

# North East Link Minister's assessment of environmental effects

November 2019



## Acknowledgment

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.



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# Glossary

|                   |  |
|-------------------|--|
| ASS               | Acid sulphate soils                                    |
| BBW               | Banyule, Boroondara and Whitehorse                     |
| BIP               | Bulleen Industrial Precinct                            |
| CEMP              | Construction environment management plan               |
| CHMP              | Cultural heritage management plan                      |
| CNVMP             | Construction noise and vibration management plan       |
| DDO               | Design and Development Overlay                         |
| DELWP             | Department of Environment, Land, Water and Planning    |
| EE Act            | <i>Environment Effects Act 1978</i>                    |
| EES               | Environment Effects Statement                          |
| EMF               | Environmental management framework                     |
| EPA               | Environment Protection Authority                       |
| EP Act            | <i>Environment Protection Act 1970</i>                 |
| EP Act 2017       | <i>Environment Protection Act 2017</i>                 |
| EPR               | Environmental performance requirement                  |
| EVC               | Ecological vegetation class                            |
| FFG Act           | <i>Flora and Fauna Guarantee Act 1988</i>              |
| HIA               | Health impact assessment                               |
| IAC               | Inquiry and advisory committee                         |
| LOS               | Level of service                                       |
| MCC               | Manningham City Council                                |
| MTPFA             | <i>Major Transport Projects Facilitation Act 2009</i>  |
| OEMP              | Operational environment management plan                |
| PAO               | Public acquisition overlay                             |
| PASS              | Potential acid sulphate soils                          |
| PFAS              | Per- and polyfluoroalkyl substances                    |
| PM <sub>10</sub>  | Particulate matter 10 micrometres or less in diameter  |
| PM <sub>2.5</sub> | Particulate matter 2.5 micrometres or less in diameter |
| PSA               | Planning scheme amendment                              |
| P&E Act           | <i>Planning and Environment Act 1987</i>               |
| SCO               | Specific Controls Overlay                              |
| SEPP              | State environment protection policy                    |
| TBM               | Tunnel boring machine                                  |
| TNRP              | Traffic Noise Reduction Policy                         |
| UDAP              | Urban design advisory panel                            |
| UDLP              | Urban design and landscape plan                        |
| UDS               | Urban design strategy                                  |

## Executive summary

Melbourne's transport challenge, as it grows from a city of 4.5 million to almost 8 million by 2051, requires a road network to cater for around 10 million more trips per day – an increase of more than 80%. The North East Link (the project) is one response to that challenge. Infrastructure Victoria identified the North East Link as a high priority project for improved accessibility through a congested road network. The project will provide a vital orbital road connection between the M80 Ring Road and the Eastern Freeway and the northern end of EastLink. That connectivity will enhance access to major employment centres, reduce travel times, improve the capacity and reliability of the freight network and connect metropolitan activity centres.

Having studied the proponent's environmental effects statement (EES), listened to the community and other stakeholders and considered the report of the Inquiry and Advisory Committee (IAC) that I appointed, it is my assessment that the project will meet the evaluation objectives that I set for it.

Even though the project will produce significant environmental impacts, borne largely by the community of Melbourne's northeast during a protracted construction period, the project will create significant environmental benefits for the community of Victoria. The recommendations contained within my assessment, along with the project's further statutory approvals and a rigorous environmental performance regime will ensure that the project will be delivered with the highest environmental safeguards, and that it will result in an overall net benefit to the community.

I find that the project's adverse environmental effects can be appropriately managed and will be acceptable considering the project's significant benefits.

The project's environmental effects have been assessed through a reference design. The reference design is not intended to represent the final design for the project. Rather, it represents a feasible means by which the project might be designed, constructed and operated. The reference design identifies a project boundary, being the area within which all temporary and permanent works and structures must be located. The reference design also enabled the types and potential magnitude of environmental impacts that will stem from the project to be identified and thoroughly assessed; and for an appropriate environmental management regime to be developed to reduce the identified impacts.

The IAC recommended modifications to the reference design in relation to some aspects of the project, including specifically in relation to extending the project's tunnel northwards, and avoiding surface works within Simpson Barracks. I do not support the IAC's recommendations in relation to these aspects, as I consider that these measures are not necessary to ensure that the project achieves acceptable environmental outcomes. I am also not satisfied that the overall environmental outcomes of the project would be improved if these aspects are implemented, because of the potential for those modifications to result in different environmental impacts; including additional cost, construction duration and land acquisition. This is not to say that the design modifications should not be explored in the detailed design of the project, or that they should not be adopted wholly or in part if they can be demonstrated to be acceptable having regard to the EMF, the EPRs and the UDS. However, I have not found them to be necessary modifications.

The EES and the public hearing before the IAC included consideration of a sound regulatory framework and environmental control regime that will be implemented to ensure any adverse environmental effects of the project are effectively mitigated. The methods and measures employed to mitigate impacts will be set out in the project's environmental management framework (EMF). The EMF will ensure the project achieves acceptable outcomes through setting environmental performance requirements (EPRs) for the variety of project activities and functions.

## **Traffic and transport**

The EES addressed the potential effects of the project on traffic, freight, public transport, cyclists and pedestrians. The EES included analysis of strategic transport modelling outputs to understand potential traffic and transport effects across metropolitan Melbourne, as well as modelling to understand local impacts within the northeast and along the project corridor.

Traffic modelling of the project indicated there would be redistribution of traffic away from local and arterial roads and onto the North East Link. The largest change is expected to be on Rosanna and Greensborough Roads (reductions of up to 12,000 and 19,000 vehicles per day respectively). There is anticipated to be an increase on a number of feeder routes including the M80 Ring Road and the Eastern Freeway as well as some arterial roads south of the Eastern Freeway (Bullen Road, Elgar Road, Surrey Road and Springvale Road) and near the Greensborough Bypass and Grimshaw Street Interchange (Watsonia Road and Erskine Road in Macleod).

The project's positive impact on the road network will result in a significant redistribution of medium and longer cross-city trips away from local and arterial roads compared with the no project scenario. Traffic volumes on all five existing roads crossing the Yarra River are anticipated to reduce significantly by a total of approximately 50,000 vehicles per day (two way).

Various alternative design options were presented both in the EES and in the hearing before the IAC, and I have agreed with the IAC that these alternative designs should be provided to tenderers for their consideration. However, I do not agree that a northern tunnel extension is necessary. I am also of the view that the Lower Plenty Road Interchange must be retained because of the significance of its traffic benefits.

I support the IAC's findings that the traffic functionality design principles used for the reference design were appropriate. I consider that the reference design would achieve the projects' objective for traffic performance and functionality without unacceptable environmental impacts. However, I support the IAC's conclusion that the project's traffic performance and functionality need to be balanced against its environmental effects. I consider that it is desirable that the detailed design of the project carefully explore whether the same (or equivalent) traffic performance and functionality can be achieved on a smaller footprint which has a lesser impact on the surrounding suburbs.

## **Urban design, visual impacts and landscape**

The project alignment traverses established residential, commercial and industrial areas, the Yarra River and associated parklands, valued open space with high amenity and landscaping, sport and recreation facilities, schools, community facilities, and other valued cultural and natural places.

The potential impacts are significant. The M80 Interchange and the Eastern Freeway Interchange will create elevated road infrastructure. Manningham Road Interchange will displace the Bulleen Industrial Precinct. Lower Plenty Road Interchange will impact the biodiversity values of Simpson Barracks. Along with ventilation structures within Simpson Barracks and near Bulleen Park, the project's infrastructure will impact on nearby residents' visual amenity, landscape values and open space. It will change the way that people move, live, work and play in and around the project area.

I am satisfied that the EES together with the material provided to the IAC provides sufficient information to allow me to assess the landscape and visual impacts of the project, notwithstanding some of the criticisms of the method adopted in the EES. The potential landscape and visual impacts can be managed and mitigated if a robust framework is established to guide detailed design. The draft urban design strategy (UDS) and EPRs exhibited with the EES provide a starting point for such a framework but I consider that further changes are required. The IAC identified locations along the project corridor that it considered would benefit from urban design framework plans to address land use and design constraints and opportunities more holistically before more detailed urban design and land use plans (UDLPs) are prepared and approved. I consider the urban design framework plans are desirable and should be included as part of the UDS. This will strengthen the capacity of the UDS to minimise landscape and visual impacts and influence the urban design outcomes of the project. When further design detail is available, later, public

consultation on the UDLPs will provide a meaningful opportunity for the community to comment on the design of the project.

The draft UDS was informed by expert advice and guidance from an urban design advisory panel (UDAP) and the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation, councils and public authorities. The UDAP will continue into future phases of the project with involvement in tender evaluation and ensuring the UDLPs comply with the UDS. I recommend that the UDAP is expanded to include two new independent design experts to bolster the design review of this city shaping project.

## **Social**

Once in operation, the project will deliver community benefits through reduced travel times and improved connection between Melbourne's north and southeast. People travelling or living along the project corridor will benefit from less trucks on arterial roads, enhanced active transport infrastructure and better bus services along the Eastern Freeway. Amenity at some residences and open space will improve through reduced traffic noise compared with existing and no project conditions. I consider these benefits to be very significant.

However, many public submissions on the EES identified significant negative social effects. Acquisition of up to 36 residential properties to allow project construction and operation creates significant upheaval for affected individuals and their loss will be felt by the broader community. The impacts on businesses and employees in the Bulleen Industrial Precinct are also very significant. Construction will disrupt residents and others who visit and travel through the project area in terms of temporary occupation of land and reduced amenity and connectivity along and across the project corridor. Once the project is built, adverse social impacts will be more localised and limited as open space is returned and connectivity and amenity generally improve. However, some residents will experience ongoing traffic increases and the imposition of new noise walls, elevated ramps and the slow establishment of replacement trees.

Open space is highly valued for environmental, social and wellbeing reasons. The project could impact as much as 35 hectares of open space, with 18.2 hectares required permanently. In terms of active open space replacement, I consider that a workable concept emerged during the IAC hearing for temporarily and permanently relocating most sports clubs, recreational facilities and private school facilities to alternative locations generally consistent with the IAC's like-for-like recommendation. However, I accept that it will be challenging to retain the current level of functionality of all sports and recreation facilities and some compromises may be required.

Replacing lost passive open space is generally consistent with state policy and the relevant principles of the *Yarra River Protection (Willip-gin Birrarung murrn) Act 2017* and is a reasonable expectation of the proponent, and government more broadly. Considering this, I require the development and implementation of a relocation and replacement plan to canvass the important practical considerations related to the selection and acquisition of land and its subsequent development as open space.

The activities and locations of construction compounds was the subject of much discussion at the IAC hearing with a focus on the proposed use of open space at the Winsor, Koonung Creek and Borlase Reserves. Whilst I am satisfied that the locations for construction compounds identified in the EES are generally acceptable, I expect that the proponent will consider and assess all possible locations during the process of detailed design and construction planning. A construction compound plan, subject to my approval, will assist to mitigate impacts associated with the location and management of construction compounds.

I have not accepted the IAC's recommendation that Borlase Reserve be excluded as a TBM launch/retrieval site, because I am satisfied that amenity impacts will be acceptably mitigated by the EPRs. However, if Borlase Reserve is used as a TBM launch site, I consider that voluntary acquisition of the most affected residences should also be offered.

Adoption of the UDS and EPRs, in the way that I specify in my assessment, will address the need for sympathetic urban design of permanent project infrastructure and protection of local amenity to the extent practicable. I consider that the amenity impacts of the project during its operation will not be unacceptable, and would not, either when considered in isolation or in conjunction with other environmental impacts, be of such a scale as to outweigh the project benefits.

## **Business**

The project will acquire 102 business properties, predominantly from the Bulleen Industrial Precinct (BIP) but elsewhere within the project areas as well. Other businesses, not acquired, could be adversely affected by changes to access, connectivity and amenity. Notable, in this latter category are the businesses that make up the Watsonia Neighbourhood Activity Centre. However, the project's broad economic and business benefits outweigh the economic impacts from the loss of local businesses.

Construction of the Manningham Road Interchange will require the land associated with all the businesses in the BIP, which employs about 770 people. The loss of an entire industrial-zoned business precinct due to an infrastructure project is unprecedented in Melbourne, and the disruption to BIP business owners, employees, customers, suppliers and the local economy will be very significant. Land acquisition under the *Major Transport Project Facilitation Act 2009* provides for compensation to those with an interest in land, but impacts go well beyond this and so must avoidance and mitigation measures.

The proponent has been consulting businesses and the Manningham Council about issues and managing the impacts that would result from the project for nearly 18 months. I commend these efforts and trust they will continue. However, effective support must be informed by the specific needs of each individual business and employee. The EPRs of the project must include planning and support for each BIP business and employee on request.

Watsonia Neighbourhood Activity Centre provides convenient access to a range of retail outlets. The project has the potential to exacerbate the existing divide created by Greensborough Highway and the Hurstbridge Rail line between the centre and its catchment to the east. Greater connection and amenity impacts from the project could lead to a decline in customers and added business pressure. The EPRs that concern business support and traffic will therefore play an important role in managing and mitigating these impacts.

Project design will also be central to achieving greater connectivity and an attractive and viable activity centre in the longer term. My assessment recommends revision of the UDS to provide greater direction to improving the functioning of the activity centre. I expect that the proponent and Banyule Council will work in partnership to investigate opportunities for the activity centre. Looking beyond the project's construction horizon, I support return of employment use to land where businesses were displaced by the project, wherever it is practicable to do so. It is especially important that residual land at the Manningham Road Interchange is not precluded from future employment land uses.

## **Land use planning**

The project has broad strategic support in planning policies, including *Plan Melbourne 2017-2050* (Plan Melbourne) and the Planning Policy Framework. However, a key challenge for the project is balancing transport related policies with other planning policies relevant to economic development, environment and landscape values, open space, and urban design and amenity.

Land use planning impacts from the project are intrinsically linked with social impacts, business impacts, and urban design. I am satisfied that, provided the recommendations of this assessment are implemented during design and delivery, the project will achieve acceptable land use planning outcomes, and deliver a net community benefit. This includes responding to the significance of the Yarra River and parklands as set out in legislation and planning policies, and maximising the return of residual land at the Manningham Road Interchange for employment uses.



## **Biodiversity**

The project area retains fragmented remnant, or re-established, native vegetation described in the EES as mostly ranging from poor to moderate condition. However, significant biodiversity values remaining in the area were identified along the Yarra River floodplain, Koonung and Banyule Creeks and within Simpson Barracks.

The project will impact established Matted Flax-lily and Studley Park Gum populations within the Simpson Barracks. In response, the proponent will prepare and implement a translocation plan for Matted Flax-lily and a management framework for Studley Park Gum. When these mitigation measures are considered in addition to offset requirements, and in the context of the overall benefits of the project, I believe the impacts, while significant, are acceptable.

The loss of urban tree canopy is an ongoing challenge for Melbourne; the loss of 25,947 amenity planted trees and the associated canopy cover will be a significant impact. For this reason, the proposed tree canopy replacement plan is paramount to mitigating this impact, and I encourage the proponent to commence plantings as a matter of priority, continuing progressively throughout construction.

The impacts on native vegetation are significant but acceptable. However, every effort should be made to minimise the actual disturbance of native vegetation through detailed design and sympathetic work practices.

## **Noise and vibration**

The EES notes that the duration of noise generating construction activities will vary from site to site, but indicative timeframes range from one month up to three years (or possibly even longer). It is inevitable that some works at some sites will be undertaken outside normal hours, including works that would otherwise create major traffic congestion during the day. I am satisfied that the noise impacts of the project during construction will be acceptable overall, and that the noise limits for after-hours construction work proposed by the proponent are appropriate.

I agree with the IAC that it is necessary to specify a night time noise limit over and above the limits within the current, but dated, Traffic Noise Reduction Policy (TNRP). In contrast, I disagree with the IAC recommendation that project noise limits apply to all levels of habitable buildings. I am not persuaded that departing from the TNRP in this respect is necessary to ensure acceptable outcomes. I consider the noise management regime in the EMF will manage operational noise impacts to an acceptable level.

## **Air quality and greenhouse gases**

The EES characterised the potential impacts of construction as arising from dust, odours and emissions from combustion engines, concluding that impacts would be localised, of short duration, and intermittent in nature. While the IAC considered these impacts as potentially significant, it was satisfied such impacts could be managed to an acceptable level through standard construction management techniques and I agree.

Beyond construction impacts, the IAC identified the tunnel ventilation system pollution control equipment as a key issue given the project would affect land uses of varying sensitivity to air quality impacts including residential areas, shopping and commercial centres, industrial precincts, parks and sporting facilities. As such, I agree with and support the IAC's recommendation for the project to include provision for space to allow retrofitting air pollution control equipment on the tunnel ventilation systems.

## **Groundwater**

Project induced changes to groundwater levels could reduce the availability of groundwater for groundwater dependent ecosystems, cause subsidence or initiate oxidation of acid generating materials. Changes in flow direction could also cause existing contaminated groundwater to migrate or expand into uncontaminated soils. Only the underground project elements between Watsonia Railway Station and the Southern Portal are likely to change groundwater levels or groundwater flow direction. The degree of groundwater change will decrease with distance from the tunnels.

Potential changes in the location or movement of groundwater contamination due to project-induced changes in groundwater level and flow direction might occur around the historic landfill sites at Borlase Reserve and Bulleen Park. However, the only contaminated groundwater detected during field investigations was petroleum hydrocarbons near the service station at the intersection of Yallambie Road and Greensborough Road, and poly-fluoroalkyl substances (PFAS) at the former Bulleen Drive-in and near Watsonia Railway Station. The EES also noted that another area with the potential for contamination is the Bulleen Industrial Precinct.

The proponent's groundwater assessment has established a firm basis for environmental performance criteria to manage the project's potential impacts on groundwater and protect key environmental elements. Bolin Bolin Billabong and other billabongs near the project are perhaps the environmental features most at risk from changes to groundwater. To this end, further work was undertaken subsequent to the EES assessment, and more will be undertaken pursuant to the EPRs, to ensure that no unacceptable impacts occur on the Bolin Bolin Billabong or other GDEs as a result of changing groundwater conditions.

Beyond the EPRs, Melbourne Water provided detail, in its submission to the IAC, of the works they are undertaking to reinstate natural watering cycles to Bolin Bolin Billabong. While I am confident that groundwater impacts can be managed effectively, I am also reassured that there are other technologies and ameliorative measures that might be implemented if groundwater levels change to adversely impact environmental assets.

### **Ground movement**

In the context of the project, ground movement might occur due to dewatering (lowering of the water table) of compressible sediments, associated with tunnel boring or deep excavation work to construct the trench and cut and cover tunnel sections. The ground movement impact assessment included in the EES considered the geological and hydrogeological conditions within the study area and the sensitive receptors that may be affected by sub-surface activities. The EES noted that buildings, utilities or environmental features may be damaged or degraded where ground movement is severe.

The EES concluded that ground settlement from dewatering is unlikely to have a significant impact on sensitive receptors. The IAC accepted this, as do I. However, pre- and post-construction assessments of buildings near construction works will also be undertaken to give owners confidence that their property will not suffer from damage due to project-induced ground movement.

### **Surface water**

The EES investigated flooding, water quality, stream morphology and water supply and sought to understand their response to potential surface water changes as a result of the project. The potential for an increase in flood risk will be mitigated by ensuring the risk from changes to flood levels, flow and velocities are minimised and the project will demonstrate compliance with Melbourne Water's requirements. In addition, water treatment features have been included in the reference design to filter and treat the stormwater captured by the new road surfaces, to minimise the increased runoff efficiency and potential for pollutants entering waterways. These water sensitive urban design features include wetlands, bioretention ponds and storage dams.

The project will also have impacts on Koonung Creek and Banyule Creeks, due to diversion and partial undergrounding. I consider that these impacts are acceptable.

I consider that the EPRs, as recommended in this assessment, provide an appropriate means by which to manage the design, construction and operation of the project to minimise surface water impacts to an acceptable level.

### **Land contamination and solid waste**

Prior to its urbanisation, most of the project area was used for agriculture and no broad-scale contamination associated with heavy industry sources exists across the project footprint. However, decommissioned landfills and historic in-filling of land along with existing commercial and industrial land

use are potential sources of contamination. Construction will disturb landfill material and could create preferential pathways for contaminant migration and alter land gas migration.

The IAC concluded that the proposed framework for development of a spoil management plan and the suite of EPRs addressing land contamination matters are suitable and can satisfactorily mitigate risks associated with spoil management, reuse and disposal. I accept the IAC's findings that the proposed spoil management approach, EPRs and governance framework would sufficiently manage potential effects associated with contaminated spoil and other waste streams.

### **Historical heritage**

The project area features several discrete heritage places that may be directly impacted during construction or indirectly through vibration and ground settlement. During the IAC hearing, two nominations were made to the Eastern Freeway (between Hoddle Street, Clifton Hill/Collingwood and Bulleen Road, Balwyn North) on the Victorian Heritage Register. If included on the VHR, there will be additional approvals and requirements separate to my assessment here. Otherwise, I am satisfied that the UDS and EPRs provide a suitable framework for protecting heritage values across the project area, including the potential unidentified archaeological artefacts.

### **Aboriginal cultural heritage**

Twenty-eight registered Aboriginal cultural heritage places and three historical references were identified in the project areas. Aboriginal cultural heritage values are to be largely addressed through a cultural heritage management plan (CHMP) under the *Aboriginal Heritage Act 2006*. The IAC concluded that the project's likely impacts on Aboriginal cultural heritage values can be adequately addressed and managed. I agree with the IAC.

Beyond the CHMP, I agree with the IAC's conclusion that the potential impacts to Aboriginal cultural heritage can be adequately mitigated through the UDS. It provides the necessary framework to support meaningful engagement with the Wurundjeri Woi-wurrung to entrench Aboriginal cultural heritage values in the development of design themes and key features of the project infrastructure.

### **Health and wellbeing**

The health impact assessment undertaken for the EES included health impacts associated with changes in air quality, noise and vibration as well as changes from a social perspective due to the project. The IAC accepted that the method adopted was sound and in the case of air quality and noise were based on measurable standards, concluding that the risks to health could be managed through the relevant EPRs. I agree with the IAC, subject to the recommendations of my assessment.

In the more intangible areas of social impact and particularly in relation to green space and visual changes, the IAC found that the health impact assessment did little to appreciate the value that community placed on these assets. The IAC did not recommend any specific EPRs for health and wellbeing but did recommend related changes to EPRs in areas such as biodiversity, landscape, visual and social. I support the IAC's conclusion and acknowledge that the IAC relied on submissions including submissions from the Department of Health and Human Services, who indicated the project was not likely to result in significant or measurable impacts on community health.

### **Environmental management framework**

The broad structure of the environmental management framework was endorsed by most submitters and the IAC. An essential part of the proposed EMF is the environmental performance requirements. The EPRs are proposed to set environmental standards, mechanisms and outcomes that the proponent and its contractors need to implement to mitigate or manage the environmental effects of the project. The EPRs were the subject of many submissions and focussed consideration through the IAC hearing. This led to the proponent tabling updated versions of the EPRs during the hearing, with refinements based on further consideration of issues raised by submitters and advice from experts. I provide my assessment of the EPRs in Appendix A.

The EMF set out accountabilities and auditing requirements for the EPRs to ensure the environmental effects and risks of the project are well managed. The proponent will prepare an environmental management strategy that responds to the EMF to outline how the EPRs will be implemented. An Independent Environmental Auditor will conduct independent reviews of activities and documentation, approve subordinate plans to the environmental management strategy and audit compliance of the project with the EPRs.

### **Next steps**

Under the *Environmental Effects Act 1978* this assessment is provided in the first instance for consideration by the Minister for Transport Infrastructure as 'the relevant Minister.' My assessment will also inform subsequent decisions in relation to the specific approvals that will be required, and the final form of the project once a successful tenderer has been contracted.

# 1. Introduction

On 12 January 2018, North East Link Project (the proponent) submitted a proposal to the Victorian Government for North East Link (the project).

On 2 February 2018, I declared the project to be ‘public works’ under section 3(1) of the *Environment Effects Act 1978* (EE Act). As a result of that declaration, an environment effects statement (EES) was required to be prepared for the project by the proponent.

In the declaration, my procedures and requirements for the EES specified that the EES was to document investigations of the potential environmental effects of the public works, including the feasibility of design alternatives and relevant environmental mitigation and management measures. In particular, the EES was to address the potential effects of the project on:

- biodiversity;
- beneficial uses of surface water and groundwater;
- ground movement;
- cultural heritage values including Aboriginal cultural heritage;
- health and amenity;
- temporary and permanent effects on the transport network and services;
- displacement or severance of commercial and residential properties;
- contaminated materials; and
- land uses and the community, including recreational value of open space.

While originally referred to me by North East Link Authority, an administrative office under the Department of Economic Development, Jobs, Transport and Resources, a machinery of government change on 1 January 2019, renamed the Authority as the North East Link Project, making it an organisation under the Major Transport Infrastructure Authority, which is an administrative office under the Department of Transport.

## 1.1 Purpose of this document

This document constitutes my assessment of the environmental effects of the project. It represents the final step in the EES process and provides advice to decision-makers on the likely environmental effects of the project, their acceptability and how they might be addressed in relevant statutory decisions.

My assessment is informed by the EES, the report of the Inquiry and Advisory Committee (IAC) that I appointed, and the evidence and material that was provided to the IAC during its public hearing, including public submissions.

Works on the project shall not commence until this assessment is completed and considered by the Minister for Transport Infrastructure as provided for by section 6(2) of the EE Act. This assessment will also be provided to other relevant decision-makers (including statutory bodies, municipal councils, the Environment Protection Authority (EPA) and agencies administering relevant approvals legislation) to enable them to make decisions about the project in the knowledge of its environmental effects and my advice about how the project will achieve acceptable outcomes.

## 2. Project description

The EES described the project as a new freeway-standard road connection that would complete the missing link in Melbourne's Metropolitan Ring Road, giving the city a fully completed orbital road connection. The project is described in Volume 1, Chapter 8 of the EES. As shown in Figure 1, the project is comprised of the following components.

- M80 Ring Road to the northern portal – from the M80 Ring Road at Plenty Road, and the Greensborough Bypass at Plenty River Drive, North East Link would extend to the northern portal near Blamey Road utilising a mixture of above, below and at surface road sections. This would include new road interchanges at the M80 Ring Road and Grimshaw Street.
- Northern portal to southern portal (tunnels) – from the northern portal the road would transition into twin tunnels that would connect to Lower Plenty Road via a new interchange, before travelling under residential areas, Banyule Flats and the Yarra River to a new interchange at Manningham Road. The tunnels would then continue to the southern portal located south of the Veneto Club.
- Eastern Freeway (east and west of Bulleen Road) – 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 and new dedicated bus lanes for the Doncaster Busway. There would also be a new interchange at Bulleen Road to connect North East Link to the Eastern Freeway.

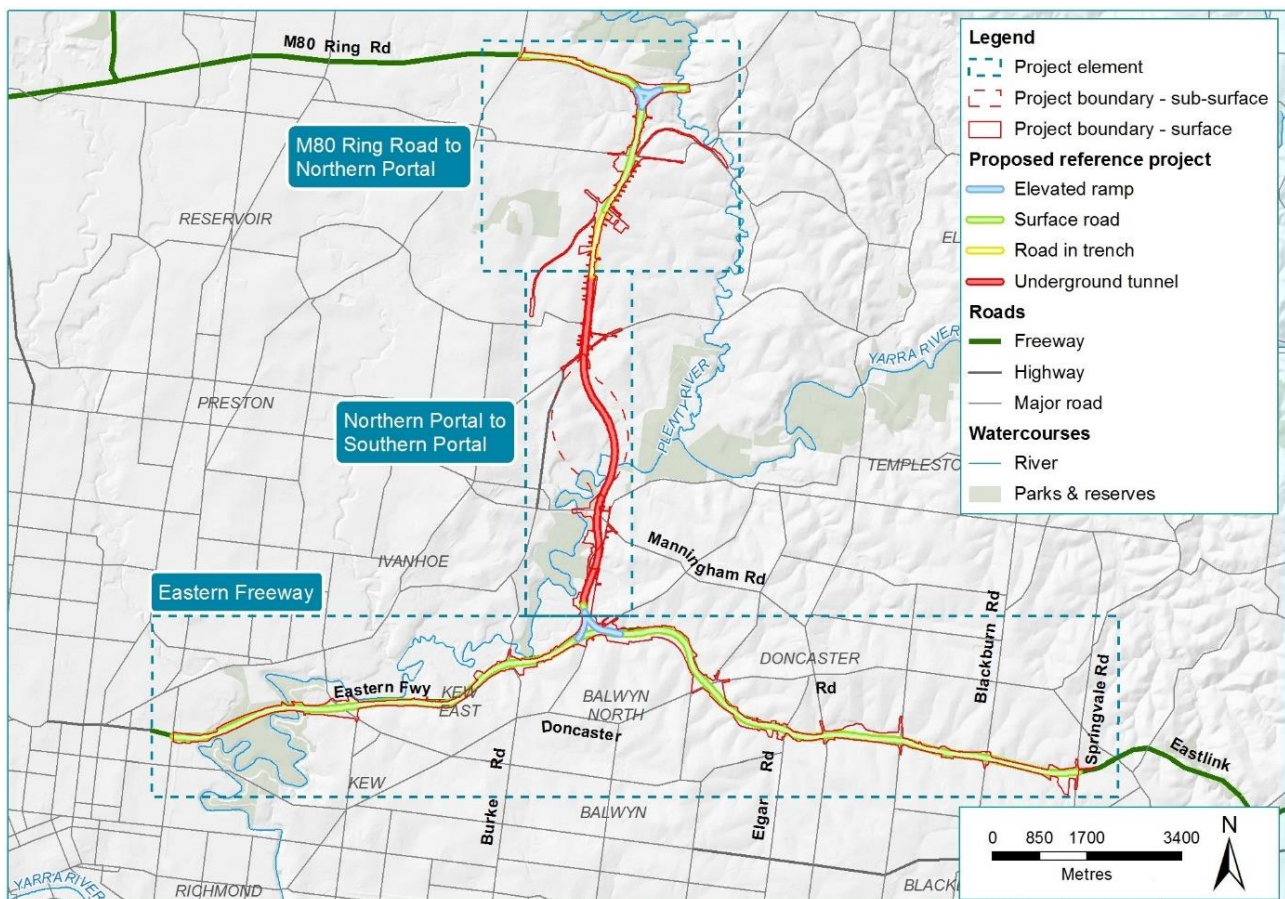


Figure 1: Project alignment and setting (EES, p.2-Executive Summary)

The project also includes additional elements such as:

- new land bridges over the new road, where it is in a trench, between Watsonia railway station and Blamey Road, to maintain east to west connectivity;
- modifications to the Watsonia railway station car park;
- extension of the length of the current Hurstbridge rail underpass just north of Watsonia railway station;
- upgrades to rail signalling infrastructure;
- noise and flood walls;
- new and modified walking and cycling paths;
- changes to waterways and drainage features including the diversion and piping of Koonung Creek in some areas;
- utility works around communications towers, electricity transmission lines, a water mains pressure reducing station and the main sewer along Bulleen Road;
- new ancillary infrastructure to support the project, including additional power, an operations centre, tunnel ventilation system and water treatment facilities;
- upgrades to the Eastern Freeway between the east side of Hoddle Street to Springvale Road;
- the addition of the Eastern Freeway interchange to connect the existing freeway to the new section of the project; and
- a new dedicated busway along the Eastern Freeway with a new Park and Ride facility at Bulleen Road and an upgrade to the Doncaster Park and Ride.

The area directly affected by the project comprises land currently used for residential properties, industrial and commercial properties, recreational reserves, wetlands, educational and sporting facilities as well as existing road reserves. Project works are proposed to commence in 2020 with expected completion by 2027. Preparatory buildings and works are proposed to commence before the main works.

### 3. IAC recommendations

The IAC has done a commendable job integrating the disparate issues of the project into a cohesive report. I thank the chair and panel members for their work.

