Australian Government
Department of the Environment and Energy

Title of Proposal - North East Link Project

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type

Transport - Land

1.2 Provide a detailed description of the proposed action, including all proposed activities.

North East Link ('the project') is a proposed new freeway standard road connection that would complete the missing link in Melbourne's metropolitan ring road, giving the city a fully completed orbital connection for the first time. North East Link would connect the Western Ring Road (M80) to the Eastern Freeway, and include works along the Eastern Freeway.
The following section describes the North East Link alignment and the key elements, noting that development of the concept design is ongoing:

• Western Ring Road to Lower Plenty Road – from the M80 and Greensborough Bypass to the northern tunnel portal, this section would include a mixture of above, below and at surface road sections, with new road interchanges at M80, Grimshaw Street and Lower Plenty Road.

• Tunnels – from the northern tunnel portal located just north of Lower Plenty Road to south of Manningham Road, twin tunnels would travel under residential areas, Banyule Flats and the Yarra River. Near each tunnel portal, supporting tunnel infrastructure would be required, including ventilation structures, substations and associated infrastructure. This section would include a new interchange at Manningham Road.

• Bridge Street to Eastern Freeway – this section would include open cut and bored or mined tunnel with the southern tunnel portal located south of the Veneto Club. Further south, surface road and viaduct structures would connect to the Eastern Freeway via a new interchange.

• Eastern Freeway upgrades – from around Hoddle Street in the west through to Springvale Road in the east, modifications to the Eastern Freeway would include widening to accommodate future traffic volumes, provision of new dedicated bus lanes for rapid bus services (Doncaster Busway) and associated works.

The project would also include improvements to existing bus services on arterial roads, pedestrian connections and the bicycle network through connected cycling and walking paths from the M80 to the Eastern Freeway and the city.

To facilitate delivery, North East Link will require temporary and permanent land occupation, drainage and flood mitigation works, and the use of tunnel boring machines to construct most of the tunnel length.

This referral is based on a concept design for the project developed during preparation of the business case. This design will undergo further development and assessment in consultation with relevant stakeholders and the community to develop a reference design that will be assessed through the Victorian environmental impact assessment and approvals process.

The reference design may include variations for certain project components where there is potential for different design solutions. These variations could include things such as the length of the tunnel, the locations of ventilation structures and the design and layout of interchange connections. There may also be different approaches to construction methodology. These variations would occur within the referred project area described in Section 1.2.3 of the Attached Referral Document.

The impact assessment for the project will consider these design variations and alternative construction techniques in the development of environmental performance requirements for the project. The environmental performance requirements will define the minimum environmental outcomes and performance standards that must be achieved for design, construction and operation of the project (refer to Section 4 for further description).

The North East Link Authority (NELA) is responsible for this Referral, and is the proponent for the project on behalf of the Victorian State Government. NELA is an Administrative Office established to undertake the planning, development and delivery of North East Link.

North East Link will involve some upgrade works on the M80 between Plenty Road and the Greensborough Bypass. These are separate from the road improvement and upgrade works to the M80 being delivered by VicRoads as part of the ‘M80 Ring Road Upgrade project’ which was the subject of EPBC referral 2010/5509 and determined to be ‘not a controlled action’.

The project involves the augmentation of existing operating freeways and arterial roads, as well as construction of new surface roads, tunnels and elevated structures. The surface road connections and elevated structures would be located in urbanised areas of Melbourne, largely within (or adjacent to) existing road reserves. The underground tunnels would travel beneath the most ecologically sensitive portion of the referred project area, including the Yarra River, avoiding surface impacts through this area.

The referred project area is shown in Figure 1 of the Attached Referral Document and includes all of the areas that works would be proposed at surface level or where investigations would be undertaken for development of the project, as well as a wider area within which the tunnels would be constructed below the surface. The precise location of the roads and tunnels is subject to further design work, but they would be located within the referred project area indicated.

The referred project area is wider than the actual footprint of the concept design, allowing for potential variations to the project as the design progresses. Accordingly, the referred project area has assumed the worst case scenario in terms of potential surface impacts. The environmental performance requirements will apply to the final design of the project within the referred project area. These requirements will ensure that the environmental outcomes and

performance standards set for the project will be met irrespective of the project's ultimate design.

The project intersects with Commonwealth Land at Simpson Barracks and a small publicly accessible area immediately south-west of the Simpson Barracks fence line (for the purpose of this assessment these two areas have been assessed together as ‘Simpson Barracks’). The referred project area intersects with approximately 11 hectares of this Commonwealth Land.

The project and the referred project area are further described in Section 1.2.3 of the Attached Referral Document.

1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Area	Point	Latitude	Longitude
Approximate project area	1	-37.683014511061	145.06585225425
Approximate project area	2	-37.682742803293	145.06516560874
Approximate project area	3	-37.680840821046	145.12559041343
Approximate project area	4	-37.690350244602	145.12627705894
Approximate project area	5	-37.69524033053	145.10258778892
Approximate project area	6	-37.723487845351	145.09297475181
Approximate project area	7	-37.775608810145	145.09194478354
Approximate project area	8	-37.788361994161	145.12215718589
Approximate project area	9	-37.795958589715	145.20318135581
Approximate project area	10	-37.808437015318	145.20352467856
Approximate project area	11	-37.801112977584	145.11803731284
Approximate project area	12	-37.788090672732	145.08748158774
Approximate project area	13	-37.799756594594	144.99306783042
Approximate project area	14	-37.791346464133	144.99375447593
Approximate project	15	-37.776694273174	145.07203206382

Area	Point	Latitude	Longitude
area			
Approximate project area	16	-37.726746481091	145.07546529136
Approximate project area	17	-37.69496866755	145.08576497397
Approximate project area	18	-37.689806881814	145.06379231772
Approximate project area	19	-37.683014511061	145.06585225425

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

Locality and property description

North East Link would traverse Melbourne's north-eastern suburbs of Greensborough, Watsonia, Macleod, Rosanna and Bulleen. The project also includes widening of the Eastern Freeway largely within the road reserve except through Bulleen, Balwyn North, Doncaster, Mont Albert North and Box Hill North. This region is highly urbanised and incorporates a range of residential, commercial and recreational land uses. Areas that would be affected by above ground works are mainly located within or abutting highly disturbed major transport corridors, including:

- Greensborough Road, beginning at the M80 Ring Road and ending at Lower Plenty Road
- Bulleen Road, beginning at Manningham Road and ending at the Eastern Freeway
- Eastern Freeway, with widening works approximately between Hoddle Street and Springvale Road

Areas that are considered to contain the highest ecological values include:

- Banyule Flats, Warringal Parklands, the Yarra River and its associated floodplain between Lower Plenty Road and Manningham Road. This area includes the 'Banyule Swamp' and other areas of open space characterised by expansive, well-treed areas which retain important patches of high value habitat for terrestrial fauna, as well as multi-use recreational parks (including golf courses) and the Heide Museum of Modern Art and sculpture park. The project consists of a tunnel beneath this area to avoid direct impacts.
- Simpson Barracks. This area contains a relatively large area of remnant woodland/forest,

particularly for this part of otherwise urbanised Melbourne, and is the starting point of Banyule Creek.

- Other waterway crossings, including Plenty River, Banyule Creek, Merri Creek and Koonung Creek.

Impacts at a number of sensitive areas near to the project have been avoided through the designation of ‘no go zones’ where surface works are not permitted as part of the project. No go zones have been designated for the following sensitive areas (see Figure 2 of the Attached Referral Document):

- A vegetated patch near the intersection of M80 and Plenty Road. This was observed to contain Grassy Eucalypt Woodland of the Victorian Volcanic Plain (EPBC Act-listed as critically endangered), which may have originated as a Plains Grassy Woodland (EVC 55) offset site

- Bolin Bolin Billabong, located between Bulleen Road and the Yarra River. This is a known site of cultural significance and ecological value (non-EPBC related)

- A portion of Yarra Bend Park, south of the Eastern Freeway. This area is home to the Grey-headed Flying-fox (EPBC Act-listed as vulnerable) and is protected under the Flying-Fox Campsite Management Plan (DSE, 2005).

A tunnel has been proposed beneath the Banyule Flats, the Warringal Parklands, and the Yarra River as well as the Heide Museum of Modern Art and sculpture park, to avoid surface impacts at these locations. This area has been included within a designated ‘conditional no go zone’ where surface works would not be permitted as part of the project with the possible exception of activities relating to site investigations, relocation of minor utilities and ground improvement.

A series of construction worksites would be required along the project corridor to facilitate construction activities. These would generally be located within areas of low ecological sensitivity along the referred project area, to the extent practicable. Worksites established outside of the referred project area would be subject to their own approvals, if required.

1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?

The referred project area is approximately 900 hectares, the permanent footprint would be approximately 190 hectares.

1.7 Is the proposed action a street address or lot?

Lot

1.7.2 Describe the lot number and title. The lot numbers and titles would be determined based on the final detailed design.

1.8 Primary Jurisdiction.

Victoria

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

No

1.10 Is the proposed action subject to local government planning approval?

Yes

1.10.1 Is there a local government area and council contact for the proposal?

Yes

1.10.1.0 Council contact officer details

1.10.1.1 Name of relevant council contact officer.

See Section 1.12

1.10.1.2 E-mail

1.10.1.3 Telephone Number

See Section 1.12

1.11 Provide an estimated start and estimated end date for the proposed action.

Start date 10/2019

End date 03/2027

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

State Policy Context

Plan Melbourne – the Victorian Government's metropolitan planning strategy

Melbourne's population is growing rapidly and is projected to increase from 4.5 million to almost 8 million by 2051. Over this period the economy will need to create another 1.5 million jobs for a changing workforce and build another 1.6 million homes in places where people want

to live. This growth presents a range of transport and land use planning challenges for the development of the city.

Plan Melbourne, Melbourne's Metropolitan Planning Strategy sets out a vision for Melbourne through to 2050. The need to continue to invest in the Melbourne transport network is a key consideration of Plan Melbourne. This investment will include building the Metro Tunnel and major road projects across the city and suburbs, informed by Infrastructure Victoria's independent assessment of transport priorities. Improving transport and connectivity is seen to be vital for ensuring the State's liveability, by reducing travel time, vehicle operating costs and providing improvements in travel time reliability as a result of having access to a completed, less congested arterial and motorway network. These are key drivers for the introduction of North East Link.

State Planning Policy Framework

Across the state of Victoria, the objective for management of the road system is to achieve integration, choice and balance by developing an efficient and safe network and making the most of existing infrastructure.

Strategies to achieve this include:

- Selectively expand and upgrade the road network to provide for:
  - High quality connections between Metropolitan Melbourne and regional cities, and between regional cities
  - Upgrading of key freight routes
  - Ongoing development in outer suburban areas
  - Higher standards of on-road public transport
- Improved key cross-town arterial links in the outer suburbs including circumferential and radial movement
- Improve road networks where public transport is not viable, and where the road development is compatible with the Neighbourhood Principles and urban design objectives
- Improve roads in developing outer-suburban areas to cater for car, bicycle, public transport and freight, commercial and service users
- Improve the management of key freight routes to make freight operations more efficient while reducing their external impacts
- Ensure that road space compliments land use and is managed to meet community and business needs.

The project is broadly aligned with integrated transport, road and freight Planning Scheme objectives at a State level.

