullamarine Freeway) extensive industrial precincts are at Tullamarine and Sunshine North. A large manufacturing use (Orica) occupies land on the west of the Road at Deer Park. Residential suburbs adjoin or are in proximity to the Road at Tullamarine, Airport West, Keilor Park, Keilor East, St Albans, Sunshine North and Cairnlea. Other significant uses in this segment include the large hard rock quarry and Brimbank Park both of which are adjacent to the Maribyrnong River valley crossing. Over this segment the road will be entirely within the existing road reservation and will not require new land acquisition.

In the southern segment of the Road (Westgate Freeway to Western Highway) the uses are mainly industrial. Substantial precincts of extensive heavy industrial uses are located at Derrimut, Sunshine West and Laverton North. Residential suburbs are located adjacent to the Road at Sunshine West and Ardeer. Other notable land uses include the major open grassland reserve the Derrimut Grasslands. Over this segment the road will be entirely within the existing road reservation and will not require new land acquisition.

For an appreciation of the adjoining land use and development context refer to the summary of land use and urban context (attachment I) and the base information contained in the conceptual design drawings in attachments C-F..

Planning context (eg. strategic planning, zoning & overlays, management plans):

The Victoria Planning Provisions established under the Planning and Environment Act 1987 are implemented through local planning schemes in each municipal area. The project traverses the operational areas of eight local planning schemes and marginally intersects with one other. (Refer to attachment A - Locality Plan) Generally the project is consistent with both the policy and local provisions of the applying planning schemes. The use of the land for a road is allowed in all schemes and any buildings and works are also generally allowed unless a permit is required due to the operation of an overlay or particular provisions such as those controlling native vegetation removal. Consequently VicRoads will not require amendment to any of the planning schemes and will seek individual planning permits under relevant planning schemes for project works according to individual project stages and priorities.

At this time VicRoads is preparing to make permit applications for those areas where they are identified as

required. The early works and initial stages are affected by the operation of three planning schemes in the municipalities of Brimbank, Moreland and Hume as follows.

Brimbank Planning Scheme
The Brimbank Planning Scheme is administered by the Brimbank City Council as responsible authority. It applies to each of the three early works and initial stages. The scheme includes relevant state and local policies against which the project is to be assessed. Significant among the policies is "Victoria's Native Vegetation Management – A Framework for Action" Department of Natural Resources and Environment 2002. The land required for this project is within the existing road reservation and included in the Road Zone 1 (RDZ1) in the planning scheme.

Early Works – Steele Creek
Under the regulatory provisions of the planning scheme the proposed expansion of the bridge requires a planning permit through the operation of a Special Building Overlay (SBO) which controls development which may affect local flood overland flood flows and water quality. A planning permit is not required for removal of native vegetation because these project works would not result in the loss of native vegetation.

Initial Stage 1- Calder Freeway to Sydney Road (Hume Highway)
Under the regulatory provisions of the planning scheme the proposed roadworks for this initial stage do not require a planning permit other than for the Steele Creek bridge.

Initial Stage 2 - Western Highway to Sunshine Avenue
Under the regulatory provisions of the planning scheme the proposed roadworks require a planning permit through the operation of Clause 52.17 for removal of native vegetation.

Moreland Planning Scheme
The Moreland Planning Scheme is administered by the Moreland City Council as responsible authority. It applies to the initial stage 1 and a very short section of the balance of the project. The scheme includes relevant state and local policies against which the project is to be assessed. Significant among the policies is "Victoria's Native Vegetation Management – A Framework for Action" Department of Natural Resources and Environment 2002.

Initial Stage 1 - Calder Freeway to Sydney Road (Hume Highway)
The land required for this project is generally within the existing road reservation and included in the Road Zone 1 (RDZ1) in the planning scheme. In the locality of the proposed realignment at Moonee Ponds Creek the proposed works (under each of the three project options) are entirely within the existing road reservation and therefore do not intersect with adjacent zones

Under the regulatory provisions of the planning scheme the roadworks require a planning permit through the operation of the Land subject to Inundation Overlay (LSIO) which controls overland flood flows and clause 52.17 which controls the removal of native vegetation.

Hume Planning Scheme
The Hume Planning Scheme is administered by the Hume City Council as responsible authority. It applies to the initial stage 1 and a very short section of the balance of the project. The scheme includes relevant state and local policies against which the project is to be assessed. Significant among the policies is "Victoria's Native Vegetation Management – A Framework for Action" Department of Natural Resources and Environment 2002.

Initial Stage 1 - Calder Freeway to Sydney Road (Hume Highway)
The land required for this project is generally within the existing road reservation and included in the Road Zone 1 (RDZ1) in the planning scheme. In the locality of the proposed realignment at Moonee Ponds Creek the works may depart from the existing road reservation according to the final option selected for construction (refer to section 4 above). In this case the proposed works would affect land within the Public Use Zone 1 (PUZ1).

Under the regulatory provisions of the planning scheme the roadworks require a planning permit through the operation of an Environmental Significance Overlay Schedule 2 (ESO2) which controls the removal of any vegetation, Special Building Overlay (SBO) which controls overland flood flows and clause 52.17 which controls the removal of native vegetation.

Other planning schemes
It is possible that the project will require planning permits under a number of the other planning schemes when final project designs for these areas are completed. At this stage it is apparent that permits for land use will not be required for the project. Permit triggers within the planning schemes are likely to be local overlays and the cl. 52.17 Native Vegetation controls.

Local government area(s):
The project traverses the municipal areas of nine Councils as follows:
City of Hobsons Bay, City of Wyndham, City of Brimbank, City of Hume, City of Moreland, City of Whittlesea, City of Banyule, Shire of Nillumbik and City of Darebin (marginal)

8. Existing environment

Overview of key environmental assets/sensitivities in project area and vicinity
(cf. general description of project site/study area under section 7)**:**

Natural Environmental Features
The project area is an existing metropolitan freeway reservation with appurtenant access, infrastructure and landscaping. By virtue of its length the Ring Road traverses most of the north and west of the Melbourne metropolitan fringe and therefore it intersects with a cross section of the physical features of the region. At the Greensborough end the Road commences at the eastern extremity of the Victorian Volcanic Plain bioregion and its interface with the Highlands – Southern Fall bioregion where deeper soils and slightly higher rainfall originally supported open woodland. For most of the balance the road traverses the volcanic plain with (slightly) decreasing rainfall as it moves west and south. These western and southern plains supported open grasslands.

Significant natural features in proximity to the Ring Road include the Plenty Gorge Park some 1 km or so to the north of the road at its eastern end and the listed international wetland known as the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar Site situated a distance of over 7.5km to the south west of the Ring Road. The project works are unlikely to have any direct or indirect effects on these features or their environmental values. Over the length of the Road it crosses a series of 12 creek and river valleys which range in width and depth from minor to the substantial Maribyrnong River valley containing Brimbank Park which is over 650m wide at that location. Approximately 1.5km east of the Tullamarine Freeway the road crosses the Moonee Ponds Creek valley containing extensive open space and natural features including the Jacana Wetlands (which were constructed as part of Melbourne Water's improvements to water quality in local waterways). Other environmental features in close proximity to the Ring Road include the Derrimut Grasslands reserve, Reid Street Ardeer Grassland and Darebin Creek parklands, Bundoora. (Refer to attachment H)

Social and Cultural Environment
The social and cultural environment of the project area is influenced by previous occupation and current land use. Evidence of past occupation has been investigated and there are a number of sites of Aboriginal cultural heritage significance on or adjacent to the Ring Road reservation.

Land use in proximity to the project area is described in section 7 above. Key influences in terms of environmental sensitivity are the proximity of residential areas along the route and the potential impact of increased noise and air emissions from the road use. Visual and landscape impacts will also be an issue of sensitivity in some adjacent residential and other sensitive areas. These will be in areas where the combination of topography, project design and adjoining sensitive land use allows direct visual contact with significant new project structures. This could occur at major interchanges such as Tullamarine Freeway, Dalton Road and Plenty Road. It could also occur in areas of steep gradient such as the Moonee Ponds Creek crossing where the new road could be more visible to residents of Glenroy and Jacana depending on the design option selected by VicRoads. The two options currently being considered for this location as set out in section 4 are considerably less imposing in visual and other terms than options previously considered by VicRoads.