The IAC presented 29 consolidated recommendations in their report to me. Of those, I accept, or accept in principle, 24 (see my summary of responses to IAC recommendations in Chapter 7). The remaining five recommendations relate variously to the use of a reference design (IAC Recommendation 27), the risk assessment used by the proponent (IAC Recommendation 28) and project elements: northward tunnel extension (IAC Recommendation 4), exclusion of Borlase Reserve for tunnel boring machine (TBM) launch or retrieval (IAC Recommendation 5) and designating Simpson Barracks as a 'no-go zone' (IAC Recommendation 15).

#### 3.1 Reference design

The EES used a reference design to assess the environmental effects of the project. Some submitters were critical of the reference design's utility for assessment and the IAC recommended caution in the future use of reference designs for assessment purposes. However, the IAC also stated that it *...sees potential merit in the use of a reference design for some large complex state government projects.*<sup>1</sup> I share this view.

The reference design is not intended to represent the final design for the project. Rather, it represents a feasible means by which the project might be designed, constructed and operated. It also identifies a project boundary, being the area within which all temporary and permanent works and structures must be located. The proponent explained to the IAC that a reference design is a *tool to facilitate the assessment of potential environmental effects and that it does not necessarily constitute the only means by which the project could be delivered.*<sup>2</sup>

The reference design has been used as a means by which to:

1. identify and assess the environmental effects of the project; and
2. prepare an environmental management framework (EMF, see Section 5.2), including environmental performance requirements (EPRs, see Appendix A), and a UDS that will provide for management and mitigation of those identified impacts.

As required by the draft incorporated document, the final design must be in accordance with an approved EMF and urban design strategy (UDS). These may require modifications to the design of the project to help ensure the environmental impacts of the project are acceptable, or in order to improve the environmental performance of the project. Modifications may also be necessary to meet the outcomes specified by an EPR. In this way, the final detailed design of the project can be developed in a manner that will maximise the positive environmental impacts of the project and mitigate the adverse environmental impacts of the project.

The use of the reference design in the EES was the subject of much debate at the IAC hearing. Some submitters were highly critical of the use of the reference design. Some even submitted that the reference design made assessment of the project's environmental effects *impossible.*<sup>3</sup> I do not agree with this proposition and I note that it was not accepted by the IAC, either expressly or in terms of the general approach adopted by the IAC.

While the IAC suggested that the reference design approach made its task difficult in relation to certain potential impacts, the IAC did not say that the position was so uncertain that it could not undertake its task

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<sup>1</sup> IAC Report at page 14.

<sup>2</sup> IAC Report at page 10.

<sup>3</sup> IAC Report at page 12, footnote 30.



of reporting to me on the environmental effects of the project. Instead, the IAC undertook a detailed assessment of the project’s potential environmental effects and documented its consideration and findings about these potential effects in a thorough manner, which has assisted me in formulating this assessment.

The IAC documented the topics in which it considered its task more challenging because of the use of a reference design, for example, landscape and visual, ecology, business and social impacts. I have paid close regard to the IAC’s comments on these issues and addressed them in the balance of my assessment below.

Ultimately, the IAC concluded that the environmental effects of the project should be able to be mitigated or managed to an acceptable level, subject to the recommendations in its report. Again, I agree that the environmental effects of the project should be able to be mitigated or managed to an acceptable level, but I have not agreed with all the recommendations of the IAC.

All land that could be directly affected by the project has been included within the project boundary of the reference design. The types of environmental impact (such as groundwater, native vegetation, air quality etc.) that are likely because of the project have been identified and subject to detailed consideration. The EES and the public hearing before the IAC included consideration of the methods or measures that might be employed to mitigate impacts, the type of EMF that should be used to ensure that the project achieves acceptable outcomes and, more specifically, the appropriate EPRs for achieving those outcomes.

In this regard, I agree with the IAC’s observation that, where a reference design is used, the EPRs are *critical in determining how the eventual project can be delivered within an acceptable framework*. The EPR’s provide the primary means by which the actual environmental impacts of the project will be measured, managed and mitigated. I am of the view that an appropriate set of EPRs can be developed for the project, and this has informed my ultimate conclusion that the environmental impacts of the project will be acceptable.

I note the IAC’s observation that the reference design has caused *substantial difficulty for the IAC, other parties and the community in properly understanding the likely scope of the project and its potential environmental effects*.<sup>4</sup> I agree that the assessment of impacts of a project of this scale is a difficult task, and a detailed design may (in some circumstances) have made the assessment of certain impacts less ‘difficult’, especially for members of the community. However, in my opinion, significant benefits flow from assessing a reference design instead of a detailed design for large, complex projects. A reference design encourages alternatives or innovations to be explored during assessment and in the detailed design, that respond to problems or impacts that may be unforeseen in some cases. This may result in improved environmental outcomes. A performance-based EMF, and UDS, as will be required for this project, is necessary to guide and support the delivery of alternative or innovative design solutions.

In any event, I consider that the EES together with the information prepared for, and considered by, the IAC during its public hearing, is sufficient to allow me to make an assessment of the environmental effects of the project. I am satisfied that the environmental effects of the project have been identified and adequately considered, and that the EMF will ensure that the project achieves acceptable environmental outcomes.

In relation to IAC Recommendation 27, I agree there needs to be sufficient certainty about the nature and extent of environmental effects of a proposed project for an assessment to occur. As outlined above I consider that has occurred in this case. I am also of the view that consideration should be given in all cases

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<sup>4</sup> IAC Report at page 14.

to whether it is appropriate to use a reference design, and how a particular reference design sits alongside the unique project and contextual circumstances and EMF to be created in each case.

However, as a matter of principle I do not think it is appropriate to prescribe, in advance, the circumstances in which a reference design might be used and for that reason I decline to accept the IAC’s recommendation.

### 3.2 Risk assessment

The risk assessment framework used in the EES included ‘planned’ events described as *events with outcomes that are certain to occur (i.e. planned impacts such as land acquisition) as distinct from risk events where the chance of the event occurring and its consequence is uncertain*. Other risks were assessed using the more conventional approach of assessing both the likelihood and consequence of environmental impacts to define a risk rating.

Various submissions raised concerns about the use of planned likelihood in assessing some risks, asserting that such risks had not been given the same degree of consideration for assessment and mitigation. The IAC agreed that the terminology was not helpful and not consistent with AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines. However, despite its misgivings about the precise approach where the use of ‘planned’ was employed, the IAC acknowledged that the risks were sufficiently well understood for it to prepare its report.

The IAC recommended that the description of a risk or event as planned should not be used in the risk assessment for future projects assessed by way of an EES (IAC Recommendation 28). While I acknowledge the IAC’s logic, I do not support the recommendation. This is because I do not consider that it is appropriate to strictly prescribe the way that future risk assessments can be undertaken. What is important is that risks are appropriately assessed; there may be many different ways of appropriately achieving that outcome. Rather, I recommend that future assessments are cognisant of the need for transparency and, in the interest of simplicity for stakeholders, employ methods that deal consistently with events wherever they lie on the likelihood continuum.

### 3.3 Project modifications

The IAC’s report includes three recommendations that would require very significant changes to the reference design. These recommendations (if adopted) have the potential to change the environmental effects of the project, and the overall balance of benefits and detriments. I have therefore given very careful consideration to the recommendations and the IAC’s reasons for making them. In summary, the three recommendations are:

Recommendation 4

*Pursue an extended, bored tunnel option northwards to the vicinity of the Grimshaw Street, including a review of the need for the Lower Plenty Road interchange...*<sup>5</sup>

Recommendation 5

*Exclude Borlase Reserve as a tunnel boring machine launch/retrieval site...*

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<sup>5</sup> I regard the words of this recommendation to be somewhat ambiguous, in that they require that the *extended, bored tunnel option* be *pursued* and that there be a *review* of the need for the Lower Plenty Road interchange. I have, however, proceeded on the assumption that the IAC was recommending that an extended tunnel should be included as part of the project, and that the Lower Plenty Road Interchange should be deleted.

Recommendation 15

*Designate the Simpson Barracks as a ‘no-go zone’ due to the potential significant environmental effects...<sup>6</sup>*

These recommendations are, in many ways, interrelated. It was the IAC’s view that the modifications would:

- significantly reduce social, noise, air quality, business, landscape and visual impacts on the community along Greensborough Road and the Watsonia Neighbourhood Activity Centre;
- protect the residential community surrounding Borlase Reserve from the amenity impact of noise, dust and spoil haulage for many years; and
- significantly reduce ecological impacts on critically endangered and threatened species, ecological communities, significant tree canopy, habitat fragmentation and the northern reach of the Banyule Creek.

I have decided not to accept these three recommendations. In my view, the recommendations are not necessary to ensure that the project achieves acceptable environmental outcomes. The reasons why I have formed this view are explored in this assessment. However, my summary view is outlined below.

1. Impacts to the Watsonia Neighbourhood Activity Centre will not, in my assessment, be unacceptable and accordingly is not necessary to pursue the extended tunnel to avoid or reduce these impacts. The various impacts can be acceptably mitigated and managed through the UDS, the EMF and EPRs. In particular:
  - appropriate measures to minimise disruption can be provided to the centre’s businesses through the business EPRs;
  - potential traffic impacts will be acceptably managed through the traffic EPRs;
  - noise and other amenity impacts from construction will be acceptably managed through the EMF and relevant topic-specific EPRs; and
  - matters of urban design, visual and landscape impacts (with the potential for resultant social impacts) will be managed through a revised UDS (and subsequent urban design and landscape plans) approved by the Minister for Planning.
2. Construction can be appropriately managed in this corridor so that the environmental impacts of these activities are acceptable.
3. I am confident that it also possible to achieve a positive long-term urban design legacy for Watsonia Neighbourhood Activity Centre without needing to extend the tunnel. Indeed, the project represents a significant opportunity to transform the current conditions around the centre, and to create a desirable and valued urban space for the residents, businesses and other users of the centre.
4. It is not necessary to exclude Borlase Reserve as a TBM launch/retrieval site. I consider that EPRs will manage construction impacts from using Borlase Reserve as a TBM launch/retrieval site to acceptable levels. However, If Borlase Reserve is used as a TBM launch site, I consider that voluntary acquisition of the most affected residences should be offered (in addition to the EPRs) to assist to mitigate the amenity impacts to acceptable levels. EPRs of particular importance for acceptably controlling and mitigating amenity impacts of using Borlase Reserve during construction relate to noise control, and the traffic management plan.

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<sup>6</sup> I have assumed that the reference to IAC Recommendation 3 was a typographical error and that the intended cross-reference was IAC Recommendation 4 (extended tunnel).

5. I do not accept that the ecological impacts of the project on Simpson Barracks will be unacceptable. In this regard I note that whilst the biodiversity values of the barracks are significant, I consider that the proponent’s proposals to mitigate those impacts through relevant plans are appropriate. It will provide for an outcome that achieves an appropriate degree of preservation of the Matted Flax Lilly and the Studley Park Gum.
6. I consider that it is essential that the Lower Plenty Road Interchange be retained in the design, because I consider the benefits of its retention are very significant. If the Lower Plenty Road Interchange is retained as I consider necessary, impacts on Simpson Barracks cannot be avoided and it is neither practicable, nor necessary, to identify it as a ‘no-go zone’.
7. Further, if the Lower Plenty Road Interchange is to be retained in the design, many of the perceived benefits of the extended tunnel option that are identified by the IAC are likely to be lost, or substantially diminished.

It is my assessment that the project without these recommended changes can still achieve acceptable environmental outcomes and that the UDS, EMF and EPRs that I have assessed as appropriate for the project will ensure that this is the case. Further, I consider that each of the above recommendations, if adopted, would have consequent environmental effects, resulting from, among other things, additional cost, additional duration of construction, and the need for additional land acquisition. I am therefore not satisfied that there will be improved overall environmental outcomes if these recommendations were to be adopted.

During the preparation of my assessment, I formed the view that I may be assisted in making my assessment of these three IAC recommendations with further information from the proponent. Accordingly, I wrote to the proponent (pursuant to section 5(1) of the EE Act) and asked it to provide me with additional information. My letter is included at Appendix B. On 20 November 2019, the proponent provided a response to my request. The response is included at Appendix C.

In the intervening period between sending my request and receiving the response, I continued to rely on the information available to me (being the EES, public submissions, information provided to the IAC during its public hearing and the IAC report) to make my assessment.

When I received the response, my assessment was substantially complete. Having reviewed the response, I concluded that the information that had been provided was substantially a restatement of information that I had already been aware of and had considered, or, was otherwise not relevant to my assessment. The response therefore did not materially assist me in making my assessment, nor did the response influence my assessment with respect to these three recommendations.

## 4. Statutory processes

### 4.1 Environment Effects Act

Following my public works declaration, draft scoping requirements were exhibited for three weeks, from 22 May 2018, for public comment. On 26 June 2018, I issued the final scoping requirements that specified the range of matters to be addressed in the EES. A technical reference group was convened by the Department of Environment, Land, Water and Planning (DELWP) in accordance with normal EES practice to provide advice to the proponent and DELWP on the preparation of the EES.

The EES prepared by the proponent was placed on public exhibition from 10 April 2019 to 7 June 2019. A draft planning scheme amendment (PSA) to the Banyule, Manningham, Boroondara, Yarra, Whitehorse, Whittlesea and Nillumbik planning schemes (Amendment GC98) and a works approval application prepared in accordance with the *Environment Protection Act 1970* (EP Act) were also exhibited with the EES.

On 23 April 2019, with the consent of the Governor in Council, I appointed an inquiry under the section 9(1) of the EE Act, to review submissions and inquire into the environmental effects of the proposal. The inquiry members were also appointed as an advisory committee under part 7, section 151 of the *Planning and Environment Act 1989* (P&E Act) to consider the draft PSA. The IAC was also to provide advice to inform the EPA's consideration of the works approval application. I approved the IAC's terms of reference on 11 April 2019. Planning Panels Victoria received 874 submissions on the EES, the draft PSA and the EPA works approval application.

The IAC held a directions hearing on 21 June 2019 followed by a public hearing from 25 July 2019 to 16 September 2019. The IAC provided its report to me on 22 October 2019. The IAC's report together with the EES and public submissions has informed my preparation of this assessment of the environmental effects of the project under the EE Act.

This document constitutes my assessment under the EE Act. My assessment must be considered by the relevant Minister (i.e. the Minister for Transport Infrastructure) before any project works commence. My assessment will also be of assistance to any other statutory decision-makers that will be asked to provide approvals for the project under Victorian law.

### 4.2 Planning and Environment Act

The P&E Act sets out processes for the amendment of Victorian planning schemes. A PSA to the Banyule, Boroondara, Manningham, Nillumbik, Whitehorse, Whittlesea and Yarra planning schemes (the planning schemes) is proposed to provide comprehensive statutory planning controls for the project. In the absence of such a PSA, the project would be subject to multiple permit requirements under various provisions of the planning schemes. The draft PSA included in the exhibited EES is discussed in Section 5.2.

### 4.3 Environment Protection Act

A works approval is required under the EP Act before commencing works associated with installing tunnel ventilation systems because they are defined as 'scheduled premises' (item L03, Schedule 1) under the *Environment Protection (Scheduled Premises and Exemptions) Regulations 2017*. An application for a works approval (WA100003462) has been received by EPA and was advertised jointly with the EES, in accordance with section 20AA of the EP Act.

Prior to the proposed construction of the project, new environment protection laws are intended to come into effect. The *Environment Protection Amendment Act 2018* (Amending Act) will introduce a new legislative framework for environment protection in Victoria. The Amending Act will amend the *Environment Protection Act 2017* (EP Act 2017) and repeal the current EP Act. It is intended that the EP Act 2017 (as amended by the Amending Act) will come into full effect from 1 July 2020.

Until then, the EP Act remains in force and the works approval application is expected to be determined under this legislation. However, under the EP Act 2017 (as amended by the Amending Act), there are expected to be different subordinate instruments, compared to those under the current EP Act. Some subordinate instruments are discontinuing (e.g. state environment protection policies) and some new subordinate instruments are being introduced (e.g. environment reference standards). The stated aim of these changes is to *produce a simpler, more streamlined environment protection framework. The framework will support industry, government and the community to minimise the risks of harm to human health and the environment from pollution and waste.*

The EPA made submissions to the IAC about how to deal with the changing regulatory environment described above; and the IAC also made recommendations on this issue (IAC Recommendation 1b). I accept the IAC’s recommendations.

#### **4.4 Aboriginal Heritage Act**

The *Aboriginal Heritage Act 2006* sets out triggers and requirements for the preparation and approval of cultural heritage management plans (CHMPs). One trigger for a CHMP is when an EES is required under the EE Act. The Aboriginal Heritage Act also provides for approval of a CHMP by the relevant registered Aboriginal party. For localities where no registered Aboriginal party has yet been appointed, which includes the westernmost part of the Eastern Freeway, responsibility for approval of a CHMP rests with the Executive Director Aboriginal Victoria.

#### **4.5 Other Victorian statutory approvals**

The project also requires a number of additional Victorian statutory approvals:

- a permit for impact to places on the Victorian Heritage Register and/or Victorian Heritage Inventory under the *Heritage Act 2017*;
- consent to undertake works on or across a waterway under the *Water Act 1989*;
- a licence to undertake works near a waterway, construct groundwater bores, or extract groundwater, under the *Water Act 1989*;
- a permit to remove listed flora and/or fauna from public land under the *Flora and Fauna Guarantee Act 1988*;
- potentially, a permit (or permits) to take wildlife under the *Wildlife Act 1975*; and
- consent to undertake works on a road and to connect to a freeway under the *Road Management Act 2004*.

#### **4.6 Major Transport Projects Facilitation Act**

The project was declared a major transport project to which the project delivery provisions of the *Major Transport Projects Facilitation Act 2009* (MTPF Act) will apply, by notice dated 19 June 2018 and published in the Government Gazette on 28 June 2018. The Minister for Roads and Road Safety was declared the Project Minister on the same day, but an administrative arrangements order transferred the appointment to the Minister for Transport Infrastructure on 21 December 2018.

#### **4.7 Commonwealth statutory approval**

The project is proposed to be partially located on Commonwealth land at the Simpson Barracks and has the potential to impact on matters of national environmental significance protected under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Consequently, on 15 January 2018, the proponent referred the project to the Commonwealth Minister for the Environment and Energy (Referral 2018/8142) for a determination on whether the project is a controlled action under the EPBC Act.

On 13 April 2018, the delegate for the Minister determined the project to be a controlled action requiring assessment and approval under the EPBC Act through development of a public environmental report. Hence, the potential for impact on matters of national environmental significance has not been assessed under the EES via the Commonwealth-Victorian Bilateral (Assessment) Agreement.

#### **4.8 Transport Integration Act**

The EE Act is ‘interface legislation’ under the *Transport Integration Act 2010*. The Transport Integration Act requires ‘interface bodies’ (which includes a Minister administering interface legislation) to have regard to transport system objectives when exercising powers and performing functions under any interface legislation, and to have regard to the decision-making principles in making decisions under any interface legislation where these things are likely to have a significant impact on the transport system.

This project will have a significant impact on the broader transport system of Melbourne. The overall transport impact of the project will be positive, as set out elsewhere in this assessment. However, there will also be dis-benefits experienced, particularly during construction, and for some local areas and limited arterial roads that will experience changed traffic and access conditions when the project is in operation.

The transport system objectives are set out in Division 2 of Part 2 of the Transport Integration Act. The decision-making principles are set out in Division 3 of Part 2 of the Transport Integration Act. The objectives include matters of social and economic inclusion, economic prosperity, environmental sustainability, integration of transport and land use, efficiency co-ordination and reliability, safety and health and wellbeing. The principles include matters of integrated decision-making, triple bottom line assessments, equity, the transport system user perspective, the precautionary principle, stakeholder engagement and community participation and transparency.

I have considered the various matters raised by the transport system objectives and decision-making principles, where relevant, in making my comments and coming to my conclusions in the detailed chapters that form part of this assessment. I also note that taken holistically, I consider the objectives and principles to provide considerable support for the project, and for the conclusions reached in my assessment.

## 5. Assessment and planning framework

This part of my assessment sets out the evaluation objectives and discusses the environmental and planning regime that provides the framework for my assessment of environmental effects.

### 5.1 Consideration of environmental effects

My assessment is informed by the IAC report, together with the EES, public submissions, and other material that was received by the IAC. I have also considered, where relevant, legislation, policy, strategies and guidelines and the objectives and principles of ecologically sustainable development.

#### Evaluation objectives

To provide an integrated structure for this assessment, key aspects of legislation and statutory policy are reflected in a set of draft evaluation objectives that were provided in the EES scoping requirements. The IAC also assessed the project against the draft evaluation objectives.

The final evaluation objectives are provided below. They have been reordered since the scoping requirements and IAC report to align with the structure of this assessment. No substantive changes have been made.

#### *Final evaluation objectives*

##### Traffic and transport

To increase transport capacity and improve connectivity to, from and through the northeast of Melbourne, particularly freight movement via the freeway network instead of local and arterial roads, while managing the effects of the project on the broader and local road, public transport, cycling and pedestrian transport networks.

##### Urban design, visual impacts and landscape

To minimise adverse effects on landscape values, visual amenity, recreational and open space values and to maximise the enhancement of these values where opportunities exist.

##### Social

To manage effects of the project on land use and the social fabric of the community with regard to wellbeing, community cohesion, business functionality and access to goods, services and facilities.

##### Business

To manage effects of the project on land use and the social fabric of the community with regard to wellbeing, community cohesion, business functionality and access to goods, services and facilities.

##### Land use planning

To manage effects of the project on land use and the social fabric of the community with regard to wellbeing, community cohesion, business functionality and access to goods, services and facilities.

##### Biodiversity

To avoid or minimise adverse effects on vegetation (including remnant, planted and regenerated) listed rare and threatened species and ecological communities, habitat for listed threatened species, listed migratory species and other protected flora and fauna, and address offset requirements for residual environmental effects, consistent with relevant State policies.

##### Noise and vibration

To minimise adverse air quality, noise and vibration effects on the health and amenity of nearby residents, local communities and road users during both construction and operation of the project.



#### Air quality and greenhouse gases

To minimise adverse air quality, noise and vibration effects on the health and amenity of nearby residents, local communities and road users during both construction and operation of the project.

To demonstrate that the project will contribute to the need for an effective, integrated and climate change-resilient transport system that provides a wide range of travel choices for all Victorians.

#### Groundwater

To avoid or minimise adverse effects on the interconnected surface water, groundwater and floodplain environments.

#### Ground movement

To avoid or minimise adverse effects on land stability from project activities, including tunnel construction and river and creek crossings.

#### Surface water

To avoid or minimise adverse effects on the interconnected surface water, groundwater and floodplain environments.

#### Land contamination and solid waste

To manage excavated spoil and other waste streams generated by the project in accordance with the waste hierarchy and relevant best practice principles.

#### Historical heritage

To avoid or minimise adverse effects on Aboriginal and historical cultural heritage values.

#### Aboriginal cultural heritage

To avoid or minimise adverse effects on Aboriginal and historical cultural heritage values.

#### Health and wellbeing

To minimise adverse air quality, noise and vibration effects on the health and amenity of nearby residents, local communities and road users during both construction and operation of the project.

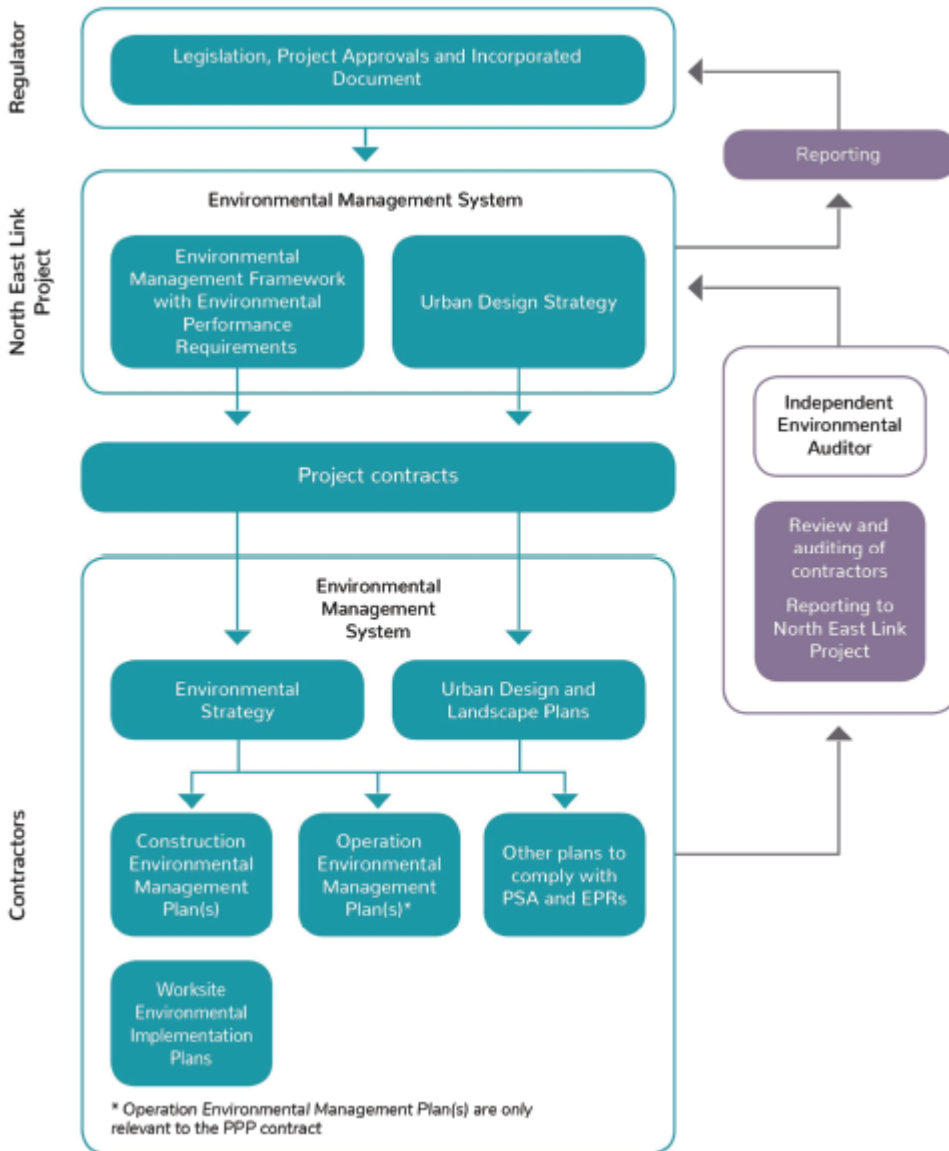
## 5.2 Management of environmental effects

The EES proposes an environmental management regime to be given statutory effect via a draft PSA exhibited with the EES. The draft PSA includes an incorporated document with conditions to establish obligations for the preparation of an EMF and EPRs. This model has been used for environmental management of several recent major public infrastructure projects that have been approved following assessment under the EE Act.

### Framework for environmental management

Chapter 27 of the EES sets out the proposed EMF including the exhibited EPRs and use of an independent environmental auditor. Chapter 15 of the IAC report presents its findings from the hearing in relation to the EMF. The IAC’s recommendations about risk assessment are discussed in Section 3.2.

The roles and responsibilities for environmental management are set out in Table 27-1 of the EES for each stage of the project from approval through to design, construction and operation as well as independent auditing. The proponent also indicated that it would develop, implement and maintain an environmental management system that was consistent with AS/NZS ISO 14001:2016 – Environmental Management Systems – Requirements with Guidance for Use. Figure 2 (overleaf) presents the proponent’s overview of the key environmental management documentation and the relationship to other EMF components.



**Figure 2: Key environmental management documentation (EES Chapter 27, p.10).**

An essential part of the proposed EMF is the EPRs, which are proposed to set relevant environmental standards, mechanisms and outcomes that the proponent and its contractors need to implement to mitigate or manage the environmental effects of the project. The EPRs were the subject of many submissions and focussed consideration through the IAC hearing. This led to the proponent tabling updated versions of the EPRs during the hearing, with refinements based on further consideration of issues raised by submitters and advice from experts. The IAC’s report includes its recommended amendments to the proponent’s final version of the EPRs.

As part of the EMF, a series of environmental management documents would need to be prepared to provide overarching environmental requirements for construction and operation as well as specific plans to manage and mitigate environmental effects (Table 1, overleaf).

**Table 1: Key environmental management documents (EES Chapter 27, p.12).**

| Level                                 | Owner       | Purpose   | Plans   |
|---------------------------------------|-------------|---|---|
| 1. Strategic framework                | NELP        | Set the strategic direction and overarching requirements for project delivery.  | Environmental management framework and environmental performance requirements.<br>Urban design strategy.  |
| 2. Management of project-wide impacts | Contractors | Guide specific programs or works to consistently manage potential impacts on the community or environment.  | Environmental strategy.<br>Urban design and landscape plans.<br>Construction environmental management plan.<br>Operation environmental management plan. |
| 3. Technical plans                    | Contractors | Address the requirements of the EPRs. Technical plans would include all other plans required by EPRs. These plans would reflect the contractor’s methods of implementing the EMF and other regulatory requirements for specific impacts or locations. |   |

The IAC was comfortable that the proposed EMF and incorporated document in the draft PSA provided enough transparency and certainty for managing environmental effects of the project, subject to the changes it proposed. This included explicitly strengthening the role of the independent environmental auditor to include an EPA appointed auditor.<sup>7</sup> EPA indicated at the hearing that it supported the inclusion of an EPA appointed auditor as a member of the independent environmental auditor, rather than specifying inclusion of this role in relevant EPRs. The IAC considered it necessary to specify the role of an EPA appointed auditor in the review of the groundwater model (EPR GW1). In addition, the IAC recommended that EPR EMF3 include reference to ‘statutory environmental auditors’ being included within the independent environmental auditor ‘when necessary’.

I support the inclusion of an EPA appointed auditor as required in EPR EMF3. However, I also recommend that this EPA appointed auditor be specifically involved in the assessment of contaminated soil and groundwater given the potential risk of acid sulphate soils, and to ensure there is no risk of vapour or gas intrusion from former landfills. The inclusion of an EPA appointed auditor is not intended to trigger any formal statutory audit, but to provide the appropriate level of expertise and experience to support the independent environmental auditor in their role.

In response to submissions they heard, the IAC proposed several new EPRs and amended others to ensure that the EPRs are explicit and provide certainty to affected residents and businesses as well as assisting the proponent and contractors in understanding their obligations. A new EPR was added to those that addresses the development of the EMF (EPR EMF4), which, consistent with AS/NZS ISO 14001:2016, requires the establishment of a complaints management system. The IAC also recommended that the audit timeframe be extended from two years to five years in EPR EMF3 and that audit reports be made public for that time period. This of course does not obviate the need for ambient monitoring of noise and air quality to be made publicly available for 20 years. I support the change to EPR EMF3 and the inclusion of a new EPR, EMF4.

I am satisfied in principle that the proposed environmental management approach is appropriate. An EMF is needed to establish clear accountabilities and a framework for environmental management for both construction and operation, and this will be achieved through the approach proposed.

<sup>7</sup> Reference was made throughout the hearings and the IAC report to a ‘statutory auditor’. EPA appoints environmental auditors pursuant to section 53S of the EP Act. Throughout this assessment, the term of EPA appointed auditor is used. EPA auditors can be appointed to carry out statutory duties pursuant to the Act which can include conducting environmental audits or issuing certificates or statements of environmental audit if such a requirement is made by EPA.

In general, my assessment supports the findings and recommendations of the IAC on these issues, recognising that the EMF will need to be updated to reflect the changes outlined by this assessment.

### **Planning controls**

In my role as Minister for Planning I am responsible for the assessment of the environmental effects of the project under the EE Act and for statutory approvals, such as a PSA, under the P&E Act. In its report, the IAC has made recommendations on the draft PSA in its role as an advisory committee under the P&E Act. In this assessment, I will discuss the IAC’s recommendations on the draft PSA in general, and insofar as it is relevant to this assessment, noting that I will only make a detailed assessment of these matters under the P&E Act once I have made this assessment of the environmental effects, and after a PSA request is submitted to me.