Victoria's 30-Year Infrastructure Strategy

Infrastructure Victoria have developed a 30-year strategy for infrastructure projects in Victoria. North East Link was identified as Victoria's next priority road project in the strategy, which sets out a pipeline of initiatives to be delivered over the next three decades to help create the best possible future for the State of Victoria. The strategy recommends that North East Link be constructed within 10-15 years to improve access to jobs and improve capacity of the freight network. The strategy identifies North East Link as being a high performing project that offers:

'substantial benefits in terms of linking people to employment across the city and improving freight reliability and travel times… The North East Link provides accessibility through some of the most congested parts of the road network and improves access to major employment centres, as well as improved cross-town travel. It makes sense to proceed in the medium term, largely supporting existing land uses.'

Victoria, the Freight State (2013)

Victoria the Freight State – the Victorian freight and logistics plan – sets out a long-term plan for managing the growing freight task. A key intention of the Plan is to maximise the contribution of the freight and logistics sector to improve Victoria's productivity and liveability.

The road network is expected to continue to carry the majority of metropolitan freight. The initiative of connecting the M80 and the Eastern Freeway is seen to provide Melbourne with a full 'ring road' for the first time and play an important role in directly linking Melbourne's industrial areas in the south east, north and west with intermodal freight connection points across the city.

Protecting Victoria's Environment – Biodiversity 2037

This plan includes the Victorian Governments vision and strategies for achieving overall biodiversity improvement over the next 20 years. The overall vision is that "Victoria's biodiversity is healthy valued and actively cared for". This is supported by a goal of connecting people with nature to encourage the value and protection of the natural environment. In addition, the plan aims for a net improvement across all species by 2037. This would be measured through a number of targets, including that no vulnerable or near-threatened species become endangered, options are created for the conservation of critically endangered or endangered species, and a net gain is achieved in terms of the extent and condition of habitats.

Local Policy Context

Local government planning schemes

Each of the six municipalities traversed by the project has a Planning Scheme. These are discussed below.

Banyule Planning Scheme

A number of key transport and infrastructure issues are identified in the Banyule Planning Scheme, including:

- Many arterial roads that perform a regional function are congested. Future changes that affect Banyule's road network need to be monitored and assessed
- Residents have a high dependency on private vehicles
- While some parts of the City have good access to public transport, others do not
- Further investigation is needed to determine the extent of future infrastructure needs as household structure, house size and density change.

To address this, an objective of the Banyule Planning Scheme is to promote 'a safe, efficient and effective integrated transport network'. Strategies to achieve this include:

- Improve accessibility to and within Activity Centres and Neighbourhood Centres
- Encourage new commercial businesses to locate in Banyule's Activity Centres and Neighbourhood Centres, particularly around transport nodes.

The local policy generally seeks to encourage retail activity and higher density development around nominated Activity Centres, which include the La Trobe National Employment (and Innovation) Cluster, Greensborough Activity centre and Watsonia Neighbourhood Centre. The project will improve vehicle access to these centres which is likely to assist with achieving these objectives.

Contact: David Bailey Transport Advocacy Manager 9457 9805

Boroondara Planning Scheme

A number of key transport and infrastructure issues associated with the road system are identified in the Boroondara Planning Scheme, including:

- Traffic congestion and capacity issues on key arterial roads, particularly in the morning peak
- Rat running and high traffic speeds in local streets
- Road safety on the arterial and local road networks.

The project will improve the road network by increasing capacity which is likely to assist with reducing these issues.

Contact: Clare Davey Coordinator Transport Management 9278 4520

Manningham Planning Scheme

A number of key transport issues associated with public transport are identified in the Manningham Planning Scheme, including:

- Lack of public transport in some areas
- Infrequency and limited hours of public transport services
- Connectivity between modes of transport.

To address this, one of the main objectives of the Manningham Planning Scheme is to improve the existing bus network with regard to frequency, connectivity and accessibility.

The project will include upgrade works to the Eastern Freeway with additional lanes proposed in both directions between Chandler Highway and Springvale Road. The upgrade to the Eastern Freeway will also include the Doncaster Busway, which is a proposed dedicated facility for buses from Doncaster Road to the Victoria Park precinct.

Contact: Frank Vassilacos Senior Strategic Land Use and Transport Planner 9846 0574

Nillumbik Planning Scheme

The Nillumbik Planning Scheme includes an objective to ‘provide safe and efficient roads and road links within the municipality and to the wider region’. The project will improve the road network by increasing capacity, and improving the linkages between this municipality, the Eastern Freeway and the wider region.

Contact: Jonathan Risby Transport and Development Coordinator 9433 3176

Whitehorse Planning Scheme

The Whitehorse Planning Scheme commits to providing a safe and high quality transport network for the benefit of all users, including drivers for freight transport, motorists traversing the City and motorists on local trips. One of the objectives identified to achieve this is to ‘ensure that adequate road capacity is provided to meet the future needs of the City’. Strategies designed to achieve this objective include:

- Ensuring that land set aside for future roads is put to use where appropriate
- Discouraging non-locally generated transport activity from using the local road network
- Actively promoting extensions and improvements to the public transport network to service the needs of the community.

The project is expected to align with these strategies by expanding the Eastern Freeway within the existing road reserve to improve the public transport network and improving capacity and

traffic management.

Contact: Philip Warner General Manager Infrastructure 9262 6192

Yarra Planning Scheme

The Yarra Planning Scheme aims to promote walking, cycling and public transport use as the preferred modes of transport. One of its objectives is 'to facilitate public transport usage' in the municipality. The strategy designed to achieve this objective is to 'require new development that generate a high number of trips to be easily accessible by public transport'.

Within the City of Yarra, the project will include upgrade works to the Eastern Freeway for the Doncaster Busway, which is a proposed dedicated facility for buses from Doncaster Road to the Victoria Park Precinct.

Contact: Bruce Phillips Director of Planning and Place Making 8417 6666

Yarra River Action Plan (Wilip-gin Birrarung murron) (February 2017)

The Yarra River Action Plan seeks to protect the health of the Yarra in light of population growth and urban development impacting the health of the river. The action plan is guided by five objectives, through which it aims to:

- Protect and improve the health of the river and its riparian ecology
- Improve community access to, movement along and on the river
- In partnership with Traditional Owners, recognise, protect and promote both intangible and tangible cultural values
- Recognise, protect and promote heritage values
- Connect communities and places along the river with trails and cycling corridors.

The project is aligned with these aims in that a tunnel under the Yarra River would limit potential impacts on the ecosystem of the river, as well as its heritage and cultural values. The project includes the installation of cycling paths around the Yarra River to improve cycling connectivity.

Northern Horizons – 2016 Update

Northern Horizons 2016 is an update to the original *Northern Horizons – 50 Year Infrastructure Strategy for Melbourne's North* (Northern Horizons) report which was published in 2014.

Melbourne's North has a shared vision of a 'dynamic economy supported by a diverse and creative culture'. Fundamental to realising this vision is the provision of appropriate and timely infrastructure. Northern Horizons includes short, medium and long term priorities for infrastructure improvement projects and programmes.

A road linking Greensborough to the Eastern Freeway is identified as a key medium term priority to be delivered over a period of ten years from 2022 to reduce congestion at north-south links in the inner north and at Yarra River crossings.

Other short-medium priorities of relevance to the project include:

- Local road improvements in the north east (Nillumbik)

- Address infrastructure demands in the La Trobe National Employment Cluster (Banyule and Darebin) which is an area with high population growth

- Improve connectivity for walking and cycling infrastructure in the north generally

- Coordinate an improved bus network across municipalities of Melbourne's north.

Relevant Legislation

Commonwealth

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) provides for the protection of the environment, especially matters of national environmental significance (NES). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES, or on the environment of Commonwealth Land, without approval from the Australian Government Environment Minister or Minister's delegate.

This referral has been prepared in accordance with the EPBC Act, to obtain a decision on whether the proposed action will need formal assessment and approval under the EPBC Act.

State

The project would need to be developed consistent with the requirements of the *Transport Integration Act 2010* (TIA). The TIA lists several objectives the government aims to achieve through the implementation of transport policy, including the efficiency, coordination and reliability of transport, safety, health and wellbeing of users, and social and economic inclusion.

It is envisaged that the following key State approvals would be required:

- An Environment Effects Statement (EES) under the *Environment Effects Act 1978*

- A Planning Scheme Amendment under the *Planning and Environment Act 1987* and the relevant Planning Schemes

- A Works Approval under the *Environment Protection Act 1970*

- A Cultural Heritage Management Plan (CHMP) under that *Aboriginal Heritage Act 2017.*

In addition, the provision of the following Acts would need to be addressed by the project:

- *Crown Land (Reserves) Act 1978*
- *Flora and Fauna Guarantee Act 1988*
- *Heritage Act 2017*
- *Road Management Act 2004*
- *Water Act 1989*
- *Yarra River Protection Act 2017*
- *Climate Change Act 2017.*

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

North East Link Authority (NELA) is an Administrative Office established to undertake the planning, development and delivery of the North East Link Project.

Consultation is a key part of the statutory planning and environmental assessment and approvals process that NELA will be undertaking to obtain requisite Victorian approvals for the project. This will build on the community and stakeholder engagement which NELA undertook during 2017 to inform the assessment of different project corridors prior to submitting this referral.

NELA's approach to consultation is based on guidance and requirements provided by Victorian legislation and policy. An overarching Communications and Engagement Strategy and supporting sub strategies have been developed. A key objective is to provide accurate and timely information and opportunities for communities and stakeholders to participate in the planning for North East Link. The communication and engagement principles are:

- Open communication
- Transparency and integrity
- Collaboration
- Inclusion
- Responsiveness
- Accountability

- Awareness.

Key community stakeholders

North East Link will attract interest from a broad range of community stakeholders including:

- Potentially impacted landowners, tenants and businesses
- Road users including pedestrians and cyclists
- Operators and patrons of community facilities
- Community and environment interest groups
- Culturally and linguistically diverse communities
- Vulnerable and hard to reach groups.

Key government and other organisational stakeholders

There are also a large number of organisational stakeholders including:

- Victorian government bodies, departments and agencies including Aboriginal Victoria, Environment Protection Authority Victoria, Heritage Victoria, Office of the Victorian Government Architect, Parks Victoria, VicRoads, emergency services and water authorities
- Commonwealth government
- Local government, including Banyule, Boroondara, Manningham, Nillumbik, Whitehorse and Yarra and adjoining councils
- Transport operators
- Private road operators
- Transport advocacy stakeholders
- Utilities owners
- Social service providers
- Media.

Indigenous stakeholders

Initial consultation with Traditional Owners, the Wurundjeri, has commenced to provide an overview of the project and its proposed location.

Consultation with the Wurundjeri would be undertaken during the development of a Cultural Heritage Management Plan as required under the *Victorian Aboriginal Heritage Act 2006*

NELA aims to have more than just statutory involvement with the Wurundjeri to inform design development and explore opportunities for involvement in place making and urban design outcomes recognising the Aboriginal cultural heritage significance of the Yarra River, Bolin Bolin Billabong and the Banyule Flats.

Timing of consultation

Consultation commenced in early 2017 across the wider area to inform assessment of four project corridors for the business case and has continued with the announcement of the project corridor in November 2017. Activities will continue to be timed to coincide with the planning and delivery program and in line with feedback from stakeholders. The phases of consultation include:

- Initiation phase – early to mid-2017 (completed)
- Establishing a project corridor – late 2017 (completed)
- EES investigations and reference design – early to late 2018 (indicative only)
- Statutory exhibition – early 2019 (indicative only).