9. Land availability and control

Is the proposal on, or partly on, Crown land?

☐ No ☒ Yes If yes, please provide details.

The project is within the declared arterial road reservation under the control of VicRoads.

Depending on which design option is selected a minor part of the project may be constructed on land at Moonee Ponds Creek which is in freehold title and held by Melbourne water. See next section.

Current land tenure (provide plan, if practicable):

The majority of the project area is a declared arterial road. In one location the project works could occur outside the road reservation. In this place the roadworks will occupy a small parcel of land of approximately 9000$m^{2\ of}$ public land which is freehold title owned and operated by Melbourne Water Corporation. Refer to the land ownership details (attachment J)

The remaining entire area of the project works will be carried out within the existing freeway reservation under the control of VicRoads.

Intended land tenure (tenure over or access to project land):

No change is proposed for the existing freeway reservation. Land occupied by the road which is outside the current road reservation will be declared as freeway.

Other interests in affected land (eg. easements, native title claims):

The freeway reservation is affected in places by easements for utility services including water aqueduct, pipelines, high voltage powerlines, sewer pipelines and various other services. These are shown in attachment J.

VicRoads believes that land in the project area is not subject to current native title claim however certain crown land would be affected by project works. Notice of a proposed future act as required under the Native Title Act 1993 will be made to the relevant parties.

10. Required approvals

State and Commonwealth approvals required for project components (if known):

- A referral is being made to the Commonwealth Government under the Environment Protection and Biodiversity Conservation Act 1999. The Commonwealth has agreed to accept the referral for the initial stages only and this is scheduled to be lodged in August 2009.
- A Cultural Heritage Management Plan is required for the project under the Aboriginal Heritage Act 2006 and separate CHMP's are being prepared on a stage by stage basis
- Approvals under the Wildlife Act and Flora and Fauna Guarantee Act 1988 may be required.
- Approvals for works in waterways under the Water Act may be required and will be obtained from Melbourne Water.
- Individual planning permits under local planning schemes will be required and will be sought.
- EPA works approvals may be required subject to identification and management of contaminated soil associated with the former Sunshine landfill

Have any applications for approval been lodged?

☐ No ☒ Yes If yes, please provide details.

- Planning Permit Application lodged with Brimbank City Council for Steele Creek Bridge Widening.
- A CHMP for Steele Creek Bridge Widening has been approved by Wurundjeri TL & CCH Council

Approval agency consultation (agencies with whom the proposal has been discussed):

Department of Environment Water Heritage and The Arts
Department of Sustainability and Environment
Environment Protection Authority
Aboriginal Affairs Victoria and Registered Aboriginal Parties.
Melbourne Water
City of Brimbank
City of Moreland

City of Hume
All councils affected by the project have been briefed about the project and will be consulted in detail about any proposed permit applications affecting their municipality.

Other agencies consulted:
All affected municipal councils and relevant agencies have been consulted about the project.

PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

11. Potentially significant environmental effects

Overview of potentially significant environmental effects (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

Flora and fauna
Potential impact to Growling Grass Frog (GGF) and waterbirds such as Great Egret in Moonee Ponds Creek in initial stage works
Possible later stage impacts on GGF in Darebin, Merri, Edgars, Central and Kororoit Creeks,
Unlikely significant impact on Australian Grayling in Maribyrnong River
Unlikely significant impact on Australian Mudfish in Steele Creek – further targeted surveys NOT required
Western Plains Grassland no significant impacts in initial stages
Possible but unlikely impacts on Western Plains Grassland in later stage works

Cultural Heritage
For the project area there are predicted to be no significant impacts on cultural heritage values provided Cultural Heritage Management Plans are prepared and approved for each stage of works.

Traffic noise
Monitoring of traffic noise over the whole of the project route (Bassett, July 2009 – attachment R) has revealed one location where the current average noise level would indicate the need to investigate provision of noise attenuation to meet VicRoads Traffic Noise Reduction Policy. This site is located at Fitzgerald Road, Sunshine West. (Refer to Summary of Environmental Issues map – attachment H).

VicRoads is preparing noise modelling and impact assessments for each stage of works. At this time modelling has been completed for the initial stages – Tullamarine Freeway to Hume Highway (Attachment S) and Western Highway to Sunshine Avenue (attachment T). This work indicates that noise attenuation is required in several locations in the Tullamarine Freeway to Hume Highway section to meet VicRoads policy objectives. No additional noise attenuation is required for the Western Highway to Sunshine Avenue stage when it is opened in 2014

The required noise attenuation adjacent to the Moonee Ponds Creek crossing will vary substantially according to which design option is eventually adopted for this project stage. (Refer to the discussion of options in section 4 of this referral). The options assessed have been superseded by the three Alliance options now shortlisted to two and described in section 4 of this referral. Although no noise modelling has been completed for the current options the VicRoads noise policy will be applied.

Traffic noise monitoring (refer to attachment R) of existing noise levels indicates that one location at Fitzgerald Road Sunshine West may qualify for retrofitting of noise attenuation under VicRoads policy. Over the balance of the Ring Road noise attenuation will be provided as part of the upgrade project in accordance with VicRoads Traffic Noise Reduction Policy based on noise modelling to be carried out for each stage of construction.

Air emissions
Preliminary assessments (Bassett Partners, May 2009 – attachment U) indicate that at specific locations along the road air emissions (nitrogen dioxide and PM_{10}) are predicted to exceed EPA policy intervention levels by significant margins. The locations where it is predicted that EPA policy levels are currently (2009) exceeded are:

- Tullamarine Freeway to Pascoe Vale Rd (initial stage works)
- Pascoe Vale Rd to Hume Highway (initial stage works)
- Hume Highway to Hume Freeway (later stage works)

The preliminary assessment indicates that these sites have potential to currently exceed the policy level for PM_{10} (particulate matter).

By 2021 it is predicted that the relevant intervention levels defined by EPA policy will be exceeded at an additional four locations. These sites could exceed the policy level for particulate matter at that time and

the existing three sites could also exceed the policy level for NO_2 (nitrogen dioxide).

A more detailed air emissions modeling study will be undertaken to further qualify and quantify these emissions. When this data is available it will be discussed with the EPA to develop necessary mitigation and management strategies.

Landscape and visual impacts
Throughout the project area the primary visual change resulting from the M80 Upgrade will be the addition of new lanes in the centre median area, some intersection improvements including new structures and associated equipment for signalling and other traffic control measures. The change to the visual environment will therefore be incremental and minor in terms of the changes it will bring to the environs of the Ring Road.

At certain locations the project could present more significant visual impacts. For example the new road structures at the Moonee Ponds Creek crossing could be more prominent in the local landscape of the Creek valley parkland and when viewed from adjoining residential areas with consequent effects on recreational and residential amenity. This would have been particularly so if concepts which involved a substantial change in vertical and horizontal alignment were adopted. A number of such options have been considered by VicRoads and the Alliance partners and rejected. Of the two short listed road design options for this locality the single additional bridge option discussed in section 4 has some potential to be more prominent in the local landscape of the Creek valley. On the other hand if option 1 (refer to section 4) which involves the utilisation of the existing carriageways is adopted then the landscape impact will be minor in this location.

A Landscaping and Urban Design Strategy is being developed in consultation with local councils and Office of the Victorian Government Architect (OVGA). This strategy will address the integration of road related infrastructure elements such as bridge forms, noise walls, retaining walls, roadside furniture, landscaping water treatment facilities.

Social impacts
For a range of reasons and in different locations the project could have social implications. At the macro level improved travel conditions, reduced accident rates and transport economic efficiencies will have beneficial impacts across the wider community. In individual locations it could also have beneficial effects in delivering improvements to local traffic conditions, congestion or traffic impacts.