A PSA to the Banyule, Boroondara, Manningham, Nillumbik, Whitehorse, Whittlesea and Yarra planning schemes is proposed to provide project specific planning controls for the project. In the absence of a PSA, the project would be subject to multiple requirements under various provisions of the seven planning schemes. A draft PSA (Amendment GC98 to the Banyule, Boroondara, Manningham, Nillumbik, Whitehorse, Whittlesea and Yarra planning schemes) was prepared by the proponent and included in the exhibited EES in Attachment V to the main report. The purpose of a PSA for the project is to:

- facilitate the delivery of the project in a timely, coordinated and consistent manner;
- establish a framework to manage environmental effects during construction and operation;
- protect project infrastructure from new development that may compromise its structural integrity or operation; and
- ensure the project can be planned with certainty and commence without delay.

In broad terms, the proponent’s draft PSA proposes to:

- insert an incorporated document into the planning schemes to allow the use and development of land for the project in accordance with the specific control in the incorporated document;
- apply the Specific Controls Overlay (SCO) to land required for the project;
- make the Minister for Planning the responsible authority for the administering and enforcing the incorporated document, and any other provision in the planning schemes as they apply to the use and development of the project; and
- apply a Design and Development Overlay (DDO) to land in Banyule and Manningham to ensure new development does not compromise the structural integrity or operation of project infrastructure.

The draft incorporated document was updated by the proponent and submitters throughout the IAC hearing process. The proponent tabled a final draft version of the incorporated document (tabled document 411 dated 12 September 2019) and the IAC recommended changes to this version of the document. The draft incorporated document included requirements for an EMF, UDS and urban design and landscape plans (UDLPs) to be prepared and approved by the Minister for Planning before main construction works commence and defined preparatory buildings and works that may be undertaken before these matters are approved. The EMF needed to include the EPRs applicable to the design, construction and operation of the project. Other requirements in the draft incorporated document related to native vegetation removal and offsets which must be undertaken to the satisfaction of the Secretary to DELWP.

The land proposed to be required for the project is defined by the SCO on the draft PSA maps. These would provide the basis for any subsequent designation of the ‘project area’ under the MTPF Act for the purpose of enacting the delivery powers under that Act.

Under the proposed arrangements, a DDO will be applied to land in Banyule and Manningham above or adjacent to project infrastructure to trigger a planning permit for certain types of development that might

compromise the structural integrity or operation of the project. The planning permit application will be referred to the Secretary of the Department of Transport (and the Roads Corporation after 31 December 2030) as a determining referral authority to consider detailed engineering issues associated with development above the tunnels.

The IAC identified the following matters as key questions related to the draft PSA.

- Is the incorporated document ‘fit for purpose’ and drafted appropriately?
- Is the schedule to the DDO justified?
- How should mapping of the SCO be managed for the project?

The IAC found that the planning controls in the draft PSA constitute an appropriate mechanism to facilitate the project, including the use of an incorporated document, and the application of a DDO to ensure the integrity of the tunnels and associated infrastructure. The IAC recommended changes to the draft incorporated document that related to the EMF provisions (see my assessment in each section in Chapter 6), management of place-specific urban design matters and the urban design advisory panel (UDAP, see Section 6.2), notification requirements for plans (see Section 6.2), extent of the SCO (see Section 6.2), development of replacement open space (see Section 6.3), management of proposed construction compounds (see Section 6.3) and preparatory buildings and works (see below).

The IAC also recommended changes to the draft schedules to the DDO that related to the design objectives and application requirements, which I support in principle.

Regarding the notice of UDLs, the IAC recommended the minimum period of notice and opportunity for public comment be extended and that owners and occupiers of adjacent land be directly notified.

Regarding the extent of the SCO, the IAC recommended:

- its coverage be refined within six months of the approval of the EMF to minimise uncertainty for owners of land ultimately not required for the project; and
- its coverage be expanded to include land identified for replacement open space and to facilitate the development of replacement facilities.

I discuss matters relating to urban design framework plans and construction compounds in sections 6.2 and 6.3, respectively.

The IAC noted its concern about the proposed extent of the preparatory buildings and works in the incorporated document that could be carried out before key documents are approved, such as those for noise management and community engagement. In response to this concern, the IAC recommended changes to the extent of preparatory buildings and works listed in the incorporated document to limit such works to those that are genuinely in the nature of low impact investigation works to facilitate further plans and approvals. I support in principle the IAC’s recommendations.

In summary, I consider that the broad planning framework recommended by the IAC with revisions made in accordance with my assessment of the environmental effects would be appropriate to facilitate the project and protect the ongoing integrity of project infrastructure.

## 6. Assessment of environmental effects

Victoria is growing faster than at any other time in the state's history and Melbourne is forecast to become Australia's most populous city. The EES highlights Melbourne's transport challenge, as it grows from a city of 4.5 million to almost 8 million by 2051, with that challenge also well documented in Plan Melbourne 2017-2050 and other strategic documents. By the middle of the century, Melbourne's road network will need to cater for around 10 million more trips per day – an increase of more than 80%. The growing demand on the transport network, in turn, demands an integrated approach to infrastructure and land use planning, to support liveability, industry and choices for access to homes, jobs and services.

Along with the EES, the IAC observed that Infrastructure Victoria identified the North East Link as a high priority project for improved accessibility through a congested road network. The EES reinforced the lack of a freeway-standard connection between the M80 Ring Road and the Eastern Freeway and the northern end of EastLink. Melbourne's northeast relies on a relatively sparse arterial road network, with trips heavily reliant on a limited number of arterial roads, such as Rosanna Road and Fitzsimons Lane for north-south movements and Bell Street for east-west movement. In addition to local network improvements, the project will provide a vital orbital road connectivity to enhance access to major employment centres, reduce travel times, improve the capacity and reliability of the freight network and connect metropolitan activity centres.

I have therefore concluded that the project will have significant environmental benefits for the community of Victoria. However, I acknowledge that there will also be significant environmental impacts. Many of these impacts will be borne by the community of Melbourne's north east during a protracted construction period. Others will be longer-term permanent impacts on the local, and wider, community.

Having studied the proponent's EES, listened to the community and other stakeholders and heard from the IAC that I appointed to hold an independent inquiry into the environmental effects of the project, it is my assessment that the project will meet its objectives, and that its environmental effects will be acceptable.

### Environmental effects

The IAC made a number of findings and recommendations in respect of the project. My response to its key findings and recommendations, along with my assessment of the main environment effects of the project, are detailed below (grouped according to the discrete evaluation objectives identified in Section 5).

In completing my assessment, four key impact themes emerged as those most likely to generate significant residual effects from the project. These were: traffic and transport; urban design, visual and landscape; social; and business. That is not to say that the environmental effects from aspects other than these four are insignificant or that they have not been considered. Rather, the legislative framework and corresponding mitigation and management practices stipulated in EPRs, are more commonly implemented across a range of projects and industries for these other aspects. Additionally, as was the case for air quality, or more specifically the provision of space for retrofitting air pollution control equipment in the ventilation system, it was the evidence presented during the IAC hearing that helped resolve the issue for my assessment.

Furthermore, for all residual effects, it will be important that appropriate mitigation measures are in place to address the negative impacts of the project and standards of environmental performance are established. My detailed assessment in the sections that follow have focused on achieving this for all aspects considered.

### 6.1 Traffic and transport

Traffic and transport impacts are addressed in Chapter 9 and Technical Report A of the EES and Chapter 3 of the IAC report. Five EPRs deal with traffic and transport matters, of which three were subject to minor

editorial changes by the IAC. The IAC made a further seven recommendations that relate to project design elements and the reference design.

### **Evaluation objective**

*To increase transport capacity and improve connectivity to, from and through the northeast of Melbourne, particularly freight movement via the freeway network instead of local and arterial roads, while managing the effects of the project on the broader and local road, public transport, cycling and pedestrian transport networks.*

### **Assessment context**

The EES addressed the potential effects of the project on traffic, freight, public transport, cyclists and pedestrians. The EES included analysis of strategic transport modelling outputs to understand potential traffic and transport effects across metropolitan Melbourne, as well as modelling to understand local impacts within the northeast and along the project corridor.

As paraphrased by the IAC (IAC report, p. 36), the key transport outcomes anticipated from the project were stated in the EES as:

- redistributed traffic away from local and arterial roads and onto the North East Link and freeway network;
- reduced congestion at existing bottle necks;
- improved travel times across the northeast;
- reduced truck volumes on local and arterial roads;
- improved Doncaster Area Rapid Transit bus travel times; and
- new and upgraded shared use paths.

I am satisfied that the that project will achieve these outcomes, and that the environmental benefits of these outcomes for both the local and wider community will be substantial.

The IAC, while noting traffic and transport impacts have far reaching influences on other evaluation objectives such as health, amenity, environmental, social, business and land use, identified the key traffic and transport issues as follows.

1. Adequacy of the strategic modelling.
2. Adequacy of the reference design, including:
  - interchange design;
  - Bulleen Road alignment and access issues;
  - Eastern Freeway expansion;
  - extent of tunnelling by TBM; and
  - active transport infrastructure.
3. Project operational impacts including:
  - Rosanna Road conditions and resident-proposed full time truck ban;
  - increased traffic and redistributed traffic on selected roads; and
  - public transport services and functionality.
4. Construction impacts
  - haul routes;
  - disruption and diversions; and
  - compound traffic impacts.

## Discussion

### *Traffic modelling*

The strategic modelling in the EES utilised the Zenith model, consistent with other contemporary strategic transport models in Australia. Strategic models tend to follow a consistent method and are used for both long term strategic planning and to assess projects and services.

While the IAC agreed that the model was conservative and produced slightly higher estimates of future demand than may occur, it considered this was unlikely to materially affect the design of the project. Indeed, the IAC found the strategic model outputs suitable for project development considering the inherent uncertainty of forecasting to 2036. I support the IAC’s findings and am satisfied that the strategic model is fit for purpose and provides a sound basis for subsequent project development.

The strategic model estimated traffic volumes as an input to the microsimulation model to assess local impacts on the road networks. From this, the EES concluded that there would be redistribution of traffic away from local and arterial roads and onto the project. The largest change is expected to be on Rosanna and Greensborough roads (reductions of up to 12,000 and 19,000 vehicles per day respectively). There is anticipated to be a traffic increase on a number of feeder routes including the M80 Ring Road and the Eastern Freeway as well as some arterial roads south of the Eastern Freeway (Bullen Road, Elgar Road, Surrey Road and Springvale Road) and near the Greensborough Bypass and Grimshaw Street Interchange (Watsonia Road and Erskine Road in Macleod).

Overall, the diversion of traffic onto the project is anticipated to have a positive impact on the road network resulting in a significant redistribution of medium and longer cross-city trips away from local and arterial roads compared with the no project scenario. Traffic volumes on all five existing roads crossing the Yarra River are also anticipated to reduce significantly by a total of approximately 50,000 vehicles per day (two way).<sup>8</sup>

I consider that there will be very significant environmental benefits that result from these project outcomes.

A number of submissions to the hearing queried whether the project could appropriately integrate with the existing network, particularly around the EastLink Tunnel and the Hoddle Street/Eastern Freeway interchange, or whether there would be unacceptable traffic impacts from the project.

I am satisfied that the project will appropriately integrate with the existing network, and that consequential traffic impacts will be able to be appropriately managed. Expert evidence provided to the IAC by the proponent demonstrated that forecast traffic volumes would be modest and would not result in extended traffic queues and the increase in demand would be accommodated through intelligent transport system upgrades and widening of the Eastern Freeway. Predicted increases to arterial roads would be managed through signal modifications rather than any major upgrading works.

I note that EPR T1 (optimise the design) and EPR T5 (monitor traffic on arterial and non-arterial roads) are designed to enhance the traffic movements at interchanges and intersections through detailed design, and to require monitoring of the surrounding network to address any capacity issues that are attributable to the project. The IAC believed these mechanisms to be appropriate and I support the IAC’s findings.

### *Reference design*

Under the heading of ‘reference design’ the IAC dealt with two issues; first in relation to the design footprint of the reference design, and second in relation to alternative design options.

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<sup>8</sup> EES Chapter 9 Traffic and Transport.



In creating the reference design, and therefore the design footprint, the proponent had regard to certain road design parameters. These include:

- network connectivity;
- completing the high productivity freight vehicle network;
- relevant motorway design standards;
- meeting level of service D (LOS D) for density and delay; and
- urban design objectives.

The use of LOS as a design parameter was the subject of considerable attention in the hearing. Level of service is a standardised qualitative measure used to categorise traffic flow based on performance measures such as vehicle speed, density and congestion—effectively how ‘full’ the road is. In simple terms, LOS D equates to a level of congestion that would result in some driver frustration, and moderate delay at the peak period. LOS D was adopted by the proponent as the appropriate standard with respect to the reference design. This approach was challenged by some submissions, and by some of the expert witnesses at the IAC hearing.

Mr O’Brien, on behalf of Banyule, Boroondara and Whitehorse (BBW) councils, indicated that he believed that it was unrealistic to achieve LOS D in all instances. Ms Marshall on behalf of Manningham City Council (MCC) said that *the functionality of [Manningham Road Interchange] should be given priority over a theoretical level of service that would most likely decrease over time as traffic volumes and congestion continue to increase.*<sup>9</sup>

The BBW councils’ submission was to the effect that it would be inappropriate to adopt LOS D as an immutable design standard, and that it would be possible to arrive at improved designs if it was not viewed that way.

I am satisfied that LOS D was an appropriate design parameter, and that the reference design can be assessed as having acceptable outcomes. However, I also agree that, in the process of detailed design, it may be possible to modify the reference design to achieve improved outcomes by allowing for a reduced footprint. This may, where appropriate, result in sections of the project achieving a different level of service.

The use of collector-distributor lanes along the Eastern Freeway in the reference design also drew attention in submissions, with competing views expressed about whether or to what degree they enhanced safety, and, hence, were necessary or desirable (noting the amount of width that their use added to the design by way of barriers and the like). However, I accept the position of the proponent that collector-distributor lanes are an appropriate element of the reference design and that they deliver positive traffic benefits, including by enhancing road safety.

Various alternative design options were presented both in the EES and in the IAC hearing, by the proponent, in individual submissions and/or by expert witnesses called on behalf of councils and others. The alternative design options included (but were not limited to) the following:

- Watsonia Station
  - The proponent proposed an alternative design at Watsonia Station involving either two-way vehicle access or a four-lane roadway on the land bridge. This would involve the extension of the trench further north compared to the reference design.<sup>10</sup> This design would improve access between Elder Street and the Watsonia Neighbourhood Activity Centre, improve ground level

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<sup>9</sup> Tabled document 29b.

<sup>10</sup> Tabled document 100.

pedestrian and cycling access to both sides of Greensborough Road and the station carpark and provide more efficient network connectivity with Greensborough Road.

- Bulleen and Doncaster Park and Rides facilities
  - Ms Marshall (for MCC) presented alternative designs for both park and ride facilities. Based on the alternative design option provided by the proponent for the Bulleen Park and Ride facility, the transport conclave agreed that both facilities needed to be reviewed to improve functionality and access.
- Bulleen Switch
  - The proponent presented an alternative design to Bulleen Road involving the relocation of Bulleen Road to a new alignment west of the present alignment, with the southern portal constructed largely on the existing Bulleen Road alignment, which would avoid the need for Bulleen Road to bridge over North East Link.<sup>11</sup> Further refinement was proposed by expert witnesses on behalf of councils, schools and a landowner along the alignment, to improve access to the Bulleen Park and Ride, the schools and Manningham Club and to provide right hand turns for vehicles at Thompsons Road.
- Lower Plenty Road Interchange
  - The proponent presented an alternative design involving the relocation of the intersection at Strathallan Road approximately 100m further south and the ramps connecting Lower Plenty Road relocated onto Greensborough Road. The proponent said that this design had the added benefits of greater design flexibility around reinstatement of Banyule Creek and the potential to reinstate more open space at Borlase Reserve.<sup>12</sup>
- Manningham Road Interchange
  - The proponent presented an alternative design involving the direct access for vehicles travelling north on North East Link to access Manningham Road.
  - An alternative design put by Ms Marshall (for MCC) removed the need for westbound traffic to perform a U turn on Banksia Street in order to head south and provided for direct access to Bridge Street.<sup>13</sup> The alternative design also included the option to move the North East Link exit to Bulleen Road north to retain Avon Street access to Bulleen Road.
- Eastern Freeway
  - Although not presenting an alternative design, Ms Marshall commented that the inclusion of additional barriers and the associated increase in the freeway cross-section should be weighed against its adverse impacts on the loss of parkland. She said the proposed widening appeared excessive and could be reduced by 20-30m if the lanes were not physically separated (other than the central divider).
- Alternative designs
  - Mr O’Brien (for BBW councils) presented an alternative design to the reference design that included on-ramp metering to manage weaving on the freeway; a simplified M80 Interchange that reduced the number of structures; a diverging diamond interchange at Grimshaw Street; an additional connection to Alexandra Parade at the city end of the Eastern Freeway; relocation of the dedicated busway to the centre median of the Eastern Freeway from Hoddle Street to Bulleen Road, crossing to the north side of the freeway east of Bulleen Road; and removal of the braided ramps between Tram Road and Middleborough Road. Generally speaking, the ‘footprint’ required for Mr O’Brien’s alternative design was less than that of the reference design.

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<sup>11</sup> Tabled document 102.

<sup>12</sup> Tabled documents 101, 117a, 117b.

<sup>13</sup> Tabled document 245.

- Mr Buono, a submitter, proposed the ‘SMART taxpayer design’ that was said to: simplify and reduce the size and cost of the proposed M80 Interchange; extend the TBM tunnels 3.2km further north, to just south of Grimshaw Street; redirect Greensborough Road over the rail alignment; allow for a boulevard-style treatment for Greensborough Road to improve amenity; and allow for the later construction of the Lower Plenty Road Interchange. Mr Buono said the SMART design required a smaller footprint than the reference design.

There were many nuances in the design options presented above (and others) that sought changes to address access issues (either during construction and/or operation, including to the Bulleen Industrial Precinct (BIP) and Bullen Road), further intersection configurations, and changes to signalised intersections. Of note, is that there was no consensus between the transport experts on their preference between reference and alternative designs.<sup>14</sup>

The IAC concluded that the alternative designs provided by the proponent all had superior elements to the reference design.

In addition, the IAC noted that the improvements in functionality and reduced footprint apparent in Mr O’Brien and Ms Marshall’s designs had merit and were worthy of further consideration in the final design. The IAC, in its Recommendation 6, suggested that alternatives from Ms Marshall, Mr Buono and Mr O’Brien be provided to the tenderers for consideration.

Notwithstanding submitters’ concerns, I support the IAC’s findings that the traffic functionality design principles used for the reference design are appropriate. I consider that the reference design would result in an acceptable outcome for traffic performance and functionality and would be acceptable having regard to its environmental impacts. However, I also consider that it would be appropriate for the detailed design of the project (the next design phase) to explore whether the same level of service can be achieved within a smaller footprint, or whether a different level of service might be acceptable for certain parts of the project.

Consequently, I accept IAC Recommendation 6, that the alternative designs be provided to tenderers for their consideration.

I also accept the IAC’s conclusion that the traffic performance and functionality of the project needs to be balanced against the environmental effects of the built form. A detailed design that balances these occasionally competing objectives is the appropriate outcome. This is discussed elsewhere in my assessment.

Other aspects of the reference design are discussed below.

#### *Extent of tunnelling by TBM*

Various written submissions proposed extended tunnel options in response to the EES; and some were the subject of submissions and evidence at the IAC hearing. Submissions tended to put forward concepts rather than detailed designs and generally involved longer tunnel alignments starting or finishing at the M80 Ring Road or Eastern Freeway.

The EES referred to the range of options that were considered in the development of the reference design, including an extension of the tunnel both south and north. The northern option included an extension of the tunnel to the north of Grimshaw Street (Option A), or a trench from Watsonia Station carpark to

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<sup>14</sup> Tabled document 217.

Blamey Road (Option B, the reference design). The assessment presented in the EES showed that Option A would minimise and, in some cases, entirely avoid, impact to Grimshaw Street, AK Lines Reserve, the Watsonia Primary School, Watsonia Railway Station and Simpson Barracks.

However, adverse impacts of an extended tunnel to the north in Option A were also identified, including as follows.<sup>15</sup>

- To avoid impacting the Hurstbridge Rail Line, the tunnel would need to be well below the rail corridor near the intersection with Greensborough Road. This would mean that the tunnel would be too deep to provide entry and exit ramps to Grimshaw Street that have appropriate and safe gradients for vehicles.
- Despite avoiding impacts at Simpson Barracks, this option would still require acquisition of residential properties on the east side of Sellars Street.
- Due to the challenging topography the gradient of the ramps from the tunnel would be too steep for vehicles to exit the tunnel at the Grimshaw Street and Lower Plenty Road Interchanges (ramp gradients of around eight per cent). This is because the ground is considerably higher at the northern end of the project and steadily falls towards the south. Under this tunnelled option, the Lower Plenty Road Interchange could not be constructed, and ramps could only be provided to the north at the Grimshaw Street Interchange. This would provide connections north to the M80 Ring Road and the Greensborough Bypass but not to the south. This would remove access onto the project from Lower Plenty Road and significantly limit access from Grimshaw Street.

Because of the limitations noted above, including the inability to construct the Lower Plenty Road Interchange, Option B was chosen as the reference design.

The IAC was presented with two detailed extended tunnel options. The first was the SMART taxpayer design as previously described. The second alternative was developed by Mr Babendererde of BabEng Engineering Consultants on behalf of Banyule City Council, that extended the TBM tunnels approximately 2.5 km north with a trench approximately 600 m extending to a location just north of Grimshaw Street and maintained all interchanges with a deeper cut and cover structure at Lower Plenty Road Interchange.

Because the BabEng option retained Lower Plenty Road Interchange, subject to the need for further analysis and potential modifications, it would result in a similar footprint of impact as the reference design. The BabEng option considered the issues around the Hurstbridge Rail Line and connecting in with Grimshaw Road and concluded that an engineering solution to avoid the rail line and still provide all ramps was possible. However, Mr Babendererde also said that additional geotechnical investigations would be required and that the project would take longer to construct, in the order of 1.5 years. Mr Babendererde was not able to say what the total cost implications of his alternative option would be, as he did not have access to construction rates, but instead compared changes in construction volumes as an indicator of cost savings. The Banyule Council utilised this information to estimate costs implications to be an overall increase in the order of \$350 million excluding additional works at Grimshaw Street, structural support to the rail line, savings due to reduced trenching works and land acquisition.<sup>16</sup>

In submission to the IAC, the proponent did not support the SMART taxpayer design, on the basis that it would not preserve the functionality of the project.<sup>17</sup> I agree with the proponent that the consequential diminution of the network performance that would result from this aspect of the alternative design (i.e.,

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<sup>15</sup> EES Chapter 6 Project Development.

<sup>16</sup> Tabled document 98b.

<sup>17</sup> Tabled document 99.

the removal of the Lower Plenty Road Interchange) would be inconsistent with the key design principles of the project.

In reference to the BabEng design, the proponent submitted that this design was feasible, could be provided within the existing project boundary and could maintain the same degree of connectivity between the project and the arterial network as shown in the reference design.<sup>18</sup> However, the proponent also noted that it may require further acquisition of residential properties adjacent to the alignment on the northern side of Grimshaw Street, although this was likely to be offset by lesser land acquisition south of the Hurstbridge Rail Line.

The proponent also identified that the BabEng option would cost an additional \$1.49 billion more than the reference design and would increase construction duration by approximately 18 months to 2 years. The proponent also noted that the additional land acquisition required to accommodate the change to the northern portal and the diversion of Greensborough Road would impact both the Watsonia Primary School and the Concord School Watsonia Campus for an extended period of time.

The IAC recognised that there would be a significant cost to extending the tunnels, and that the proponent had identified significant cost, land take, construction and access issues with the BabEng proposal. The evaluation of the adverse impacts of delivering the road trench solution against the additional cost, time and complexity of delivering longer tunnels were referred to as relevant factors by the IAC.

Ultimately, the IAC recommended that an extended tunnel be ‘pursued’ (IAC Recommendation 4) northwards to the vicinity of Grimshaw Street, including a review of the Lower Plenty Road Interchange to reduce the social, noise, air quality, business, landscape and visual and ecological impacts.

Although the extension of the tunnel may respond to some broader objectives and address some of the IAC’s concerns with the impacts of the reference design, I do not agree with the IAC recommendation to pursue a longer tunnel.

As will be explored below, I do not accept that the adoption of an extended tunnel, or the removal of the Lower Plenty Road Interchange, is necessary to ensure that the environmental impacts of the project are acceptable. I consider that impacts of the project on the Greensborough Road corridor, the Watsonia Neighbourhood Activity Centre and Simpson Barracks to be acceptable without an extended tunnel, for the reasons I explain in Chapter 3 and sections 6.4 and 6.6. Hence, an extended tunnel is not required.

I also consider that amenity impacts on Borlase Reserve can be acceptably managed, as I set out in sections 6.3 and 6.7 respectively.

As I have stated above, I consider that it is necessary to retain the Lower Plenty Road Interchange, because of its significant traffic and transport benefits. The impacts on Simpson Barracks and Borlase Reserve that result from the existence of this interchange are, on balance, acceptable and do not cause me to say the interchange should be deleted.

The necessity to retain the Lower Plenty Road Interchange then has interrelated impacts upon the rationale and benefits that would flow from a longer tunnel and limits them somewhat. I have made an overall assessment about all of these matters in arriving at my views.

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<sup>18</sup> Tabled document 98.

I am also not satisfied that the overall environmental impacts of the longer tunnel would necessarily be less significant than the reference design. Rather, the impacts would be different, and I am not satisfied that an overall superior outcome would be achieved. I note that the IAC concluded that that *while an extended tunnel is clearly feasible, [it] would carry a significant cost, extended construction period and potential additional land acquisition*. I note the increased cost to deliver an extended tunnel was estimated by the proponent at approximately \$1.5 billion, with an increase in construction time of between 18 months and 2 years.

I am not satisfied that these (and other) potential adverse impacts would be outweighed by the benefits of a longer tunnel.

Nonetheless, I support providing the alternatives for a longer tunnel to tenderers for their consideration during detailed design recognising that innovation in final design and a greater understanding of geological and hydrogeological conditions through this process may well be able to incorporate some (or even many) aspects of these proposals while maintaining an acceptable overall environmental outcome.

#### *Active transport infrastructure*

The project includes provision for new and upgraded shared use paths including the eastern bike corridor, two new Yarra River crossings and completion of other missing walking and cycling connections. The proponent’s expert witness for traffic and transport Mr Kiriakidis reviewed all submissions regarding active transport and suggested, in his presentation to the IAC, a further five projects:

- on road bicycle lanes between Civic Drive, Greensborough and existing lanes on Heidelberg-Kinglake Road in Diamond Creek;
- underpass or shared use path in the shoulder trench at Drysdale Street, Yallambie;
- walking and cycling bridge across the Yarra River connecting Yarra Street and Banksia Park;
- provision of shared use paths on Templestowe Road; and
- walking and cycling access to Bulleen Park and Ride facility from all directions.

An additional five active transport projects were identified by Mr Kiriakidis as needing minor improvements such as wayfinding or improved lighting.

After considering the detailed submissions in relation to many potential active transport additions to the project, the IAC concluded that the project’s active travel linkages are reasonable, but also deferred to Mr Kiriakidis’ analysis of complementary projects, which was based on them being directly affected by the project, within or proximate to the project boundary and managing adverse effects of the project.

It is my assessment that the complementary active transport options proposed by the proponent within the EES are satisfactory. However, I support the IAC’s recommendation that the additional projects suggested by submitters be assessed as part of the detailed design of the project, subject to the criteria noted above (IAC Recommendation 8).

#### *Rosanna Road*

Multiple submitters raised concerns about truck traffic on Rosanna Road. Rosanna Road is currently subject to a truck ban from 10pm to 6am for trucks in excess of 16.5 tonnes and this is not proposed to change with the project.

The project is anticipated to deliver a significant redistribution of trucks away from arterial roads, including Rosanna Road, and I agree with the IAC that there will be improved amenity and safety on Rosanna Road once the project is operational. However, Rosanna Road remains a key arterial route for over-dimensional trucks and placarded vehicles, and any further restriction on its use was not supported by the Department of Transport.

I support the IAC’s recommendation that upon completion of the project, further investigations should be undertaken by VicRoads and the Department of Transport to assess the level of non-local truck traffic on Rosanna Road and to ascertain the need for additional management measures. These measures may include the possibility of extending the existing truck curfew (including to other arterial roads) and/or the need to upgrade the road given its limitations with respect to road safety (IAC Recommendations 9b and 10).

#### *Access to Greensborough Road*

The key challenge with respect to the M80 to Watsonia section of the project is the need to fit a freeway standard road in a relatively narrow alignment in a built-up urban environment. One of the consequences of the alignment, is the reference design’s truncation of several local roads preventing direct access to Greensborough Road.

There were submissions from residents that closure of Nell Street and others such as Thompson and Temby Streets at their intersection with Greensborough Road would create unacceptable changes to traffic volumes and patterns in local streets. Further analysis, based on microsimulation traffic modelling, presented at the hearing for the proponent indicated that approximately 66% of west-travelling traffic currently uses Nell Road to avoid the Grimshaw Street Interchange.<sup>19</sup> A portion of this traffic was predicted to be rerouted with the implementation of the project, with consequent improved reliability and travel times through Grimshaw Street, with local traffic likely to divert to higher capacity collector roads such as Elder and Doris Streets as opposed to the more constrained Santon and Teresa Streets.

I am satisfied that the impacts of the redistribution of traffic have been appropriately assessed through the use of the transport and traffic model and can be appropriately managed through the EPRs. I accept, however, that there is a level of uncertainty associated with any predictive traffic modelling, particularly when attempting to predict driver behaviour and their propensity to change route and adjust travel patterns.

I therefore support the IAC’s findings, subject to a review of traffic movement on completion of the project, that a local area traffic management strategy may be required, including the provision of real-time traffic information to provide meaningful information to driver decision-making. I also support the expert witness recommendations that in some specific circumstances, the directly affected community should be provided with the opportunity to participate in deciding the appropriate treatment of the local access roads.<sup>20</sup>

The IAC has indicated a preference for Nell Street to remain open noting that access has remained in the alternative designs presented in both the SMART taxpayer and O’Brien designs.<sup>21</sup> As discussed earlier, there will be additional investigations undertaken as part of the detailed design of the project, and I encourage the proponent to explore all options to identify any potential alternative that may provide an improved outcome.

#### *Public transport services and functionality*

Several submissions raised issues relating to public transport, including suggestions that public transport projects were more desirable than road projects, and that more or better public transport should be delivered as part of the project. Having considered these submissions, the IAC concluded that while improvements, upgrades and additional public transport services are worthwhile and warranted, they are not required to form part of this project.

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<sup>19</sup> Tabled document 24n.

<sup>20</sup> Tabled document 135.

<sup>21</sup> SMART Design (Tabled document 197) and O’Brien Design (Tabled documents 28a and 245).

The IAC found that bus public transport users should experience improved conditions once the project is operational due to the provision of the dedicated busway on the Eastern Freeway and did not find any adverse public transport impacts from the project. The IAC concluded that the Doncaster Rail option is not excluded by the project, and that a public transport led solution would not negate the need for the project.

I accept the IAC’s findings on these issues.

### *Complementary road projects*

Various submitters made presentations to the IAC that several further upgrades to the network were required or desirable to ensure the satisfactory operation of the road network post completion of the project:

- Templestowe Road
  - Ratio Consultants considered that the Templestowe Road duplication should be included as part of the project, noting it had been assumed in the project modelling.
- Greensborough Bypass/Diamond Creek Road
  - The proponent’s traffic expert Mr Kiriakidis confirmed that intersection upgrades at Greensborough Bypass/Diamond Creek Road and Civic Drive were required due to the uplift in traffic volumes once the project was completed.<sup>22</sup> It was confirmed that this issue had been identified in the business case and the reference case assumed that it would be duplicated prior to 2031.<sup>23</sup> Mr Kiriakidis also acknowledged in his evidence to the hearing that these upgrades needed to be delivered in parallel with the project.
- Kingsbury Drive
  - LaTrobe University suggested the need, or desirability, to upgrade Kingsbury Drive as part of the project.

There is no doubt that there will be changes to the local road network during and following the completion of the project. I am satisfied that EPR T5, which requires traffic monitoring up to two years after the completion of the project, will be able to identify the need for complementary projects or upgrades and the timing of such works. I consider that the works identified above are not required to be delivered as part of this project. Nonetheless, I expect that Templestowe Road duplication and Greensborough Bypass/Diamond Creek Road will be delivered irrespective of the project as has been assumed. I encourage the proponent, together with the Department of Transport, to undertake further analysis regarding the extent and timing of such complementary projects.