Initiation & establishing a project corridor

NELA facilitated early engagement (as the business case was being developed) with a very wide study area to: explain the transport problem, opportunities and challenges the project will involve; outline the planning and approvals process; and seek feedback on project objectives and evaluation of corridor options.

EES investigations and reference design

Once the Victorian Environment Effects Statement (EES) and statutory assessment and approvals process commences, a separate EES sub strategy focuses on:

- Providing factual information as EES investigations and the reference design are progressing so people have the information they need to understand the project
- Encouraging and facilitating feedback and suggestions for ways of refining design, mitigating or managing aspects of construction or operation which may affect them
- Building awareness of the statutory process and how people can be involved.

Statutory exhibition of EES and key approval documents

NELA’s role at this point is to:

- In accordance with the Department of Environment, Land, Water and Planning's (DELWP's) requirements, provide information and advice on the EES assessment and approvals process

- Support the community and stakeholders in making formal submissions (by providing project information).

Key community engagement tools

Most engagement tools will be used in all phases to provide consistency and familiarity. A mix of tools provides the best opportunity for people to be informed and engaged in the ways they prefer. Throughout planning and construction likely tools include:

- Online engagement forums, surveys and social media discussion

- Project newsletters delivered to letterboxes and community outlets

- Fact sheets and other information materials in hard copy and online

- Videos and interviews to enhance project understanding

- Scheduled community display sessions and drop in sessions hosted by NELA, local government or other interested groups

- Face to face, phone and email discussions.

Some engagement is not expected to begin until the design is further developed. These include:

- Engaging directly with potentially affected landowners and businesses

- Targeted community workshops

- Community Liaison Forum(s).

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.

The whole of the proposed action will be subject to an environmental impact assessment under Victorian legislation. A Project Outline has been submitted to the Victorian Minister for Planning, inviting him to declare the project as 'public works' under Section 3 of the Environment Effects Act 1978 (EE Act). If the Minister makes such a declaration, the project will be assessed through the preparation of an Environment Effects Statement (EES) under the EE Act.

The EES assessment process provides for a comprehensive and integrated assessment of the potential environmental effects of the project and will be used to amend each relevant Planning

Scheme to introduce planning controls to regulate the construction and operation of the project under the *Planning and Environment Act 1987*.

As part of the proposed action is within Commonwealth land, in the event that the action is determined to be a controlled action, then the Victorian Bilateral Agreement may not apply. Notwithstanding, the EES assessment process could be separately accredited under the EPBC Act for the purposes of assessing the project, as was the situation before the Victorian bilateral agreement came into effect. In the event that the EE Act process is not accredited, the assessment approach would be determined, and the project assessed, by the Department of Environment and Energy (DoEE). Under this scenario, the required Commonwealth and Victorian approvals would be sought separately.

DELWP Contact: Clare Phelan Senior Policy Officer 9637 9873

1.15 Is this action part of a staged development (or a component of a larger project)?

No

1.16 Is the proposed action related to other actions or proposals in the region?

Yes

1.16.1 Identify the nature/scope and location of the related action (Including under the relevant legislation).

There may be other works to roads and shared use paths in the vicinity or that may interface with part or parts of the project, to be delivered by others. These works and activities will be subject to their own assessment and approvals and do not form part of North East Link.

As part of the M80 Ring Road Upgrade project, there will be road improvements and upgrades to the M80 undertaken by VicRoads, independent of the North East Link. These works were referred to the DoEE in 2010 and determined to be 'not a controlled action' (2010/5509).

The M80 Ring Road Upgrade project will include widening works to provide up to four lanes in the eastbound direction and three lanes in the westbound direction with improvements at the Greensborough Bypass intersection and Plenty Road east facing ramps. Independently of this, North East Link is expected to further widen the M80 to five lanes in the eastbound direction and four lanes in the westbound direction, and provide additional dedicated lanes for traffic exiting Plenty Road, a new Greensborough Bypass interchange and upgraded noise walls. The anticipated timing for commencement of the M80 Ring Road Upgrade project works is late 2018. There may be overlap between the construction period of the M80 Ring Road Upgrade works and the construction period of North East Link, however interfacing activities would be minimised through further planning of construction methodology and sequencing as part of the detailed design.

Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

• Profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;

• Significant Impact Guidelines 1.1 – Matters of National Environmental Significance;

• Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies.

2.1 Is the proposed action likely to have ANY direct or indirect impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to have ANY direct or indirect impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to have ANY direct or indirect impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

Yes

2.4.1 Impact table

Species	Impact
Matted Flax-lily (Dianella amoena)	Populations of Matted Flax-lily have been

Species	Impact
	identified at three locations within the referred project area that are expected to be impacted by the project. Two of these populations are outside Commonwealth Land; near to the M80 interchange (approximately four plants/patches) and the Hurstbridge Rail Line (one large patch (approximately 15 metres by 2 metres)). One population of approximately 84 plants/patches is located within the referred project area on Commonwealth Land. Potential impacts are further discussed in Section 3 of this referral, and Attachment D Ecology report. These populations would be translocated and offset by the project in accordance with a project specific translocation plan and the EPBC Act Environmental Offsets Policy. A draft translocation plan has been developed and is included as part of this referral. This is discussed further in Section 4 and Attachments D and F of this referral.

2.4.2 Do you consider this impact to be significant?

Yes

2.5 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed migratory species, or their habitat?

No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action to be taken on or near Commonwealth land?

Yes

2.7.1 Is the proposed action likely to have ANY direct or indirect impact on the Commonwealth land?

Yes

2.7.2 Describe the nature and extent of the likely impact on the whole of the environment.

The project would impact on a strip of land along the western boundary of Simpson Barracks, a Commonwealth owned site. This is assessed in full in Attachment E of this referral.

The project has been determined to involve medium or large-scale vegetation clearing and as a consequence has the possibility to cause long term decline in a population of Matted Flax-lily within the site.

Furthermore, the natural landscape would be altered, medium to large-scale excavation would be required, Banyule Creek would be altered, and there is the potential to impact unknown Aboriginal cultural heritage sites or sites lines from a heritage place.

Accordingly, the potential for significant impact on the environment within Commonwealth Land does exist.

2.7.3 Do you consider this impact to be significant?

Yes

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

No

2.9 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?

No

2.10 Is the proposed action a nuclear action?

No

2.11 Is the proposed action to be taken by the Commonwealth agency?

No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?

No

2.13 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?

No

Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

The following section includes a description of the referred project area and an assessment of the potential matters of NES that could be affected by the project. The descriptions have been informed by desktop investigations, including review of relevant literature and previous studies undertaken throughout the referred project area, and also site surveys that have been undertaken between June and December 2017.

Setting

The referred project area is highly urbanised, but areas of high ecological value still remain in some sections, mainly near the Yarra River and its associated floodplain. As this land is a floodplain within a large metropolitan area, it is characterised by expansive, well-treed areas which retain important patches of high value habitat for terrestrial fauna, as well as multi-use recreational parks (including golf courses).

Terrestrial habitat

Vegetation within the referred project area is predominantly located within the Gippsland Plain bioregion and to a lesser extent the Highland Southern Fall bioregion.

The northern parts of the project generally pass through areas that have been previously disturbed. The woodland and forest areas that remain or that have regenerated or been re-planted offer low to moderate value habitat for threatened fauna species. The exception however are the larger intact areas of woodland associated with Simpson Barracks. Simpson Barracks contains a relatively large area of remnant woodland/forest (EVC 55: Plains Grassy Woodland), particularly for this part of otherwise urbanised Melbourne.

Key areas of riparian and floodplain vegetation located in the referred project area are associated with the Yarra River and its tributaries, including Koonung Creek in the south and Banyule Creek near the centre of the referred project area. Vegetation in these areas generally consists of Floodplain Riparian Forest (EVC 56) or Swampy Riparian Woodland (EVC 83). These areas contain a mature canopy of River Red gums (*Eucalyptus camaldulensis*) which form remnant patches or occur as isolated scattered trees.

Riparian and floodplain areas within parks and reserves also generally contain a species-rich understorey shrub layer, however the herbs and graminoids are largely absent from these areas due to the presence of high-threat weeds including Wandering Trad *Tradescantia fluminensis*.

Several areas of remnant vegetation contain good quality Plains Grassy Woodland (EVC 55) and Valley Grassy Forest (EVC 47) which are characterised by a canopy layer made up of several Eucalyptus and a grassy understorey.

Beyond the referred project area, areas adjoining the Bolin Bolin Billabong contain a diverse understorey of sedges, rushes and herbs including *Cyperus*, *Juncus*, *Isolepis* and *Persicaria* species. Additionally, this area contains a species-rich shrub layer that has been enhanced by recent revegetation efforts and contain many large River Red Gum trees. These are located within the Bolin Bolin Billabong area and have been avoided by the project.

Waterways and waterbodies

The highest aquatic ecology values associated with the project are contained with the Yarra River, and two of its associated floodplain wetlands, the Banyule Swamp and Bolin Bolin Billabong. The Yarra River also provides habitat to a range of native fish including EPBC Act-listed Macquarie Perch and Australian Grayling. Within the referred project area, the condition of the Yarra River is somewhat impacted by urban stormwater and other threats to water quality.

The Banyule Swamp is a non-permanent wetland and, with the associated lake, provides a regionally significant and relatively well protected floodplain wetland. The aquatic ecology values of this site are likely to be limited to opportunistic species that are able to colonise during rare overbank flows and high flow events, due to the presence of barriers to fish passage. The wetland is likely to support a range of fauna other than aquatic species that are dependent on the aquatic ecosystem condition e.g. piscivourous birds, amphibians, etc. The project has avoided direct impacts on the Yarra River and Banyule Swamp by tunnelling between Lower Plenty Road and Banksia Street.

Bolin Bolin Billabong is a regionally significant floodplain wetland, with a largely intact riparian vegetation, but with considerable weed infestation. The greatest threat to the ecological values of the billabong appears to be the lack of hydrological connectivity with the Yarra River, resulting from increasingly rare overbank flows. Hence the aquatic habitat within the billabong may not contain the potential fish species for this type of wetland. The billabong has high amounts of potential aquatic habitat structural diversity (i.e. woody debris and leaf litter), and little bed or bank disturbance. The Bolin Bolin Billabong is a designated no go zone (see Figure 2 of the Attached Referral Document) with no anticipated impacts from the project.

There are four other waterways which intersect with the project: Plenty River, Banyule Creek, Merri Creek and Koonung Creek.

Koonung Creek is heavily impacted by urban stormwater impacts, with poor water quality, poor bed and bank condition, and significant pollution. The reach within the referred project area has poor habitat for supporting good aquatic ecosystems, although it may possibly allow fish passage during periods of moderate flow. As part of the project, the creek would be covered with new structures and/or converted from open creek to culverts at some locations along the Eastern Freeway. This is not expected to affect any matters of NES as explained in Table 5 of the Attached Referral Document.