However the project also has the potential to have adverse social impacts in locations where the road will bring other effects to bear on residents and communities. These impacts could arise from the effects of additional noise, air emissions and visual impacts on the enjoyment of residential or other properties by their occupants. Studies predicting air and noise emissions provide an indication of the limited locations where impacts could exceed accepted standards.

Refer to attachment H – Summary of Environmental Issues

12. Native vegetation, flora and fauna

Native vegetation

Is any native vegetation likely to be cleared or otherwise affected by the project?

☐ NYD ☐ No ☒ Yes If yes, answer the following questions and attach details.

What investigation of native vegetation in the project area has been done? (briefly describe)
Investigations by ecological consultants have been carried out for the whole project area at a preliminary level and for the initial stage areas at the more detailed level including a Net Gain assessment. These reports are included as attachments K and L.

What is the maximum area of native vegetation that may need to be cleared?

☒ NYD Estimated area ……(hectares)

The primary conclusion from the ecological investigations and project net gain assessment is that the potential impact of the project on flora and fauna values is generally considered to be low as the majority of the site is dominated by introduced flora species and is of negligible conservation significance. (p.35, Ecology Partners, July 2009 – attachment L). It has been confirmed for the initial stages that no areas of native vegetation will be removed that would qualify as remnant patches under the State's *Native Vegetation Management Framework*. VicRoads objective is for the remainder of the project to also avoid remnant patches of native vegetation that would require a Net Gain response under the Framework. From the information contained in the ecological studies (attachments K and L) and the conceptual planning (attachments C-F) this objective should be achievable. If avoidance is not possible in later stages only minor areas of remnant patches or scattered large old trees would be impacted.

In describing the vegetation likely to be impacted by project works the ecologists noted that "areas of degraded treeless vegetation exist through the entire study area, and are generally scattered native grasses and colonising native herbs intermixed with a range of exotic flora species. These areas have been previously disturbed and are subject to ongoing disturbances, therefore the floristic composition is not considered natural, therefore are not considered to be a remnant patch of native vegetation". (p. xi, Ecology Partners , July 2009 – attachment L).

Essentially what the consultants have described are the open road verges containing a mix of weeds and some remnant grasses and herbs in a random scattered configuration and in some other areas landscaped roadside areas with planted vegetation mainly in the form of small native trees and shrubs. Therefore it is not possible to calculate the actual area of native vegetation to be removed for the project as a whole or even the initial stages. At best what could be identified is the locality of proposed vegetation impacts and the project area in that location and individual scattered trees that may be removed. These project areas and scattered trees will be calculated based on resolved designs for the project as it proceeds and in time to apply for the necessary planning permits for native vegetation removal if required.

At this time the status of planning permit requirements for the initial stage works is:

Steele Creek Bridge - no planning permit required for native vegetation removal
Calder Freeway to Sydney Road (Moonee Ponds Creek) – permit requirement depends on final selected design option
Western Hwy Sunshine Avenue – permit possibly required for removal of degraded treeless vegetation depending on final designs

How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?

☒ N/A …… approx. percent (if applicable)

Which Ecological Vegetation Classes may be affected? (if not authorised as above)

☐ NYD ☒ Preliminary/detailed assessment completed. If assessed, please list.

The Preliminary Flora and Fauna Assessment by Ecology Partners Pty Ltd, April 2009, (attachment K) identified the following EVCs in or adjacent to the project area. They are listed here with their bioregional conservation status within the Victorian Volcanic Plains Bioregion shown in brackets.

Escarpment Shrubland (EVC 895) (Endangered)
Grassy Dry Forest (EVC 22) (Depleted)
Plains Grassland (EVC132) (Endangered)

Plains Grassy Woodland (EVC 55) (Endangered)
Riparian Woodland (EVC 641) (Endangered)
Stream Bank Shrubland (EVC 851) (Endangered)

Have potential vegetation offsets been identified as yet?

☒ NYD ☐ Yes If yes, please briefly describe.

At this time no Net Gain requirement for the project has been identified. A habitat hectare and scattered tree assessment has been completed by Ecology Partners Pty Ltd, July 2009, (attachment L) for the initial stages of the project specifically Steele Creek Bridge, Tullamarine Freeway to Hume Highway and Western Highway to Sunshine Avenue. The assessment concluded that no areas of native vegetation will be removed that would qualify as a remnant patch under the State Native Vegetation Management Framework. Therefore a Net Gain offset is not required under the Framework. In view of the generally degraded condition of the vegetation within the existing road reservation and the nature of the proposed project works being generally in the centre median between the existing carriageways, it is likely that similar low level impacts will apply to the remainder of the project. The preliminary investigations have not identified significant aquatic native vegetation in any of the creek crossings that would be impacted by project works.

Other information/comments? (eg. accuracy of information)

It may still be necessary to obtain planning permits for removal of native vegetation even if the areas to be removed do not qualify under the Framework.

Also permits may be required under the Flora and Fauna Guarantee Act 1988 if listed species are affected by the works. Two FFG Act listed communities have been identified in the project area. They are Western (Basalt) Plains Grassland (EVC 132) (Between Western Highway and St Albans Road) and Western Basalt Plains (River Red Gum) Grassy Woodland Floristic Community (EVC 55-09) between Greensborough Highway and Dalton Road. A permit under the Act will be required to remove any part of these communities even though they are in poor condition, lack floristic diversity and support a high cover of exotic flora species. Also a permit will be required to remove any individuals of Black Wattles or Drooping Cassinia as they are both listed as protected flora under the Act. The need for these permits will be confirmed when final plans for the proposed works are available. The preliminary investigations by the project ecological consultants indicate that potential impacts on FFG listed floristic communities or individual species are likely to be low.

NYD = not yet determined

Flora and fauna

What investigations of flora and fauna in the project area have been done?
(provide overview here and attach details of method and results of any surveys for the project & describe their accuracy)

Ecological investigations have been completed for the project area and they are attached to this referral. They are listed below along with their attachment reference:

K. Ecology Partners Pty. Ltd. April 2009. Preliminary *Flora and Fauna Assessment and Habitat Hectare Analysis of the Proposed M80 Ring Road Upgrade Project*, Report to VicRoads

L. Ecology Partners Pty. Ltd. July 2009. *Summary of Ecological Issues and Net Gain Assessment for the Proposed M80 ring Road Upgrade*, Report to VicRoads.

M. Ecology Partners Pty. Ltd. March 2009. *Targeted Golden Sun Moth Surveys as part of the M80 Ring Road Upgrade, Victoria*, Report to VicRoads

N. Ecology Partners Pty. Ltd. March 2009. *Targeted Growling Grass Frog Litoria Raniformis Surveys and Ecological Advice for the M80 Ring Road Upgrade Project, Victoria*, Report to VicRoads

O. Biosis Research Pty. Ltd. February 2009. *Aquatic fauna assessment of Jones Creek, Steele Creek, Darebin Creek, Merlynston Creek and Moonee Ponds Creek in the vicinity of the M80 Ring Road upgrade, Victoria*, Report to VicRoads

P. Biosis Research Pty. Ltd. June 2009. *Targeted aquatic fauna assessment of Kororoit Creek, Stony Creek, Maribyrnong River, Campbellfield Creek, Merri Creek, Central Creek and Edgars Creek in the vicinity of the M80 Ring Road upgrade, Victoria*, Report to VicRoads

Have any threatened or migratory species or listed communities been recorded from the local area?

☐ NYD ☐ No ☒ Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.
- Indicate which of these have been recorded from the project site or nearby.