### *Construction traffic impacts*

As is the case with any large infrastructure undertaking, the project will undoubtedly have a significant impact on the nearby local communities and road network during construction. These impacts range from construction traffic on local roads, disruptions and diversions to local traffic, restricted access to facilities and loss of car parking.

I am, however, satisfied that the construction impacts associated with traffic have been appropriately assessed, acknowledging that a detailed construction schedule and final design may generate a different delivery program to that currently proposed.

EPR T2 has been formulated to effectively manage construction and haulage routes ensuring that they will minimise impact and maintain traffic flow on the local road network. It is understood that this will need to

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<sup>22</sup> Tabled document 24n.

<sup>23</sup> Tabled document 434.



take into consideration all road network users including pedestrians, cyclists and public transport users as well as co-ordination with any other relevant major project.

I support the observations from the proponent’s expert Mr Kiriakidis that a holistic approach should be undertaken to determine the preferred routes for construction traffic, including haulage routes. It is my view that implicit in this holistic approach is the need to limit the impact on the local community, as a priority, even if it requires consideration of longer haulage routes to avoid or limit the impact on local roads and construction parking remote from already-congested areas (IAC Recommendation 9a).

The impact of construction compounds on public open space and opportunities to reduce the size of construction compounds for the project is discussed later (see Section 6.3) as is the construction impact on access to local business and services (see Section 6.4).

Overall, I am satisfied that while there will be construction traffic impacts, that these are manageable and that the EPRs as modified by the IAC are appropriate and will reduce impacts to an acceptable level.

### Assessment

- The strategic model outputs are satisfactory for the development of the project design.
- Overall, the diversion of traffic onto the project is anticipated to have a positive impact on the road network resulting in a significant redistribution of medium and longer cross-city trips away from local and arterial roads when compared with the no project scenario.
- The traffic functionality principles for the reference design are appropriate.
- I do not support the IAC’s recommendation to pursue a longer tunnel (IAC Recommendation 4).
- I consider that the Lower Plenty Road Interchange should be retained.
- Alternatives presented by the proponent appeared to have at least some superior elements to that of the reference design, as did the design alternatives of Ms Marshall, Mr Buono and Mr O’Brien. I support the IAC’s Recommendation 6 that the proponent provides these alternatives to tenderers for consideration.
- The complementary active transport items proposed by the proponent within the EES are satisfactory. I also support the IAC’s Recommendation 8 that the additional projects identified by submitters be assessed as part of the detailed design of the project but subject to the criteria developed that they be of a direct consequence and/or have a direct relationship to the project.
- I support the IAC’s Recommendations 9b and 10 regarding Rosanna Road requiring further investigations to assess the level of non-local truck traffic on Rosanna Road and to ascertain the need for additional management measures.
- While the project should not be delivered in isolation from other planned upgrades to the transport network, this assessment does not endorse network upgrades not addressed in the EES.
- I support the need for a broader holistic approach to construction traffic, particularly in relation to minimising impacts on public open space and the local road network, even if it requires consideration of longer haulage routes and construction parking remote from already congested areas.
- The project can be constructed and operated with acceptable traffic impacts subject to the implementation of the findings and recommendations of this assessment.

## 6.2 Urban design, visual impacts and landscape

Urban design is addressed in Chapter 7 and the draft *North East Link Urban Design Strategy* is included in Attachment II of the EES. Landscape and visual impacts are addressed in Chapter 16, Technical Report G (Arboriculture) and Technical Report H (Landscape and visual) of the EES. Technical Report H was supplemented by additional photomontages prepared by the proponent at the IAC’s request. Chapter 7 of

the IAC report addresses urban design, visual impacts and landscape. Four EPRs deal with urban design, visual impacts and landscape, all of which were the subject of recommendations by the IAC.

### **Evaluation objective**

*To minimise adverse effects on landscape values, visual amenity, recreational and open space values and to maximise the enhancement of these values where opportunities exist.*

### **Assessment context**

The project alignment traverses land in suburban Melbourne that includes established residential, commercial and industrial areas, the Yarra River and associated parklands, valued open space with high amenity and landscaping, sport and recreation facilities, schools, community facilities, and other valued cultural and natural places. The draft UDS and Technical Report H identified three main design character areas along the project alignment being the Ridgeline area (Lower Plenty Road Interchange to the M80), Yarra River Valley area (Manningham Road Interchange to Hoddle Street) and Koonung Creek Valley area (Eastern Freeway from Bulleen Road to Springvale Road).

The M80 Interchange and the Eastern Freeway Interchange will create elevated road infrastructure that will directly impact nearby residential properties and open space and, in Bulleen, schools and associated sport and recreation facilities. Manningham Road Interchange will directly impact the BIP and is adjacent to Heide Museum of Modern Art as well as the Yarra River and associated parklands. Lower Plenty Road Interchange will directly impact nearby residential properties and open space including Borlase Reserve. The ventilation structures within Simpson Barracks and near Bulleen Park will impact on visual amenity, landscape values and open space. Other project infrastructure such as noise walls and flood walls will also contribute to visual impacts along the project corridor.

The widening of Greensborough Road and the Eastern Freeway will reduce green space and buffers between roads and residential properties, and impact open space and watercourses. The widening of Greensborough Road, in particular, will further increase the existing divide between local communities, most notably at the Watsonia Neighbourhood Activity Centre. The introduction of new elevated structures, including a multi-storey carpark at Watsonia Railway Station, has the potential to create visual impacts for local communities and businesses during construction and operation of the project.

The IAC identified the following key issues relevant to the assessment of landscape and visual impacts:

- the adequacy and utility of the visual impact assessment;
- the identification of types of visual impact and those locations likely to be most affected by the project, including the impact of proposed tree removal and capacity for local replacement canopy;
- the extent to which the reference design should demonstrate compatibility with the draft UDS (see also Section 3.1);
- whether the draft UDS provides a rigorous framework for the project that can be implemented through the draft incorporated document and the EMF;
- key locations that require urban design framework plans to inform the preparation of detailed plans;
- the process for the approval of UDLPs and the involvement of the UDAP; and
- capacity for urban design and public realm improvements.

### **Discussion**

#### *Landscape and visual impact assessment*

Technical Report H assessed the potential landscape and visual impacts of the project during construction and operation using a method that included an assessment of selected viewpoints within the public domain (69 viewpoints) and from residential properties (12 viewpoints) across the three design character areas. Each viewpoint is attributed a positive visual impact, no impact, or a negative visual impact. For public

domain viewpoints the assessment of visual impacts is based on four criteria: visibility; distance; landscape character and viewer sensitivity; and number of viewers.

I agree with the IAC that the landscape and visual impact assessment and photomontages suitably identified the types, distribution and potential scale of visual impacts that may result from the project. I also generally support the approach to identifying landscape character areas and sensitivity, referred to as design character areas in the draft UDS. I am satisfied that the EES provided sufficient information to assess the landscape and visual impacts of the project, notwithstanding some of the criticisms of its method.

In this regard, I note that the reference design included the identification of the project boundary, so that I can identify all the land that may be directly impacted by the project and land that might be subject to indirect impacts. I have a clear understanding of what currently exists on the ground throughout, and adjacent to, the project boundary.

I have derived, through my consideration of the EES and the material produced during the IAC hearing, a good understanding of the road infrastructure elements that will be associated with the project. In this regard, I note that there have been several major road infrastructure projects either planned or constructed in this state in recent years. Consequently, the kinds of physical structures that are associated with these infrastructure projects (such as noise walls, ventilation stacks, interchanges, road pavements etc.) are generally well understood, as is the degree to which structures of this kind may impact upon landscape in a visual sense. I therefore consider that the reference design allows me to make an assessment of the likely landscape and visual impacts of the project, including the significance of those impacts.

I note that the IAC had the benefit of expert evidence from a number of very experienced witnesses, including Mr Barlow, Mr Czarny and Mr Schutt. This and other evidence and submissions that were presented to the IAC has assisted me to gain a good understanding of the likely impacts and informed my ultimate conclusion that those impacts are acceptable.

The landscape and visual assessment concluded that the most sensitive viewpoints are located adjacent to proposed ventilation structures, noise walls and elevated road infrastructure, particularly when viewed from residential properties and open space.

The IAC identified the following key interfaces that are likely to be most impacted by project infrastructure:

- residential properties with close views to freeway infrastructure with minimal landscaping, particularly as a result of road widening and elevated road infrastructure at the Eastern Freeway Interchange, M80 Ring Road and M80 Interchange;
- noise walls shifted closer to residential properties with a reduction in linear open space, particularly at Estelle Street in Balwyn North, Gillingham Street in Watsonia North and Hamlet Street in Greensborough;
- taller noise walls shifted closer to residential properties and shared use paths, especially at Borlase Reserve, along Koonung Creek and south of the Eastern Freeway;
- elevated infrastructure, including overpasses, transmission towers, multi-storey carparks and noise walls, near residential properties and open space, particularly at Sellars Street in Watsonia, adjacent to the Watsonia powerline easement, and near the Watsonia Neighbourhood Activity Centre;
- views to ventilation structures and related equipment, particularly from residential properties on Greensborough Road in Yallambie and opposite Simpson Barracks;
- visual impacts on open space and schools, particularly in the Bulleen Park area and Koonung Creek Valley; and

- visual impacts during construction, namely as a result of construction compounds at Borlase Reserve and Koonung Creek and Yarra River valleys.

As observed by the IAC, there is a strong correlation between the extent of land required for the project alignment and potential landscape and visual impacts especially because of the constrained nature of the corridor. This results in the introduction of new project infrastructure (both temporary and permanent) closer to sensitive interfaces that, in turn, reduces buffers, such as open space and vegetation, currently providing some relief from existing infrastructure. There was considerable discussion during the IAC hearing about the capacity of the draft UDS and EPRs to effectively minimise these potential landscape and visual impacts in the absence of a detailed design.

I accept that the project will have significant landscape and visual impacts particularly at the key interfaces identified by the IAC.

The proponent submitted that the content of the draft UDS would *enable innovative and targeted design solutions to emerge* during the tender evaluation and detailed design processes. In contrast, the IAC contended that *it is vital for the objectives and detailed content of the UDS to inform and direct the preparation of a reference design, since the reference design is put forward as one way in which the project could feasibly be delivered*. I have considered these competing perspectives.

In this case, I am satisfied that the potential landscape and visual impacts can be minimised, provided a robust framework is established to guide detailed design. The draft UDS and EPRs exhibited with the EES provide a starting point for such a framework, but I consider that further changes are required as set out below.

#### *Urban Design Strategy and EPRs*

The draft UDS includes principles, objectives, key design directions, place-specific requirements and detailed requirements to guide development of the project during the tender evaluation and design process.

I consider the draft UDS establishes high quality ambitions and principles to enable an integrated design response for the project. However, I accept that the principles and objectives in the draft UDS are general and high level; further direction on how to balance competing urban design outcomes for the project is desirable.

The IAC recommended that a set of guiding principles be developed and included in the UDS (IAC Recommendation 19). I support in principle this recommendation. However, I am satisfied that appropriate guiding principles are already expressed in the draft UDS, but that the UDS can be improved by prioritising the principles, objectives and key design directions. The principles, objectives and key design directions in the draft UDS that require an integrated design response and those that seek to minimise the project footprint and reduce the physical and visual impacts of the project should be prioritised over others, such as those that seek to provide a great experience for road users.

The draft UDS would also benefit from:

- the inclusion of design directions to ensure the project achieves an acceptable urban design interface with schools along the project alignment and its surrounds having regard to the setting and operational requirements of each school (IAC Recommendation 22b). I do not, however, consider that it is necessary to mandate that this process occurs in consultation with those schools, although I would recommend that such consultation can and should occur where appropriate;
- the use of more definitive language (such as ‘avoid’ instead of ‘minimise’) to guide outcomes, particularly in relation to potential impacts on residential properties and open space; and

- the inclusion of design directions that seek to minimise visual impacts by prioritising the siting of infrastructure elements away from sensitive receptors or reducing their scale in preference to other alternative measures (such as material treatments).

I consider that the implementation of the IAC’s recommended changes to EPR LP1 (IAC Recommendation 18) will likely assist in achieving a narrowing of the ultimate road alignment to provide improved visual, landscape and urban design outcomes. This EPR applies to the entire project alignment, but it is particularly important that consideration is given to the key interfaces identified by the IAC, including along the Eastern Freeway where it is adjacent to residential properties and valued open space, and the proposed locations for construction compounds (see also Section 6.3 for further discussion about construction compounds).

I also agree in principle with the IAC that the extent of the SCO should be revised once final plans are approved so that it only applies to land that may be reasonably required for the project.

I have concluded that my recommended changes to the draft UDS, the requirement for a construction compound plan (see Section 6.3), along with a proper application of EPR LP1, will ensure that impacts on open space including Borlase Reserve and along the Koonung Creek, residential properties including those adjacent to the Eastern Freeway (where landscaping is being lost and project infrastructure such as noise walls are moving closer), schools and businesses can be reduced when compared to the reference design. Any such reduction would be desirable and have significant benefits, even though it is not essential to achieve an acceptable overall outcome.

A reduced footprint would also have the benefit of the potential for retaining increased sections of the Koonung Creek and the Banyule Creek at surface level and retaining more of the visual and landscape amenity these watercourses provide (in addition to improved ecological outcomes).

In addition to EPR LP1, I am satisfied that implementation of a suite of complementary EPRs will assist to minimise the potential landscape and visual impacts of the project, as follows:

- EPR AR3, generally in accordance with the IAC’s recommended changes, will ensure the replacement of canopy (native vegetation and amenity plantings) removed as a result of the project (see Section 6.6);
- EPR LP2 will ensure new services and utility infrastructure are located in a manner that minimises impacts to existing land uses;
- EPR LP4, with the IAC’s recommended changes and to the extent supported by my assessment, will minimise impacts of overshadowing from noise walls and elevated structures and overlooking from elevated structures;
- EPR LV2, with the IAC’s recommended changes, will minimise landscape and visual impacts during construction through design and siting;
- EPR LV3, with the IAC’s recommended changes, will minimise light spillage and glare during construction; and
- EPR LV4, with the IAC’s recommended changes, will minimise lighting impacts during operation, provide sensitive lighting to shared use paths and open space, and contribute to public safety.

In my assessment, the cumulative effect of these (and other) EPRs will be that landscape and visual impacts of the project will be acceptable.

#### *Urban design framework plans*

The IAC identified five key locations along the project corridor that it considered *would benefit from an Urban Design Framework, or adequate alternative, addressing land use and design constraints and opportunities more holistically before more detailed plans could be approved*. These five locations are:

- M80 Interchange;

- Watsonia Neighbourhood Activity Centre;
- Lower Plenty Road Interchange;
- Manningham Road Interchange; and
- Eastern Freeway Interchange.

Each of the five locations has its own contextual setting and the project interacts with each of the locations in a different manner.

#### M80 Interchange

The project proposes elevated road infrastructure and noise walls close to residential properties that will impact on visual amenity. There is a need to minimise the project footprint in this area, thoughtfully design and locate elevated infrastructure, and further consider how to integrate the project with its residential surrounds to minimise impacts on nearby residents.

#### Watsonia Neighbourhood Activity Centre

Watsonia Neighbourhood Activity Centre has several existing locational constraints as discussed elsewhere in this assessment (see Section 6.4). The project will impact on access and connectivity to the Watsonia Neighbourhood Activity Centre particularly during construction but will also make permanent changes to the landscape and visual experience of the centre during operation, and permanent changes to access and connectivity.

I consider that the potential landscape and visual impacts of permanent project infrastructure in this area can be acceptably managed. The permanent project infrastructure, including the multi-storey car park and road trench to the east of the railway line, will result in a changed landscape; I identify and recognise the impacts of these elements, and of the linear road project traversing this location. However, I do not consider that the landscape or visual impacts of the project in this location are unacceptable.

I consider prioritising access to and from the Watsonia Neighbourhood Activity Centre during the design process is of particular importance. The proponent proposed an alternative land bridge design for Watsonia during public exhibition of the EES that provided connectivity to Elder Street. I recommend that this option be considered during preparation of an urban design framework plan.

Further opportunities for improved urban design outcomes are identified in the *Watsonia Neighbourhood Centre Concept Plan, Final Report, 7 May 2019* (Watsonia Concept Plan, tabled document 364) prepared for Banyule City Council and the proponent. The Watsonia Concept Plan builds on current concepts in the UDS and strategic planning work undertaken to date by Banyule City Council. I recommend that the Watsonia Concept Plan should also be considered during preparation of an urban design framework plan.

I note that the IAC recommended a longer tunnel option be pursued, in part to reduce impacts on the Watsonia Neighbourhood Activity Centre. I have also discussed this option elsewhere in my assessment (see Chapter 3 and sections 6.1 and 6.4).

I have identified the landscape and visual impacts of the project in this location and understand their level of significance. I am satisfied these impacts are acceptable, but I also accept that it is possible that they can be further mitigated by a combination of changes to the draft UDS and relevant EPRs as recommended in my assessment. Preparation of urban design framework plans will also provide an opportunity to improve the existing functionality of the Watsonia Neighbourhood Activity Centre.

Accordingly, it is my assessment that the longer tunnel option is not necessary in order to achieve acceptable landscape and visual impacts on the Watsonia Neighbourhood Activity Centre.

### Lower Plenty Road Interchange

A number of project infrastructure elements are proposed in this location. These include elevated structures, a ventilation structure and construction-related infrastructure associated with a TBM launch site at Borlase Reserve, resulting in visual impacts on residential properties (as well as amenity impacts). A considered urban design response is required in this location, with the objective of reducing the project footprint as far as practicable and minimising impacts on surrounding residents.

### Manningham Road Interchange

The project will have a significant impact on this location, including the loss of most of the BIP. That impact, while significant, will not be unacceptable. However, the detailed design process has the potential to reduce the project footprint to lessen business impacts, avoid the River Red Gum, maximise residual land available for development after project construction is completed and ensure future access arrangements are appropriately considered. Opportunities for an enhanced precinct around Heide Museum of Modern Art and the retention of Bulleen Art and Garden should also be considered.

### Eastern Freeway Interchange

The project proposes elevated road structures, a ventilation structure, noise walls and a road alignment that will significantly impact on the visual and landscape amenity of open spaces, schools and residential properties in this area. A park and ride facility is also proposed in this location.

I consider the urban design issues described for the five locations above require a nuanced response. Setting up a considered framework to manage them is important to maintaining visual amenity, landscape amenity and the functioning of these five locations. I accept these issues warrant further consideration in detailed design to improve integration of the project with surrounding areas to minimise potential impacts.

I also consider the design approach to the five locations could be improved from that proposed in the reference design. I agree with the IAC that urban design framework plans are an appropriate way to assist with achieving an improved outcome. These plans will provide further direction to guide detailed design and ensure that landscape and visual impacts on these sensitive areas are minimised.

The design response for each of these five locations should, amongst other things, ensure that the project footprint has been reduced as far as practicable to (among other things) minimise visual impacts and the need for land acquisition. However, if detailed design cannot reduce the project footprint it is my assessment that, while the impacts would be significant, in the context of the overall benefits of the project they would be acceptable.

The IAC regarded urban design framework plans as comfortably within the domain of the UDS, but considered the plans would need to be approved separately from the UDS by conditions within the incorporated document. The IAC recommended that the proponent prepare urban design framework plans after the approval of a revised UDS and prior to the preparation of the UDLPs.

I support in principle the IAC’s recommendation that the proponent prepare urban design framework plans for my approval prior to the preparation of the final detailed designs in the UDLPs. However, I disagree with the IAC that an additional step in the approval process is required for the urban design framework plans. Rather, I consider the urban design framework plans should be included as part of the UDS. This will strengthen the capacity of the UDS to minimise landscape and visual impacts and influence the urban design outcomes of the project.

The IAC made recommendations about what the urban design framework plans must broadly include in its draft version of the incorporated document. I support its recommendations regarding the content of these plans. I expect the urban design framework plans within the UDS will be provided as a combination of

written principles, and diagrams or drawings, reinforcing the aims and objectives of the UDS in each specific context. The urban design framework plans should spatially test the place-specific requirements in the draft UDS and demonstrate holistic consideration of the project’s interfaces with its surrounds.

The IAC recommended (in its version of the draft incorporated document) the proponent consult with various parties, including councils, certain government authorities, and the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation, and give public notice of the urban design framework plans.

I agree that the preparation of the urban design framework plans is likely to benefit from consultation with councils, certain government authorities, and the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation. The IAC recommended changes to EPR LP3 to require consultation with councils and land managers responsible for the implementation of strategic land use plans in preparing the urban design framework plans. I support these changes to EPR LP3. However, I do not think that it is necessary to mandate this in an incorporated document or to provide specific direction as to how that consultation should occur. Rather, I consider the extent and nature of consultation will be a matter for consideration when approving these plans, and that such matters can and should be taken into account when a decision is made as to whether or not the plans are acceptable. Given the UDS, including the urban design framework plans, is to be approved by the Minister for Planning, following advice from the UDAP, I am satisfied that this will occur.

Many submitters sought further information on the design of the project. While the urban design framework plans will include more location-specific guidance than the draft UDS, these plans will still comprise concepts rather than final designs for the project. Design detail will be available in the UDLPs. On this basis, I consider public consultation on the urban design framework plans is not warranted particularly as the UDS (including the urban design framework plans), which is subject to my approval, will include a sound basis for an integrated design response in the UDLPs. Instead, public consultation on the UDLPs will provide a more meaningful opportunity for the community to comment on the design of the project.

In relation to the UDLPs, I support the consultation process as set out in the IAC’s recommended version of the draft incorporated document, including the requirement that councils and certain government authorities be provided with a copy of an UDLP for consultation prior to submitting it for my approval. The IAC also recommended that consultation be expanded by requiring the UDLPs be available for public comment for 21 calendar days (rather than 15 business days) and that direct notice be given to owners and occupiers adjacent to the area/s to which an UDLP applies. I support in principle these expanded notification requirements.

#### *Urban design advisory panel*

The draft UDS was informed by expert advice and guidance from an UDAP as well as valuable input from the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation, councils and public authorities. The UDAP is chaired by the proponent and comprises representatives from the proponent, Transport for Victoria, VicRoads and the Office of the Victorian Government Architect. The proponent intends to retain the role of the UDAP during future phases of the project including the tender evaluation process and in advising on whether the UDLPs comply with an approved UDS.

Past infrastructure projects have demonstrated the benefit of an UDAP in providing expert design advice during different phases of project development and I see no reason to depart from this approach. I consider that the ongoing role of the UDAP is important in ensuring the project delivers on the principles and objectives set out in an approved UDS. The UDAP will assist greatly with formulating a detailed design that appropriately reconciles the ambitions of the UDS with any competing road infrastructure requirements or other relevant objectives.



The calibre of the UDAP members is also important to the review and assessment of the urban design outcomes of the project. While I am confident that the current members have the necessary skills and expertise, I consider that the UDAP would benefit from additional landscape and urban design expertise during the tender evaluation process and at key stages of the development of the UDLPs. To this end, I recommend that the UDAP is expanded to include two new independent design experts with recognised design review skills, demonstrated expertise in urban design and experience in design delivery or design review of similar ‘city shaping’ infrastructure projects.

Along with the IAC, I acknowledge the effective relationship that developed between the proponent and the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation during the preparation of the draft UDS and I expect that the proponent will continue this engagement during project design and delivery. Consistent with the IAC, I recommend the proponent invite the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation to nominate a representative for membership of the UDAP to ensure the cultural heritage values intrinsic to the project alignment are reflected in the final design. I also agree with the IAC that the revised UDS should include a response to the Cultural Values Assessment Report prepared by the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation as well as the relevant principles of the *Yarra River Protection (Willip-gin Birrarung Murron) Act 2017* and the Yarra Strategic Plan (when released). (IAC Recommendation 22a, see Section 6.5).

I expect that any UDS (including urban design framework plans), or subsequent UDLPs, that are submitted for my approval under an incorporated document will be accompanied by written advice from the UDAP addressing the extent to which they are consistent with the recommendations of my assessment, the EPRs and, for the UDLPs, the approved UDS. This advice will be valuable in informing my assessment of any UDS or UDLPs.

The IAC also recommended expanding the membership of the UDAP to include councils and land or waterway managers. I disagree with this recommendation, which I do not regard as necessary.

As discussed above, I am satisfied that implementation of EPR LP3 generally as amended by the IAC and the expanded consultation process and notification requirements for the UDLPs will provide adequate opportunities for these parties to provide input on urban design outcomes.

#### *Urban design and public realm improvements*

Many submitters raised concerns about those elements of the place-specific requirements in the draft UDS that were identified as *complementary, to be provided by others* when in their opinion such elements were central to the delivery of an integrated design response.

The IAC recommended the proponent reconsider those elements of the place-specific requirements that should be changed from complementary (and therefore optional) to mandatory (and therefore core project requirements) (IAC Recommendation 22c). I support this recommendation.

The proponent must reconsider the complementary elements of the place-specific requirements and revise the draft UDS to include, at a minimum, the following additional mandatory elements:

- Item 4A, Manningham Road Interchange, enable future land use opportunities at this location and ensure new built form provides a sensitive interface with the adjoining Yarra Valley parklands;
- Item 5A, Manningham Road Interchange, provide habitat infrastructure beneath the Manningham Road bridge to support habitat connectivity along the Yarra River corridor;
- Item 5B, Manningham Road Interchange, implement water sensitive urban design around the Yarra Valley parklands to treat stormwater; and
- facilitate enhancement of local areas in line with objectives in the draft UDS.

I support in principle the IAC’s recommendation to incorporate a range of initiatives as an adjunct to the project to assist in offsetting its impact on affected local communities by enhancing the local area and creating a positive project legacy. I note that the proponent for the West Gate Tunnel Project is required to implement a community involvement and participation plan for the duration of construction in consultation with relevant councils and representatives of affected local communities. In that case, the community involvement and participation plan provides funding for a range of initiatives including community support grants, small capital works projects and sponsorship of local sporting clubs, community events and festivals. I recommend that the proponent develop and implement a similar plan and, to give effect to this recommendation, I recommend a new EPR SC7.

### Assessment

- The landscape and visual impact assessment in Technical Report H of the EES and the submissions and evidence before the IAC appropriately identified the types, distribution and scale of visual impacts that may result from the project.
- The project will have significant landscape and visual impacts particularly at key sensitive interfaces, but these impacts will not be unacceptable. The level of impact can be appropriately managed and mitigated during the detailed design process, provided the draft UDS and EPRs are amended in accordance with the recommendations of my assessment.
- The draft UDS is to be revised to include urban design framework plans for the Eastern Freeway Interchange, Lower Plenty Road Interchange, Manningham Road Interchange, M80 Interchange and the Watsonia Neighbourhood Activity Centre.
- The proponent must consider the setting and requirements of schools along the project alignment and include design directions in the UDS to achieve acceptable urban design interfaces with these schools.
- The proponent must reconsider the complementary (and therefore optional) elements of the place-specific requirements and revise the UDS to include, at a minimum, additional mandatory elements as set out in my assessment above.
- Implementation of EPR LP1 together with a suite of complementary EPRs, including EPRs AR3, LP2, LP4, LV2, LV3 and LV4, will be central to minimising the potential landscape and visual impacts of the project.
- The extent of the SCO should be revised once final plans are approved so that it only applies to land that may be reasonably required for the project.
- The UDAP is to be expanded to include two independent design experts and its role is to continue during future phases of the project, including during the preparation of the revised UDS with its urban design framework plans, the tender evaluation process and in advising on whether the UDLPs comply with an approved UDS.
- The effective relationship between the proponent and the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation should continue during design and delivery of the project. The proponent should invite the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation to nominate a representative for membership of the UDAP to ensure the cultural heritage values intrinsic to the project alignment are reflected in the final design.
- The draft UDS is to be revised to include a response to the Cultural Values Assessment Report prepared by the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation as well as the relevant principles of the Yarra River Protection (Willip-gin Birrarung Murrn) Act and the Yarra Strategic Plan (when released).
- I support in principle an expansion of the consultation requirements for the UDLPs including the provision of direct notice to adjacent owners and occupiers and increasing the time for public comment from 15 business days to 21 calendar days.

- The proponent must implement a community involvement and participation plan, or equivalent, to facilitate a range of initiatives to assist in offsetting the impact of the project on affected local communities by enhancing the local area and creating a positive project legacy (new EPR SC7).

### 6.3 Social

Social impacts are addressed in Chapter 17 and Technical Report I of the EES and in Chapter 5 of the IAC Report. Six EPRs deal with social matters, five of which are the subject of recommendations by the IAC. Some land use impacts relate to social impacts, which were addressed in Chapter 13 and Technical Report E of the EES and are addressed in Chapter 5 of the IAC report. Five EPRs deal with land use, four of which were the subject of recommendations by the IAC.

#### Evaluation objective

*To manage effects of the project on land use and the social fabric of the community with regard to wellbeing, community cohesion, business functionality and access to goods, services and facilities.*

#### Assessment context

Once in operation, this project will deliver community benefits as a consequence of reduced travel times and improved connection between Melbourne’s north and southeast. People travelling or living along the project corridor will benefit from less trucks on arterial roads and enhanced active transport infrastructure and better bus services along the Eastern Freeway. Amenity at some residences and open space will improve through reduced traffic noise compared with existing and no project conditions. I consider these benefits to be very significant.

Regardless of social benefit, many submissions to the IAC identified significant negative social effects, especially for those established communities near the project, with people living, taking recreation or working closest to the project most directly affected. Closure of the BIP and impacts on other businesses will cause social effects. These effects are related to business impacts and are therefore discussed in Section 6.4.

The project crosses a ‘green belt’ of parkland associated with the Yarra River and its tributaries. Open space is highly valued for environmental, social and wellbeing reasons. While the proposed tunnel will avoid the proponent’s ‘no-go zones’ including Banyule Flats, Warringal Parklands and the Yarra River, the project as described in the reference design would impact approximately 35 hectares of open space (Road Zone and passive and active recreational areas), with 18.2 hectares required permanently. Parkland and green space in numerous parks and reserves along Koonung Creek, Bulleen Road and Greensborough Road will be impacted by construction and the project will permanently acquire some areas.

Sport and recreation infrastructure in the project corridor will be subject to significant change during the project’s construction and, for some, this will be permanent. The numerous individuals, sporting clubs and businesses associated with these public and private facilities will experience disruption. In many cases, replacement facilities can be provided temporarily or permanently, but this often includes loss of access for periods and relocation.

Sport and recreation facilities subject to permanent impact are near the reference design’s southern tunnel portals and Bulleen Road Interchange and include the privately-owned Bulleen Swim Centre and publicly-owned Boroondara Tennis Centre, Freeway Public Golf Course and Bulleen Park, home to the Yarra Junior Football League. Proposed temporarily impacted sports facilities along the project corridor from north to south are the publicly-owned AK Lines Reserve, Winsor Reserve, Gabonia Avenue Reserve and Elgar Park. The proponent identified many other open spaces as potential sites to relocate displaced sports clubs.

Three private schools located adjacent to Bulleen Road in the Yarra green belt, Marcellin, Carey and Trinity, will be impacted by the project during construction and, in more limited ways, during project operation. The project will occupy sports fields, access roads and car parks during construction along with permanent acquisition of small areas and changes to access. Construction will also increase dust and noise and reduce visual amenity. Urban design and traffic noise issues for the schools are discussed in sections 6.2, and 6.7 of this assessment respectively.

Construction will create major change and disruption for residents and others who visit and travel through the project area in terms of temporary occupation of land and reduced amenity and connectivity along and across the project corridor. Community feedback on the EES highlighted elements of the urban environment that contribute significantly to community identity within the project footprint and the desire for them to be retained. Construction compounds are a particular source of impact where they occupy open space and are adjacent to residential areas. Some of these changes will continue to generate social impacts during project operation. Acquisition of up to 36 residential properties to allow project construction and operation creates significant upheaval for affected individuals and their loss will be felt by the broader community.

## **Discussion**

The project raises many social issues. The IAC heard from many community submitters and experts on social effects of the project and discussed their submissions and evidence in its report.