The downstream reaches of Banyule Creek function as an urban drain. Several reaches have been naturalised by waterway managers but these are not considered to maintain good quality aquatic ecosystems or to support populations of threatened species. The most upstream reaches are ephemeral waterways, which limits the ability of such waterways to maintain diverse fish populations. Several constructed drainage structures are likely to provide barriers to fish passage, limiting colonisation by fish. As part of the project, the upstream reaches through Simpson Barracks would be covered with new structures and/or converted from open creek to culverts. This is not expected to affect any matters of NES as explained in Table 5 below.

Within the referred project area, Merri Creek and Plenty River are urban waterways, subject to a range of impacts that have degraded the ecological condition. Both of these tributaries of the Yarra River extend from relatively good ecological condition in the less developed headwaters and upper reach catchments to the north, but have significant industrial and urban impacts in the mid and lower reaches. These waterways provide habitat suitable for native and exotic aquatic fauna, but the degree of stormwater inputs and modification to the catchment have resulted in low aquatic ecological values, despite some naturalised channel and riparian zone. There are records of EPBC-listed fish within the lower reaches of the Plenty River, and there is ample habitat for resident populations of native fish. It is possible that EPBC-listed fish could inhabit Merri Creek however there are no records of these beyond the vicinity of the confluence with the Yarra River. Although the project would include a new bridge structure at Merri Creek to support the freeway widening for dedicated bus lanes, these bridges would span the waterways, avoiding structures within these watercourses. Bridge strengthening may be required at the Greensborough Bypass bridge over Plenty River, and the Eastern Freeway bridge over the Yarra River, however these would not involve additional structures within the watercourses. Therefore the project is unlikely to impact matters of NES associated with these waterways.

Listed threatened ecological communities

According to the Protected Matters Search Tool (PMST) search undertaken for the project, five ecological communities listed under the EPBC Act have been identified as having a potential to occur within five kilometres of the referred project area, including:

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Natural Damp Grassland of the Victorian Coastal Plains
- Natural Temperate Grassland of the Victorian Volcanic Plain
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

All of these EPBC-listed communities were considered to have an unlikely or low potential to occur within the referred project area following further assessment, including field surveys. Therefore, it is considered unlikely that the project would significantly impact any matters of NES in relation to EPBC-listed ecological communities.

The Victorian Ecological Vegetation Class (EVCs) that correspond to the EPBC listed ecological communities, and a summary of the assessment are presented in Table 3 of the Attached Referral Document.

EPBC Listed Threatened Flora Species

Flora species that are considered to have a high likelihood of occurring or are known to be present within the referred project area are discussed in Table 4 of the Attached Referral Document, along with a summary of the outcome with respect to the potential for impacts to matters of NES. Impacts are considered likely for one Matter of NES; the Matted Flax-lily.

EPBC Listed Threatened Fauna Species

Fauna species that are considered to have a high likelihood of occurring or are known to be present within the project boundary are discussed in Table 5 of the Attached Referral Document, along with a summary of the outcome with respect to the potential for impacts to matters of NES. Impacts to Matters of NES are considered unlikely.

3.2 Describe the hydrology relevant to the project area (including water flows).

There are five waterways which intersect with the project, which are summarised as:

- Plenty River – located at the intersection of the project and Greensborough Bypass. Upstream of this location, the land is generally forested, rural and open space land, downstream it is mostly urban. The river is naturalised, but extraction of water in rural areas leaves the river in very poor condition.

- Banyule Creek – starting within Simpson Barracks, the creek flows south to join the Yarra River, and is approximately four kilometres in length. The catchment consists of urban development and includes part of Simpson Barracks and also some open space areas. The condition at this location is considered moderate.

- Yarra River – crossed by the project's tunnels and runs adjacent to the southern extent of the project, the river is naturalised in the vicinity of the project. The condition at this location is considered moderate, and flow is impacted by storages upstream.

- Merri Creek – located at the intersection with the Eastern Freeway in the vicinity of the project. The creek is naturalised at this location, but condition is very poor likely due to the surrounding urban development.

- Koonung Creek – Koonung Creek is a tributary of the Yarra River that it is 12 kilometres long and runs from Blackburn North west towards the Yarra River. For a majority of its length the creek follows the Eastern Freeway. The creek alignment has been heavily modified due to urbanisation and the construction of the Eastern Freeway. The condition of the waterway is

considered very poor.

From a hydrogeological perspective and based on the regional geology, the referred project area can be simplified into two main aquifer systems, referred to as either fractured rock aquifers, or porous media aquifers. The bulk of the referred project area is situated upon Palaeozoic rocks, comprising mudstones, sandstones and shales. These form fractured rock aquifers rocks that are regionally extensive.

These older rocks have been eroded, and in part, covered by younger sediments and volcanics. The sediments, typically Quaternary age, comprise variable mixtures of sands, clays and silts, and are porous media aquifers. As the sediments typically form the floodplains of the present day waterways within the referred project area, and can have high permeabilities, there can be a high degree of connectivity between surface water and groundwater.

The interaction between groundwater and surface water in the study area can be complex, owing to hydraulic gradients and aquifer material permeabilities. In some parts of the referred project area, the waterways flow directly over the Palaeozoic fractured rock aquifers. Interaction can also be high if there is a strong hydraulic connection between the floodplain aquifers and underlying fractured rock aquifers. Therefore, in places, the fractured rock aquifers may interact directly, or indirectly, with waterways too.

Groundwater levels are a subtle reflection of topography, with flow occurring from the higher topographies towards the valleys and floodplains, where it can discharge as seeps and spring flow, e.g. baseflow to the creeks and rivers. Given the size of the referred project area and its topography, the depth to groundwater is quite variable. The shallowest groundwater levels are expected to be associated with floodplain sediments, and lie within a few metres below the ground surface, e.g. the Yarra River floodplain. Groundwater levels in the higher topographies can be considerably deeper than 20 metres below the surface.

The project includes a tunnel passing under the Banyule Flats, the Warringal Parklands and the Yarra River. The top of the tunnel will have approximately 24 metres clearance beneath the Yarra River. Parts of the tunnel are likely to be below the watertable, and therefore disturbance to the groundwater environment could occur as part of tunnel and associated portal construction, and on-going operation, i.e. dewatering to maintain safe and dry excavation conditions. Depending upon the extent and magnitude of dewatering, the dewatering can reduce water availability to dependent ecosystems, and depending on the level of reliance and the availability of alternative water sources, could result in stress and degradation of ecosystem health, e.g. water levels could be lowered making groundwater less accessible to ecosystems. However, significant changes to the flow of the Yarra River would not be expected if groundwater drawdown were to occur, due to the large amount of flow/volume within this waterway. To manage potential impacts, dewatering would be minimised through adoption of specific tunnel design measures and implementation of a groundwater management plan which are further discussed in Section 4 and Attachment C.

No EPBC Act-listed groundwater dependent communities or species have been identified within the referred project area. Further assessment of groundwater interactions with ecological values will be undertaken as part of the EES. This will include preparation of a groundwater model

based on the reference design to assess changes to groundwater levels and potential impacts on this community.

3.3 Describe the soil and vegetation characteristics relevant to the project area.

The geology underlying the referred project area is relatively complex in that it encompasses a sequence of marine, alluvial, sedimentary and volcanic materials laid down over a time interval of more than 400 million years. Many of the rock units have been exposed to extensive weathering, uplift, erosion and subsequent covering by more recent materials. The intervening prolonged periods of erosion have repeatedly modified the landscape by the incision of valleys.

The geology can be broadly summarised as comprising a basement of folded and faulted Palaeozoic marine sedimentary rocks comprising mudstones and sandstones. The rocks were deposited during the Silurian and Devonian periods, and have been differentiated regionally as the Anderson Creek, Melbourne, and Humevale Formations.

These rocks were subsequently uplifted and eroded over time into a system of river valleys. These valleys have been periodically filled and re-eroded by fluvial and near shore marine sediments (Brighton Group, Quaternary alluvials) and periods of lava and pyroclastic flows (Newer and Older Volcanics). Some erosion has also occurred after the deposition of some lava flows and younger fluvial sediments resulting in the presence of younger “capping” of some hills and ridgelines in the referred project area.

While the alignment has undergone significant urbanisation, areas of high ecological value still remain in some sections, particularly near the Yarra River and its associated floodplain. Because this land is a floodplain within a large metropolitan area, it is characterised by expansive, well-treed, multi-use recreational parks (including golf courses), which retain important patches of high value habitat for terrestrial fauna.

The northern parts of the alignment generally course through areas that have been previously disturbed. The woodland/forest areas that remain or that have regenerated or been re-planted offer low to moderate value habitat for threatened fauna species. While some threatened species may use these habitats occasionally (e.g., Swift Parrot), these habitats are more likely to be used and visited by common fauna that occur across much of the Melbourne area.

Further south, in the suburb of Yallambie, the corridor runs along the western fringe of Simpson Barracks, which contains a relatively large area of remnant woodland/forest, particularly for this part of otherwise urbanised Melbourne. This habitat is of high value and is likely to support numerous threatened fauna species.

The corridor then courses along Banyule Creek, which is relatively degraded (weedy, and with non-native trees and shrubs) and generally of low to moderate value to fauna for most of the length. Banyule Creek flows into or alongside Banyule Swamp within a large area of recreational parks associated with the Yarra River floodplain in Heidelberg/Bulleen where there are records of threatened species. The corridor then continues along the eastern side of more high value Yarra River floodplain, including the Bolin Bolin Billabong.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

The Yarra River is one of Victoria's most iconic waterways, integral to Melbourne's identity and liveability of the city. The river provides a number of functions, including as a major source of Melbourne's drinking water, as a biodiversity corridor supporting flora and fauna and as a culturally significant place for Aboriginal people.

The project has prevented direct impacts on the Yarra River by tunnelling between Lower Plenty Road and Bridge Street.

3.5 Describe the status of native vegetation relevant to the project area.

Native vegetation is described above in Section 3.1 above, and in the Attached Referral Document, as well as in Attachment D - Ecology report.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

Not applicable

3.7 Describe the current condition of the environment relevant to the project area.

As described in Section 1.3 and the sections above, the referred project area is urbanised and contains a mixture of industrial, residential and commercial land uses, supported by areas of open space. The current condition is described in Section 1.5 and Section 3.1.

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.

There are no Commonwealth Heritage Places within the referred project area.

3.9 Describe any Indigenous heritage values relevant to the project area.

The project is located within highly urbanised suburban environment, nevertheless there is the potential for Aboriginal places (archaeological sites) to occur within the referred project area. If present, Aboriginal places would most likely occur close to waterways, but may also occur in pockets of relatively undisturbed land away from water. Within the modified nature of the referred project area, the potential for undisturbed Aboriginal places is generally low, but may be possible within the undisturbed areas of Simpson Barracks, as assessed in Attachment E.

Potential areas of cultural heritage sensitivity associated with the Yarra River, Banyule Flats and Bolin Bolin Billabong have been avoided through the projects designated no go zones and construction of tunnels.

Under the *Aboriginal Heritage Act 2006*, a Cultural Heritage Management Plan (CHMP) is required if all or part of a proposed activity is in an area of cultural heritage sensitivity, and all, or part of the activity is a high impact activity. A CHMP is also required where an Environment Effects Statement is required to be prepared for a project under the *Environment Effects Act 1978*. As the project would be considered a high impact activity and traverses areas of cultural heritage sensitivity, preparation and approval of a CHMP is required. Further, it is anticipated that an Environment Effects Statement would be required for the project, further triggering the need for an approved CHMP.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

Large parts of the project will be located on public land, within existing road reserves. Works will be required to be undertaken on some private land, the extent of which will be better known with the development of the reference design during the impact assessment process.