Many species of conservation significance have been listed in past observations within proximity to the Ring Road. These are set out in the Preliminary Flora and Fauna Study (Attachment K- Ecology Partners Pty Ltd April 2009)

The consultants concluded that habitat exists in the project area for the potential occurrence of three fauna species, namely:

- Australian Grayling (Maribyrnong River),
- Golden Sun Moth (GSM), and
- Growling Grass Frog (GGF) (various waterways and wetlands)

Targeted surveys for these species have been completed (Refer Attachments M, N, O, P). The surveys confirmed the presence of GGF at Moonee Ponds Creek and Darebin Creek in or within immediate proximity of the project area. They did not find GSM in the project area. Surveys failed to identify Australian Grayling in the Maribyrnong River but the suitable habitat was found.

A record of the State significant Australian Mudfish has been noted in Steele Creek downstream of the Ring Road. It is not considered likely that the fish is present in the Creek in the vicinity of the project area because of the presence of concrete lined channel between the site (survey site #3) where it was located 3.6km downstream and the Ring Road crossing. Because of the confirmed occurrence of the Australian Mudfish in this downstream location the stretch of the Creek from Keilor Road and the Maribyrnong River has been conservatively assigned a state conservation significance. (Refer to discussion in section 4 of attachment O)

In addition during surveys a state listed threatened species, Great Egret was observed on the Jacana wetlands adjacent to Moonee Ponds Creek immediately adjacent to the project area..

If known, what threatening processes affecting these species or communities may be exacerbated by the project? (eg. loss or fragmentation of habitats) Please describe briefly.
Potential impacts on the aquatic fauna species include both direct and indirect effects. These impacts with a statement of the potential for them to result from this project are as follows:

Potential direct impacts to waterways:

- Localised loss of habitat with potential to support significant fauna species, particularly Growling Grass Frog at Moonee Ponds Creek ***Possible depending on design option selected***.
- Localised loss of habitat with potential to support significant fauna species, primarily Growling Grass Frog at Darebin, Kororoit, Merri, Central, Edgars Creeks. ***Low likelihood***
- Localised loss of habitat with potential to support significant fauna species, particularly Australian Mudfish at Steele Creek ***Not possible.***
- Localised loss of instream habitat due to placement of temporary or permanent waterway crossing structures (e.g. culverts, pylons); ***Not likely***
- Loss of instream habitat through removal of riparian vegetation (sources of woody debris), damage to banks and subsequent erosion, sedimentation and smothering of habitat; ***Not likely***
- Alteration to drain hydrology (e.g. volume, flow); ***Not likely***
- Creation of barriers to fish passage; ***Not possible*** and
- Disturbance of sediments ***Not likely***

Potential indirect impacts may include the following:

- Potential downstream degradation of water quality and aquatic habitat of waterways through increased sedimentation, pollutants and altered hydrology. Pollution could potentially enter waterways via runoff, airborne transport of spray or dust, or a spillage event and could result in physical or chemical changes in water quality. ***Low likelihood***
- Physical changes – in particular sedimentation which can have detrimental ecological effects, including a reduction in substrate and depth heterogeneity, smothering and killing of demersal eggs, smothering of macroinvertebrates, smothering of food sources, smothering of vegetation, impacts on fish respiration (gills become clogged), reduced feeding ability, transportation of pollutants attached to sediment and reduced light penetration for aquatic vegetation. ***Low likelihood***
- Chemical changes – including in particular chemical contaminants with the potential to exert toxic effects at concentrations that might be encountered in the environment. Free chemicals or chemicals compounds utilised during construction works could potentially be toxic to aquatic biota in small concentrations. ***Low likelihood***

Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the project?

☐ NYD ☐ No ☒ Yes If yes, please:

- List these species/communities:
- Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) Comment on likelihood of effects and associated uncertainties, if practicable.

GGF is potentially affected by the project works including construction and long term habitat loss. However it is unlikely that there will be significant or lasting impacts on the species. In addition VicRoads is assessing road design options for the Moonee Ponds Creek crossing with a view to avoiding significant impacts on GGF habitat.

Australian Grayling and Australian Mudfish are unlikely to be affected by the project works.

Is mitigation of potential effects on indigenous flora and fauna proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

VicRoads will undertake construction activities in accordance with recommended mitigation measures from its ecological consultants and as required by authorities including Commonwealth and State agencies. The environmental management of construction activities is handled through the VicRoads system of Project Environmental Protection Strategies (PEPS). A project specific PEPS will be prepared to address each of the environmental risks areas including in particular the potential impacts on listed fauna. A copy of the PEPS for the Steele Creek Bridge upgrade is attached (attachment Q). They will include but not be limited to the preparation of a Conservation Management Plan for GGF and specific recommendations set out in section 5 of the Ecology Partners Targeted Survey Report (attachment N).

Unlikely significant impact on Australian Grayling in Maribyrnong River – Mitigation measures for avoidance of impacts on Australian Grayling will be as recommended by the consultants Biosis Research Pty Ltd Survey June 2009 (attachment P).

Mitigation measures for avoidance of impacts on Australian Mudfish will be as recommended by the consultants Biosis Research Pty Ltd Survey April 2009 (attachment O).

Other information/comments? (eg. accuracy of information)

13. Water environments

Will the project require significant volumes of fresh water (eg. > 1 Gl/yr)?

☐ NYD ☒ No ☐ Yes If yes, indicate approximate volume and likely source.

Will the project discharge waste water or runoff to water environments?

☐ NYD ☐ No ☒ Yes If yes, specify types of discharges and which environments.

There are no direct discharges of waste water.

Storm water run off from final road pavements would be subject to the principles of water sensitive road design requirements. For all new road works VicRoads will establish best practice environmental management to control stormwater runoff from the site in accordance with EPA's Publications a) 480 "Environmental Guidelines for Major Construction Sites and b) 960 "Doing Right in Subdivisions" and the International Erosion and Control Association (IECA) Best Practice Erosion and Sediment Control Guidelines.(Volumes 1-3)

Are any waterways, wetlands, estuaries or marine environments likely to be affected?

☐ NYD ☐ No ☒ Yes If yes, specify which water environments, answer the following questions and attach any relevant details.

The Ring Road crosses a total of 12 waterways over its full length. For location of these Creeks see the Summary of Environmental Issues – attachment H.

From Altona to Greensborough they are:

Kororoit Creek *(GGF – Moderate Habitat value)*
Jones Creek, *(GGF – Low Habitat value)*
Stony Creek *(GGF – Low Habitat value)*
Maribyrnong River *(GGF – Low Habitat value)*
Steele Creek *(GGF – Low Habitat value)*
Moonee Ponds Creek *(GGF – Moderate to High Habitat value)*
Merylynston Creek *(GGF – Low Habitat value)*
Campbellfield Creek *(GGF – Low Habitat value)*
Merri Creek *(GGF – Moderate Habitat value)*
Central Creek *(GGF – Moderate Habitat value)*
Edgars Creek *(GGF – Moderate Habitat value)and*
Darebin Creek. *(GGF – Moderate Habitat value)*

Are any of these water environments likely to support threatened or migratory species?

☐ NYD ☐ No ☒ Yes If yes, specify which water environments.

Refer to discussion in section 12 regarding GGF, Australian Grayling and Australian Mudfish. In summary one creek has moderate to high habitat values, 5 of the creeks have moderate habitat value for Growling Grass Frog while the other 6 have low habitat value. Australian Grayling has been reported in the past from Maribyrnong River but not located in current surveys. Australian Mudfish has been identified from Steele Creek some 3.6km downstream of the Ring Road and is very unlikely to occur in the project area.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?

☐ NYD ☒ No ☐ Yes If yes, please specify.

Could the project affect streamflows?

☐ NYD ☒ No ☐ Yes If yes, briefly describe implications for streamflows.

Could regional groundwater resources be affected by the project?

☐ NYD ☒ No ☐ Yes If yes, describe in what way.

Could environmental values (beneficial uses) of water environments be affected?

☐ NYD ☐ No ☒ Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)

Because the project will involve works on or adjacent to 12 waterways there is potential for impacts on the

aquatic environments of those waterways. Potential impacts of the project on the aquatic environment of the affected waterways is discussed in section 12 – Flora/Fauna above.