### *Stakeholder engagement*

Some members of the community expressed disappointment and frustration with engagement on the project. Among other things they expressed concerns about a lack of certainty associated with the reference design and a sense that their suggestions were not seriously considered. Some people felt that their efforts to influence the EES process and its outcomes were futile when the government announced during the hearing that the early works tender for the project had been let.

I acknowledge that stress and uncertainty during project consultation and EES process has caused social impacts. However, I also acknowledge that the proponent has engaged often and broadly with affected communities with the input of substantial resources.

### *Open space*

I agree with the IAC that the social ramifications of the impacts to parklands deserved more prominence and examination in the EES. But I am also satisfied that these impacts have now been robustly and appropriately examined through the IAC hearing and report.

Impacts on parkland arise primarily due to the extent and duration of use of existing parkland by the project, which is permanent for some areas. I agree with the IAC’s view that minimising impacts on parklands should be pursued as far as is practicable in the detailed design. I discuss minimising the construction and design footprint during detailed design in Section 6.2 and below in regard to construction compounds. Careful staging of works will also help to decrease the duration of temporary parkland use and associated access and amenity impacts. I support the IAC’s changes to EPRs SC1, SC2, LP1, LP3 and LP5 in principle where the IAC sought to minimise amenity and land take impacts on open space.

The temporary occupation and permanent acquisition of land with sport and recreation facilities along with relocation to other sites will disrupt numerous clubs and tens of thousands of players. I agree with the IAC that these impacts could have been better considered in the EES. However, I consider that the IAC hearing has now clarified the nature and extent of likely impacts, which can be properly regarded as significant.

I consider that the project should seek as far as is possible to avoid any reduction to open space or to seriously constrain existing uses of open space. I also consider that, where this is unavoidable, it is

incumbent on the proponent to seek to provide replacement open space in a manner consistent with state planning policy, which is to *ensure that where there is a reduction of open space due to a change in land use or occupation, additional or replacement parkland of equal or greater size and quality is provided* (Clause 19.02-6S of the Planning Policy Framework).

I note the IAC’s recommendation for ‘like-for-like’ replacement of open space and improvement. My interpretation of the IAC’s recommended like-for-like open space replacement is summarised in Table 2 and discussed below. I consider like-for-like open space replacement should be achieved if possible. However, I also acknowledge that, in practice, a strict application of like-for-like open space replacement may not be practicable or achievable.

Accordingly, while I accept that it would be desirable for like-for-like to be achieved, I do not consider that this is an essential outcome in all circumstances.

**Table 2: Like-for-like open space replacement.**

| Open space type          | Temporary loss (construction)   | Permanent loss (operation)   |
|--------------------------|---|--|
| Active (e.g. sports).    | Support sporting functions to continue through alternative temporary locations with facilities before the current site becomes unavailable. | Support sporting functions to continue through arranging alternative permanent locations with facilities before project operation. |
| Passive (e.g. parkland). | Improve quality or quantity of open space before open space required for the project becomes unavailable.                                   | Investigate and acquire accessible land of a similar area and develop it for use as parkland before project operation.             |

#### Replacement of temporary and permanent loss of active open space

In terms of active open space replacement, I consider that a workable concept emerged during the IAC hearing for temporarily and permanently relocating most sports clubs, recreational facilities and private school facilities to alternative locations generally consistent with the IAC’s like-for-like recommendation (for example, tabled documents 105, 390, and 432). However, I accept that it will be challenging to retain the current level of functionality of all sports and recreation facilities and some compromises may be required.

EPR SC5 aims to minimise impacts of displacement on formal active recreation facilities. The IAC has recommended amendments to EPR SC5 that include minimising displacement and specifying the scope of a required facilities relocation plan. The plan’s scope includes documenting measures to provide suitable replacement facilities and restoration of facilities that have been temporarily vacated. I support these amendments.

The Yarra Junior Football League will be permanently displaced from its facilities at Bulleen Park (Existing Oval 1). The proponent has not yet been able to identify a replacement site or facilities that is considered acceptable to the league. The proponent is proposing to upgrade Ford Park for temporary or permanent relocation, with the potential for the league to return to other existing ovals at Bulleen Park after construction, if desired. However, this is a matter for negotiation between the proponent and the club and I am confident a reasonable outcome will be achieved even if it is not the one favoured currently by the league.

As well as displacing the Yarra Junior Football League, the Bulleen Park area is the focus of a number of competing interests including the Freeway Public Golf Course, Boroondara Tennis Centre, the archery and aeromodeller clubs and the private schools and compromises will be needed here. This will be a matter for negotiation between the proponent and respective facility stakeholders. I am confident that negotiation will reach a reasonable outcome, even if it will require concessions from some stakeholders.

Submissions by Macleod Cricket Club and Macleod Junior Football Club state a strong preference to relocate to Macleod College, instead of the proponent’s preferred Greensborough College and De Winton Reserve, because it is closer, safer and more integrated with the community. This is supported by Banyule Council. Once again, I am confident that a reasonable outcome will be achieved, even if it is not the clubs’ favoured outcome.

Depending on the outcomes of negotiations, I accept that there may be some instances of reduced access or functionality for some sporting and recreational clubs. However, I consider that this will be an acceptable impact of the project.

The hockey facilities at Elgar Park can continue to be used during project construction. I consider, as did the IAC, that the EPRs can provide for appropriate management of amenity impacts, such as dust and noise.

Along with the IAC, I note that a mutually acceptable outcome has been reached between the proponent and Trinity relating to its sports grounds and facilities. Similarly, I am satisfied that outstanding issues about access and parking at Carey’s sports grounds should be able to be acceptably resolved. I support the IAC in considering that the proponent will need to avoid or minimise the construction use of the front portion of Marcellin land as explained further in relation to construction compounds below, in order to achieve an acceptable outcome. I agree with the IAC that the revised UDS should provide detailed direction to achieve acceptable urban design interfaces with the schools (IAC Recommendation 22). The proponent will also need to work with Marcellin’s Old Collegian teams to facilitate replacement of sports facilities.

I agree with the IAC that the proponent should consider ways in which it could support displaced sports clubs’ viability during construction, and it should provide progress reports about relocation to councils, affected clubs and sporting facilities, and the Community Liaison Group (EPR SC4).

Based on the progress made to date by the proponent working with the sporting organisations, I am confident that satisfactory arrangements can be made to enable these organisations to continue operating during project construction and operation. I consider that this progress in combination with the UDS, EPRs (including EPR SC5, which requires a facilities relocation plan) will manage impacts to an acceptable level.

#### Replacement of permanent loss of passive open space

To address the IAC’s preferred like-for-like replacement of passive open space permanently acquired for the project (IAC Recommendation 14 and EPR LP5), the IAC recommended the proponent investigate options for land acquisition, acquire land of a similar area and develop it for use as parkland before project operation. The IAC also proposed investigation of several sites along the Yarra River that are currently reserved for future acquisition as open space under a Public Acquisition Overlay (PAO2). These sites are also identified in the draft Yarra River – Bulleen Precinct Land Use Framework Plan (2019) for expanded parklands and potential active recreation. The IAC suggested fast-tracking the acquisition of these sites to serve as replacement open space for the project.

I accept that the recommendation for replacing lost passive open space is generally consistent with state policy and the relevant principles of the Yarra River Protection (Willip-gin Birrarung murrn) Act and is a reasonable expectation of the proponent, and government more broadly. In light of this, I support IAC Recommendation 14 in principle together with the IAC’s proposed revisions to EPR LP5 that requires the development and implementation of a relocation and replacement plan. I agree with the IAC that the implementation of this recommendation and EPR LP5 gives rise to a range of important practical considerations related to the selection and acquisition of land and its subsequent development as open space. This recommendation also gives rise to important governance considerations that will ultimately need to be resolved by government. As a first step to give effect to this recommendation, the proponent, in consultation with relevant stakeholders including DELWP, Parks Victoria, Melbourne Water and Birrarung

Council, should develop a process for selecting and acquiring suitable replacement land. This process would inform the development and implementation of the proponent’s open space relocation and replacement plan.

In developing the plan for replacement of passive open space I consider that the proponent should:

- investigate the acquisition of sites along the Yarra River that are reserved under PAO2 as replacement open space along with any other suitable options that were not identified during the IAC hearing; and
- exclude proposed land bridges that are part of the access network as potential sites to provide like-for-like replacement of open space.

#### Improvement of residual passive open space during temporary loss

It is my assessment the effects of losing open space during construction can be sufficiently mitigated by minimising temporary occupation and enhancing residual open space. I do not consider that replacement of temporarily occupied open space is necessarily required. Residual open space should be enhanced through the provision of playgrounds, paths and plantings, for example, before adjacent open space is occupied and becomes unavailable. My recommended changes to EPR LP5 require enhancement of these areas. This will be particularly important for residual areas of parkland along Koonung Creek where large areas of existing parklands are expected to be unavailable during construction.

#### Land acquisition associated with replacement of permanent loss of passive or active open space

The IAC recommended that land to be acquired, or converted to, open space be included within the SCO boundary for the project (IAC Recommendation 2), with the incorporated document facilitating the development of this land and improvement of other land in accordance with specified design requirements.

I agree in principle with the IAC that implementing project specific planning controls for new or upgraded open space or sport and recreational facilities would facilitate timely delivery by streamlining the conventional permit application process. However, I recognise that the precise process and timing for relocation and replacement of open space requires further consideration at this stage and a separate process may be required to implement specific planning controls for open space. Notwithstanding that the precise process and timing is still to be resolved, I am confident that acceptable replacement of open space will be achieved.

#### *Amenity impacts*

##### General construction amenity impacts

The duration of occupation (anywhere from two to seven years) and intensity of use and, hence, amenity and access effects during construction will vary along the corridor. Residents who are home much of the time will experience the effects of noise, dust and reduced visual amenity most keenly. Residents may also have to deal with reduced connectivity, transport and access changes and increased traffic congestion, with overall reduced access to open space, businesses and social networks.

The types of amenity and access impacts from construction are generally well understood, as are measures to manage them. I am satisfied that these impacts can be acceptably managed through the EPRs and through plans that will be required under the environment management framework—apart from the impacts of construction compounds, which are discussed further below.

##### Construction compounds amenity impacts

The activities and locations of construction compounds was the subject of much discussion at the IAC hearing with a focus on the proposed use of open space at Winsor, Koonung Creek and Borlase Reserves. The green, treed and open space areas along Koonung Creek are valued by many residents who highlighted their importance for views, recreation, dog walking, socialising, play, ecological values, active transport

pathways and buffering freeway amenity impacts. Borlase Reserve is also clearly highly valued by local residents for its natural and open space qualities. The scale of the project also means that the construction compounds, while temporary, will be in operation for periods of three to six years.

In relation to the construction compounds proposed for open space along Koonung Creek, I am satisfied that my general recommendations about open space (above) and construction compounds (below) will control these impacts to an acceptable level.

The reference design nominated Borlase Reserve for a construction compound that will include either TBM launch works or TBM retrieval works in addition to other cut and cover tunnel and general construction works. In regard to TBM launch/retrieval sites, the EES considered two possible TBM launch sites – a northern TBM launch site (Borlase Reserve) and a southern TBM launch site (south of Bridge Street, Bulleen). For either of these scenarios, the area near the other site would be used for TBM retrieval. The IAC also suggested that the area in Banksia Park just north of Bridge Street be explored as a potential TBM launch site. It is my view that the environmental and cultural sensitivities in Banksia Park north of Bridge Street are such that this option need not be pursued.

Many submitters identified a range of significant impacts that may result from using Borlase Reserve as a construction compound including visual impacts, loss of open space and amenity impacts such as noise (see Section 6.7), dust, vibration and increased traffic movements (see Section 6.1).

The IAC ultimately recommended that Borlase Reserve not be used as a TBM launch or retrieval site (IAC Recommendation 5). The basis for this recommendation was its conclusion that the amenity impacts of its use for this purpose would be unacceptable. I do not agree with this conclusion.

TBM launch sites have the potential for greater amenity impacts than TBM retrieval sites due to a longer construction period for assembling the TBM, establishing spoil management facilities and supporting TBM tunnelling operation. Supporting tunnelling would include receiving, managing and disposing of spoil including 24-hour spoil haulage from the site. TBM retrieval is focussed on TBM extraction, disassembly and removal activities, the logistics of which are far less complex and time consuming than TBM launch activities.

A number of EPRs are proposed to manage and mitigate impacts on sensitive land uses near TBM launch and retrieval construction compounds. For example, as discussed in Section 6.7, I am satisfied that the noise impacts at Borlase Reserve can be successfully managed through several EPRs including my recommended revisions to EPR NV4. Additional key EPRs to manage these impacts will be EPR T2 (which requires transport management plans covering construction haulage), EPR CL1 (spoil management) and EPR AQ1 (which requires a dust and air quality management and monitoring plan to be prepared and implemented).

I am aware that the southern TBM launch site option at the Manningham Interchange construction compound has the potential to cause less significant amenity impacts than a launch site at Borlase Reserve, in large part because residents are further away. However, there are some disadvantages of this site compared to Borlase Reserve that must also be considered in selecting the preferred TBM launch site. These disadvantages include the potential for peak construction spoil truck numbers on Rosanna Road of 1,450 compared to 60 per day (IAC report, p. 77), and less time for relocating BIP businesses. The IAC has recommended that alternative routes to Rosanna Road for construction spoil haulage be adopted (IAC Recommendation 9a) and I support this recommendation, as discussed in Section 6.1, to minimise impacts on the local community.



Having regard to all relevant matters I am satisfied that impacts of the construction compounds for the northern and southern TBM launch and retrieval site options can be managed to acceptable levels through EPRs. I am satisfied that the use of Borlase Reserve as a TBM launch or retrieval site would not result in unacceptable impacts or impacts that are so significant as to require that it not be used for either of these purposes. I am also not satisfied that an overall better environmental outcome for the community would result from adopting the IAC recommendation that it not be used for this purpose.

However, I accept that the impacts on residents that live near Borlase Reserve are significant. Accordingly, if Borlase Reserve is used as a TBM launch site, I consider it appropriate to accept the recommendation of the IAC (IAC Recommendation 13) that a voluntary acquisition scheme be established, and that it be available for residents that live near Borlase Reserve who meet the specified criteria (see also EPR SC8).

Marcellin College also submitted that the use of a considerable proportion of its land for a construction compound would have significant impacts on its operations, including day-to-day access to the school, loss of the use of sporting facilities and general amenity impacts. In making its submission, Marcellin expressed concern about the lack of justification in the EES for the proposed use of the school as a construction compound. I note that the proponent engaged in discussions with Marcellin during the IAC hearing about reducing the footprint of the construction compound, but the matter remained unresolved. I agree with the IAC that alternative locations for the construction compound in Bulleen should be investigated, with Marcellin’s land used only if there are no other available options and then, only if construction activities are limited in extent and duration to reduce impacts on the school.

The IAC made a number of recommendations to manage the impacts of construction compounds. I generally support these recommendations and expect that controls in the planning scheme amendment together with the EPRs will require the proponent, and its contractors to take all reasonable measures to minimise construction impacts including the following.

- prioritisation of locations for construction compounds that have the potential for less amenity impacts;
- implementation of the IAC’s proposed version of EPR LP1 to minimise the construction footprint combined with EPRs SC1 and SC3 and the suite of EPRs that will manage other amenity impacts from construction compounds; and
- implementation of a voluntary acquisition scheme for residential properties that satisfy defined criteria (IAC Recommendation 13). This is discussed further below under ‘Residential property acquisition’.

The IAC also recommended that all other realistic siting and use options for construction compounds be assessed to identify potential for reducing amenity impacts, even if it involves higher costs, such as for leasing or material or workforce transport. The IAC further recommended that a construction compound plan be approved by the Minister for Planning due to the significance of their associated impacts. The IAC has recommended changes to the draft incorporated document to require the approval of a construction compound plan that shows (among other things) the location, category and duration of works at each compound, demonstrates that each compound has been sited to reduce impacts on sensitive uses and includes measures to restore the use of land post-construction. I generally accept these changes.

Whilst I am satisfied that the locations for construction compounds identified in the EES are generally acceptable, I expect the proponent to carefully consider all possible locations before they finalise their construction compound plan and submit it to me for my approval. I consider that a construction compound plan in combination with existing EPRs and the UDS will assist to address issues associated with the location and management of construction compounds.

I do not accept the IAC’s proposed new EPR CC1 about environmental management of construction compounds because I consider every element of this proposed EPR is adequately covered by other EPRs. Accordingly, it is unnecessary.

#### General operations amenity impacts

Adverse social impacts during project operation are generally more localised and limited than during construction as residents subject to acquisition are relocated, some of the open space is returned and connectivity and amenity generally improve. However, I accept that some residential areas will experience ongoing or long-term adverse effects from traffic increases and the impacts of noise walls, elevated ramps and the slow establishment of replacement trees that will contribute to changes of views. This new infrastructure would also increase lighting, overshadowing and overlooking of private open space.

I acknowledge that project infrastructure will change open space in the project footprint, particularly through new, closer and taller noise walls and new flood walls, elevated roads, anti-throw screens and ventilation structures. These changes will affect open space users and residents who currently enjoy views of open space. Accordingly, it will be important to minimise the project’s footprint as far as practicable (see Section 6.2), and to reduce as far as practicable encroachment of infrastructure, such as noise walls, on open space. Bulleen Road near Bulleen Park and Carey and Marcellin Colleges and around the Bulleen Road Interchange will be a focus for new infrastructure.

The UDS and EPRs that I have recommended should be adopted will require sympathetic urban design of permanent project infrastructure and protection of local amenity to the extent practicable.

Overall, I consider that the amenity impacts of the project during its operation will not be unacceptable, and would not, either when considered in isolation or in conjunction with other environmental impacts, be of such a scale as to outweigh the project benefits.

#### Residential land acquisition

The construction and operation of the project will require the permanent acquisition of residential properties. The EES estimates that up to 36 residential properties may be acquired with the impact most acute in Macleod, Yallambie, Greensborough, Watsonia and Bulleen. I am satisfied that the proponent has sought to minimise the extent of residential acquisition for the reference design. I consider that, for a project of this scale, the extent of residential acquisition is reasonable and its impacts are acceptable.

However, I agree with the IAC that the severity of the impact on affected residents may have been underestimated in the EES. Consistent with the comments of the IAC, I acknowledge that affected residents have experienced considerable stress and anxiety. To mitigate this impact, I agree with the IAC that there is a strong case for immediate acquisition of residential properties, if the owners are agreeable. Implementation of the IAC’s proposed EPR SC2 will assist with minimising and managing impacts of land acquisition and occupation particularly for special needs and vulnerable residents.

While I generally support the proponent minimising the amount of compulsory acquisition of residential properties, I agree with the IAC that there are properties that have not been identified for acquisition to date, which may experience significant amenity impacts as a result of the project. The impact of this on those individuals could be mitigated by a voluntary acquisition scheme for residential properties that satisfy defined criteria (IAC Recommendation 13). Criteria should include distance from major works, likely extent and duration of proximate works, predicted adverse effects on amenity and the presence of vulnerable occupants. I therefore support such a scheme and recommend a new EPR requiring this scheme (EPR SC7).

### *Community identity*

I accept, along with the IAC, that the River Red Gum on the edge of the Caltex service station in Bulleen is a source of social identity. It is seen as a proud survivor that reminds us of the pre-European contact landscape. The urban design strategy seeks ‘efforts to be demonstrated’ to retain this tree but the proponent has advised that it has been unable to identify a road design that could do this to date.

In this regard, I share the view of the IAC that traffic engineering considerations should not be regarded as more important than the tree’s survival. I consider it appropriate for all design alternatives or practical opportunities to save the tree to be explored, and it should only be removed if that removal cannot be avoided (IAC Recommendation 7c). It is appropriate that the proponent makes every effort to retain this tree. If this is ultimately not possible, the proponent should identify and implement appropriate legacy actions in consultation with key stakeholders.

The business Bulleen Art and Garden also has high social value due to its connection with the community through its natural setting and sustainability and artistic focus, which is reinforced through its community activities, classes and gallery as well as its garden supplies and services. The IAC received many submissions describing Bulleen Art and Garden’s many valued contributions to peoples’ quality of life and why it should not be closed or relocated.

I agree with the IAC in recommending that this business be offered every opportunity to continue operating through avoiding or minimising acquisition and amenity impacts. If the site cannot be avoided, then the proponent should investigate opportunities for partial, full and temporary relocation, such as at the nearby Greenery Garden Centre.

### **Assessment**

- The project will cause social impacts. These impacts are acceptable provided they are managed as recommended in my assessment.
- Stress and uncertainty associated with consultation about the project during the EES process has caused social impacts.
- Replace all permanently lost passive open space and relocate uses of active open space on a like-for-like basis where possible.
- I consider that continued progress by the proponent in working with sporting organisations and the three private schools in combination with the UDS and EPRs (including EPR SC5’s facilities relocation plan) will manage impacts on sporting organisations and the schools to an acceptable level.
- Alternative locations for the construction compound in Bulleen should be investigated, with Marcellin’s land used only if there are no other available options and then, only if construction activities are limited in extent and duration to reduce impacts on the school.
- Replacing permanently lost passive open space is a reasonable expectation of the proponent, and government more broadly but the process for doing this will need to be resolved based on information from the proponent’s open space relocation and replacement plan.
- I consider that the effects of losing open space during construction can be sufficiently managed by enhancing residual open space.
- While project specific planning controls for new or upgraded open space or sport and recreational facilities would facilitate its timely delivery, a separate process may be required to implement such controls.
- General amenity impacts from construction can be acceptably managed through the EPRs and plans required under the environment management framework.
- Impacts of the construction compounds for reference design TBM launch and retrieval site options can be managed to acceptable levels through EPRs. I do not agree with the IAC that Borlase Reserve

cannot be used for these purposes. However, I consider that a voluntary acquisition scheme should be available for nearby residents of Borlase Reserve if it is selected as a TBM launch site.

- The location and category of activities for all construction compounds will need to be investigated by the proponent and approved by the Minister for Planning under the incorporated document to avoid and minimise amenity impacts on sensitive land uses.
- The revised UDS and EPRs will address the need for sympathetic urban design of permanent project infrastructure and protection of local amenity.
- Immediate acquisition of residential properties to reduce stress and anxiety should occur if the owners are agreeable. EPR SC2, with changes recommended by the IAC, will also be critical to manage impacts of land acquisition and occupation.
- Implementation of a voluntary acquisition scheme for residential properties affected by the project that satisfy defined criteria consistent with my recommended new EPR SC7.
- Every effort should be made to retain the River Red Gum at the Caltex service station (IAC Recommendation 7c) and allow Bulleen Art and Garden to continue operating.

## 6.4 Business

Business impacts are addressed in Chapter 14 and Technical Report F of the EES and in Chapter 4 of the IAC Report. Eight EPRs deal with business matters, four of which were the subject of recommendations by the IAC.

### Evaluation objective

*To manage effects of the project on land use and the social fabric of the community with regard to wellbeing, community cohesion, business functionality and access to goods, services and facilities.*

### Assessment context

The project will need to acquire 102 business properties according to the EES and many other businesses could be adversely affected by disruptive changes to access, connectivity and amenity. These changes will be experienced at the Bulleen Industrial Precinct (BIP), Watsonia Neighbourhood Activity Centre and a range of other business locations in the project corridor.

Construction of the Manningham Road Interchange will require the land associated with all the businesses in the BIP, which employs about 770 people. Options for relocation and the availability of any residual land within the precinct for industrial use after construction have been unclear to date. However, it is expected that these businesses will need to relocate or close, which will cause a major disruption to business owners and employees. The relocation or loss of these businesses will also impact customers and other businesses that depend on them.

Watsonia Neighbourhood Activity Centre provides convenient access to a range of retail outlets. The project has the potential to exacerbate the existing divide created by Greensborough Road and the Hurstbridge Rail line between the centre and its catchment to the east. Connection and amenity impacts from the project could lead to a decline in customers and added business pressure, which would put the sustainability of individual businesses and the centre at risk.

Several other businesses near the project will be acquired or temporarily occupied (including sports facilities, sports clubs and private schools) and they may experience changes in business activity due to reduced connectivity or amenity, especially during construction.

### Discussion

#### *Bulleen Industrial Precinct*

The loss of an entire industrial-zoned business precinct due to an infrastructure project is unprecedented in Melbourne, and the disruption to BIP business owners, employees, customers, suppliers and the local

economy will be very significant. However, I agree with the IAC that the project offers broad economic and business benefits that outweigh the financial impacts from the loss of the BIP. No expert concluded that the scale of the loss was reason not to proceed with the project or the Manningham Road Interchange. However, all agreed that the displacement of over 80 businesses was significant and they recommended focussing on mitigation efforts. Land acquisition under the MTPF Act provides for compensation to those with an interest in land, but impacts go well beyond this and so must avoidance and mitigation measures.

The proponent has been consulting businesses and stakeholders about issues and managing the impacts that would result from the project for nearly 18 months. However, no definitive options are yet on the table for businesses that wish to relocate. This protracted period of uncertainty about such a major upheaval for the BIP community has created a high level of stress. I am grateful for the efforts of the many members of this community who have articulated how the project will affect them in submissions and presentations to the IAC in these trying circumstances. This input clarified the scale and dimensions of the challenges to businesses and employees and catalysed changes to the EPRs that broaden and strengthen the support available, investigation into relocation sites and return of residual land around the Manningham Road Interchange to viable future land uses (such as commercial and industrial).

I accept the IAC’s assertion that effects of the project on the BIP have not been managed to date. However, unlike the IAC, I consider that while BIP businesses and employees will experience major change and disruption, support will be available to manage effects, and to mitigate them as far as possible.

I consider that EPR LP1 will reduce the Manningham Interchange construction compound to the minimum required size, noting that it will likely include a TBM launch or retrieval site (see Section 6.3). This may allow some businesses, such as Bulleen Art and Garden, to continue operating from the BIP. Staging of construction activities, as provided for by EPR SC2, may also allow some BIP business to defer relocating or closing.

During the IAC hearing, the proponent expanded EPR B1 into three EPRs and the IAC’s Recommendation 11 has augmented EPR B2 and B3 to include planning and support for each BIP business and employee on request. I support these changes on the basis that effective support must be informed by the specific needs of each individual business and employee. However, I consider the proponent, as the representative of the state, is best placed to implement individual planning and support rather than the Department of Transport, as proposed by the IAC.

MCC’s and the proponent’s work to identify business relocation sites has yielded opportunities where groups of businesses from BIP could potentially relocate including a possible site at Websters Road (IAC Recommendation 12). This is discussed further in Section 6.5. That said, I strongly agree with the IAC that the Manningham Road Interchange design should maximise the return of residual land for employment, including industrial land uses (IAC Recommendation 7a). Long-term uses for this land that provide employment could, importantly, provide opportunities for displaced BIP businesses to return.

Stronger and more broad-based community support for Bulleen Art and Garden compared to other businesses and its location on the margin of the project area leads me to agree with the IAC that it should continue operating from its current site if possible. This may involve partial relocation of some of its activities and management of the project’s construction impacts on amenity.

#### *Watsonia Neighbourhood Activity Centre*

Watsonia Neighbourhood Activity Centre is already cut off from its eastern catchment due to the north-south Hurstbridge Rail Line cutting and Greensborough Road. The reference design focus on the Greensborough Road corridor may exacerbate this divide during project construction and operation. The proponent and Watsonia Traders’ shopper survey (tabled document 332b) found that easy access, parking

and a friendly, appealing environment is valued by shoppers at Watsonia Neighbourhood Activity Centre. However, it also found that around one third of shoppers felt that project construction will impact their decision to shop at the activity centre. I agree with the IAC that five to seven years of project construction could lead to business failures and, possibly, threaten the sustainability of the activity centre, unless appropriate measures are taken.

I agree with the IAC that design will be central to achieving greater connectivity and an attractive and viable activity centre. I recommend revision of the UDS to provide greater direction through an urban design framework plan for the activity centre that builds on current concepts in the UDS and strategic planning work to date. The urban design framework plan should clarify how to improve functioning of the activity centre along with mitigation measures that could be facilitated by project works or in partnership with others to reduce impacts on these businesses to acceptable levels. I expect that the proponent and Banyule Council will work in partnership to investigate opportunities for the activity centre.

Several possible interventions that could mitigate impacts on the Watsonia Neighbourhood Activity Centre during construction were identified by the proponent, submitters and a Watsonia Traders’ shopper survey including: marketing and communication initiatives in the lead up to and during construction; and a suite of works to improve car parking, provide a community space (for example, a park, playground or skate park), upgrade shop and street appeal and minimise disruption to access. I recommend that the proponent ensures that these measures are considered in the business disruption mitigation plan for Watsonia Neighbourhood Centre, which is required by EPR B1.

I generally support the IAC’s recommended changes to EPR B6 that minimise access and amenity impacts to businesses from construction, but I recommend revising them so that impacts to business viability and travel time are minimised, as I accept that viability may be affected and significant increases in travel time from residential areas could occur.

Several design alternatives were identified at the hearing with potential to manage ongoing impacts on connectivity and amenity of Watsonia Neighbourhood Activity Centre from project operation. The proponent’s alternative design including a bridge connecting Elder Street to a proposed multi-level car park in the existing Watsonia train station car park would add an important east-west connection. Other alternatives and opportunities for good urban design are identified in the Watsonia Concept Plan (tabled document 364) prepared for Banyule Council and the proponent. Good urban design could also lead to multiple uses of the multi-storey car park, protecting views to the Dandenong Range and providing connections across the train line.

As set out above, the IAC considered it highly desirable to pursue an extension of the tunnel further north to Grimshaw Street. Part of the reasoning behind this recommendation is a desire to reduce impacts on businesses at the Watsonia Neighbourhood Activity Centre, amenity and community cohesion (IAC Recommendation 4). If not extended, the IAC considered that, at minimum, a covered tunnel should be considered. I do not agree with the IAC in this regard. While extending or covering the tunnel may reduce impacts further, which would be desirable, I do not consider it necessary because my recommendations about the centre, the revised UDS and a range of the EPRs (e.g. EPRs B1, B6, LP1, LP5, LV1, LV2, SC2 and T2) will control impacts on the centre and the nearby community to an acceptable level.

#### *Other impacted businesses*

Businesses to be acquired beyond the BIP will be significantly affected whereas others outside the Watsonia Neighbourhood Activity Centre will suffer to varying degrees from disruption caused by construction or from changes caused by the permanent project infrastructure. Management of effects on private schools and sporting facility and club businesses is discussed further in Section 6.3. I consider that

the compensation provisions of the MTPF Act for businesses with an interest in the land and the business EPRs will mitigate these impacts to acceptable levels.

### Assessment

- Loss of the BIP will entail significant upheaval for business owners and employees, with economic and social effects at a regional scale. Impacts on the BIP community have been very high to date, but I am satisfied that recommended planning and support measures will mitigate impacts on this community to acceptable levels.
- EPR LP1 and staging of construction activities will reduce the Manningham Interchange construction compound to the minimum required and this may allow some businesses to continue operating from the area or allow some BIP business to defer relocating or closing.
- I support providing planning and support for individual businesses and employees on request as per IAC Recommendation 11.
- I support further investigation of relocation options that offer opportunities for the continuation of BIP businesses, such as Websters Road (IAC Recommendation 12).
- I support return of residual land at the Manningham Road Interchange for employment, including industrial land uses (IAC Recommendation 7).
- Efforts should be made to provide for Bulleen Art and Garden to continue operating from its current site.
- Watsonia Neighbourhood Activity Centre is vulnerable to reduced east-west connection and amenity during construction and operation of the project and design will be central to achieving greater connectivity and an attractive and viable activity centre. This will be achieved by revising the UDS to provide greater direction, together with EPRs, including a business disruption mitigation plan (EPR B1).
- Extending the tunnel (IAC Recommendation 4) is not necessary because my recommendations about the Watsonia Neighbourhood Activity Centre, the revised UDS and a range of the EPRs will control impacts on the centre and the nearby community to an acceptable level.
- The EPRs will control impacts adequately on businesses outside BIP and Watsonia Neighbourhood Activity Centre.