3.11 Describe any existing or any proposed uses relevant to the project area.

The proposed use of the land would be as new sections of tunnelled, elevated and at-grade roads and shared use paths (refer to Section 1.2).

Activities that would be undertaken as part of the proposed action also have the potential to result in indirect impacts on species (i.e. due to increased noise, lighting, vibration, air pollution, shading and/or traffic).

There may be increases in noise and light associated with construction activities, operation of the portals and changes in traffic volumes during operation. Some fauna species can experience behavioural changes due to increases in noise and light, however as this area is highly urbanised and the project would be located in proximity to existing major transport corridors, there are not anticipated to be significant impacts to species due to noise or lighting changes.

Tunnelling and construction activities would cause ground-borne vibration, which has the potential to impact some fauna species. Given the tunnel would be deepest beneath the Yarra River, and no matters of NES have been identified directly above the tunnel alignment, this is not expected to cause a significant impact to threatened fauna species.

The project is anticipated to increase traffic volumes in some areas, however this would not cause greater mortality to fauna associated with collisions with vehicles as works are mainly located within or abutting highly disturbed major transport corridors, and sections of the project would be located in tunnels and trenches where collisions would be less likely to occur.

During construction and operation there may be changes to air quality associated with construction works, tunnel portals and changes in traffic volumes, however these would be managed according to relevant standards and is not anticipated to significantly impact EPBC Act-listed fauna species.

The proposed elevated structures would cause shading which has the potential to impact threatened flora species such as the Matted Flax-lily. To address this impact the referred project area has been set wider than the design which should account for the impacts of shading. Additionally, shade studies will be undertaken through the EES process and Matted Flax-lily potentially impacted would be offset and translocated.

Commonwealth Land

The Commonwealth Land that is located within the referred project area includes Simpson Barracks and a small publically accessible area immediately south west of the Simpson Barracks fence line (for the purpose of this assessment these two areas have been assessed together as 'Simpson Barracks'). Simpson Barracks is located within an urban area approximately 18 kilometres north east of the Melbourne CBD in the suburb of Yallambie. Surrounding land use is well established residential on all sides. The site is bordered by Greensborough Road to the west and Yallambie Road to the north. The main entry gate is located on Greensborough Road with secondary entry points on Yallambie Road and via Crew Street off Lower Plenty Road to the south. Simpson Barracks is Defence's largest reserve in Melbourne occupying approximately 112 hectares of land and comprising a mixture of developed land and significant natural areas.

Simpson Barracks contains a relatively large area of remnant woodland, particularly for this part of otherwise urbanised Melbourne. This habitat is of high value and is likely to attract fauna species occasionally. This includes the western margin of Simpson Barracks, which largely consists of Eucalypt species (mainly River Red-gum, *Eucalyptus camaldulensis*). Banyule Creek within the barracks also has the potential to support aquatic species.

Within Simpson Barracks, the project is expected to run as a trench through the western portion of the barracks, adjacent to Greensborough Bypass. Bridges across the trench would retain existing levels of accessibility to and from the barracks.

As described in Attachment E, there is a real chance or possibility that the project will result in the following impacts on Commonwealth Land (at Simpson Barracks), as defined in the Significant impact guidelines 1.2:

- Removal of approximately 84 plants/patches of Matted Flax-lily
- Substantially alter natural landscape features
- Involve medium or large-scale excavation of soil or minerals

- Channelise, divert or impound creeks or substantially alter drainage patterns

- Involve medium or large-scale native vegetation clearance

- Permanently destroy, remove or substantially alter the fabric (physical material including structural elements and other components, fixtures, contents, and objects) of a heritage place (cultural heritage)

- Involve the erection of buildings or other structures adjacent to, or within important sight lines of, a heritage place which are inconsistent with the heritage values of the place.

The potential impacts to Matted Flax-lily have been discussed throughout this referral as they are located both within and outside the Commonwealth Land. Populations affected would be translocated to a suitable recipient site in accordance with an approved Translocation Plan to minimise impacts, and offsetting would be undertaken in accordance with requirements, and as agreed with DELWP and the Commonwealth. A draft translocation plan has been included as Attachment F to this referral.

The landscape within Simpson Barracks that intersects with the referred project area is a naturalised vegetated area comprised largely of Plains Grassy Woodland (EVC 55). Banyule Creek originates in this area before flowing south through a residential area and then to Yarra River. The area affected by the project abuts an existing road corridor.

Given the project structures comprise trenches within Simpson Barracks, and replacement of a similar woodland environment would be required along the new perimeter of the barracks, changes to the existing natural landscape are expected, however a long-term visual impact is not likely. Additional long-term impacts to natural landscape features would be mitigated through an appropriate urban design response.

To facilitate the construction of the trench structure, medium or large-scale excavation of soil would be required. The project is expected to displace a large volume of soil and rock where trench construction types are proposed. A Spoil Management Plan (SMP) would be prepared to set out the proposed approach to manage and monitor spoil generation, handling, categorisation, storage and disposal. This would mitigate the likelihood of a significant environmental impact occurring as a result of the excavation.

The project alignment includes the construction of a trench over northern parts of Banyule Creek, and this would require alteration of the creek into a culvert at Simpson Barracks. Modelling would be required to demonstrate that the realignment is compliant with Melbourne Water criteria to minimise impacts on drainage patterns. Therefore drainage patterns would not be substantially altered beyond the diversion of the creek.

The project would be designed to mitigate the effects of changes to flow, and to minimise the potential for erosion, sediment plumes and exposure of contaminated material during construction to the satisfaction of Melbourne Water. Waterway flow regimes and existing levels

of flood protection would be maintained in accordance with requirements under the *Water Act 1989*.

Simpson Barracks contains approximately 8 hectares of EVC Plains Grassy Woodland that could be directly affected by the project. This is approximately 15% of the vegetated area at Simpson Barracks. This vegetation has the potential to support Clover Glycine (though none was identified during field surveys) and is known to support Matted Flax-lily, which are listed as vulnerable and endangered, respectively, under the EPBC Act.

During design development, the extent of the project footprint would be minimised where possible to avoid adverse impacts on biodiversity and native vegetation. Offsets would be obtained for any native vegetation impacted by the project, in accordance with the 'no net loss' objective of Victoria's Guidelines for the removal, destruction or lopping of native vegetation' (DELWP, 2017) (which recently replaced the 'Permitted clearing of native vegetation Biodiversity assessment guidelines' (DEPI 2013)). Grassy Plains Woodlands offset sites are typically available in Victoria, and the project would seek to identify one larger offset site in the bioregion, rather than a number of small sites. It is acknowledged that the guidelines around native vegetation have recently been revised, and this may have implications of the identification of offset sites. This would be further investigated as part of the impact assessment for the project, and through further consultation with DELWP and the Commonwealth.

A number of known artefact scatters have been identified at Simpson Barracks, however the project is not expected to impact on these. There may be unknown artefacts present on site and given the project works would involve high impact activities, a Cultural Heritage Management Plan (CHMP) would be prepared to assess and manage the likelihood of impacts to identified Aboriginal cultural heritage. It would manage harm to known Aboriginal cultural heritage and any potential harm to Aboriginal cultural heritage identified during construction activities, through detailed management conditions and contingency plans.

Within Simpson Barracks, the project includes construction of trenches (and possibly a small stretch of cut-and-cover tunnels). There are unlikely to affect sight lines to or from heritage places. South-west of Simpson Barracks, the northern tunnel portal would be located. The height and built form of the tunnel portal is subject to further design, but may include a tall ventilation structure, which has the potential to be visible from Meares House.

Meares House is located over 400 metres from the referred project area, with a residential area between it and the project that would help to break sight lines to the project. Nevertheless, there is the potential that the ventilation structure could be visible from the western side of Meares House. This would be further investigated once a detailed design in available (including structure heights) and assessed and mitigated through the EES.

Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

Approach to design

The selection of the project corridor has been based on a detailed assessment of four possible corridors against the project objectives and the potential social and environmental impacts. Based on this assessment, the project that is the subject of this referral was selected. Refer to Section 8 for further discussion of proposed alternatives.

Development of the concept design has considered a number of no go zones, as described in Section 1.5 of this referral. This would avoid unnecessary surface impacts on ecologically sensitive areas adjacent to the project.

As the design develops, the project footprint will be minimised to avoid potential adverse impacts on biodiversity.

Project-wide performance requirements

As stated in Section 1, the reference design may include variations for certain project components where there is potential for different design solutions or approaches to construction. These variations to project components would occur within the project boundary defined for the purpose of this referral.

The environmental impact assessments undertaken for the project will consider these feasible design variations and alternative construction techniques in the development of environmental performance requirements for the project. The environmental performance requirements will define the environmental outcomes and performance standards to be achieved regardless of the design solution delivered. The objective of this type of performance-based approach is to set the requirement to achieve outcomes that avoid, mitigate or manage potential environmental impacts of the project while allowing flexibility in the detailed design response or specific measures to be put in place to achieve the desired outcomes.

All works would be undertaken within the context of the Victorian regulatory regime, which

mandates the development and implementation of an Environmental Management Framework (EMF). The EMF for this project would include environmental performance requirements that would cover the following:

- Minimising the project footprint to avoid and minimise adverse impacts on biodiversity such as minimising the removal of native vegetation and offsetting any adverse impact on native vegetation that does occur, in accordance with the 'no net loss' objective of Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017)

- Implementation of appropriate sediment and erosion control measures in accordance with the State Environment Protection Policy (Waters of Victoria) (SEPP WoV) (Vic. Gov. 2004) and EPA Victoria's *Best Practise Environmental Management Guidelines for Major Construction Sites* (1996) (EPA Publication 480)

- Implementation of standard construction techniques to prevent the spread of weeds or introduction of new weeds in compliance with the Victorian *Catchment and Land Protection Act 1994* and best practice guidelines such as EPA Victoria's *Best Practice Environmental Management Guidelines for Major Construction Sites* (1996) (EPA Victoria Publication 480) and *A Guide For Machinery Hygiene For Civil Construction* (Civil Contractors Federation 2011)

- Prevention of pollution of air, water, soil and groundwater under the requirements set by the Victorian Environment Protection Act 1970, including State Environment Protection Policy (Air Quality Management) (Vic. Gov. 2001a), SEPP WoV (Vic. Gov. 2004), State Environment Protection Policy (Prevention and Management of Contamination of Land) (Vic. Gov. 2013) and State Environment Protection Policy (Groundwaters of Victoria) (Vic. Gov. 2002)

- Management of acid sulfate soils in accordance with the *Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils* (DSE 2010) and EPA Victoria's *Industrial Waste Resource Guidelines* (2009)

- Maintenance of waterway flow regimes and existing levels of flood protection in accordance with requirements under the *Water Act 1989*

- Control of construction noise levels in compliance with EPA Victoria's *Best Practice Environmental Management Guidelines for Major Construction Sites* (1996) (EPA Victoria Publication 480) and the information contained in State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N–1 (Vic. Gov. 2001b)

- Management of Aboriginal cultural heritage and historic heritage assets as required by the *Aboriginal Heritage Act 2006* and *Heritage Act 2017*.

Specific management measures

Given a number of EPBC Act-listed species have been identified as potentially occurring within the referred project area, specific mitigation measures have been developed to address these.