Of the 12 waterways crossed by the project works only the Moonee Ponds Creek crossing will have potential for significant direct impacts due to the possible construction of new structures in the vicinity. If the Option 1 (widening of existing road way) is adopted for this area the potential impacts on the aquatic environment will be low. Even if the additional single bridge option (option 2 as described in section 4 of this referral) involving a new structure across the Creek is adopted, the potential impacts will be limited to construction works in close proximity to the existing wetland. There will be no direct removal of any part of the wetland. In both options the creek alignment would not be altered or directly impacted.

For all 11 other crossings the project will involve the widening of existing structures where necessary. Direct impacts on the aquatic environments of these crossings are unlikely as VicRoads will exercise care in design to avoid the direct loss of habitat or interference with the existing waterway channel.

Environmental management measures required by VicRoads include best practice construction techniques to prevent offsite discharges that would impact the beneficial uses of waterways. VicRoads has a well established environmental framework for managing the potential environmental impacts of major road projects. All work for the construction of the M80 Ring Road Upgrade Project will follow that framework subject only to adaptation where necessary to the specific environmental circumstances of this project as set out in this document and the accompanying specialist reports.

Could aquatic, estuarine or marine ecosystems be affected by the project?

☐ NYD ☐ No ☒ Yes If yes, describe in what way.

See above comments and related consultant reports.

Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?

☒ No ☐ Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.

Is mitigation of potential effects on water environments proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

As stated above VicRoads has a well established environmental framework for managing the potential environmental impacts of major road projects. Environmental Management measures will be put in place to manage both the potential effects of the construction process and any long term effects of run off from roads to waterways. A copy of the draft PEPS for the Steele Creek Bridge upgrade is attached (attachment Q) to illustrate the proposed mitigation measures at this location.

Other information/comments? (eg. accuracy of information)

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

☐ No ☒ Yes If yes, please attach.

An Urban Design Strategy (UDS) is being prepared for the project area to ensure consistency of design for the features of the road and its required infrastructure between project stages and with the urban and regional context. As each stage is designed a more detailed landscape concept will be prepared and implemented.

Is the project to be located either within or near an area that is:

- **Subject to a Landscape Significance Overlay or Environmental Significance Overlay?**

☐ NYD ☐ No ☒ Yes If yes, provide plan showing footprint relative to overlay.

The project intersects with the ESO 2 in the Hume Planning Scheme at the Moonee Ponds Creek valley and at Merri Creek. It also interacts with ESO1 in Darebin Planning Scheme and ESO3 in Whittlesea Planning Scheme. In the case of Darebin and Whittlesea the ESO is affected because it crosses the road reservation at Merri Creek. This is also the case for the Merri Creek location in the Hume Planning Scheme. Refer to attachment W.

- **Identified as of regional or State significance in a reputable study of landscape values?**
  ☐ NYD ☒ No ☐ Yes If yes, please specify.

- **Within or adjoining land reserved under the *National Parks Act 1975* ?**
  ☐ NYD ☒ No ☐ Yes If yes, please specify.

- **Within or adjoining other public land used for conservation or recreational purposes ?**
  ☐ NYD ☐ No ☒ Yes If yes, please specify.

The project is set within the Road reservation over most of its length. In 12 locations the project will traverse waterways which have varying degrees of conservation significance and land dedicated for conservation purposes. Maribyrnong River and the Brimbank Parklands which occupy the River valley are an important subregional resource and are zoned and reserved for recreational purposes. Moonee Ponds Creek valley is also an important conservation and recreational resource although it is reserved for water management purposes in this reach. Refer to attachment H.

Is any clearing vegetation or alteration of landforms likely to affect landscape values?
☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

The project is unremarkable in landscape terms for almost the entire length of the Ring Road. This is because it will mostly involve the addition of a lane or two to the existing carriageways or additional lanes to bridges. In some locations there could be noticeable change to the visual environment as a result of the project works. Potentially the most noticeable and visually significant of any works of the project are the possible alignment improvements at the crossing of Moonee Ponds Creek which is part of the initial stage works. Depending on the selected option for improvement of this segment of the road, the new road could have an increased presence in the local landscape (option 2 as set out in section 4 of this referral) or no appreciable change to the landscape presence of the road if Option 1 is selected for the upgrade. It is notable that the two short listed options currently being considered for this location as set out in section 4 are considerably less imposing in visual and other terms than options previously considered by VicRoads.

Is there a potential for effects on landscape values of regional or State importance?
☐ NYD ☒ No ☐ Yes Please briefly explain response.

Is mitigation of potential landscape effects proposed?
☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

The M80 Urban Design Strategy (UDS) shall coordinate with a broader UDS currently being developed by VicRoads for Melbourne's metropolitan road network to ensure broad consistency across the network which shall complement the recently announced Victorian Transport Plan.

Both strategies will be developed in consultation with the Victorian State Government Architect and other key stakeholders. It will identify opportunities to respond to the needs of all stakeholders and address the integration of road related infrastructure elements.

Other information/comments? (eg. accuracy of information)

Note: A preliminary landscape assessment is a specific requirement for a referral of a wind energy facility. This should provide a description of:

- The landscape character of the site and surrounding areas including landform, vegetation types and coverage, water features, any other notable features and current land use;
- The location of nearby dwellings, townships, recreation areas, major roads, above-ground utilities, tourist routes and walking tracks;
- Views to the site and to the proposed location of wind turbines from key vantage points (including views showing existing nearby dwellings and views from major roads, walking tracks and tourist routes) sufficient to give a sense of the overall site in its setting.

Soils

Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?
☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

There is potential for land instability and contamination in a number of locations along the project route. Initial desktop studies completed for the project identified a total of twelve locations where there is potential for land contamination. (Refer to attachment X - Hyder Consulting Pty Ltd. December 2008

Western Ring Road Upgrade Corridor - Environmental Desktop Study) These locations are shown on the Summary of Environmental Issues (attachment H) and are:

.1 Noise attenuation mounds, Watsonia North

2. Land adjacent to former quarry, Thomastown and Bundoora

3. Land in vicinity of former quarries and landfills around Upfield rail line, Hume Highway and Merri Creek crossings

4. Steele Creek

5. Land in vicinity of former and active quarries, southwest of Maribyrnong River, Sunshine North / Kealba. E. J. Whitten Bridge

6. Carrington Drive Reserve and vacant land southwest of St Albans Road, St Albans / Albion

7. Former Albion Explosives Factory land west of the road corridor, Cairnlea

8. Land formerly occupied by explosives and fertilizers factories (ICI, Dept Defence etc), Cairnlea, Deer Park, Ardeer

9. Deer Park Bypass Interchange construction area

10. Fitzgerald Road to Boundary Road

11. Boundary Road to Princes Highway Interchange

12. Princes Highway Interchange

As each stage of the Ring Road is designed and prepared for construction a Phase 2 soil investigation will be prepared to confirm the presence or otherwise of contaminated materials and to recommend appropriate methods of mitigation. Management measures for contaminated materials will be discussed and agreed with the Environment Protection Authority (EPA) and carried out in accordance with EPA policies and requirements.

Phase 2 Soil investigations have been prepared for:

Sites 6 and 7 in the Western Highway to Sunshine Avenue stage (Refer to attachment Y), and
Site 3 in the Tullamarine Freeway to Hume Highway stage (Refer to attachment Z),

These investigations found that sites 3 and 7 do not contain contaminated materials in ways that would require special handling or disposal in accordance with EPA requirements.

The investigation did confirm the presence of landfill contaminated material at Site 6 the previous Sunshine Tip site now parkland between St Albans Road and Jones Creek.

The landfill material detected at this location will either need to be appropriately managed on site (within an appropriately designed containment cell) or disposed off-site in accordance with EPA requirements.

For the purpose of off-site disposal, the landfill material would be classified as Category B and C in accordance with EPA Publication 448.3 ‘Classification of Wastes” and therefore would need to be disposed off site in accordance with EPA requirements. Other fill material from Area 6 would be classified as Category C.