## 6.5 Land use planning

Land use planning impacts are addressed in Chapter 13 and Technical Report E of the EES and aspects of Chapter 4 (Business impacts), Chapter 5 (Social impacts) and Chapter 7 (Visual impact, urban design and landscape) of the IAC Report. Five EPRs deal with land use planning, four of which were the subject of recommendations by the IAC.

### Evaluation objective

*To manage effects of the project on land use and the social fabric of the community with regard to wellbeing, community cohesion, business functionality and access to goods, services and facilities.*

### Assessment context

The project will traverse land that is subject to seven planning schemes being Banyule, Boroondara, Manningham, Nillumbik, Whitehorse, Whittlesea and Yarra. The planning schemes will require an amendment for the project to proceed (or a multitude of planning permits). Land uses within and surrounding the project boundary include residential, industrial, commercial, open space, educational, community and cultural. Land use planning impacts from the project are intrinsically linked with social impacts, business impacts, and visual impacts, urban design and landscape. However, the main impacts of the project on land use planning are:

- consistency with planning policy;

- land acquisition impacts, particularly in relation to the BIP and residential properties (also see Section 6.4);
- impacts on the Watsonia Neighbourhood Activity Centre, particularly during construction (see Section 6.4);
- impacts on amenity and wellbeing arising from changes in outlook, traffic, noise, vibration and dust (see sections 6.1, 6.2, 6.3, 6.7, 6.8 and 6.15);
- impacts on parkland and open space, including the Yarra River and its parklands, during construction or from permanent loss (see Section 6.3);
- impacts on sport and recreation facilities during construction or from permanent loss (see Section 6.3); and
- impacts on schools and associated sporting facilities (see Section 6.3).

The project has broad strategic support in planning policies, including *Plan Melbourne 2017-2050* (Plan Melbourne) and the Planning Policy Framework. However, a key challenge for the project is balancing transport-related policies with other planning policies in the context of integrated decision making.

Plan Melbourne identifies the project as a potential transport infrastructure project (subject to Infrastructure Victoria advice and Victorian Government approval) to improve the efficiency of the motorway network by completing the missing link between the Eastern Freeway and M80 Ring Road. The project is expected to contribute to Outcome 3 of Plan Melbourne that *Melbourne has an integrated transport system that connects people to jobs and services and goods to market*.

In 2016, Infrastructure Victoria released *Victoria’s 30-year Infrastructure Strategy* identifying the project as a short to medium term initiative to *build new transport links to enhance the accessibility of the major employment centres and increase the capacity and connectivity of Victoria’s freight transportation network*.

In October 2017, the Victorian Government released its *Victorian Infrastructure Plan*, which responds to Infrastructure Victoria’s 30-year infrastructure strategy. The government supported Infrastructure Victoria’s recommendations about the project and committed to funding for development to procurement.

## Discussion

### *Strategic assessment of the project*

As set out in the Victoria Planning Provisions, the role of planning is to achieve an acceptable balance between competing objectives in favour of net community benefit and sustainable development for the benefit of present and future generations. While I am satisfied that the project is expected to deliver a range of significant, positive transport outcomes, I accept the comments of the IAC that it is equally important to consider planning policies relevant to economic development, environment and landscape values, open space, and urban design and amenity. Having carefully considered these competing objectives, I am satisfied that, provided the recommendations of this assessment are implemented during its design and delivery, the project will achieve acceptable land use planning outcomes and deliver a net community benefit.

### *Yarra River and its surrounds*

The significance of the Yarra River and its surrounds is recognised in legislation and planning policies. The Victorian Government released the *Yarra River Action Plan* in February 2017 setting out actions to ensure the long-term protection of the Yarra River and its surrounds. This was followed by the Yarra River Protection (Willip-gin Birrarung Murrn) Act, which provides for the management and protection of the Yarra River and its parklands as one living and integrated natural entity. In line with the *Yarra River Action Plan*, Melbourne Water is currently preparing the Yarra Strategic Plan to provide an overarching plan for the length of the river and DELWP is preparing a complementary land use framework plan for the Yarra River – Bulleen Precinct.



I agree with the comments of the IAC that regardless of whether the Yarra River Protection (Willip-gin Birrarung Murrong) Act applies to the project, the significance of the Yarra River and its surrounds warrants further consideration of that act together with the Cultural Values Assessment Report prepared by Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation and the Yarra Strategic Plan (when released). On this basis I support the IAC’s recommendation that the UDS for the project should be informed by, and respond to, these documents (IAC Recommendation 22). I also support in principle the IAC’s recommended changes to EPR LP3 to ensure the project is designed to minimise inconsistency with strategic land use plans.

I am satisfied that the project will be consistent with the intent of legislation and planning policies to protect the Yarra River and its surrounds through the following measures:

- tunnelling under the Yarra River;
- providing replacement passive open space;
- implementing the IAC’s recommended changes to EPRs LP1 and LP3 where these changes are supported by my assessment;
- implementing an approved Cultural Heritage Management Plan; and
- implementing the suite of EPRs related to flora and fauna, groundwater and surface water.

#### *Bulleen Industrial Precinct*

The business and social impacts of the project on the BIP community are significant and are summarised in Section 6.4. The acquisition of land in BIP for project infrastructure will also result in the permanent loss of industrial land in the region. Planning policy seeks to ensure the availability of land for industrial purposes and, while BIP is not identified as a state significant industrial precinct, it is the primary area of industrial land in Manningham and is a valuable part of eastern Melbourne’s industrial land supply.

I accept that the construction of the project requires the permanent acquisition of industrial land at the BIP. To reduce the impacts of this loss, I support in principle the IAC’s recommended changes to EPRs LP1 and LP3 to minimise the project footprint and maximise the post-construction developable area (IAC Recommendation 7a). I also support the investigation of opportunities to replace some of the industrial land in a new location, subject to separate planning processes.

On 23 October 2019, the Mayor of MCC wrote to me seeking my support for, and consideration of, its proposal to investigate the opportunity to develop land at 2-14 Websters Road, Templestowe as a future employment precinct to mitigate impacts of the project on BIP. This proposal was also raised during the IAC hearing and the council and the proponent adopted a common position that the land should be explored as a potential relocation site. The council-owned land is zoned Public Use Zone 6 (Local Government) and is currently used as a garden waste recycling centre. I note that the proposal would result in the development of land for commercial or industrial purposes outside the Urban Growth Boundary. However, I support the investigation of alternative locations, including Websters Road, that would enable the continuation of suitable industrial or commercial land uses. I expect the proponent to work closely with MCC to investigate all possible options including any planning assessment processes that may be required to make new land available for development in a timely manner.

I agree with the IAC that re-establishing employment land use, including industrial uses, in the Manningham Road Interchange area is an important objective. As discussed in Section 6.2, I also support the use of a revised UDS to provide greater certainty for the future of this area. I consider that this approach will maximise post-construction opportunities. I note that the draft *Yarra River – Bulleen Precinct Land Use Framework Plan (2019)* (draft framework plan) has been exhibited and an advisory committee will consider the plan and submissions after the completion of this assessment. The draft framework plan recommended a renewal of community and employment uses in BIP, where suitable, following construction of the project. This work will help inform the future land use options for the interchange area.

## Assessment

- The project has broad strategic support in planning policies including Plan Melbourne and the Planning Policy Framework.
- I acknowledge the significance of the Yarra River and its surrounds and I support the IAC’s recommendation to refine the exhibited version of the UDS to respond to legislation and planning policies to protect the Yarra River (IAC Recommendation 22).
- I support in principle the IAC’s recommended changes to EPR LP1 to create opportunities for a meaningful reduction in the construction and design footprint to avoid both temporary and permanent impacts on land uses, including the BIP.
- The Manningham Road Interchange design should maximise the return of residual land for employment, including industrial land uses (IAC Recommendation 7a). I consider that the IAC’s recommended changes to EPRs LP1 and LP3 together with the urban design requirements for the project can provide a foundation for further strategic land use planning in this location.
- I support further investigation of alternative locations for replacement commercial and industrial land, such as Websters Road in Templestowe, as well as other alternative industrial locations that may offer opportunities for the continuation of BIP businesses. The proponent, as a representative of the state, should work in consultation with MCC in relation to the council land in Websters Road (IAC Recommendation 12).

## 6.6 Biodiversity

Biodiversity impacts are addressed in Chapter 25 and Appendix Q of the EES, with arboriculture and tree canopy addressed in Chapter 15 and Technical report G. Chapter 6 of the IAC report considers the impacts and submissions made on these matters. The proponent offered three arboriculture EPRs and nine flora and fauna EPRs. All of the arboriculture EPRs were subject to amendment by the IAC, while eight of the flora and fauna EPRs saw changes from the IAC. The IAC also proposed an additional flora and fauna EPR.

### Evaluation objective

*To avoid or minimise adverse effects on vegetation (including remnant, planted and regenerated) listed rare and threatened species and ecological communities, habitat for listed threatened species, listed migratory species and other protected flora and fauna, and address offset requirements for residual environmental effects, consistent with relevant State policies.*

### Assessment context

The project traverses a highly urbanised environment. Remnant, or re-established, native vegetation is fragmented and described by the proponent in its EES as ranging from poor to moderate condition. Nevertheless, significant biodiversity values remain in the area, particularly along the Yarra River floodplain and Koonung and Banyule Creeks, and within Simpson Barracks. These areas include protected flora species and communities and provide habitat for many fauna species protected under the *Flora and Fauna Guarantee Act 1988* (FFG Act) and/or listed on the DELWP advisory lists.

The IAC identified five key issues relevant to the assessment of biodiversity impacts:

- whether there is enough information before the IAC to assess the ecological impacts of the reference design;
- whether sufficient measures have been taken to avoid and minimise ecological impacts;
- whether proposed mitigation measures, particularly for impacts to the Studley Park Gum and the Matted Flax-lily, are acceptable;
- whether the proposed offsets are acceptable and achievable; and
- whether the EPRs require more prescriptive requirements, particularly in relation to groundwater dependent ecosystems and tree canopy.

The IAC also made three recommendations pertaining to biodiversity: including the designation of Simpson Barracks as a no-go zone; the requirement for submission of a revised native vegetation removal report incorporating any additional clearance due to relocation of community facilities; and, lastly, the proponent is to acquire all offsets prior to any native vegetation removal occurring.

## Discussion

### *Assessment of ecological impacts*

Biodiversity values were described in the EES with reference to literature, database information and field investigations. As well as measures to avoid, minimise and then offset impacts on biodiversity, the proponent committed to achieving a net gain in canopy cover lost from the project. Canopy cover consists of native vegetation as well as amenity plantings, and its replacement is in conjunction to the proposed 2 to 1 tree replacement ratio.

I agree with the IAC and acknowledge the proposed twin tunnels underneath the Yarra River and its floodplain avoids impacting the most significant habitat corridor in the area. The proponent committed to establishing no-go zones for key sensitive areas (EPR FF2), such as Bolin Bolin Billabong, the Grey-headed Flying Fox campsite within the Yarra Bend Park, the Plains Grassy Woodland community near the Plenty Road Interchange of the M80 Ring Road, and the vegetated portion of the former drive-in site in Bulleen, as well as for surface impacts to Banyule Flats and Warringal Parklands and the Heide Museum of Modern Art.

The IAC heard submissions from the joint BBW and MCC councils that argued that the EES does not provide adequate information to determine the environmental effects, particularly in relation to groundwater dependent ecosystems. The IAC was also informed by DELWP that the EES did not provide sufficient detail with regard to describing the extent of impacts to the Matted Flax-lily, Studley Park Gum, the Arching Flax-Lily and River Swamp Wallaby Grass. The IAC also heard evidence from ecological experts called on behalf of the proponent, the councils, and the Yarra Riverkeeper Association. The evidence supplemented the EES in documenting and considering biodiversity values and potential impacts.

The IAC stated that the ecological experts agreed that the EES comprehensively identified and accurately described the existing ecological values and potential impacts arising from the project area. The IAC acknowledged the joint BBW and MCC councils’ submissions that the EES does not provide an adequate assessment, particularly in relation to groundwater dependent ecosystems. However, the IAC concluded that, for the most part, there was sufficient information before it to assess the effects of the project.

My assessment is that there is sufficient information available to appropriately assess the effects of the project on biodiversity. I consider that, to the extent that the EES was lacking with respect to information, there has been further information provided through the IAC hearing that has provided a proper basis to make an assessment of the nature and extent of likely impacts.

### *Measures to avoid and minimise*

The IAC agreed with the joint BBW and MCC councils’ submission that *it was wholly unsatisfactory that any proposal of the scale of the project would adopt as its starting point the removal of all vegetation within the project boundary*. The IAC concluded that the EES did not demonstrate avoidance and minimisation measures to satisfy the EES evaluation objective. While I appreciate the IAC’s position, I do not agree. Rather, I consider it too great a simplification to equate the assumption that all vegetation is lost as the basis for an impact assessment, with a conclusion that the project has not met avoid and minimise requirements stipulated in both the EES evaluation objective and the state’s native vegetation framework.

To further explain my position, I firstly acknowledge the design specifications, which have substantively avoided the most significant ecological values in the project area through tunnelling under the Yarra River and its floodplain. In addition, EPR FF2 requires the proponent to undertake further avoidance and

minimisation of removal of vegetation through detailed design and EPR LP1 requires minimisation of both the construction and design footprint and avoidance of parks and reserves. EPR FF2 also stipulates a requirement for the proponent to comply with the *Guidelines for the Removal, Destruction or Lopping of Native Vegetation*. These guidelines require a proponent to demonstrate how it avoided and then minimised clearing of native vegetation, prior to DELWP endorsing any proposed offsets. The cumulative effect of these measures provides me with satisfaction the proponent has demonstrated and will continue to demonstrate through the detailed design process, that the project satisfactorily addresses the biodiversity related EES evaluation objective, namely, the principles of avoidance and minimisation.

#### *Removal of and mitigation measures for Matted Flax-lily and Studley Park Gum*

The project as depicted in the reference design would require the removal of a significant quantity of native vegetation, including the removal of significant populations of the species Matted Flax-lily and Studley Park Gum from Simpson Barracks.

The removal of this native vegetation would be a significant environmental impact. However, I do not agree with the IAC that the impact is so significant as to require the designation of Simpson Barracks as a ‘no-go zone’. When considered in the context of the overall benefits of the proposal I do not consider the impact of the clearance to be unacceptable.

The proponent will be required to prepare a salvage and translocation plan for Matted Flax-lily (EPR FF7) and a management framework for Studley Park Gum (EPR FF10) as mitigation measures to reduce impacts from the project on these species. I have concluded that salvage and translocation is an acceptable process by which to mitigate project impacts on these species. During the hearing, the proponent stated that *translocation measures for Matted Flax-lily are recognised as a successful and viable method to reduce residual impacts*.<sup>24</sup> The proponent also referenced ecology experts, representing both the proponent and MCC during the hearing, as agreeing that *there have been many hundreds – if not thousands – of successfully translocated Matted Flax-lily plants in Victoria*.<sup>25</sup> I also note that the Commonwealth Species Profile and Threats Database (referenced in the EES) supports translocation and states *the rhizomatous nature of Matted Flax-lilies allows plants to be translocated*.

Nevertheless, the efficacy of these mitigation measures was raised by submitters and the IAC was not comfortable they would adequately mitigate the impacts, citing agreement between the ecological experts that there is currently no evidence of successful reproduction in translocated populations of Matted Flax-lily.

While I acknowledge these concerns, I do not consider that uncertainty as to the potential for successful reproduction in translocated populations of Matted Flax-lily substantially reduces the value of this practice. Further, I consider that the chances of successful translocation can be maximised by way of EPR FF7, which requires the proponent to prepare the translocation plan to the satisfaction of DELWP and the Commonwealth Department of Environment and Energy.

Furthermore, EPR FF7 will ensure the translocation plan implemented by the proponent only considers approved translocation sites and includes measurable survivorship targets that the proponent must achieve. Additionally, the updated draft translocation plan tabled during the hearing stipulates contingency measures if the survivorship target is not achieved on an annual basis, for up to ten years post-planting. Contingency measures include retention of a sufficient number of clones in the nursery to replace any losses at the recipient sites to ensure 100 percent genetic survivorship of salvaged material.

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<sup>24</sup> Tabled document 133.

<sup>25</sup> Tabled document 434.

The Studley Park Gum is not listed as threatened under the EPBC Act or the FFG Act, and according to the BBW council’s ecology expert, it *cannot truly be regarded as threatened with extinction because both parent species are abundant and the hybrid could arise sporadically or from deliberate cross-pollination even if every existing one were to die.*<sup>26</sup> I also accept the proponent’s submission that *there is now more known about this hybrid than ever before, due to efforts made by the proponent to understand the project’s impacts upon it.*<sup>27</sup> Additionally, given the species’ lack of listing under either Commonwealth or State legislation, the management framework (EPR FF10), is beyond the legislative requirements for a species not listed as threatened.

I am therefore comfortable that EPR FF7 and EPR FF10 constitute an appropriate way of mitigating the impacts caused by the clearance of Matted Flax-lily and Studley Park Gum within Simpson Barracks.

The IAC also heard submissions from the joint BBW and MCC councils that the Matted Flax-lily and Studley Park Gum have not been offset, but rather the proponent committed to preparing a salvage and translocation plan and management framework for the two species. This led the IAC to express the view that such plans should not be considered as offsets. I agree that translocation is not a form of offset, and I have not considered it to be equivalent to an offset. However, I do not accept that this means that translocation is not an appropriate and effective tool to mitigate impacts.

The IAC also acknowledged that there was no dispute that native vegetation loss could potentially be mitigated through provision of offsets in accordance with the Victorian *Guidelines for the removal, destruction or lopping of native vegetation*. I agree with the IAC’s statement on the role of offsets in mitigation and draw attention to EPR FF2 which requires the proponent to offset all native vegetation cleared in accordance with the Guidelines.

In accordance with EPR FF2, the offset requirements presented in the draft Native Vegetation Removal Report<sup>28</sup> in the EES (and in the revised version presented during the public hearing<sup>29</sup>), includes consideration of all vegetation within the Simpson Barracks. The draft report does not ascribe specific offset requirements for these species, as they do not meet the disturbance threshold of modelled habitat within the project area for species-specific offsets.

The proposed plans stipulated in EPR FF7 and EPR FF10 should be considered as mitigation measures which are in addition to any offset requirements required by the Guidelines. Consequently, I am satisfied that; in securing all required offsets (having regard to the IAC’s acknowledgement that such process could mitigate native vegetation loss), along with implementation of the proposed translocation plans for these species, as well as the continuing work to further avoid and minimise disturbance as per EPR LV1 and EPR FF2, the impacts to these species are acceptable.

I therefore do not agree with IAC Recommendation 15 and do not support designating Simpson Barracks as a ‘no-go zone’. I do not consider that the environmental impacts are so significant as to require this outcome.

### *Offsets*

The IAC recommended the proponent submit an updated native vegetation removal report to DELWP once detailed design is complete, to amend and finalise the required offsets (IAC Recommendation 16). I support

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<sup>26</sup> Tabled document 28f.

<sup>27</sup> Tabled document 434.

<sup>28</sup> Appendix J of EES Technical Appendix Q.

<sup>29</sup> Tabled document 93a.

this recommendation, and the need to ensure final offset calculations include any vegetation clearance required to deliver additional works and projects necessitated as mitigation for project impacts.

The IAC also reiterated the importance of securing all offsets prior to any clearance for the project, including clearance required for construction sites (IAC Recommendation 17). I generally agree with this sentiment, however, I believe it appropriate that while the total offset requirement must be determined up-front by a project, it is not necessary to secure all such offsets prior to any clearance. Rather, I think it would be acceptable for offsets to be secured in stages before any corresponding removal of native vegetation occurs.

#### *Additional works and projects*

The IAC raised concerns about unassessed biodiversity impacts arising from additional works to relocate active open space and community facilities to new locations that might be required to mitigate impacts from the project. The IAC recommended a revised native vegetation removal report be provided to DELWP that includes native vegetation impacted by such works (IAC Recommendation 16). I agree with this recommendation.

#### *Groundwater dependent ecosystems*

Discussion regarding groundwater dependent ecosystems, particularly Bolin Bolin Billabong, focused on predictions of groundwater drawdown and the subsequent reduction in aquatic habitat as well as negative impacts on large trees that access groundwater, such as River Red Gums and Studley Park Gums.

Irrespective of the commentary regarding the appropriateness of the groundwater model, and its ability to predict potential groundwater drawdown (see Section 6.9), I am satisfied that following implementation of the IAC’s recommendations, EPR FF6 and EPR GW2 will mitigate impacts to groundwater dependent ecosystems, such as Bolin Bolin Billabong or large trees, to an acceptable level. The efficacy of EPR FF6 is particularly strengthened by the IAC’s proposed inclusion of parameters to be monitored prior to construction. I support these recommendations. I note the IAC’s key conclusion on this issue, that groundwater dependent ecosystems can be monitored and managed through the EPRs. I agree.

#### *Terrestrial fauna impacts*

The IAC specifically commented upon potential impacts to Swift Parrot, Powerful Owl and Grey-headed Flying Fox, while acknowledging they would be minimal in nature. Despite its conclusion of minimal impacts, the IAC recommended ascribing ‘no-go zone’ status to the high habitat value trees for Swift Parrot at Macleod Railway Station. The EES suggested minor impacts to these trees, such as pruning, may be necessary for safe access to signal boxes. While I agree that every effort should be made to protect these trees, I do not support amending EPR FF2 to include them as a ‘no-go zone’ given the nature of the potential impacts to these trees described in the EES.

Regarding terrestrial fauna more generally, the IAC concluded that while the project will further fragment habitat and reduce future opportunities to enhance connectivity of increasingly rare habitat within an urban environment, it did not believe this would lead to a decline in any specific fauna species. I support this conclusion.

The IAC also recommended a kangaroo management plan be prepared in response to the Eastern Grey Kangaroo population in Simpson Barracks, and kangaroos around the M80 intersection during construction. I agree with this recommendation.

#### *Aquatic habitats*

The IAC concluded that impacts on aquatic environments would not be significant and accepted the proponent’s assessment that the project will not have adverse impacts on aquatic habitat beyond some

localised impacts. The IAC also noted that listed aquatic species mostly occur within the Yarra River, not Banyule or Koonung creeks, and impacts to such species will therefore be confined. I agree with the IAC’s findings.

#### *Native vegetation*

Eighteen ecological vegetation classes (EVCs) were recorded within the project area, all of which are considered either ‘endangered’ or ‘vulnerable’, except for Riparian Forest and Grassy Dry Forest (both considered ‘least concern’) and Tall Marsh which is not listed. The EES identifies a maximum extent of 52.11ha of these EVCs to be cleared.

As stated above, I acknowledge that the potential native vegetation loss is presented in the EES as a conservative worst-case assessment, which is anticipated to be reduced through the detailed design process, in line with EPR LP1 and EPR FF2.

While I expect the proponent will reduce the total area of native vegetation to be cleared, I conversely expect that there will be no losses of native vegetation, including large remnant trees, beyond those explicitly documented in the EES. I would not support a detailed design that resulted in any further material loss of native vegetation.

#### *Arboriculture*

The IAC acknowledged an ongoing challenge for Melbourne is its loss of urban tree canopy: with nearly 5% reduction in tree cover from 2014 to 2018. The IAC stated the loss of 25,947 amenity planted trees and the associated canopy cover will be a significant impact of the project. I agree with this conclusion.

The IAC recorded dissent among submitters as to how the total number of amenity trees was calculated, and the IAC agrees with the councils that depending on the method used, the tree count numbers may be an underestimate.

I have concluded that the approach taken in the EES to counting trees is appropriate. The EES does not count the loss of trees that are less than 3m high. The use of a 3m minimum height to identify trees is consistent with the definition of a tree in the Victorian *Guidelines for the removal, destruction or lopping of native vegetation*, and is commonly applied in arboriculture and biodiversity assessments. I am comfortable it is a reasonable criterion for the proponent to have employed and acknowledge the assessment was undertaken by consultant arborists with a minimum Australian Qualification Framework Level 5 in arboriculture. The IAC continued, stating that understorey plantings should also be accounted for in the tree canopy replacement plan described in EPR AR3. I don’t agree it would be unacceptable if the proponent did not undertake understory plantings, however on balance, I consider it may be appropriate to undertake such plantings for replacement areas within the project area only, where feasible, as per my recommendation in Appendix A.

The IAC also described the difficulties facing the proponent in implementing a tree canopy replacement plan, given the limited space available in the corridor. The IAC modified EPR AR3 to include a hierarchy for replacing canopy, whereby the top priority is within the project area and a descending priority is given with increasing distance from the project area. I agree with this recommendation, as it will be important for the proponent to identify areas of disturbance which can be revegetated as a matter of preference to undisturbed areas removed from the project area within the municipalities. Furthermore, the IAC emphasised the need for replacement planting to commence as soon as possible given the lag that will be experienced as the planted vegetation matures. I agree with the IAC and encourage the proponent to implement the tree canopy replacement program as a matter of urgency. Additionally, I would expect the proponent to, wherever possible, progressively rehabilitate areas of the project area as construction is completed, which should include implementation of EPR AR3 where practicable.

The Bridge Street River Red Gum was the subject of a large number of submissions requesting the protection of this tree, and the IAC particularly noted the submission from the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Council and National Trust, among others, all seeking the tree be retained. The IAC acknowledged the principle value of this tree is the intrinsic social significance, rather than ecological values. I agree with this assessment, hence the impact of the loss of this tree is discussed in Section 6.3.

I also note the matter of cumulative impacts was raised in the public hearing. I have considered this matter and it does not change my overall conclusions. The cumulative impacts are not unacceptable.

### **Assessment**

- The impacts on native vegetation are significant but acceptable. However, every effort should be made to minimise the actual disturbance of native vegetation through detailed design and sympathetic work practices. Vegetation disturbance beyond that described in the EES is not endorsed by this assessment and would not be considered acceptable to me.
- I do not support the IACs recommendation to include Simpson Barracks and the trees adjacent to Macleod Railway Station as ‘no-go zones’.
- While terrestrial fauna will be impacted by the project, the impacts are considered minimal following implementation of the EPRs.
- The tree canopy replacement plan is paramount to mitigating the impacts of the lost tree canopy. The recommended inclusion of a hierarchy of planting locations by the IAC provides a good foundation to guide the proponent’s focus for the replacement program. I encourage the proponent to commence plantings as a matter of priority, and to continue progressively throughout construction.
- In general, the project can be constructed and operated with acceptable impacts on biodiversity values, subject to implementation of the recommendations of the IAC endorsed and/or refined through this assessment.

## **6.7 Noise and vibration**

Noise and vibration impacts are addressed in chapters 11 and 12 of the EES, which were informed by Technical Reports C and D. Chapter 8 of the IAC report considered the impacts and submissions made on these matters. Fourteen EPRs deal with noise and vibration, a number of which were subject to recommendations by the IAC. The IAC also proposed two new EPRs.

### **Evaluation objective**

*To minimise adverse air quality, noise and vibration effects on the health and amenity of nearby residents, local communities and road users during both construction and operation of the project.*

### **Assessment context**

The project will generate noise during operation either through direct, reflected or reverberated noise from elevated roads and interchanges, breakout noise from tunnel portals other openings or enclosed structures, or tyre interface with the road or engine brake noise. The project will also generate noise and to a lesser extent vibration during construction. The impact of this noise and vibration will vary accordingly to the proximity to sensitive receivers, the overall duration of construction works, the time at which the works are undertaken and the character of the noise and vibration emissions.

Noise and vibration impacts can affect the amenity of receptors, and long-term sleep disturbance due to traffic noise can also contribute to adverse health outcomes. Vibration can also result in structural damage to infrastructure, through ground borne vibration or regenerated noise, or as a result of soil settlement. There is also the potential for noise and vibration to adversely impact wildlife in the Banyule Flats and Yarra River Corridor (see Section 6.6).



The IAC identified the key issues relevant to the assessment of noise and vibration impacts. For construction noise and vibration, they are:

- management of construction noise impacts to residential areas and non-residential areas especially in relation to unavoidable works;
- whether construction noise level targets for active open space shown in the EPR NV4 are suitable for school recreational grounds; and
- vibration effects to residential and sensitive non-residential properties.

For operational traffic noise, the IAC’s key issues are:

- road traffic noise limits to residential areas and whether a night-time limit is warranted;
- road traffic noise limits to upper storeys of residential building;
- the application of at-property treatments and relevant noise targets when such treatments are installed;
- road traffic noise to non-residential areas including schools and private and public recreation areas and open space;
- noise modelling of non-project roads to achieve traffic noise objectives;
- the appropriate maintenance period for operational noise; and
- whether on going, real-time noise monitoring in the operational phase should be installed.

## Discussion

Construction noise and vibration is to be managed in accordance with the Construction Noise and Vibration Management Plan (CNVMP) as required by EPR NV5. The CNVMP is informed by additional EPRs, namely:

- EPR NV4 which sets out the appropriate internal or external noise limits to be achieved;
- EPR NV15 which describes the need for temporary noise walls if permanent noise walls cannot be installed in advance of work and sensitive receptors will be exposed to increased traffic noise over extended periods of time;
- EPRs NV7 and NV10-14 which set out the appropriate vibration values to protect properties and amenity; and
- EPR NV16 which requires the proponent to implement measures to reduce use of engine brakes although not limited to construction, will be particularly important during this time, given the construction timeframe and the substantial spoil movement outside normal working hours.

Operational noise and vibration is to be managed in accordance with NV1 and NV2 which set out the external traffic noise levels to be achieved at sensitive receptors, as well as public open space and recreational grounds. Assessment of compliance against these traffic noise levels are implemented through EPRs NV3 and NV6. Compliance against SEPP N-1 for fixed infrastructure and the tunnel ventilation system is managed through EPRs NV8 and NV9.

### *Construction vibration*

Vibration will be generated during the construction of main tunnels, cross passages and portal dive structures. The IAC noted that the construction vibration thresholds for building damage and human comfort were not questioned by any party. Operation of TBMs to excavate the tunnels will be the primary cause of vibration with the degree of vibration experienced at the surface influenced by the operating power of the TBM, its depth and the nature of the intervening rock and soil. As well as being directly perceived, vibration can be manifest inside buildings as regenerated noise.

As the vibration EPRs are biased towards human comfort criteria I am satisfied that the EPRs will limit structural damage to infrastructure around or above the tunnel alignment. Specific sensitivity exists with services, such as stormwater assets, which given their age, may well be more susceptible to vibration damage. The IAC also heard from Heide Museum of Modern Art and in response, the proponent accepted

that reference to the Heide Museum of Modern Art be included within EPR NV10 to protect the integrity of the building and its internal art collection as well as outdoor sculptures.

The IAC noted concerns raised in submissions regarding rectification of building damage caused by vibration. I am satisfied that this will be addressed through EPR GM2 which requires baseline monitoring within susceptible areas and identification of appropriate mitigation measures.

The EES refers to a high number of receivers that may fall within the safe working distances for vibration intensive plant equipment due to proximity to large rock-breakers and vibrating rollers. More detailed assessment and vibration monitoring as part of the final design will inform the need for mitigation measures and management controls during this period of construction, I am satisfied that the vibration and regenerated noise levels produced will be perceptible but generally acceptable and manageable and will be appropriately managed through EPR NV7 and EPRs NV10 – NV14.

#### *Construction noise*

Construction noise will be generated through a range of equipment and associated activities, including conventional road construction equipment for roads and ramps, such as rock-breakers, earth moving, piling equipment, paving plant, and cranes as well as the equipment specific to tunnel construction. Additional noise will be generated at construction compounds and through the movement of spoil trucks. The EES notes that the duration of noise generating construction activities will vary from site to site, but indicative timeframes range from one month up to three years, with mined tunnelling (tunnelling, spoil handling and tunnel lining) having the longest duration of up to 36 months.<sup>30</sup> It is inevitable that some works will be undertaken outside normal hours, at some sites, including the delivery of oversized and precast items to construction sites and crane lifts which require lane closures, which otherwise would create major congestion problems during the day. The proponent has adopted a combination of noise limits derived from EPA publication 1254 *Noise Control Guidelines (2008)* and EPA publication 480 *Environmental Guidelines for Major Construction Sites (1996)* as EPR NV4 to address after hour works. The IAC did not propose any changes to these limits other than to comment on the description of unavoidable works which is discussed further below. I am satisfied that EPR NV4 are the appropriate limits to manage construction noise impacts. I note they are consistent with those adopted in other infrastructure projects.