Matted Flax-lily

Matted Flax-lily was observed at three locations within the referred project area, comprising approximately 88 plants/patches and a one large patch (approximately 15 metres by 2 metres) covering a total patch area of approximately 3,000m2. The largest population was identified on Commonwealth Land at Simpson Barracks, with smaller populations identified at the intersection with the M80 and at Hurstbridge Rail Line.

It is noted that Simpson Barracks is identified as containing an important population of Matted Flax-lily, and a large population (of over 100 individuals/patches) located on the eastern portion of the barracks site would be unaffected by the project.

All three populations of Matted Flax-lily potentially impacted would be translocated as part of the project. A draft translocation plan is included as Attachment F. The plan includes:

- A protocol for salvage and translocation
- Nomination and selection criteria to determine a recipient site
- Pre-clearance surveys
- Post translocation management
- Monitoring and reporting
- Contingency planning and adaptive management.

A recipient site is yet to be identified by the project and will be further investigated as part of ongoing ecology assessment work undertaken as part of the EES. The proposed environmental outcomes to be achieved for the Matted Flax-lily, and the management and monitoring to achieve that outcome, are described in Section 4.2.

Offsets are required under the EPBC Act to compensate for any residual impacts to matters of NES once avoidance and mitigation measures have been considered. An offset must deliver an overall conservation outcome that improves or maintains the viability of the matters of NES and should be tailored specifically to the attribute of the matters of NES that is to be affected. Given that translocation measures are recognised to reduce residual impacts, ultimately this can lead to a reduction in required offsets. All offsets for residual impacts to this matter of NES will be assessed under the EPBC Act offsets policy (DSEWPaC 2012).

Australian Grayling and Macquarie Perch

The Australian Grayling is listed as a vulnerable species under the EPBC Act, and is considered a vulnerable species in Victoria. Macquarie Perch is listed as endangered under the EPBC Act, and a threatened species in Victoria. Both of these species are known to occur in the Yarra River.

The project has avoided potentially significant impacts at the Yarra River by tunnelling the road beneath it. The project is expected to include the installation of shared use paths crossing the

Yarra River. These would span the river and be located adjacent to existing road crossings, and would subsequently require no works within the waterway.

The following environmental performance requirements would be part of the EMF and contractual requirements to further avoid and minimise impacts to these species:

- Minimise the potential for habitat degradation through processes such as sedimentation and destruction and/or removal of woody or rock habitats.

- Avoid the construction of structures that impede fish movement. Coffer dams or similar, if used during construction, should maintain adequate hydraulic connectivity to allow fish passage. Excessive turbulence can also act as a barrier to fish passage.

- Avoid and prevent chemical water pollution into waterways. This includes preventing spills and runoff in construction from entering the stormwater drainage system. This also includes managing stormwater from the constructed pavement surface to reduce the input of contaminated road runoff from entering the waterways. These may require engineered water treatment.

- Adopt suitable hygiene protocols to protect populations of threatened native fish from outbreaks of disease. These include viral and parasitic pathogens that can be introduced by contaminated equipment.

- Ensure changes to waterway alignment or geomorphology do not result in degradation to habitat quality. The reinstatement or construction of artificial habitat may be suitable if good quality habitat for threatened native fish is impacted.

- Minimise works in waterways known or likely to contain threatened native fish during critical fish breeding or migration periods. For Australian Grayling and Macquarie Perch, this is particularly the upstream migration period, typically during spring. Given the relatively short lifespan and breeding period of Australian Grayling, impacts over consecutive years should be prevented to avoid potential for catastrophic breeding failure.

These requirements are consistent with mitigation actions outlined in the National Recovery plans for Macquarie Perch and Australian Grayling.

<u>Grey-headed Flying-fox</u>

Impacts on the Grey-headed Flying-fox as a result of this project are expected to be minimal, given the Flying-fox Management Area has been appointed as a no go zone. General project-wide mitigation measures (i.e. minimising the loss of trees and other vegetation) are expected to keep the risk of impacts low. One additional species-specific mitigation measure is proposed:

- Avoid construction work at night in the vicinity of the Yarra River where it is crossed by the Eastern Freeway (for 300 metres east and 800 metres west of the Yarra River crossing; 1100 metres total).

Growling Grass Frog

Impacts on the Growling Grass Frog as a result of this project are expected to be immeasurably small – the species was not detected within the project boundary and may not be present. General project-wide mitigation measures (i.e., minimising the project footprint and the loss of trees and other vegetation) are expected to keep the risk of impacts minimal.

Additional species-specific mitigation measures proposed are:

- Implement all mitigation measures proposed for Australian Grayling and Macquarie Perch along waterways (section above).

- Implement strict hygiene procedures to avoid introducing or spreading the Amphibian Chytrid Fungus (*Batrachochytrium dendrobatidis*). Measures will include cleaning and drying (for >3 hrs) equipment/vehicles (e.g., excavators) operating in a waterway/waterbody before they move on to other waterbodies, and not transporting mud or wetland flora or fauna from one waterway/waterbody to another (including on tyres, footwear).

- Avoid all handling of all frogs.

Environmental performance requirements

A number of indicative environmental performance requirements have been drafted for the project, as outlined in Table 6, Table 7 and Table 8 of the Attached Referral Document. It is expected that these would minimise the potential impacts on the environment. These environmental performance requirements will be tested and finalised during the EES assessment process.

Hydrology

An important requirement of the surface water design and management of the project will be to include measures that control the potential impacts on rivers and creeks. Water management principles are to be applied to the design to maintain the existing conditions of the rivers and creeks, including flow and water quality.

Water sensitive urban and road design would be adopted to control potential impacts to receiving waters such as rivers and creeks from additional runoff volume, alteration of the timing of flows, and contamination from increased pollutants. Additional pavement area that is created by building new roads or adding additional lanes or interchanges to existing roads would create additional stormwater runoff that may not have occurred in pre-developed conditions. Any road works that create additional pavement area would be required to meet water sensitive road design criteria and provide additional water treatment and flow retention as necessary. Water sensitive urban and road design would be included as a part of a drainage strategy for the project.

The drainage strategy for the project would include the specifications for water quality treatment of stormwater runoff in accordance with VicRoads *Integrated Water Management Guidelines*

(VicRoads, 2013) and the *Urban Stormwater Best Practice Environmental Management Guidelines* (BPEMG) (CSIRO, 1999). The BPEMG establish best practice performance objectives for urban stormwater (for urban development). These objectives assist in determining the level of stormwater management necessary to meet the State Environment Protection Policies (SEPP) Waters of Victoria.

In some locations treatment may not be able to be contained within the project boundary. Offsite treatment locations may be investigated. If treatment is not an option an offset payment may be considered for water quality works to be conducted elsewhere in the catchment.

Hydrogeology

Parts of the tunnel are likely to be below the watertable, and therefore disturbance to the groundwater environment could occur as part of tunnel and associated portal construction, and on-going operation, i.e. dewatering to maintain safe and dry excavation conditions. To manage potential impacts, dewatering would be minimised through adoption of specific tunnel design measures and implementation of a groundwater management plan.

Specific design measures such as the tanking or water proofing of the tunnel and other below ground structures would be adopted as appropriate to achieve a desired outcome with the permanent works or operation condition. Tanked, sealed or undrained structures minimise entry of groundwater and minimise the resultant disturbance to the groundwater. Drained structures allow groundwater entry and provide greater disturbance to the groundwater environment and would therefore be avoided by the project to the extent practicable.

A groundwater management plan, informed by the modelling of groundwater, would include measures that minimise disturbance to, and protect, the groundwater environment. A plan would be implemented during construction that is based on the final design, as the construction method itself may result in impact to groundwater, and in some cases greater impacts compared to those arising from the completed, permanent structure. The management plan would set out the processes, objectives, and actions to be applied to minimise, mitigate or rectify disturbance during construction, before the permanent structure is completed. The management plan would document monitoring requirements, as well as addressing issues that may have arisen during construction and which could influence the ongoing operation.

Commonwealth Land

The project boundary intersects with Commonwealth land at Simpson Barracks. Works would be required within approximately 11 hectares of Simpson Barracks for the construction of a new road. To minimise potential impacts on the environment, the footprint of the road has been minimised to the extent practicable, whilst still allowing safe functionality of the road. The project would be located as close as possible to Greensborough Road, minimising incursion into Commonwealth Land.

Impacts on EPBC Act-listed species and communities and migratory species within the Commonwealth Land site have been assessed through the ecology assessment in line with *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance*, and

measures to reduce those impacts are discussed above.

All works undertaken as part of the project would be undertaken within the context of the Victorian regulatory regime, which mandates the development and implementation of an Environmental Management Framework (EMF) and consistent with the project-wide environmental performance requirements. Other controls relevant to the protection of the environment at the Simpson Barracks site include:

- Testing of geotechnical conditions and implemented suitable engineering solutions to prevent potential instability issues.

- Management of potential drawdown to prevent subsidence.

- Management of erosion managed in line with best practice sediment and erosion control and monitoring, in accordance with EPA Victoria publications 275 (Construction techniques for sediment pollution control 1991), and 480 (Environmental guidelines for major construction sites 1996).

- Implementation of a spoil management plan to manage and monitor spoil generation, handling, categorisation, storage and disposal. Management and disposal requirements for asbestos containing materials would be addressed within the Spoil Management Plan (SMP). The SMP would include requirements and methods for the management of waste acid sulfate soil material in accordance with EPA Victoria publication IWRG 2009, EPA Victoria Publication 655.1 Acid Sulfate Soil and Rock 2009, *Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soil*.

- Modelling to demonstrate that the realignment of Banyule Creek would be compliant with Melbourne Water criteria to minimise impacts on drainage patterns, flow paths and flood plains.

- Waterway flow regimes and existing levels of flood protection would be maintained in accordance with requirements under the *Water Act 1989*.

- The capacity of the stormwater drainage system would be designed for all new roads and ramps to contain hazardous spills at or prior to stormwater outlets, to the satisfaction of EPA Victoria, and develop procedures to be implemented in response to a hazardous spill.

- Water sensitive urban design and integrated water management principles would also be adopted in the stormwater treatment design, in accordance with the specifications of the relevant local council as applicable, VicRoads *Integrated Water Management Guidelines* (2013), the EPA Victoria *Best Practice Environmental Management Guidelines for Urban Stormwater* (2006) and the DELWP *Integrated Water Management Framework for Victoria* (2017).

- A predictive and numerical groundwater model would be developed and updated iteratively to take account of construction techniques or operational design features to manage the likelihood of the potential impacts to groundwater levels.

- Long-term impacts to natural landscape features would be mitigated through an appropriate

urban design response.

- The impact of construction dust for the project would be managed by standard mitigation measures applied as part of a construction environmental management plan.

- The consequence of greenhouse gas emissions is considered minor and can be further managed by implementing leading practices in infrastructure sustainability such as the Infrastructure Sustainability Rating Tool that evaluates sustainability initiatives and potential environmental, social and economic impacts of infrastructure projects.

- During detailed design, the extent of the project footprint would be minimised to avoid adverse impacts on biodiversity and native vegetation. Offsetting would occur for any adverse impact on native vegetation, in accordance with the 'no net loss' objective of Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017). Offsets would counteract the lost vegetation.

- Measures would be developed and implemented to avoid the introduction of exotic species into the habitat.