The investigation also noted that an investigation of groundwater was not conducted and therefore the impacts to the surrounding eco-system, particularly the discharge of groundwater to the local waterways was not assessed as part of this investigation. Further investigation is required to determine the extent of these impacts as a result of the contaminated soils .

Are there geotechnical hazards that may either affect the project or be affected by it?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

Potential geotechnical hazard associated with the former Sunshine landfill described above.

Other information/comments? (eg. accuracy of information)

15. Social environments

Is the project likely to generate significant volumes of road traffic, during construction or operation?

☐ NYD ☐ No ☒ Yes If yes, provide estimate of traffic volume(s) if practicable.

Current two way average daily vehicle flows of 142000 on the busiest section of the road between Tullamarine Freeway and Pascoe Vale Road are predicted to rise to 240000 by 2031 and the remainder of the Road is predicted to experience a similar scale of increase.

Traffic from construction activity will be confined to the sections under construction and nearby main roads in accordance with requirements in the relevant PEPS and CEMPs.

Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?

☐ NYD ☐ No ☒ Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

The M80 Ring Road passes through 38 km of urban Melbourne and in so doing it is abutted by residential communities over much of its length interspersed with industrial, institutional and other land uses. (Refer to attachment I - Summary of land use and urban context) Analysis by VicRoads indicates that approximately 28km of Ring Road frontage (two sides) is residential in broad terms. Exposure of the various abutting communities to the Ring Road and its effects varies according to the physical position of the nearest residences, the local topography, subdivision layout and other local features. In some areas such as Sunshine North where the land is flat and there are noise barriers only the first line or so of housing would be immediately aware of the road through background noise or intermittent views. In other locations such as the valley crossing at Moonee Ponds Creek residents in the communities of Broadmeadows, Glenroy and Gladstone Park are aware of the Road from greater distances away from the road boundary.

In these directly adjoining communities distances from the road carriageway to the nearest dwelling varies widely from as low as 15m to as high as 200m with typical distances being 35m-40m. (Refer to table 4 in the Air Quality Assessment, Bassett Partners, May 2009 – attachment U)

In most situations the proposed Ring Road upgrade works will involve the construction of new lanes and related works in the centre median area. However in some areas such as improvements to entry and exit ramps at the Tullamarine interchange road pavement will be constructed closer to adjoining dwellings.

Key indicators of potential impacts on communities in the vicinity of the Ring Road are noise and air emissions.

As noted in section 11 there are predicted to be traffic noise impacts on housing in certain locations requiring attenuation at the road (walls) and in some locations attenuation measures at the dwelling. These locations are limited. One location at Sunshine West potentially requires noise attenuation at the present time. There are predicted to be no points in the Western Highway to Sunshine Avenue stage where noise levels will exceed the VicRoads policy level. .

Also as discussed in section 11 at certain locations along the road, there is the potential for air emissions to exceed the State Environmental Protection Policy Air Quality Management intervention levels. At three locations there is already a potential exceedence of the EPA policy level for particulate matter (PM_{10}) and an additional four locations could exceed policy levels by 2021. VicRoads will do more detailed air emissions modeling study to further qualify and quantify these emissions. When this data is available it will be discussed with the EPA to develop necessary mitigation and management strategies.

Under certain design options considered by VicRoads for the Moonee Ponds Creek locality potential existed for a range of environmental effects on the amenity of the area and nearby residents. Under either of the short listed design options (refer to Section 4) these potential impacts are substantially reduced. If the existing bridge option is selected (Option 1 as discussed in section 4) then these impacts will be minimal. If the single additional bridge option (option 2) is selected the effects will require more attention to impact definition and mitigation measures by VicRoads.

Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?

☐ NYD ☐ No ☒ Yes If yes, briefly describe the hazards and possible implications.

Refer to the brief description above and in section 11.

Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?

☐ NYD ☒ No ☐ Yes If yes, briefly describe potential effects.

Are non-residential land use activities likely to be displaced as a result of the project?

☐ NYD ☐ No ☒ Yes If yes, briefly describe the likely effects.

There may be marginal effects on non residential recreational uses at Moonee Ponds Creek where the road may occupy existing parkland. Under the least intrusive option (Option 1) there will be no net loss of parkland from the creek valley while under the more intrusive option (Option 2) there will be a potential net loss of up to 9000$m^{2.}$ This area is essentially a passive recreation area where there are not intensive use patterns. There will be no loss of the more intensively used feature (the multi use pathway) under either of the options for the road and if additional area of land is occupied by road it will be generally low use open space and landscape enhancement area. It has been an objective to avoid the loss of area from the artificial wetlands in all considered design options for the locality.

Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?

☒ NYD ☐ No ☐ Yes If yes, briefly describe the potential effects.

Is mitigation of potential social effects proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

Noise will be mitigated in accordance with VicRoads Traffic Noise Reduction Policy – February 2005 (refer to noise impact reports in attachments S and T

For potential air emissions effects more detailed modeling studies will be undertaken to further qualify and quantify these emissions. When this data is available it will be discussed with the EPA to develop necessary mitigation and management strategies.

At Moonee Ponds Creek valley where there are potential landscape impacts VicRoads will evaluate potential design options with a view to reducing visual intrusion on the valley, parkland users and adjoining communities. For the selected option a landscape and urban design response will be prepared and implemented by VicRoads consistent with the overall project urban design strategy.

Other information/comments? (eg. accuracy of information)

Community consultation has not occurred at this time. Therefore social impacts from the perspective of adjoining residents, communities and other stakeholders have not been identified.

Cultural heritage

Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?

☐ No If no, list any organisations that it is proposed to consult.

☒ Yes If yes, list the organisations so far consulted.

The Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated as the Registered Aboriginal Party (RAP) for part of the project area from Sunshine Avenue to Greensborough has been consulted by the project team and by the consultants responsible for the preparation of the Cultural Heritage Management Plan for the project. There is no RAP for the project area from Princes Freeway to Sunshine Avenue. Therefore the Secretary for the Department of Aboriginal Affairs is the authority responsible of assessing and approving CHMPs in that area.

Other parties (Applicant RAP's) consulted during the cultural heritage surveys are:

- Wandoon Estate Aboriginal Corporation
- Boon Wurrung Foundation Pty Ltd.
- Bunurong Land Council Aboriginal Corporation.

What investigations of cultural heritage in the project area have been done?
(attach details of method and results of any surveys for the project & describe their accuracy)
A preliminary archaeological assessment for the project was completed by Terra Culture Pty Ltd in April 2009. (Refer to attachment V) This assessment also included a desktop review of sites of historic significance.

Is any Aboriginal cultural heritage known from the project area?

☐ NYD ☐ No ☒ Yes If yes, briefly describe:

- Any sites listed on the AAV Site Register
- Sites or areas of sensitivity recorded in recent surveys from the project site or nearby
- Sites or areas of sensitivity identified by representatives of Indigenous organisations

The archaeological assessment (attachment V) identified a range of potentially affected Aboriginal cultural heritage sites through desktop and standard pedestrian survey.

After eliminating the potential for impacts by the project on a range of sites for a variety of reasons the report concluded that impacts could still occur on a total of only three sites. These sites numbered 7822-0273, 7822-0269 and 7822-1337 are referenced in the report (attachment V) with recommendations for the preparation of Cultural Heritage Management Plans (CHMP) for each of the discrete project segments. These CHMPs are in preparation for each of the project initial priority stages.

Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the project area?

☐ NYD ☐ No ☒ Yes If yes, please list.

The desktop study of cultural heritage values (attachment V) noted the interaction of the project area with two sites of post contact cultural heritage significance. They are:

Yan Yean Pipetrack (H7822-0281; and
Maroondah Pipetrack (H8022-0110)

Each of these items is listed on the Victorian Heritage Inventory. As they are both within the area for later project stages and the road design is not resolved completely it is unknown if project works will impact these items.