#### *Construction noise – unavoidable works*

The IAC heard submissions from EPA and councils and has supported their view that ‘unavoidable works’ should not be predefined. I agree that this approach is appropriate. It is also consistent with that taken on previous projects including West Gate Tunnel and Melbourne Metro project. In conjunction with the need to develop a clear rationale for unavoidable works, I am satisfied that the prior approval of the independent environmental auditor will ensure that unavoidable works will be appropriately managed.

The IAC specifically referred to the construction noise impacts on residents in the vicinity of Borlase Reserve, given the proponent’s proposal to utilise this reserve as a potential TBM support site. The IAC indicated that if the independent auditor supports the proponent’s view that TBM support activities are unavoidable works, then it has significant reservations that even with EPR NV4, the proposed mitigation measures would be feasible or reasonable.

Based on evidence provided by the proponent’s expert witness, Mr Tardio, the IAC has acknowledged that additional mitigation measures would still be required for unavoidable works. Further to the standard mitigation measures such as shielding, use of non-tonal reversing alarms, scheduling very noise works to be

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<sup>30</sup> Table 8-1 in EES Technical Appendix C.

completed before 11.00pm etc, the EES described options for respite offers and alternative accommodation.<sup>31</sup>

I acknowledge alternative accommodation as a mitigation measure is not always viable or practical over extended durations nor does it contemplate the social dislocation that could occur. I therefore support the IAC’s findings that a voluntary acquisition scheme be developed that would support affected residential properties (see further discussion in Section 6.3).

The IAC further indicates that whilst the EES describes the additional mitigation measures, it does not provide a transparent framework for affected residents. The IAC has recommended changes to EPR NV5 to include the development of such a framework, to be approved by the independent auditor, and to include noise level thresholds and details of mitigation measures. I support the IAC’s recommendation.

The IAC has recommended that the Borlase Reserve be excluded as a TBM launch/retrieval site given the impact on amenity from noise, dust and spoil haulage (IAC Recommendation 5). From a noise impact perspective, I note that the definition of unavoidable support works within EPR NV4, indicates defined activities such as spoil treatment facilities which would typically be enclosed within specially designed acoustic sheds as reflected in the indicative layout of the compound near Borlase Reserve presented at the hearing.<sup>32</sup> Whilst this activity would operate continuously, it does not necessarily follow that all activities associated with the support site would similarly operate continuously.

Hence, in contrast to the IAC, I am confident that the noise impacts associated with fixed infrastructure at this location can be managed through a combination of siting, acoustic enclosures, and restrictions on some activities particularly during night time hours. This would be managed through EPRs NV4, NV5 and NV15 and informed by a more accurate understanding of the detailed design and construction schedule.

However, for clarity, and consistency with the relevant guidelines and standards, I recommend the following minor changes to EPR NV4:

- that in relation to sensitive receptors, the construction noise guideline targets apply to construction works and construction compounds.
- in referencing Australian Standard AS/NZS 2107 within EPR N3, the standard does not refer to maximum recommended sound levels but upper levels (e.g. when the sound level is greater than the upper level of the range most people occupying the space will become dissatisfied with the level of sound). This correction should be made to avoid any misinterpretation.<sup>33</sup>
- Where any reference is made to the rating background level (RBL) or background LA90; the ‘average background’ applies to each discrete time period to ensure that averaging does not necessarily occur over day, evening or night-time hours. For example, background noise between 0100 and 0400 may be substantially different to that between 2200 and 0100 and hence should not be averaged over the entire night time period. Averaging is only specified in SEPP N-1 and does not apply to construction noise assessments.

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<sup>31</sup> Tables F-8 and F-9 in EES Technical Appendix C.

<sup>32</sup> Tabled document 166.

<sup>33</sup> AS/NZS 2107 is also referenced in EPR NV8 and uses the terms maximum and satisfactory as opposed to upper and lower. Maximum and satisfactory was terminology utilised in the earlier version of this standard. *When the sound level is below the lower level of the range, the inadequacy of background sound to provide masking sound can become problematic, for example, by allowing other intermittent noise sources to cause distraction, annoyance, or lack of privacy.* All references to maximum and satisfactory should be amended in EPR NV4 and NV8.

Having said all of the above, I acknowledge the IAC’s concerns and the difficulty of managing the movement of spoil vehicles which are intended to operate continuously. Whilst it is recognised that unloading and loading areas can be shielded, the ability to minimise the disturbance to local residents once the vehicles have left the construction compound is considerably restrained.

#### *Construction noise – school recreational grounds*

It was accepted by the proponent that any buildings on school recreational grounds that are used for teaching purposes should be included as ‘classrooms’ and an internal noise level of 45 dB(A)  $L_{Aeq, 15 \text{ min}}$  applied when the classrooms are in use. However, the IAC received further submissions from the schools located near the proposed Bulleen Interchange, regarding the impact of construction noise on active and passive recreational areas and, where grounds involved teaching related activities.

The IAC supported Carey’s submission that recreational grounds could be used for teaching purposes and that subsequently the construction noise management levels for passive recreation should apply to all school grounds along the project alignment. The construction noise management levels applied to non-residential receptors described within the EES<sup>34</sup> and adopted by the proponent in EPR NV4 are from the NSW Interim Construction Noise Guidelines (INCG) 2009.<sup>35</sup> These guidelines indicate that in identifying sensitive land uses, passive recreation areas such as outdoor grounds used for teaching should be considered and, hence, I therefore support the IAC’s findings that the construction noise management levels for passive recreation areas should apply to school grounds along the project alignment.

Whilst I support the amendment to EPR NV4, I also recognise that mitigation across school grounds, consistent with the INCG should be subject to ‘reasonable’ and ‘feasible’ which may include consideration of the cost of noise mitigation, the form of the additional measures provided, and the practicality of installing such mitigation measures and their visual impact.

The IAC noted that the proponent confirmed that modelling of noise impacts on school grounds would need to be undertaken as directed by EPR NV5 and as part of the preparation of the construction noise and vibration plan (CNVMP). It is my view that in the case of school grounds used for both teaching purposes and active recreational activities that if a substantial area of the grounds meets the more passive noise management level, then this should accommodate the teaching component.<sup>36</sup> I recommend that the proponent engages with the affected schools to designate the most sensitive areas where teaching occurs within the sporting grounds to support the joint development of a mitigation plan that meets the intent of EPR NV4.

#### *Operational noise – fixed infrastructure*

Noise from fixed structures such as ventilation structures and electrical substations will occur continuously. All except two of the electrical substations will be sited underground within dedicated acoustically treated spaces. Noise from fixed structures will be managed by EPR NV8 and EPR NV9. The IAC proposed amendments for clarity to address the changes in the environmental regulatory environment and to address existing areas where background noise levels may be high. I support the IAC’s changes.

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<sup>34</sup> Table 4-5 in EES Technical Appendix C.

<sup>35</sup> Table 3 in NSW Interim Construction Noise Guidelines (INCG) 2009.

<sup>36</sup> South Australia, Department of Planning, Transport and Infrastructure Road Traffic Noise Guidelines (2002) include the statement that *teaching areas within schools may include an outdoor space provided there are no alternative quiet locations for that space.*

*Operational noise –traffic*

The proponent argued that the limits in the VicRoads Traffic Noise Reduction Policy (TNRP) should apply to the project. However, there was criticism of TNRP on the basis that it does not represent best practice. The criticisms are largely focussed on the absence of a night time noise limit and the lack of protection for upper storey dwellings. However, the day time noise limit of 63 dB(A)  $L_{eq18hr}$  has not been subject to significant criticism and it is my assessment that this remains an appropriate measure by which to protect residential amenity in day time periods.

Of the two comparable major road projects that have been assessed in recent years, each successive inquiry raised specific concerns.

- East West (Eastern Section) Project Assessment Committee Report (May 2014, pg. 215)  
The Committee had reservations about the appropriateness of a strict application of the noise limits of the TNRP.
- West Gate Tunnel Inquiry and Advisory Committee Report (October 2017, pg. 115)  
There was significant discussion around the age of this policy (the TNRP) at the hearing and it was noted that a substantive review was commenced several years ago but not finalised. The IAC considered that it would be useful for VicRoads to complete a thorough review of the policy and consider the evidence and matters discuss in its report and in the panel report for the East-West Link Project. The IAC also considered that it was not bound by VicRoads’ TNRP in determining what would be appropriate environmental performance requirements to manage the overall effects of the project.

In my Minister’s assessment of Mordialloc Bypass, I also stated that it would be desirable for the review that commenced in 2015 to be completed as soon as practicable. It is disappointing that evidence submitted to the hearing by the Department of Transport was that there was no timeframe for such a review to be completed.

Having regard to the material presented to the IAC hearing, and past criticism of the TNRP, I have concluded that it would be appropriate not to strictly apply the TNRP to manage road traffic noise. In particular, I accept the recommendation of the IAC that is necessary to specify a night time noise limit in addition to a day time limit.

The IAC proposed that, a policy document from another state be utilised and recommends consideration be given to adopting the noise targets and methodology of the NSW Road Policy. I have had regard to that view and that policy and that has informed my assessment as to the appropriate standards to apply to this project.

I reiterate my view that a new policy should be developed to assist in decision making for future projects. In the absence of any further action from the Department of Transport, it is perhaps advisable that such policy development is undertaken by other agencies, such as the Environment Protection Agency, to complement their regulation and guidance on industrial and construction noise. If such a policy is not developed, it will continue to be necessary to make decisions about noise control on a project-by-project basis. In my view, it is more appropriate that there is a consistent policy to assist decision makers in this regard. If no such policy is forthcoming, then it is my view that future assessments of traffic noise for any road project will continue to be made more difficult.

*Operational noise – night time noise*

The TNRP does not provide a specific and direct control of night time traffic noise. The IAC considers that adopting a night-time target as a mandatory limit will provide some certainty for residents in areas affected by road traffic noise. I support this recommendation.

The IAC heard evidence that it was not necessary to specify a night time limit given the default levels of protection provided by day time mitigation measures.<sup>37</sup> However, it is my assessment that given the increase in traffic since the inception of the TNRP and the forecast increase in metropolitan freight volumes of 2.6 per cent per year on average between 2014 and 2051,<sup>38</sup> I consider that it is no longer appropriate to accept this implicit control measure for the life of the project. This is consistent with the information provided in the VicRoads discussion paper which cites a shift in freight to evening hours to avoid day-time congestion (based on VicRoads Traffic Report 2012).

The scoping requirements for this project specifically included assessment against the WHO Night Noise Guidelines for Europe (2009). Therefore, the proponent has undertaken an assessment of night time noise exposure in the EES (see Section 9.8, Technical Report C) and concluded that: *...it would not be unreasonable to adopt the continued use of the 55 db(A) free-field, external night-time LAeq guideline target, for assessment purposes...*<sup>39</sup> In addition, in his expert witness statement, the proponent’s noise expert<sup>40</sup> stated that: *...general accordance with the WHO interim recommendation is a good outcome for the project given the context. Further, compliance with the WHO infers that reasonable night noise targets can be met, in lieu of a specific night-time criteria lacking under the VicRoads policy.*

Hence, I am satisfied that any changes in traffic volumes, the increase in the freight task or any significant shift in road travel outside the normal peak periods will be managed through this revised noise objective for the project as recommended by the IAC’s amendments to EPR NV1.

#### *Operational noise – noise mitigation to upper storeys of residential buildings*

The traffic noise objectives as presented by the proponent in EPR NV1 are only applied to the ground level of dwellings, potentially resulting in elevated noise levels at the upper storeys of multi-level buildings.

The IAC heard evidence from the proponent that the need to mitigate upper storeys would result in higher noise walls and the consequential impact on visual amenity. The IAC was also presented by Counsel for BBW councils with Appendix F of the VicRoads *Road Design Note 06-01 Interpretation and application of VicRoads Traffic Noise Reduction Policy 2005*, which states that when considering off-reservation noise attenuation treatment: *all levels of a multi-storey buildings are subject to noise attenuation under Australian Standards and the Policy (the TNRP), which may have significant cost implications. While often only the two most exposed levels of buildings require treatment, noise attenuation of multi-storey buildings should be carefully considered.* Hence, the TNRP does not appear to exclude the option of second storey treatment, it just makes it subject to a test of practicability.

In response to the IAC’s question as to whether health impacts would be lessened if the opportunity was taken by the project to reduce traffic noise, particularly at night, Dr Wright responded *anything that reduces traffic noise, in areas where it is already above the thresholds, will reduce health impacts.*<sup>41</sup> The IAC notes that this is consistent with her support for an EPR to control noise at upper storeys of dwellings.

On the evidence presented, the IAC has recommended that project noise limits should apply to all levels of habitable buildings.

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<sup>37</sup> Tom Evans, verbal evidence at hearing, 15 August 2019.

<sup>38</sup> Freight Victoria Fact Sheet (February 2019).

<sup>39</sup> EES Technical Appendix C, pg 140.

<sup>40</sup> Tabled Document 24d.

<sup>41</sup> Dr J Wright, verbal evidence at hearing, 12 August 2019.

I sympathise with the IAC’s perspective, but I do not support the recommendation. On balance and having considered the material in the IAC’s report and in the EES, I accept the proponent’s position that the need to mitigate upper storeys could result in negative implications for visual amenity and overshadowing. I am not persuaded that departing from the TNRP in this case would result in overall preferable environmental outcomes. I consider the noise management regime in the EMF will manage operational noise impacts for sensitive receptors to an acceptable level.

#### *At property treatment*

At property treatments are to be installed when external traffic noise limits cannot be achieved through project design solutions, such as the installation of noise walls in combination with the use of quieter road pavements.

The hearing canvassed the need for internal noise limits to be specified and achieved. The IAC stated that all noise experts supported the adoption of limits and recommended that internal limits set by the Victorian Better Apartment Design Standards 2016 be adopted for dwellings where at-property mitigation is to be installed. I note that with optimisation of noise walls and other modifications due to design requirements and/or overshadowing, then the number of properties needing treatment may change. I support the inclusion of these limits in EPR NV1. However, due to the age and construction of buildings, there are many features of residential properties that may not make them suitable for treatment (e.g. facades that contain asbestos materials, safety of electrical wiring or personal preferences for architectural styles). Hence, it is my assessment that consultation with affected property owners must be undertaken in the assessment of the practicability of at-property treatment and should only be considered when there is a shortfall in obtaining the project objective noise limits with on-reservation noise walls.

#### *Protection for open space*

Expert evidence was presented to the hearing that there are relatively few locations currently above 63 dB(A)  $L_{eq}$  (30mins) within public open spaces adjacent to the project area. When compared to the do-nothing modelling, the EES predicts that those same public open spaces would generally be exposed to higher noise levels than with the project. That is, the project is generally expected to provide a noise benefit to public open space, compared with the do-nothing scenario. Any increases due to the project are predicted to be largely restricted to within +3dB(A) except in the vicinity of the schools in Bulleen Road, where increases may be up to 5 dB(A), although this does not take into account the acoustic benefit of the flood walls.

The community and the councils raised concerns in the IAC hearing about noise impacts on public open space. To provide certainty to the community that the predicted benefits will be realised, I support the IAC’s recommendations to include a new EPR (NV2) that ensures that the levels predicted in the EES are not exceeded. However, in my view, given the conservative nature of the modelling as presented by the proponent’s expert witness, the inclusion of a +2 dB buffer is not required, particularly as this would effectively correlate to a 60% increase in traffic above EES projections.

#### *Operational noise – whole-of-life considerations of acoustic performance*

There was some discussion in the IAC hearing regarding the longevity of the acoustic performance of the road pavement. The EES assessed noise levels for 10 years post opening, consistent with VicRoads *Road Design Note 06-01* with the expectation that the noise criteria would apply at the time of opening for up to 10 years. However, the noise conclave agreed that the acoustic performance should be maintained for at least 20 years after opening. Mr Butera (a witness called by BBW councils) expressed the view when questioned by the IAC that the noise criteria should align with the life of the noise barriers, indicating that this would be in the order of 25-40 years.

I support the IAC’s recommendation to require the project noise objective levels to be applied at the year of opening, and up to 20 years post opening. This will mean that the growth capacity of the project at

different locations will need to be tested when determining the acoustic life, as opposed to design life, of the barriers.

I also support the need for assessing the long-term performance of the road pavement (NV6). Contrary to the requirements of the TNRP, the project noise objective levels do not include a criterion for retrofit of the pavement either between post opening and 20 years, or after the initial 20-year period.

However, it is impractical to require that any non-compliance or retrofit works could be undertaken and completed within six months, as the remedial works must be carefully planned given the implications for traffic management. It is also not feasible to mandate any particular timeframe, as different parts of the road pavement may deteriorate to a different extent and/or at different rates. It is my view that this timeframe and the criterion for retrofit should be determined by the independent environmental auditor. It is also my view that as an assessment of compliance extends beyond the term of the independent environmental auditor, reporting for compliance should be made to the Minister of Roads or his/her successor.

#### *Operational noise – monitoring requirements.*

The IAC has also recommended that there be permanent ongoing real-time monitoring stations at representative locations, and the provision of data derived from those stations be made available to the public to complement EPR NV2. This is consistent with the noise mapping and online capability that is currently available for Melbourne airport environs. I support this recommendation noting the potential for co-location with ambient air quality monitoring stations and consequently the need to develop such a programme in conjunction with the IREA and key stakeholders, particularly the EPA.

#### *Operational vibration.*

Operational vibration as a result of vehicles using the surface roads is not discussed in the IAC report but based on the EES, it is my understanding that the levels of vibration are anticipated to be well below the threshold of perception in nearby sensitive receivers and accordingly does not warrant any specific management or mitigation.

#### **Assessment**

- I am generally satisfied that the noise and vibration impact of the project have been appropriately assessed as part of the EES.
- The project can be constructed and operated with acceptable construction and operational noise and vibration impacts on health and amenity, subject to implementation of the findings and recommendations of this assessment.
- The impacts of construction vibration can be appropriately managed through EPR NV7 and EPRs NV10–14.
- With the inclusion of specific noise criteria for school recreational grounds and public open space, the potential impacts of construction noise and vibration are acceptable.
- The project traffic noise objectives defined in EPRs NV1, NV2, and NV4 are adequate for the project, provided they are modified to include a night time traffic noise limit, and a retrofit criterion for the road pavement.
- I am satisfied that, with the combination of noise attenuation measures and the revised traffic noise objectives, that the operational noise impacts can be managed at all sensitive receptors without the need to extend the noise limits to upper storeys of residential dwellings.
- I support the IAC’s recommendation for ongoing monitoring of the ambient noise levels as well as assessing the long-term performance of the road pavement, subject to the changes proposed in my assessment.



## 6.8 Air quality and greenhouse gases

Air quality impacts are addressed in Chapter 10 and Technical Report B of the EES with greenhouse gas emissions addressed in Chapter 26 and Technical Report R. Chapter 9 of the IAC report considers the impacts and submissions made on these matters. Five EPRs deal with air quality and three deal with greenhouse gas emissions, of these, four were the subject of recommendations by the IAC. The IAC also proposed an additional EPR for the management of air quality.

### Evaluation objective

*To minimise adverse air quality, noise and vibration effects on the health and amenity of nearby residents, local communities and road users during both construction and operation of the project.*

*To demonstrate that the project will contribute to the need for an effective, integrated and climate change-resilient transport system that provides a wide range of travel choices for all Victorians.*

### Assessment context

The project will impact on air quality through the construction phase, particularly at excavation and spoil management sites, and then through the operation phase. The project will also contribute to greenhouse gas emissions during both the construction and operation phases.

With the project affecting land uses of varying sensitivity to air quality impacts – residential areas, shopping and commercial centres, industrial precincts, parks and sporting facilities – the IAC identified ultrafine particulates and the tunnel ventilation system pollution control equipment as key issues beyond construction impacts.

For greenhouse gas emissions, the IAC considered key issues were:

- whether the greenhouse gas methodology and calculations are fit for purpose for the project; and
- whether the approval mechanisms for the project adequately address greenhouse gas mitigation.

### Discussion

In the current regulatory environment, potentially pollutant air emissions are regulated under the *Environment Protection Act 1970*, which provides for declaration of State Environment Protection Policies (SEPPs). The two SEPPs relevant to air quality are SEPP Ambient Air Quality (AAQ) and SEPP Air Quality Management (AQM). The SEPPs identify pollutants (indicators) of concern and designate objectives and design criteria (standards) for those pollutants to protect beneficial uses of the air environment.

The EES was prepared having regard to these SEPPs, although I note the amended Environment Protection Act will come in to force in July 2020. I expect the proponent will continue to work with EPA to align any project approval documentation or subsequent management plans with the new regulatory regime, as required.

Having heard expert evidence called on behalf of the proponent and from the BBW councils, the IAC concluded it was satisfied the air quality modelling presented in the EES was fit for purpose and of a conservative nature, with the results providing the IAC comfort the air quality impacts from the project will be within acceptable standards. I agree with this assessment.

The IAC recommended air quality monitoring for the project be undertaken with reference to the SEPP (AAQ) environmental quality objectives, given these objectives aim to protect beneficial uses. I agree with this recommendation for the project, and note the IAC considers this should become the standard approach for road projects. I also support the IAC’s recommendation for daily reporting of air quality monitoring data online.

The IAC acknowledged submitters’ concerns for ultrafine particles (particulates less than 0.1 microns, PM<sub>0.1</sub>), while also noting the lack of clear scientific evidence of their risks to human health. Given there are no ambient air quality criteria for ultrafine particulates, it is appropriate that the project will be subject to any new criteria if and when they are developed.

#### *Construction impacts*

The EES characterised the potential impacts of construction as arising from dust, odours and emissions from combustion engines. The EES concluded that potential impacts from construction would be localised, of short duration, and intermittent in nature. The IAC received submissions raising concerns over dust during construction and agreed that there is a real potential for significant impacts to air quality during the project’s construction phase. However, the IAC was satisfied that the potential impacts could be adequately managed through standard construction management techniques. I agree with this assessment.

I consider that EPR AQ1 should also include provision of real-time monitoring of particulate matter to manage dust control. Real-time monitoring can help facilitate an active response to adverse weather events which should serve to minimise dust impacts to sensitive receptors.

Lastly, EPR AQ1 and EPR EMF2 require the proponent to have regard to best practice, I note and agree with EPA’s submission that EPA Publication 480 is no longer best practice. Accordingly, it is my view that the proponent will consider more than just EPA Publication 480 in addressing these EPRs.

#### *Operational impacts*

The EES largely focused on potential impacts arising from vehicle emissions (i.e. Carbon Monoxide, Nitrogen Dioxide (NO<sub>2</sub>), PM<sub>10</sub> and PM<sub>2.5</sub>). The EES stated the environmental quality objectives in relation to the indicators, in the SEPP (AAQ), were used for comparative rather than compliance purposes given the lack of regulatory criteria for roadside locations. As noted above, I agree with the IAC that the proponent should monitor against the environmental quality objectives in SEPP (AAQ)

Surface road emissions were modelled for years 2026 and 2036, and the EES selected 25 roads for modelling, having regard to predicted changes in traffic volumes or types (as described in EES Chapter 9) for the project versus no-project scenarios. The EES found air quality would improve for most of the 25 modelled roads when comparing the project against the no-project scenario, due directly to the reduced traffic volumes forecasted in the modelling. Conversely, decreased air quality was predicted along Dalton Road, Keon Parade, M80 Ring Road, Grimshaw Street, Greensborough Road, Bulleen Road, Eastern Freeway and Middleborough Road due to the modelled increase in traffic volumes, especially increases in heavy commercial vehicles.

As with surface road emissions, the tunnel ventilation system emissions were modelled for years 2026 and 2036. The EES predicted ground level concentrations for all pollutants, except PM<sub>10</sub> and PM<sub>2.5</sub>, to comply with the SEPP (AQM) criteria under each modelling scenario. Both PM<sub>10</sub> and PM<sub>2.5</sub> concentrations were predicted to exceed the SEPP (AQM) criteria due to the already high background concentrations. While I agree these predicted exceedances do not conflict with the intent of the SEPP (AQM), due to the comparatively small contribution from the project compared with existing background levels, I consider they support the IAC’s recommendation of provision for space to allow retrofitting air pollution control equipment on the tunnel ventilation systems.

The IAC found general agreement that improving the standard of vehicle emissions is the best way to reduce emissions and subsequent air quality impacts from combustion engine vehicles. I acknowledge recommendations for such standards are outside the IAC’s role, but I do agree with the IAC’s new EPR requiring the project’s construction vehicle fleet to comply with the Euro V European emission standards.

### *Greenhouse gas emissions*

The IAC received submissions raising concerns about the project’s greenhouse gas emissions. Greenhouse gas emissions were assessed in the EES in accordance with the *National Greenhouse and Energy Reporting Act 2007*. The EES identifies the contractor as responsible for reporting on the project’s energy use and greenhouse gas emissions, if the emissions exceed the levels identified in the National Greenhouse and Energy Reporting Act. The IAC supported the approach taken in the EES to predicting greenhouse gas emissions and I agree with this assessment.

The IAC made a number of edits to EPR SCC2 which seeks to minimise greenhouse gas emissions, in response to EPA’s concerns that the tabled EPRs were too generic and lacked clear targets and objectives for the project. I agree with this recommendation as it provides clarity and greater transparency of the project’s greenhouse gas emissions minimisation goals.

### **Assessment**

- The potential impacts to air quality from project construction should be managed through best practice construction measures, as directed by EPRs AQ1 and EMF2, noting this should not rely solely on EPA Publication 480 for guidance.
- The project should make provision for retrofitting of air pollution control equipment on the tunnel ventilation systems.
- The implementation of the EPRs regarding air quality, consistent with the recommendations of this assessment, will adequately manage potential impacts on air quality from construction and operation for sensitive receptors to an acceptable level.
- The implementation of the EPRs regarding greenhouse gas emissions, consistent with the recommendations of this assessment, will adequately manage greenhouse gas emissions to an acceptable level.

## **6.9 Groundwater**

Groundwater impacts are addressed in Chapter 22 of the EES, as informed by Technical Report N. Chapter 10 of the IAC report considered the impacts and submissions made on these matters. Five EPRs were offered by the proponent to deal with groundwater; three were the subject of recommendations by the IAC.

### **Evaluation objective**

*To avoid or minimise adverse effects on the interconnected surface water, groundwater and floodplain environments.*

### **Assessment context**

According to the EES, only the underground project elements between Watsonia Railway Station and the Southern Portal are likely to change groundwater levels or groundwater flow direction. Changes to groundwater levels could reduce the availability of groundwater for groundwater dependent ecosystems, cause subsidence or initiate oxidation of acid generating materials. Changes in flow direction could also entrain existing contaminated groundwater plumes, with the potential for contamination migrating, or expanding, into hitherto uncontaminated soils. The degree of groundwater change will decrease with distance from the tunnels.

In its assessment of groundwater impacts, the proponent installed a bore network to monitor groundwater levels, conduct aquifer hydraulic testing (slug and constant rate pumping tests) and collect groundwater samples. A numerical model to predict potential changes to groundwater and to inform the assessment was then developed.

Groundwater dependent ecosystems in the project area include terrestrial vegetation, notably swampy and grassy woodlands, and riparian vegetation in association with the following waterways:

- Yarra River, incorporating Banyule Swamp, Bolin Bolin Billabong and Kew Billabong;
- Koonung Creek;
- Plenty River;
- Banyule Creek; and
- Salt Creek.

Potential changes in the location or movement of groundwater contamination due to project-induced changes in groundwater level and flow direction might occur around the historic landfill sites at Borlase Reserve and Bulleen Park. However, the only contaminated groundwater detected during field investigations was petroleum hydrocarbons near the fuel service station at the intersection of Yallambie Road and Greensborough Road, and poly-fluoroalkyl substances (PFAS) at the former Bulleen Drive-in and near Watsonia Railway Station. The EES also noted that another area with the potential for contamination is the Bulleen Industrial Precinct.

### **Discussion**

Based on its modelling of the behaviour of groundwater, known aquifer properties of the project area, and proposed construction techniques, the EES predicts the maximum extent of drawdown will occur as tunnel construction nears completion in 2024. After that, groundwater will gradually reach a new equilibrium.

The IAC heard considerable evidence on the potential effects of the project on groundwater and the adequacy of the proponent’s groundwater model and approach to groundwater management. Ultimately, the IAC found that the proponent’s model was fit for purpose in achieving the EES scoping requirements and the groundwater modelling assessment generally met best practice criteria for a major project. The IAC noted the additional 12 months’ worth of groundwater monitoring data collected since preparation of the EES, that was tabled in the IAC hearing, and accepted the proponent’s submission that the data confirmed the validity of the model. Moreover, the additional data enabled the preparation of a revised groundwater dependent ecosystems assessment, also tabled in the IAC hearing.

The IAC considered the groundwater assessment undertaken allows the proponent to establish and manage key environmental aspects across the project with a suitable suite of EPRs for protecting key environmental elements. According to the IAC, the Bolin Bolin Billabong and other billabongs near the project will be impacted most by changes to groundwater. To this end, the proponent said further work has been undertaken and more is planned to gain a greater understanding of the Bolin Bolin Billabong and other GDEs. Accordingly, EPRs GW1, GW2 and FF6 will be important in developing appropriate groundwater monitoring and management plans to respond to changes in groundwater and will effectively implement the IAC’s Recommendation 24.

Beyond the EPRs, Melbourne Water in its submission to the IAC provided detail of the works they are undertaking to reinstate natural watering cycles to Bolin Bolin Billabong. The IAC noted this and commented on other technologies and ameliorative measures that might be implemented if groundwater levels change to adversely impact environmental assets. The IAC found that the EMF in conjunction with the proposed suite of groundwater EPRs are appropriate to understand and manage groundwater risks. I agree.

### **Assessment**

- The groundwater assessment and modelling provide adequate insight into the likely impacts of the project on groundwater.
- The groundwater model will require refinement during detailed design, and this will occur in accordance with the EPRs.

- Application of the suite of groundwater EPRs and FF6 will ensure that impacts of the project on groundwater and groundwater dependent ecosystems can be managed acceptably.

## 6.10 Ground movement

Ground movement impacts are addressed in Chapter 21 of the EES, as informed by Technical Report M. Chapter 10 of the IAC report considered the impacts and submissions made on these matters. Four EPRs were offered by NELP to deal with ground movement; none were subject to recommendations by the IAC.

### Evaluation objective

*To avoid or minimise adverse effects on land stability from project activities, including tunnel construction and river and creek crossings.*

### Assessment context

In the context of the project, ground movement might occur during or following tunnel boring or deep excavation work to construct the trench and cut and cover tunnel sections. The ground movement impact assessment included in the EES considered the geological and hydrogeological conditions within the study area and the sensitive receptors that may be affected by sub-surface activities. The EES noted that receptors – buildings, utilities, landscapes and environmental features – may be damaged or degraded where ground movements are severe.

### Discussion

The EES stated the key effect of the project that might give rise to ground movement was dewatering (lowering of the water table) of compressible sediments, associated with cut and cover tunnels and deep excavation. The EES then went on to conclude that ground settlement from dewatering is unlikely to have a significant impact on sensitive receptors.

The IAC agreed with the proponent’s assessment, noting that nearby utilities such as water mains would likely experience settlement of varying degrees, but within acceptable standards. Similarly, the IAC found residential properties are unlikely to be affected but some minor settling may result in cosmetic damage to houses, particularly around the Lower Plenty Road and Bulleen areas. I note EPR GM3 requires the contractor to carry out pre- and post-construction assessments of potentially affected properties.

Elsewhere, the IAC accepted that minimal movement of parklands and sporting grounds was not a concern but did agree with the proponent’s assessment that the Helmet Sculpture in Banksia Park may need to be temporarily relocated for the duration of the tunnelling works in that location.

As noted by the IAC, the proposed suite of ground movement EPRs will minimise ground movement impacts by:

- developing a geotechnical model;
- implementing a ground movement plan;
- undertaking condition surveys; and
- repairing any damage caused from ground movement.

### Assessment

- Potential impacts from project-induced ground movement are acceptable and will be adequately managed by the EPRs.

## 6.11 Surface water

Surface water impacts are addressed in Chapter 24 of the EES, as informed by Technical Report P. Chapter 11 of the IAC report considered the impacts and submissions made on these matters. Fifteen

surface water EPRs were offered by the proponent; the IAC recommended a minor amendment to EPR SW6.