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

A number of individuals of Matted Flax-lily would be directly affected by construction of the project. This may constitute a significant impact on a population of this species. The impacts would be mitigated through translocation to minimise an adverse environmental outcome.

The proposed environmental outcomes for the matters potentially impacted by the project (Matted Flax-lily and Commonwealth Land) would be:

- No net loss to the extent and distribution of Matted Flax-lily as a result of the project

- No net loss to the Victorian extent and distribution of remnant vegetation identified on Commonwealth Land as a result of the project

- Integration of the project within the landscape on Commonwealth Land

- Effective management of excavated soils from Commonwealth Land

- Maintenance of waterway flow regimes and existing levels of flood protection associated with the waterway network in the vicinity of Commonwealth Land

- Effective management of Aboriginal cultural heritage assets on Commonwealth Land

- Limit the changes to views from important sight lines of a heritage place on Commonwealth Land (Meares House) that are inconsistent with the heritage values of the place.

This is considered achievable through the management and mitigation measures specified in the Attached Referral Document.

Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

5.1.1 World Heritage Properties

No

5.1.2 National Heritage Places

No

5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)

No

5.1.4 Listed threatened species or any threatened ecological community

Listed threatened species and communities - Yes

5.1.5 Listed migratory species

No

5.1.6 Commonwealth marine environment

No

5.1.7 Protection of the environment from actions involving Commonwealth land

Protection of the environment from actions involving Commonwealth land - Yes

5.1.8 Great Barrier Reef Marine Park

No

5.1.9 A water resource, in relation to coal/gas/mining

No

5.1.10 Protection of the environment from nuclear actions

No

5.1.11 Protection of the environment from Commonwealth actions

No

5.1.12 Commonwealth Heritage places overseas

No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

Not applicable.

Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

The Department of Economic Development, Jobs, Transport and Resources (DEDJTR) has sound environmental management records, and promotes sustainable development within its projects.

NELA is an Administrative Office established within DEDJTR to undertake the planning, development and delivery of North East Link. Activities undertaken to date by NELA include field investigations including geotechnical for North East Link, and there were no environmental incidents during these investigations.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.

There are no past or present proceedings relating to activities managed by NELA.

6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

Yes

6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.

The DEDJTR environment policy applies to all departmental activities.

The policy is available online at:

https://economicdevelopment.vic.gov.au/about-us/overview/policy-framework/environmental-policy

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

Yes

6.4.1 EPBC Act No and/or Name of Proposal.

The last three EPBC referrals submitted by DEDJTR listed on the EPBC website are:

- Pelican 3D seismic Survey, Gippsland Basin, Vic 2017/8097
- Ballarat Line Upgrade 2017/7980
- Western Distributor Project Melbourne 2015/7620

Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
Carter, O, 2010. National Recovery Plan for the Matted Flax-lily Dianella amoena. East Melbourne : State of Victoria Department of Sustainability and Environment. Civil Contractors Federation, 2011. A Guide for Machinery Hygiene for Civil Construction. Prepared by the Civil Contractors Federation, State of Victoria, former Department of Primary Industries, Department of Sustainability and Environment, VicRoads and the Association of Land Development Engineers, 2011. This document is publicly available. CSIRO, 1999). Urban Stormwater Best Practice Environmental Management Guidelines. Victoria: CSIRO. DELWP, 2017. Plan Melbourne 2017-2050. Department of Environment, Land, Water and Planning. Authorised and published by the Victorian Government. Accessed via http://www.planmelbourne.vic.gov.au/. This document is publicly available. DELWP, 2015. Biodiversity assessment handbook - Permitted clearing of native vegetation. Melbourne: The State of	Good	N/A

Reference Source	Reliability	Uncertainties
Victoria Department of Environment, Land, Water and Planning. DELWP, 2015b. Victorian Biodiversity Atlas. Department of Environment, Land, Water and Planning. Accessed via https://vba.dse.vic.gov.au/vba/. This data is available to the public by request to the Department. DELWP, 2017. Yarra River Action Plan Wilip-gin Birrarung murron. Department of Environment, Land, Water and Planning. Accessed via https://www.planning.vic.gov.au/__data/assets/pdf_file/0024/27177/DELWP0032_YarraRiverActionPlan_v27_weba.pdf. This document is publically available. DELWP, 2017. Protecting Victoria's Environment – Biodiversity 2037. Department of Environment, Land, Water and Planning. Accessed via https://www.environment.vic.gov.au/__data/assets/pdf_file/0022/51259/Protecting-Victorias-Environment-Biodiversity-2037.pdf. This document is publically available. DELWP, 2017. Banyule Planning Scheme. Department of Environment, Land, Water and Planning. Accessed via http://planning-schemes.delwp.vic.gov.au/schemes/banyule. This document is publically available. DELWP, 2017. Boroondara Planning Scheme. Department of Environment, Land, Water and Planning. Accessed via http://planning-schemes.delwp.vic.gov.au/schemes/boroondara. This document is publically		

Reference Source	Reliability	Uncertainties
available. DELWP, 2017. Manningham Planning Scheme. Department of Environment, Land, Water and Planning. Accessed via http://planning-schemes.delwp.vic.gov.au/schemes/manningham. This document is publically available. DELWP, 2017. Whitehorse Planning Scheme. Department of Environment, Land, Water and Planning. Accessed via http://planningschemes.dpcd.vic.gov.au/schemes/whitehorse. This document is publically available. DELWP, 2017. Guidelines for the removal, destruction or lopping of native vegetation. Department of Environment, Land, Water and Planning Accessed via https://www.environment.vic.gov.au/__data/assets/pdf_file/0021/91146/Guidelines-for-the-removal,-destruction-or-lopping-of-native-vegetation,-2017.pdf . This document is publically available. DEPI, 2014. Advisory List of Rare or Threatened Plants in Victoria - 2014. Victorian Department of Environment and Primary Industries, East Melbourne, Victoria. This document is publicly available. DEPI, 2013. Permitted clearing of native vegetation - biodiversity assessment guidelines. Former Victorian Department of Environment and Primary Industries. Downloaded from http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/native-vegetation/native-vegetation-permitted-clearing-		

Reference Source	Reliability	Uncertainties
regulations. This document is publicly available. (Recently superseded) DoEE, 2016. Dianella amoena — Matted Flax-lily. Retrieved 2017, from http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=64886 DotE, 2015. EPBC Act Protected Matters Search Tool Report. Created 30 October 2017. http://www.environment.gov.au/webgis-framework/apps/pmst/pmst.jsf. Electronic report generated by the Australian Government Department of the Environment, Canberra, Australia. DotE, 2013. Matters of National Environmental Significance Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Commonwealth Department of the Environment, Canberra. Accessed via http://www.environment.gov.au/system/files/resources/42f84df4-720b-4dcf-b262-48679a3aba58/files/nes-guidelines_1.pdf. This document is publicly available. DoSEWP, 2013. Matters of National Environmental Significance Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies. Commonwealth Department of Sustainability, Environment, Water, Population and Communities, Canberra. Accessed via http://www.environment.gov.au/system/files/resources/a0af2153-29dc-453c-8f04-3de35bca5264/files/commonwealth-guidelines_1.pdf . This		

Reference Source	Reliability	Uncertainties
document is publicly available. DSE, 2005. Flying-fox Campsite Management Plan, Yarra Bend Park. Accessed via https://www.wildlife.vic.gov.au/__data/assets/pdf_file/0031/27679/Flying_Fox_Management_Plan.pdf. This document is publically available. DSEWPaC, 2012. Environment Protection and Biodiversity Act 1999 Environmental Offsets Policy. October 2012. Available at: http://www.environment.gov.au/system/files/resources/ 12630bb4-2c10-4c8e-815f-2d7862bf87e7/files/offsets-policy_2.pdf DSEWPaC, 2012. Approved Conservation Advice for the Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains. Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. Available from: http://www.environment.gov.au/biodiversity/threatened/communities/pubs/97-conservation-advice.pdf. In effect under the EPBC Act from 27-Mar-2012. EPA Victoria, 2009. Industrial Waste Resource Guidelines. Available from: http://www.epa.vic.gov.au/business-and-industry/guidelines/waste-guidance/industrial-waste-resource-guidelines. These guidelines are available to the public. EPA Victoria, 1996. Best Practice Environmental Management - Environmental Guidelines for Major Construction Sites. EPA Publication 480, published by the Environment Protection Authority in February 1996,		

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downloaded from http://www.epa.vic.gov.au in October 2015. This document is publicly available. German Standard, 1999. DIN4150-3: Structural vibration – Effects of vibration on structures. This document is publicly available. Infrastructure Victoria, 2016. Victoria's 30 Year infrastructure Strategy. Available from: http://www.infrastructurevictoria.com.au/sites/default/files/images/IV%2030%20Year%20Strategy%20WEB%20V2.PDF. This document is publically available. Infrastructure Victoria, 2016. Options book; a supporting document for Victoria's 30 year infrastructure strategy. Available from http://www.infrastructurevictoria.com.au/sites/default/files/images/Options%20book%20-%20FINAL%20-%20December%202016.PDF. This document is publically available. Threatened Species Scientific Committee (TSSC) (2012). Commonwealth Listing Advice on Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains. Department of Sustainability, Environment, Water, Population and Communities. Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. Available from: http://www.environment.gov.au/biodiversity/threatened/communities/pubs/97-listing-advice.pdf. In effect under the EPBC Act from 27-Mar-2012. Victorian Government, 2001.		

Reference Source	Reliability	Uncertainties
State Environment Protection Policy (Air Quality Management), Victorian Government Gazette No. S240, 21 December 2001. This document is publicly available. Victorian Government, 2001. State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1. Victorian Government Gazette No. S31, 15 June 1989 as varied by Victorian Government Gazette No.s G37 (15 September 1992) and S183 (31 October 2001). This document is publicly available. Victorian Government, 2002. State Environment Protection Policy (Groundwaters of Victoria), Victorian Government Gazette No. S160, 17 December 1997 as varied by Victorian Government Gazette No. G12, 21 March 2002. This document is publicly available. Victorian Government, 2004. State Environment Protection Policy (Waters of Victoria). Victorian Government Gazette No. S13, 26 February 1988 as varied by Victorian Government Gazette No.s G12 (6 February 1990), S122 (22 October 1996), S101 (27 August 1997), S89 (22 June 1999), S192 (2 November 2001), S107 (4 June 2003) and S210 (5 October 2004). This document is publicly available. Victorian Government, 2013. State Environment Protection Policy (Prevention and management of contamination of land). Victorian Government Gazette No. S95, 4 June 2002 as varied		

Reference Source	Reliability	Uncertainties
by Victorian Government Gazette No. G39, 26 September 2013. This document is publicly available.		
VicRoads, 2012. Integrated Water Management Guidelines. Melbourne: VicRoads.		

Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.0 Provide a description of the feasible alternative?

Four corridors were considered in the analysis of alternatives as presented in Figure 3 of the Attached Referral Document.

The project corridor was chosen following an extensive analysis of alternatives. The options assessment process was undertaken in three stages, and the options were evaluated against four project objectives and four guiding principles as follows:

- Objective 1: Improve access to labour markets for businesses located in Melbourne's north, east and south east

- Objective 2: Improve access to employment and education for households located in Melbourne's north, east and south east

- Objective 3: Improve freight and supply chain efficiency across the north, east and south east

- Objective 4: Improve access, amenity and safety for communities in the north east

- Guiding principle 1: Minimise impacts on communities

- Guiding principle 2: Minimise impacts on environmental and cultural assets

- Guiding principle 3: Minimise impacts during the construction phase

- Guiding principle 4: Optimise the efficient use of resources.