Is mitigation of potential cultural heritage effects proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

The cultural heritage consultants recommended the preparation of Cultural Heritage Management Plans (CHMP) for each of the discrete project segments. CHMP for early works – Steele Creek Bridge has been approved by Wurundjeri Tribe Land & Compensation Cultural Heritage Council Incorporated . CHMPs for initial stages 1& 2 are in preparation.

Other information/comments? (eg. accuracy of information)

16. Energy, wastes & greenhouse gas emissions

What are the main sources of energy that the project facility would consume/generate?

- ☒ Electricity network. If possible, estimate power requirement/output ……
- ☒ Natural gas network. If possible, estimate gas requirement/output ……...
- ☒ Generated on-site. If possible, estimate power capacity/output ……
- ☒ Other. Please describe.

Please add any relevant additional information.

The construction of the Ring Road will have similar energy requirements as most other major infrastructure construction projects. It will require large earthmoving plant and equipment and related machinery for road construction and surfacing. Other equipment will be required for construction of structures including culverts, bridges and interchange structures. Equipment is generally powered by conventional internal combustion sources utilising diesel or petrol fuel sources. Projects offices will be connected to the electricity distribution system.

What are the main forms of waste that would be generated by the project facility?

- ☒ Wastewater. Describe briefly.
- ☒ Solid chemical wastes. Describe briefly.
- ☒ Excavated material. Describe briefly.
- ☒ Other. Describe briefly.

Please provide relevant further information, including proposed management of wastes.

Wastes from a road construction project can range across a limited spectrum

There will be limited wastewater mainly from local construction activities such as boring of services or washing of equipment for housekeeping reasons.

Chemical wastes would arise mainly from individual construction activities such as welding or structural works. Quantities are expected to be minor.

Excavated materials could occur during site preparation. Volumes are unknown at this time however the general concept design indicates the addition of one or two lanes in each direction adjacent to existing lanes so minor cut and fill requirements and excess spoil are anticipated. Contaminated material is predicted to be excavated in the vicinity of the previous Sunshine land fill as described in section 14 above.

What level of greenhouse gas emissions is expected to result directly from operation of the project facility?

- ☒ Less than 50,000 tonnes of CO_2 equivalent per annum
- ☒ Between 50,000 and 100,000 tonnes of CO_2 equivalent per annum
- ☒ Between 100,000 and 200,000 tonnes of CO_2 equivalent per annum
- ☒ More than 200,000 tonnes of CO_2 equivalent per annum

Please add any relevant additional information, including any identified mitigation options.

Emissions are negligible during project construction and direct emissions from the operation of the road will only involve traffic lights/freeway lighting.

Traffic emissions are from existing vehicles using the Ring Road and any additional vehicles diverted from existing roads as a result of the project works. This could theoretically result in lower GHG emissions from those diverted vehicles but this would be difficult to quantify.

17. Other environmental issues

Are there any other environmental issues arising from the proposed project?

☒ No ☒ Yes If yes, briefly describe.

N/A

18. Environmental management

What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)

☒ Siting: Please describe briefly

For the majority of the project the options for siting of project works are limited due to the scope being to widen the existing road. In one known location there are optional siting solutions. At Moonee Ponds Creek VicRoads has examined siting options for the proposed new road on both east and westbound carriageways.

☒ Design: Please describe briefly

VicRoads has limited ability to vary the extent of impact the project will have on environmental values because of the simple conceptual scope of the project. The existing Ring Road layout and configuration sets the framework for the widening and other improvements to be carried out. Widening by addition of lanes will occur either on the outer or inner edge of existing carriageways. VicRoads can and will exercise care in the design and final configuration of project works to avoid and minimise impacts on native flora and fauna that have been identified in recent surveys. The project will be delivered by various methods including design and construct and an alliance arrangement. Under either of these arrangements it will be possible to achieve early contractor and designer involvement in the refinement and preparation of the detailed design. This early involvement will provide opportunity to consider construction techniques when preparing the detailed design resulting in best for project outcomes.

VicRoads will initiate design responses to particular environmental issues as required. Examples of design responses to environmental issues that have been or could be applied are:

- Noise mitigation and attenuation measures
- Air emissions mitigation measures through alignment selection
- Landscape and urban design measures
- Alignment options at Moonee Ponds Creek

☒ Environmental management: Please describe briefly.

VicRoads has a well established environmental framework for managing the potential environmental impacts of major road projects. All work for the construction of the M80 Ring Road Upgrade Project will follow that framework subject only to adaptation where necessary to the specific environmental circumstances of this project as set out in this document and the accompanying specialist reports.

Policy and guidelines

VicRoads Environment Strategy 2005-2015 and Environmental Sustainability Policy 2008, commits VicRoads to:

- Improving the liveability of communities;
- Protecting and enhancing the natural and cultural environment; and
- Being an environmentally responsible organisation.

VicRoads Environmental Management Guidelines (VicRoads, 2006) outline the processes for protecting the environment during the planning, development and construction of road projects.

These guidelines are a management tool used to:

- demonstrate and explain the process used by VicRoads to protect the environment on road improvement projects;
- assist VicRoads staff in developing a systematic approach for managing environmental issues such as dust generation and site runoff to ensure VicRoads responds to its environmental obligations in a logical, practical and positive manner;
- ensure environmental impacts and risks are proactively identified, addressed and managed to achieve a successful outcome; and
- monitor the compliance of contractors engaged by VicRoads to undertake the physical works with their contractual and statutory environmental obligations.

Environmental management framework

Based on the above mentioned VicRoads Policy and Guidelines, the environmental management framework will provide the basis for the management of the project to achieve the required environmental and community goals. Key elements of the framework are:

Planning Phase

- Investigations and assessment

- Environmental Design and Mitigation
- Referral and approvals
- Handover for delivery

Pre construction Phase

- VicRoads Project Environment Protection Strategy (PEPS)
- Contract Documentation
- Prequalification of Contractors
- Review of Contractor's Environmental Management Strategy and Environmental Management Plans
- Contractor Environmental Management Strategy (CEMS)
- Contractor Environmental Management Plans (CEMPs)
-

Construction Phase

- VicRoads Surveillance and Audit Plan
- Construction Monitoring
- Performance Reporting

Responsibilities

- VicRoads Responsibilities
- Contractor Responsibilities

Induction and Training

Consultation

- Community
- Government Authorities

Environmental Legislation

Environmental Risk Assessment and Mitigation

- General
- Risk Management System and Program
- Specialist Consultants' Risk Assessments and Recommendations
- VicRoads Risk Assessment and Mitigation Summary

Project Monitoring and Reporting

- VicRoads Monitoring and Reporting
- Contractors Monitoring and Reporting
- Dust monitoring
- Environmental Incident Management
- Pre and post construction monitoring for noise and air quality.

Of the framework elements the two key tools for environmental compliance are the PEPS prepared and enforced by VicRoads and the contractors environmental management requirements.

Project Environmental Protection Strategy (PEPS)

A key feature of the VicRoads framework is the PEPS which is prepared and provided to the contractor as a tool to ensure that the environmental management obligations are clearly articulated. A copy of the PEPS for the Steele Creek Bridge upgrade is attached (attachment Q).

The PEPS must contain as a minimum:

- Project description;
- Description of the local environment;
- Planning and environmental commitments;
- VicRoads roles and responsibilities;
- Environmental risk assessment; and
- Project monitoring and incident response.

Contractors Environmental Management Responsibilities

On larger construction projects VicRoads requires contractors to prepare a Contractor Environment Strategy outlining the contractor's overall commitment and approach to environmental management. Beneath the Strategy are a series of Contractor Environmental Management Plans (CEMP), prepared either on an activity (e.g. earthworks), or area (e.g. grasslands) basis. All maintenance and construction projects are required to develop a CEMP. The CEMP must outline how the contractor will comply with any environmental conditions within the project and provide a framework to ensure that the environmental risks associated with the contract are properly managed.

In this project the alliance contractor will be committed to including all agreed or mandated environmental

mitigation and protection measures in the CEMPs and to their successful implementation.

☒ Other: Please describe briefly

Other mitigation measures

Natural Temperate Grassland of Victorian Volcanic Plan (NTGVVP) also Western Plains Grassland (EVC132)

The report by Ecology Partners (refer to attachment L) has concluded that the potential impacts on the native vegetation community is minor and that the areas of vegetation likely to be removed are so sparse and degraded that they do not meet the threshold set out in the Commonwealth Listing Advice on the Natural Temperate Grassland of the Victorian Volcanic Plain, Online, Department of the Environment Water Heritage and the Arts, 2008.

If any native vegetation is to be removed due to project works it will be from areas of degraded treeless vegetation and not native vegetation patches as defined by the Victorian Native Vegetation Management Framework. Because of the degraded and sparse nature of the vegetation, it has not been possible for the consultants to calculate a habitat hectare loss in accordance with that policy and therefore an offset requirement can not be calculated and is not warranted. (Refer to attachment L – s. 5.1.2 Ecology Partners July 2009)

Growling Grass Frog (GGF)

VicRoads having identified the presence of GGF in the project area has determined that the loss of suitable habitat area will be avoided where possible as a first step in the design process. Should there be unavoidable loss of habitat appropriate protection and conservation measures will be implemented. These are outlined in recommendations in the targeted survey report (attachment N – section 5 and appendix 3, Ecology Partners Pty. Ltd. March 2009). The measures are graded according to the risk to GGF as follows:

High Risk – Moonee Ponds Creek and Darebin Creek

- Preparation and implementation of a Conservation Management Plan including salvage, translocation and re-instatement contingents
- Obtain permits to remove habitat and take fauna
- Targeted surveys immediately before construction
- Avoid habitat
- Identify and cordon off habitat areas

Moderate Risk Areas – Kororoit, Merri, Central, Edgar's Creeks

- Targeted surveys immediately before construction
- Obtain permits to remove habitat and take fauna
- Undertaken salvage, translocation and re-instatement where required
- Supervise topsoil removal
- If detected cease work and contact Department of Sustainability and Environment

Low Risk Areas – Jones, Stony, Steele, Merlynston, Campbellfield Creeks and Maribyrnong River

- Before construction a zoologist check of proposed work areas
- Obtain permits to remove habitat and take fauna
- Supervise topsoil removal
- Undertaken salvage, translocation and re-instatement measures if deemed necessary
- If detected cease work and contact Department of Sustainability and Environment

VicRoads is committed to the implementation of these recommendations according to the staging of the project as proposed.

Early Works – Steele Creek Bridge
Undertake recommended actions for low risk area.

Initial Stage 1 – Calder Freeway to Hume Highway
A Conservation Management Plan for Growling Grass Frog has been prepared and recommended measures will be implemented..
Undertake recommended actions for low risk areas (*Merlynston, Campbellfield Creeks*)

Initial Stage 2 – Western Highway to Sunshine Avenue
Undertake recommended actions for low risk (Jones and Stony Creeks) and moderate risk area (Kororoit Creek).

Later Stages – Balance of M80 Project Area
Undertake recommended actions for low risk (*Maribyrnong River*) and moderate risk area (*Merri, Central, Edgar's Creeks*).
Prepare a Conservation Management Plan for Growling Grass Frog and implement it and other recommended measures for Darebin Creek.

Add any relevant additional information.

19. Other activities

Are there any other activities in the vicinity of the proposed project that have a potential for cumulative effects?

☐ NYD ☒ No ☐ Yes If yes, briefly describe.

20. Investigation program

Study program

Have any environmental studies not referred to above been conducted for the project?

☐ No ☒ Yes If yes, please list here and attach if relevant.

VicRoads has carried out a range of environmental investigations for the project and these will continue as project stage proposals are developed. The outcomes of the investigations which have been completed to date are summarised in this referral and all relevant consultants' reports are attached.

Has a program for future environmental studies been developed?

☐ No ☒ Yes If yes, briefly describe.

A program of future studies has not been developed. However, the following studies would generally be undertaken prior to construction.
Cultural heritage Plans
Net Gain Assessment – Remaining stages
Detailed Air Quality Modelling
Noise modelling – Remaining stages
Groundwater Investigation

Consultation program

Has a consultation program conducted to date for the project?

☐ No ☒ Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

A Community and Stakeholder Engagement Strategy has been developed for the M80 Ring Road Upgrade, this strategy outlines the consultation activities that will be undertaken throughout the life of the project to keep the community and stakeholders informed and to incorporate their feedback as appropriate.

Consultation activities already underway include meetings with a number of key stakeholders including:

- The eleven local councils along the route and specific discussions with Brimbank, Hume and Moreland about planning permit requirements for initial stages.
- Interested MPs
- RACV

- Melbourne, Avalon and Essendon airports
- the freight industry
- Melbourne Water
- Government agencies, including DPCD, DSE and EPA

Has a program for future consultation been developed?

☒ NYD ☒ No ☒ Yes If yes, briefly describe.

The Community and Stakeholder Engagement Strategy sets the framework for consultation activities through the life of the project.

Under the Strategy a Community Awareness Program is currently being developed and is scheduled for implementation between September and December 2009, it is proposed as part of this program to include:

- Staffed displays in local shopping centres
- Presentations to community groups
- Letter box drop of a general fact sheet about the project to all residences along the route
- Establishment of a project website

For most project stages a planning permit application will be required. As part of the permit application process specific consultation activities will be carried out with identified stakeholders before and during the processing of the permit application.

In keeping with the Community and Stakeholder Engagement Strategy, VicRoads will continue to meet with local residents and stakeholders on a regular basis to discuss their issues and concerns throughout the life of the project.

Authorised person for proponent:

I, ……(full name),

……(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature _____

Date

Person who prepared this referral:

I, ……(full name),

……(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature _____

Date

Attachments to this referral

A	Locality Plan
B	Existing Ring Road lane configuration
C	Project concept design – Steele Creek Bridge upgrade
D	Project concept design – Tullamarine Freeway to Sydney Road
E	Project concept design – Western Highway to Sunshine Avenue
F	Project concept design – whole route
G	Design options for Moonee Ponds Creek locality
H	Summary of Environmental Issues Map
I	Summary of land use and urban context
J	Land Ownership details – Moonee Ponds Creek
K	Preliminary Flora and Fauna Assessment, Ecology Partners Pty. Ltd. April 2009
L	Summary of Ecological Issues and Net Gain Assessment, Ecology Partners Pty. Ltd. July 2009
M	Targeted Golden Sun Moth Surveys, Ecology Partners Pty. Ltd. March 2009
N	Targeted Growling Grass Frog Surveys, Ecology Partners Pty. Ltd. March 2009
O	Aquatic fauna assessment of five creeks, Biosis Research Pty. Ltd. April 2009
P	Aquatic targeted fauna assessment, Biosis Research Pty. Ltd. June 2009
Q	Project Environment Protection Strategy – Steele Creek
R	Traffic Noise Monitoring, Western and Metropolitan Ring Roads, Bassett Partners, July 2009
S	Noise Modelling Airport Drive to Hume Highway, Bassett Partners, May 2009
T	Noise Modelling Western Highway to Sunshine Avenue, Bassett Partners, June 2009
U	Air Quality Impact Assessment, Bassett Partners, May 2009
V	Preliminary Archaeological Assessment, Terra Culture Heritage Consultants. April 2008
W	Environmental Significance Overlays
X	Western Ring Road Upgrade Corridor - Environmental Desktop Study, Hyder Consulting Pty Ltd. December 2008
Y	Phase 2 Soil Assessment, Area 6 and 7, St Albans Road Overpass to Western Highway, M80 ring Road Project, Hyder Consulting Pty Ltd, March 2009
Z	Phase 2 Soil Assessment, Area 3, Merlynston Creek to Hume Highway Interchange, M80 ring Road Project, Hyder Consulting Pty Ltd, April 2009