The evaluation criteria encompassed environment, social, economic and technical aspects. The assessment was informed by relevant policy and legislation, desktop reviews, site surveys and transport and economic modelling. The analysis process also included consideration of feedback from key stakeholders and wider community consultation.

The areas within which the alternatives are located have considerable ecological values. Because of less urban development, those values are generally more pronounced in places further north and east of the city centre. For each of the alternatives considered, the ecological values associated with the Yarra River and its floodplain would be largely avoided by tunnelling that part of the project. Nevertheless, each of the alternatives would have surface works that would impact ecological values to some degree. As a consequence, the relative impact on

ecological values was not found to be a key differentiator between the alternatives.

Corridor A was selected because it performed significantly more effectively in relation to the project objectives and guiding principles . The main reasons for this assessment include:

- Corridor A provides the best opportunity to make connections to the existing road network that respond to travel demand through, in and out of the north east of Melbourne. This means that Corridor A attracts the most through traffic to the new link out of all the options considered, reducing reduces demand on local arterial roads.

- It provides better connectivity for all freight journeys and serves a greater number of freight catchments for trucks travelling across the north, east and south east of Melbourne. This means that the corridor provides the best opportunity to achieve a significant redistribution of trucks from local streets in the north east.

- By working effectively with the existing road network in the north east, the corridor has the greatest ability of all the options considered to reduce traffic on existing arterial road networks and provide opportunities to improve conditions for more local journeys and on-road public transport.

- By connecting close to areas of greater activity, it provides better access for businesses and residents in the north, north east, east and south east to workers, jobs and services. It provides the greatest improvement in business access to labour markets of all the corridor options considered, particularly the opportunity to stimulate jobs growth in the La Trobe National Employment and Innovation Cluster (NEIC) and between the Broadmeadows, Epping, Ringwood and Box Hill Metropolitan Activity Centres (MACs).

- In enhancing the Eastern Freeway to cater for additional North East Link traffic, the corridor addresses existing issues in the operation of the freeway, ‘future proofing’ it for growth.

- It provides the best opportunity for improvements to public transport on the existing road network and delivers the infrastructure required for an integrated Doncaster Busway solution along the Eastern Freeway.

- It provides the best opportunity to connect and expand existing walking and cycling facilities in the north east.

8.1 Select the relevant alternatives related to your proposed action.

8.27 Do you have another alternative?

Yes

8.27.1 Describe the details of the proposed alternative proposal.

In addition to the four options above, the ‘do nothing’ option was also considered.

Over the last 50 years, Melbourne has experienced major changes in its population, economic structure and spatial organisation. These changes have been central to the city’s success, but have also created numerous challenges. Developing effective policies and smart investments to address these challenges requires a clear understanding of their causes, effects and interconnectedness.

Key existing major economic and liveability problems are described below.

Growing congestion and heavy vehicles are impacting liveability in Melbourne’s north-east

Between Melbourne’s west and north, orbital movements are facilitated via the M80, which runs from the Princes Freeway in Altona to the Greensborough Bypass in Greensborough. Movements between the east and south-east are enabled by the EastLink tollway, which traverses the outer eastern suburbs between Donvale and Seaford. Unlike these other parts of Melbourne, the limited arterial road network in Melbourne’s north-eastern suburbs has to cater to a range of both local and orbital movements, including commuter and business traffic, heavy freight vehicles, buses and active transport. All of these routes are operating at or well above their capacity, which is resulting in longer and less predictable travel times.

Residents and workers in Melbourne’s north-east overwhelmingly rely upon the road network for travel (either using private vehicles or buses). This reliance has become entrenched as traffic volumes on the outer suburban north-east arterial road network have grown over the past decade, compounding the issues of traffic congestion and delays, leading to high variability in trip duration, and unreliability.

The busiest locations on Melbourne’s north-east arterial road network are typically at the bridge crossings of the Yarra River (Chandler Highway, Burke Road, Manningham Road, Fitzsimons Lane, and Kangaroo Ground-Warrandyte Road). Other heavily congested locations are Bell Street, Banksia Street, Rosanna Road, Greensborough Road, Diamond Creek Road and Main Road. An arterial road typically carries 800 to 900 vehicles per hour in peak periods (NELA traffic survey 2017). A number of the roads in Melbourne’s north-east carry in excess of 1,000 vehicles per lane, leading to significant congestion, delay and poor reliability.

Adding to these problems is the growing number of freight vehicles using arterial roads for through movements between the north and east or south-east. Traffic counts undertaken for North East Link identify that 7% of trips along Rosanna Road and 8% of trips along Fitzsimons Lane are commercial vehicle trips. These freight movements are a significant factor in growing local traffic congestion and contribute to increased emissions and traffic noise.

Inefficient freight movements are impacting business

The freight and logistics sector in Australia contributes between $19 and $23 billion or 8% to the State's local economic activity. Freight moving between the north and south-east, accounts for 20% of all metropolitan freight volumes – or around 46 million tonnes. Of this volume, 60% travels from the south-east to the north, while 40% moves from the north to the south-east. This also places additional pressure on other key routes across the network, with supply chains increasingly reliant on the M1 corridor, which is heavily congested for a large part of the day, and is increasingly susceptible to incidents.

The capacity issues on the arterial roads that cater for the movement of significant traffic volumes – including important cross city and orbital journeys – are exacerbated by the fact that many still provide a local access function. As a result, they often interface with numerous property accesses, priority intersections and signalised intersections. For example, vehicles travelling from the M80 to the Eastern Freeway via Rosanna Road must pass through 19 sets of signals over a six kilometre length of road. This means that road users encounter one set of traffic lights every 316 metres, resulting in 'stop/start' conditions and inconsistent travel speeds along the corridor.

Poor freeway connectivity through the north-east leads to significant inefficiencies (and associated costs) in the freight task between Melbourne's north and south-east.

Poor connections are constraining economic potential

Businesses located in employment and service centres in Melbourne's major population areas in the north, east and south-east lack access to the large labour markets that underpin productivity and competitiveness. Movement between businesses in these areas and their customers and suppliers is constrained, putting them at a disadvantage. Workers are restricted in accessing employment opportunities across the metropolitan area, which disproportionately affects lower income households and entrenches social and housing market divisions.

Melbourne's population centre now lies to the east of the central city, between the middle northern and south-eastern suburbs. However, compared to the central city, these areas have a much smaller accessible labour market catchment. For example, only 5% of Melbourne's total workforce is accessible to the La Trobe National Employment and Innovation Cluster (NEIC) within 60 minutes by public transport in the morning peak period. The Monash NEIC, which has greater train and bus accessibility, fares slightly better: 13% of the city's workforce can get to the centre within one hour by public transport. This suggests that businesses located in these NEICs may face difficulties in attracting and retaining workers, and building the skilled workforce necessary to life their levels of productivity.

Fast and reliable transport connections between businesses and their customers and suppliers are critical to keeping transport costs down and boosting business productivity. With no direct orbital connection, business trips to Melbourne Airport from the east and south-east are also taking longer and are less reliable and more expensive. For people accessing economic opportunities across Melbourne, the number of jobs available within a reasonable travel time diminishes significantly the further away one lives from the central city. As transport is the main means to reach employment and educational opportunities, barriers to travel can entrench disadvantage. Worsening orbital connectivity will exacerbate this disadvantage, making it even

harder for households in the north, north-east and south-east to access economic opportunities.

Implementing the do nothing option

If current conditions remain unchanged, ongoing fragmentation of labour markets, poor business-to business travel and diminished levels of employment access will continue to impose costs on businesses and households, and constrain productivity growth and competitiveness for Melbourne and Victoria.

Without North East Link, road network performance in Melbourne's north east will deteriorate significantly:

- Orbital through movements between the north and east will increase by 2036

- Truck volumes on Rosanna Road will increase, increasing the conflict between local and 'through' traffic use of the road

- Traffic volumes across the Yarra River are expected to increase

- The total number of trips and total vehicle kilometres travelled are expected to increase but not by as much as the Melbourne average largely due to a lower forecast population growth rate within the study area.

While the growth in vehicle trips in the north east is lower than the rest of Melbourne, average vehicle speeds are expected to decline at a faster rate than the rest of Melbourne. This is largely due to the limited capacity on the road network and relatively little infrastructure upgrades planned to accommodate the additional growth. Average vehicle speeds are expected to decline, meaning an already slow commute in the north east (compared to the rest of Melbourne) will be even slower in the future.

Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

9.2 Organisation

9.2.1 Job Title

Chief Executive Officer

9.2.2 First Name

Duncan

9.2.3 Last Name

Elliott

9.2.4 E-mail

Michael.g.crossman@northeastlink.vic.gov.au

9.2.5 Postal Address

Level 14

121 Exhibition Street
Melbourne VIC 3000
Australia

9.2.6 ABN/ACN

ABN

69981208782 - DEPARTMENT OF ECONOMIC DEVELOPMENT JOBS TRANSPORT AND RESOURCES

9.2.7 Organisation Telephone

1800 941 191

9.2.8 Organisation E-mail

community@northeastlink.vic.gov.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date: .....

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Person proposing the action - Declaration

I, DUNCAN ELLIOTT, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature:..... Date: 15/1/2018

I, DUNCAN ELLIOTT, the person proposing the action, consent to the designation of NORTH EAST LINK AUTHORITY as the proponent of the purposes of the action describe in this EPBC Act Referral.

Australian Government
Department of the Environment and Energy

Signature:..... Date: 15/1/2018

9.3 Is the Proposed Designated Proponent an Organisation or Individual?

Organisation

9.5 Organisation

9.5.1 Job Title

Chief Executive Officer –North East Link Authority

9.5.2 First Name

Duncan

9.5.3 Last Name

Elliott

9.5.4 E-mail

Michael.g.crossman@northeastlink.vic.gov.au

9.5.5 Postal Address

Level 14

121 Exhibition Street
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9.5.6 ABN/ACN

ABN

69981208782 - DEPARTMENT OF ECONOMIC DEVELOPMENT JOBS TRANSPORT AND RESOURCES

9.5.7 Organisation Telephone

1800 941 191

9.5.8 Organisation E-mail

community@northeastlink.vic.gov.au

Proposed designated proponent - Declaration

I, DUNCAN ELLIOTT, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:..... Date: 15/1/2019.....

9.6 Is the Referring Party an Organisation or Individual?

Individual

9.7 Individual

9.7.1 Job Title

Chief Executive Officer –North East Link Authority

9.7.2 First Name

Duncan

9.7.3 Last Name

Elliott

9.7.4 E-mail

michael.g.crossman@northeastlink.vic.gov.au

Referring Party - Declaration

I, DUNCAN ELLIOTT, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:..... Date: 15/1/2019.

Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

1. attachment_b_hydrology_report.pdf
2. attachment_c_hydrogeology_report.pdf
3. attachment_d_ecology_report_part_1_of_3.pdf
4. attachment_d_ecology_report_part_2_of_3.pdf
5. attachment_d_ecology_report_part_3_of_3.pdf
6. attachment_e_commonwealth_land_report.pdf
7. attachment_f_draft_translocation_plan.pdf
8. epbc_shapefile.zip
9. referral_document.pdf