### **Evaluation objectives**

*Land stability – To avoid or minimise adverse effects on land stability from project activities, including tunnel construction and river and creek crossings*

*Catchment values – To avoid or minimise adverse effects on the interconnected surface water, groundwater and floodplain environments.*

### **Assessment context**

The assessment presented in the EES investigated flooding, water quality, stream morphology and water supply and sought to understand their response to potential surface water changes. In the many locations where the project will interface with a floodplain, obstruction of existing flow paths has the potential to change the flood character and extent. Elsewhere, the reference design proposes to underground 1.4km of Banyule Creek and 1.5km of Koonung Creek. These are significant channel changes that have the potential to change downstream hydrology if they are not carefully managed.

The increased area of impervious surface, and the concomitant change in runoff and drainage efficiency across the project area, has the potential to significantly change local hydrology and may result in the transport of pollutants from the road surface to receiving waters. To minimise the increased runoff efficiency and the potential for pollutants entering waterways, water treatment features have been included in the reference design to filter and treat the stormwater captured by the new road surfaces. These water sensitive urban design (WSUD) features include wetlands, bioretention ponds and storage dams.

Construction activities have the potential to increase flood risk due to the temporary placement of construction buildings, structures, materials or vehicles within the floodplain. Similarly, construction activities may affect water quality through storage and handling of hazardous materials and mobilisation of sediment or contaminants. Project changes to the beds and banks of waterways may also decrease water quality downstream.

### **Discussion**

The IAC agreed with the experts they heard from that the EES has minimal baseline or conditions data and lacks refined mapping of potential flooding impacts. The IAC said they found it difficult to understand how the impacts of the project were determined, what they are, and how WSUD or other mitigation measures have been designed. However, they gave weight to Melbourne Water’s submission that potential surface water impacts could be acceptably mitigated through the EPRs, particularly EPR SW6. Equally, the IAC recognised that despite their respective reservations of the assessment, the experts had reached a high degree of consensus on the issues and agreed they could largely be managed through EPRs.

The potential for an increase in flood risk will be mitigated by ensuring the risk from changes to flood levels, flow and velocities are minimised through application of EPR SW6. The project design will benefit from iterative hydraulic modelling of mitigation measures and design refinement to demonstrate compliance with Melbourne Water’s requirements. However, the IAC, citing the surface water expert conclave report, warned against WSUD being too focused on the management and treatment of flows and water quality at the expense of amenity and environmental values. WSUD and resultant mitigation measures will require careful integration with the UDS.

The IAC also noted Melbourne Water’s view that construction of large buildings and the stockpiling of spoil should not occur on floodplains wherever possible. This led the IAC to recommend that flood risks should be properly modelled and assessed prior to construction. They specifically noted that temporary works

could remain on the landscape for up to seven years and that modelling for construction compounds appeared to have been omitted from the modelling undertaken for the EES.

I consider that modelling for construction compounds should occur prior to establishment of any above ground structures at sites located on floodplain. I recommend that this is achieved through amendment to the requirements for construction compound plans in the incorporated document. Moreover, I note that EPR SW5 calls for the preparation and implementation of a surface water management plan for construction. Beyond noting that the development of the plan must necessarily occur before construction begins, I am confident that EPR SW5, in conjunction with EPR SW6, will ensure that impacts of the project to increase flood risk can be managed satisfactorily.

I have concluded that the project should not be constrained by having to avoid permanent channel changes by diversion or undergrounding. Both Koonung and Banyule Creeks are highly modified streams that drain and flow through urbanised catchments. Neither stream retains its natural morphology, water quality nor instream ecological function. Accordingly, it is my assessment that the mooted channel changes will give rise to incremental impacts and are therefore acceptable. Further, I expect that WSUD principles will minimise these impacts to the greatest extent practicable in line with EPR SW8.

During the hearing, some submitters expressed their frustration at the difficulty of assessing the proposed WSUD and the resultant mitigation measures when the detail of the measures will not be known until later project stages as the design is further refined. In response, the proponent strengthened the surface water EPRs through the course of the hearing. I accept that the EES and the process of the IAC hearing have now appropriately explored the likely impacts of the project on surface water.

The EPRs, as now proposed, provide a proper basis by which the ongoing design development, construction and operation of the project can minimise and mitigate surface water impacts to an acceptable degree.

### **Assessment**

- The potential impacts of the project on surface water can be avoided, mitigated, or responded to in an acceptable way through application of the surface water EPRs.
- I note that there will be an ongoing requirement for the proponent to actively involve regulatory and approval agencies such as Melbourne Water and the EPA on surface water matters.

## **6.12 Land contamination and solid waste**

Land contamination and solid waste impacts are addressed in Chapter 23 and Technical Report M of the EES and in Chapter 12 of the IAC report. Seven EPRs (CL1 to CL6 and T2) deal with land contamination and solid waste matters. One EPR (EMF3) addresses appointment of an independent environmental auditor. EPRs CL1, CL2, CL6 and EMF3 were the subject of recommendations by the IAC.

### **Evaluation objective**

*To manage excavated spoil and other waste streams generated by the project in accordance with the waste hierarchy and relevant best practice principles.*

### **Assessment context**

Most of the project area was used for agriculture before being rezoned for residential, open space recreation or commercial and industrial uses. Hence, no broad-scale contamination associated with heavy industry sources exists across the project footprint. However, decommissioned landfills and historic infilling of land along with existing commercial and industrial land use are potential sources of contamination.

Construction will disturb landfill material and could create preferential pathways for contaminant migration and alter land gas migration. Construction activities could also encounter asbestos, per- and poly-fluoroalkyl substances (PFAS), acid sulphate soil (ASS) or acid sulphate rock (ASR) across the project area.

The project earthworks are significant and involve the excavation of soil and rock, piling and minor embankment fill which, if not managed properly, could adversely affect land, water, air or human health. Demolition of the existing buildings and infrastructure, potentially containing residual wastes will also be necessary. The potential for groundwater contamination is assessed in Section 6.9.

## Discussion

### *Sources of potential land contamination*

Eleven areas within or near the project boundary have higher potential for contamination based on their former or current land uses. These areas are: the commercial and railway area near the Watsonia Road and Greensborough Road; the fuel service station located at the Yallambie Road and Greensborough Road; the Bulleen Industrial Precinct near the Bulleen Road and Manningham Road; and a number of former landfill sites along the proposed road alignment. The Simpson Barracks land was used for bulk fuel storage and distribution and potentially for landfill and waste disposal (including asbestos containing material) for Department of Defence operations. This site also contained a sewage treatment plant.

Former landfills that will be impacted by the proposed road alignment are: Camberwell Landfill located at Musca Street Reserve; Greensborough landfill at AK Lines Reserve in Watsonia; Yallambie landfill at Borlase Reserve; landfills located at Bulleen Oval and Freeway Public Golf Course in Bulleen; Greythorn Landfill in Balwyn North; and landfill at Koonung Creek Linear Park. There is some risk of encountering additional historic landfills not currently listed on the EPA Priority Sites Register. Fill sites within or near the project boundary are former quarries located at the M80 Ring Road and Greensborough Bypass in Greensborough, and near Rocklea Road and Yarraleen Place in Bulleen. These former quarries were potentially backfilled with uncontrolled fill and waste.

Intrusive investigations confirmed the presence of contamination at:

- the former quarry site near the M80 Ring Road, fuel service station at the corner of Yallambie Road and Greensborough Road, and former landfill site at AK Lines Reserve;
- the Bulleen Industrial Precinct (at the former and current service stations, dry cleaners and automotive service facilities), and former landfill sites; and
- the Bulleen Oval, former Camberwell landfill site, Camberwell Public Golf Course, former Greythorn Landfill and former landfill at Koonung Creek Linear Park.

Odours, gas and vapours can be potentially generated when contaminated soil is excavated at the current or former landfills (e.g. carbon monoxide and methane), former fuel stations (e.g. petroleum hydrocarbons, chlorinated hydrocarbons, volatile organic compounds) and dry cleaners (e.g. PFAS).

Monitoring found no elevated concentrations of gas at the former landfill at Borlase Reserve and other landfills along the Eastern Freeway. A sample taken from Bulleen Oval showed elevated methane. No vapours were detected at the fuel service station on the corner of Yallambie Road and Greensborough Road. PFAS was detected in soil samples at the former Bulleen Drive-In site and in a groundwater sample taken from the Bulleen Industrial Precinct.

Submitters suggested that the EES investigations were inadequate for some locations, such as Bulleen Oval. Carey Grammar called expert evidence on this topic. Other submitters were concerned about potential disturbance of asbestos containing materials during project construction and management of this risk. The proponent’s expert, Dr Nadebaum, acknowledged that the assessment of land contamination was based on preliminary investigations. However, he considered this level of investigation sufficient for the EES



assessment and to inform the preparation of contaminated land EPRs. Dr Nadebaum pointed out that a detailed site investigation will be needed under the EPR CL1 before the project construction commences. The IAC accepted his evidence. I agree with the IAC.

#### *Spoil characterisation and management*

The project will produce about 6.1 million m<sup>3</sup> of spoil mostly from tunnel and trench excavation works. The majority of the spoil (indicatively 5.8 million m<sup>3</sup>) is expected to be classified as clean fill. The remaining solid waste is classified as prescribed industrial waste of various classifications or waste acid sulphate soil and rock. Most of the spoil containing prescribed industrial waste will be encountered at the former landfill sites. Indicative volumes of each waste category are: 6,000 m<sup>3</sup> of Category A, 16,000 m<sup>3</sup> Category B and 235,000 m<sup>3</sup> Category C waste. Disposal of these waste types is regulated by EPA and require appropriate level of treatment.

Acid sulphate rock will be excavated during construction of tunnels. Acid sulphate soil will primarily come from construction of the Manningham Road Interchange and cut and cover tunnel to the southern portal. Many submitters were concerned about the management of spoil, especially stockpiling contaminated material close to residential dwellings and increased truck traffic related to the spoil transportation (see Section 6.1). Marcellin was concerned about stockpiling contaminated material in flood prone areas, in areas close to their sports fields, and on areas of land that may be returned to them for future use as sports fields. EPR CL1 requires a contractor to prepare and implement a spoil management plan in consultation with EPA.

The IAC concluded that the proposed framework for development of a spoil management plan and the suite of EPRs addressing land contamination matters are suitable and can satisfactorily mitigate risks associated with spoil management, reuse and disposal. I accept the IAC’s findings that the proposed spoil management approach, EPRs and governance framework would sufficiently manage potential effects associated with contaminated spoil and other waste streams.

#### *Landfill capacity*

Estimated spoil volume generated during construction is much greater than the spoil to be generated by each of the other major infrastructure projects occurring in Melbourne, including West Gate Tunnel and Melbourne Metro Rail projects. EPR CL1 requires the project contractor to manage excavated spoil in accordance with EPA’s waste hierarchy and identify opportunities for re-use of spoil where the composition or proposed use of the spoil allows it.

The IAC accepted that there is landfill capacity to accommodate the project-generated spoil and spoil from the other projects. However, the IAC considered it necessary to improve understanding of the current waste industry’s capacity for disposal of the project’s waste. I support the IAC conclusion and consider that further work to assess waste industry capacity is warranted, particularly with a new regulatory framework under the impending Environment Protection (Amendment) Act. I accept the IAC’s revision to EPR EMF3 and note that the inclusion of a statutory auditor in this EPR, with specific reference to contaminated land and groundwater, will ensure a rigorous assessment of risk to the environment and provide greater certainty for communities in the immediate vicinity to the project.

#### **Assessment**

- The project can be constructed to ensure the health, safety and environmental risks from contamination and waste are managed to acceptable levels.
- Prior to construction, the waste industry’s capacity to accommodate the project’s contaminated spoil must be assessed, in consultation with EPA and waste industry, once the project spoil volume estimate is confirmed and waste types categorised.

- The contaminated land EPRs, as recommended by the IAC, are sufficiently robust and reflective of legislative and regulatory requirements and will satisfactorily manage risks of disturbing, stockpiling and transporting of contaminated material and ASS/PASS and ASR.
- Provision for the inclusion of a statutory environmental auditor under EPR EMF3 for the assessment of contaminated soil and groundwater (specifically to assess the risk of acid sulphate soils or of vapour or gas intrusion from former landfills) and for other environmental aspects when necessary, will ensure appropriate management of risk and control of waste streams.

## 6.13 Historical heritage

Historical heritage impacts are addressed in Chapter 19 and Technical report K of the EES and in Chapter 13 of the IAC Report. Five EPRs deal directly with historical heritage matters, as well as four other EPRs where there are interdependencies between historical heritage and other environmental values (LV1, GW4, GM3, NV5).

### Evaluation objective

*To avoid or minimise adverse effects on Aboriginal and historical cultural heritage values.*

### Assessment context

The project area features several discrete historical heritage places that may be directly impacted during construction or indirectly through vibration and ground settlement. Known historical heritage places listed (or currently being assessed for inclusion) on the Victorian Heritage Register (VHR) under the *Heritage Act* 2017 and in the Heritage Overlay in planning schemes that may be impacted by project works include:

- Heide I and Heide II;
- River Red Gum, corner of Bridge Street and Manningham Road (#22816);
- Simpson Barracks memorials;
- Eastern Freeway (stage 1); and
- Fairlea Women’s Prison.

I note that the project was determined to be a ‘controlled action’ under the EPBC Act and that controlling provisions included the environment on Commonwealth land, which encompasses Simpson Barracks. Therefore, the project will be subject to separate assessment and approvals processes under the EPBC Act, as well as state legislation.

### Discussion

Overall, the IAC was satisfied that the EES assessment, including EPRs, provides an adequate basis for protecting historical heritage values at risk. Generally, I support the IAC’s recommended minor changes to the historical heritage EPRs and agree with its conclusion.

To avoid damage from vibration or ground movement caused by tunnelling outdoor sculptures at Heide MOMA and memorials at Simpson Barracks may require dismantling, storage, re-erection or relocation as necessary. I am satisfied that the proposed historical heritage EPRs, in addition to the EPRs concerning vibration and ground movement generated (GM3 and NV5) will adequately mitigate these potential impacts on historical heritage values.

Although the River Red Gum on the corner of Bridge Street and Manningham Road holds historical heritage value, it is principally significant as a local community icon and landmark. It is discussed in Section 6.3.

During the hearings, two nominations were made to include Stage 1 of the Eastern Freeway (between Hoddle Street, Clifton Hill/Collingwood and Bulleen Road, Balwyn North) on the VHR. If included on the VHR, there will be additional approvals and requirements separate to my assessment here. Regardless of the potential for heritage listing, I am satisfied that important elements, from a historical heritage

perspective, of the Eastern Freeway could be largely maintained by adherence to principles in the UDS and EPRs (LV1 and HH1). Additionally, my recommendation to include the setting of historical heritage places in EPR HH4 will ensure values that contribute to the historical significance of places are adequately recorded.

I am satisfied that the UDS and EPR HH2 provide a suitable framework for protection to the historical heritage values of Fairlea Women’s Prison, including the potential unidentified archaeological artefacts within this area (in connection with the burial grounds at the former Yarra Bend Lunatic Asylum).

### **Assessment**

- The project can be constructed and operated with acceptable impacts on heritage values through the recommended EPRs.
- Potential indirect impacts to historical heritage can be suitably addressed and managed through other proposed EPRs (LV1, GW4, GM3, NV5).
- Further approvals will be required for affected places listed on the VHR, including the Eastern Freeway if it is included on the VHR, during the final design or construction of the project.

## **6.14 Aboriginal cultural heritage**

Aboriginal cultural heritage impacts are addressed in Chapter 20 and Technical Report L of the EES and in Chapter 13 of the IAC Report. There is one EPR relating directly to Aboriginal cultural heritage, as well as several other EPRs where Aboriginal cultural heritage is intrinsically linked with natural values, including groundwater (GW1, GW2, GW3).

### **Evaluation objective**

*To avoid or minimise adverse effects on Aboriginal and historical cultural heritage values.*

### **Assessment context**

EES investigations identified Aboriginal cultural heritage values within the activity area for the project, including 28 registered Aboriginal cultural heritage places and three historical references.

The project will impact on places of Aboriginal cultural significance to varying degrees and may include the disturbance of Aboriginal archaeological sites, objects and damage to intangible cultural heritage values. However, the EES notes that risk to Aboriginal cultural heritage is moderate. It is highly unlikely that places of high significance, such as Ancestral remains, would be discovered or disturbed during construction.

There is also potential for significant indirect impacts to Aboriginal cultural heritage during the operation phase, namely the potential groundwater drawdown effects on the Bolin Bolin Billabong. The biophysical impacts to this place can be found in Section 6.6 of this assessment. The consequential effects to Aboriginal cultural heritage will be discussed here.

Aboriginal cultural heritage values are to be largely addressed through a cultural heritage management plan (CHMP) under the *Aboriginal Heritage Act 2006*.

### **Discussion**

The IAC concluded that the project’s likely impacts on Aboriginal cultural heritage values can be adequately addressed and managed. However, the management of impacts relies on the CHMP dealing with both anticipated and unforeseen disturbances to Aboriginal cultural heritage.

Beyond the CHMP, I agree with the IAC’s conclusion that the potential impacts to Aboriginal cultural heritage can be adequately mitigated through the UDS. It provides the necessary framework to support meaningful engagement with the Wurundjeri Woi-wurrung to entrench Aboriginal cultural heritage values

in the development of design themes and key features of the project infrastructure (e.g. integrating cultural values associated with the Yarra River into the design) as discussed in detail in Section 6.2.

While EES investigations focus on the ecological and environmental values of Bolin Bolin Billabong, the Aboriginal cultural significance of the area is also recognised. Aboriginal cultural values are also often inherently associated with natural values, as supported by the submission made by Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation. Therefore, provided there is adequate management of groundwater drawdown (discussed in Section 6.9), I am satisfied that the shared values of Bolin Bolin Billabong, inclusive of Aboriginal cultural heritage, will be protected.

The IAC and public submissions emphasise the need for genuine engagement with Wurundjeri Woi-wurrung throughout all stages of the project and to minimise effects on Aboriginal cultural heritage values, particularly Bolin Bolin Billabong. I support this approach.

### **Assessment**

- The development and implementation of a CHMP is an appropriate mechanism for the management of impacts on Aboriginal cultural heritage and in my assessment, will operate to acceptably address and manage impacts in the context of this project.
- Indirect impacts to Aboriginal cultural heritage values can be adequately addressed and managed through other EPRs (GW1, GW2, GW3) which address multiple values concurrently.
- Genuine engagement should continue with Wurundjeri Woi-wurrung during detailed design and construction.

### **6.15 Health and wellbeing**

Health impacts are addressed in Chapter 18 and Technical Report J of the EES. Chapter 14 of the IAC report considers the impacts and submissions made on these matters. The EES does not propose specific EPRs for health and wellbeing, but rather employs a suite of EPRs, such as those developed in relation to air quality, noise and vibration, social and land contamination, to manage and mitigate potential health impacts. The IAC proposed recommendations for a number of these EPRs.

#### **Evaluation objective**

*To minimise adverse air quality, noise and vibration effects on the health and amenity of nearby residents, local communities and road users during both construction and operation of the project.*

*To manage effects of the project on land use and the social fabric of the community with regard to wellbeing, community cohesion, business functionality and access to goods, services and facilities.*

#### **Assessment context**

The health impact assessment (HIA) sought to address the health impacts associated with changes in air quality, noise and vibration as well as changes from a social perspective due to the project. In terms of air quality, noise and vibration, the HIA is reliant on inputs from other specialised studies, to determine whether the incremental exposure due to the construction and operation of the project would be discernible within the affected population. Although also reliant on other studies to identify the temporary and permanent changes that would occur as a result of the project, the impact on social parameters, such as wellbeing and community cohesion, was undertaken as a qualitative assessment.

The IAC identified two key issues:

- whether the methodology of the HIA and its results are appropriate; and
- whether the project adequately proposes to mitigate predicted health impacts.

## Discussion

Adverse health impacts due to exposure to transport pollutants – both air quality and noise – are well documented in the literature. The HIA sought to quantify the potential cumulative health implications, including annoyance and sleep disturbance due to changes in traffic volume, composition and/or movements in local areas. Similarly, the HIA canvassed the potential cumulative acute and chronic health implications from exposure to due to nitrogen dioxide and carbon monoxide, carcinogens (i.e. volatile organic compounds, polycyclic aromatic hydrocarbons and diesel particulate matter) and particulates such as PM<sub>2.5</sub> and PM<sub>10</sub> due to:

- changes in air quality associated with emissions from the tunnel ventilation system;
- changes in air quality associated with emissions from major surface roads; and
- exposure of vehicle occupants to emissions present within the tunnels during operation.

The IAC accepted that the method adopted for the HIA was sound and in the case of air quality and noise were based on measurable standards. The IAC concluded that the risks to health could be managed through the relevant EPRs inclusive of changes proposed. I agree with this assessment subject to the additional changes noted in other sections of this assessment (refer sections 6.7 and 6.8).

The assessment of social impacts sought to address the project’s impact through a qualitative assessment (both negative or positive) using descriptors of liveable neighbourhoods including:

- changes in community access and connectivity either temporary or permanent (including changes in public, private or active transport);
- public safety;
- the presence and potential exposure due to land and groundwater contamination
- visual changes; and
- green space.

The HIA also recognised that any of the changes noted above have the potential to affect stress and anxiety levels, particularly given many of the uncertainties regarding the project’s final design.

The HIA has again relied on inputs from other disciplines (i.e. traffic and transport; contamination and soil; groundwater; business; land use planning; landscape and visual; and arboriculture) to discuss the potential to benefit or impact on community health. The HIA accepted that the benefits indicated in these other disciplines would also confer to community benefits.

The IAC did not comment on land and groundwater contamination but as the investigation or screening levels for soil and groundwater contamination are inclusive of protection of human health, it is my assessment that this risk can also be managed through the appropriate EPRs (refer sections 6.9 and 6.12).

In the more intangible areas of social impact and particularly in relation to green space and visual changes, the IAC found that the HIA did not fully appreciate the value that community placed on these assets. The IAC also indicated that the consequential health impacts from loss of green space due to the reference design had not been managed to any significant degree and, given the uncertainty in this area, commented that it was difficult to appreciate the allocation of risk as being low. The IAC did not recommend any specific EPRs for health and wellbeing, but instead recommended changes to existing EPRs in areas such as biodiversity, landscape, visual and social.

I note that the IAC has relied on submissions including from the Department of Health and Human Services, who indicated that the project was not likely to result in significant or measurable impacts on community health, while acknowledging the need to protect and promote health during construction and operation.

I support the IAC’s conclusion that additional specific EPRs are not required to address health and wellbeing. But I do recognise that health is a *dynamic* state of complete physical, mental and social wellbeing and consequently, there is a need for close engagement with the community to understand the changing requirements and impacts during the extended construction period. Future health impact assessments may benefit from a more phenomenological approach to provide a greater understanding of the experience and value associated with loss of open space and changes in visual amenity.

To address the concerns regarding loss of open space, I have previously recommended like for like replacement of open space, and additional management of construction compound siting and use, which will control these effects to acceptable levels.

### **Assessment**

- I am generally satisfied that the health and wellbeing aspects of the project have been adequately assessed as part of the EES.
- The EPRs and my recommendations presented in other sections of this assessment will be sufficient to manage any adverse health and wellbeing impacts to an acceptable level.

## 7. Conclusion

Considering both the adverse and beneficial environmental impacts of the project, I have concluded that the overall impact of the project will be a positive one for the community. Further, my overall conclusion is that the environmental effects of the project will be acceptable, having regard to the design, construction and operational mitigation and management measures that I have determined should apply to the project in this assessment.

I am satisfied that in principle the proposed planning scheme amendment, with changes addressed in this assessment, can establish an appropriate environmental management regime for the project. The proposed requirement that the Minister for Planning approve the EMF for the project, including EPRs, before any main works commence will in my opinion assist to ensure the environmental standards I have assessed as appropriate will be defined and met.

Environmental management and implementation should be subject to independent scrutiny by an appropriately qualified independent environmental auditor. In the interests of transparency, the results of monitoring programs to be conducted under the EMF should be published on a website readily accessible to the public.

The revised UDS, which will be subject to approval by the Minister for Planning, will provide a framework to ensure integrated urban design outcomes during design refinement and which, together with public feedback, will inform my assessment of the UDLPs.

My assessment is intended to assist the EPA in determining whether to grant a works approval for the project.

My assessment addresses the environmental effects of the project, which I consider have been adequately investigated through the EES, and through the process of the public hearing before the IAC as indicated by its report.

### 7.1 Summary of response to inquiry recommendations

Based on the reasons set out in its report, the IAC concluded that North East Link could proceed with acceptable environmental effects, provided it is designed, constructed and operated in accordance with the approved UDS, EMF and EPRs, as modified to accord with its recommendations. The IAC also considered, and made comments and findings on, many matters of detail. My responses to those matters are presented in Chapters 5 and 6. Table 2 (overleaf) summarises my responses to the IAC's recommendations.

**Table 2: Response to inquiry recommendations.**

| No.  | IAC recommendation  | Summary response  |
|--|---|---|
| <b>General recommendations</b>                                     |   |   |
| 1.   | <p>Adopt Amendment GC98 to the Banyule, Boroondara, Nillumbik, Manningham, Whitehorse, Whittlesea and Yarra Planning Schemes subject to:</p> <ul style="list-style-type: none"> <li>a) Applying recommended changes to the Incorporated Document in Appendix F to this report.</li> <li>b) Proposed changes to the Environmental Management Framework to incorporate a statutory auditor within the Independent Environmental Auditor role and requirements under the new Environment Protection (Amendment) Act 2018 regime.</li> <li>c) Applying the Environmental Performance Requirements in Appendix G to this report.</li> <li>d) Amending all schedules to the Design and Development Overlay to: <ul style="list-style-type: none"> <li>• consolidate design objectives in clause 1.0; and</li> <li>• in clause 5.0 after the words “adjoining roads and infrastructure (including underground services and utilities)”, add the words “to the extent this information is available within the public domain”.</li> </ul> </li> </ul> | Supported in principle with changes to this framework to give effect to my assessment.  |
| 2.   | Include land to be acquired for, or converted to, public open space in connection with the Project in the Specific Controls Overlay. This measure will facilitate the efficient provision of replacement or enhanced community assets including sporting and recreation facilities.   | Supported in principle, where project specific controls would facilitate the efficient replacement of open space but the timing and process requires further consideration. |
| 3.   | The Environment Protection Authority consider the recommendations and Environmental Performance Requirements in this report when determining the Works Approval Application.  | Supported.  |
| <b>Project design elements, the reference design and transport</b> |   |   |
| 4.   | <p>Pursue an extended, bored, tunnel option northwards to the vicinity of Grimshaw Street, including a review of the need for the Lower Plenty Road interchange, to:</p> <ul style="list-style-type: none"> <li>a) Significantly reduce ecological impacts on critically endangered and threatened species, ecological communities, significant tree canopy, habitat fragmentation and the northern reach of the Banyule Creek.</li> <li>b) Significantly reduce social, noise, air quality, business, landscape and visual impacts on the community along Greensborough Road and the Watsonia Neighbourhood Activity Centre.</li> </ul>  | Not supported.  |



| No. | IAC recommendation  | Summary response  |
|-----|---|---|
| 5.  | Exclude Borlase Reserve as a Tunnel Boring Machine launch/retrieval site given the level of expected amenity impact from noise, dust and spoil haulage for many years proximate to, and nearly surrounded by, a significant residential community.  | Not fully supported. I do not believe that it would be unacceptable for Borlase Reserve to be used as a TBM launch or retrieval site.                               |
| 6.  | Consider Reference Design alternatives provided in the Hearing during Project design and development including:<br>a) The Project alternative designs for Watsonia, Lower Plenty Road Interchange, Manningham Road Interchange and Bulleen Road be considered preferentially to the exhibited Reference Design for those components.<br>b) Providing other alternatives from Ms Hilary Marshall, Mr Fred Buono and Mr Andrew O’Brien to the tenderers for consideration | Supported.  |
| 7.  | Ensure the final Manningham Road Interchange design enables:<br>a) Maximisation of land for post construction industrial/commercial land use<br>b) Consideration of the design prepared by Ms Marshall (as per 6(b) above).<br>c) long term retention and viability of the River Red Gum tree on the corner of Bridge Street and Manningham Road.   | Supported in principle, with retention of River Red Gum, if practicable.  |
| 8.  | Assess Active Transport complementary projects suggested by submitters to the Environment Effects Statement against Project criteria during Project development   | Supported in principle, subject to criteria that complementary projects are required as a direct consequence of and/or have a direct relationship with the project. |
| 9.  | Consider the operation of Rosanna Road including:<br>a) Adopting alternative routes for spoil haulage during Project construction.<br>b) Reviewing truck volumes following commissioning of the Project to ascertain if further truck curfews or safety improvements should be put in place.  | Supported.  |
| 10. | The Department of Transport review the North East Truck Curfew truck routes after Project commissioning to determine whether to extend the curfew to 24 hours on those arterial roads in the vicinity of the Project.   | Supported   |

| No.                     | IAC recommendation  | Summary response  |
|-------------------------|---|---|
| <b>Business impacts</b> |   |   |
| 11.                     | <p>The Department of Transport with appropriate expert advice, prepare and implement as a matter of urgency:</p> <p>a) A package of individual business plans prepared with each business in the Bulleen Industrial Precinct that understands at a fine-grained level their current operation, desire to relocate or cease operations, business needs for new sites, preliminary site identification, and practical and reasonable assistance beyond Land Acquisition and Compensation Act 1986 entitlements to implement these plans.</p> <p>b) A package of individual employee assistance plans prepared with and for each employee who requests it, in consultation with the employer, that understands at a fine-grained level their future employment plans, need for training and development, factors that would influence their desire to remain employed with a Bulleen Industrial Precinct business, and practical and reasonable assistance to implement their assistance plan.</p> | <p>Supported with the exception that it should be implemented by the proponent, as a representative of the state, instead of the Department of Transport.</p>   |
| 12.                     | <p>The Department of Transport, in consultation with the City of Manningham, facilitate providing replacement industrial land in Websters Road, Templestowe, including rezoning the Council green waste site to an appropriate use.</p>   | <p>Supported in principle noting that rezoning land is one option to facilitate this outcome but other options should also be investigated.</p>   |
| <b>Social impacts</b>   |   |   |
| 13.                     | <p>Implement a voluntary acquisition scheme for residential properties impacted by the Project alignment. The criteria for participation in the voluntary acquisition scheme should be developed and should include distance from major works, likely extent and duration of proximate works, predicted adverse effects on amenity and the presence of vulnerable occupants.</p>  | <p>Supported.</p>   |
| 14.                     | <p>Provide ‘like-for-like’ open space, parkland, reserves, sport and recreational facilities displaced by the Project during construction and operation of the Project; including, but not limited to, giving effect to long term public open space aspirations for key landholdings in the Public Acquisition Overlay along the Yarra River corridor.</p>  | <p>Supported in principle but noting that: some compromise may be required for relocating sporting facilities; and replacing parkland and active open space through acquisition requires further consideration by government.</p> |
| <b>Biodiversity</b>     |   |   |
| 15.                     | <p>Designate the Simpson Barracks as a “no-go zone” due to the potential significant environmental effects and re-design that aspect of the Project as per Recommendation 3.</p>  | <p>Not supported.</p>   |

| No.  | IAC recommendation  | Summary response  |
|--|---|---|
| 16.  | Submit a revised Native Vegetation Removal Report to the Department of Environment, Land, Water and Planning once the final Project design has been determined. The revised report should include native vegetation (trees and aquatic vegetation) to be potentially impacted by groundwater drawdown and the effects of relocating active open space and community facilities to new locations that have not yet been addressed. | Supported.  |
| 17.  | Acquire all native vegetation offsets prior to construction of any element of the Project requiring the removal of native vegetation, in accordance with the Department of Environment, Land, Water and Planning Guidelines for the removal, destruction or lopping of native vegetation.   | Supported in principle, while acknowledging the practice of staging provision of offsets in line with construction schedule.  |
| <b>Visual impact, urban design and landscape</b> |   |   |
| 18.  | Narrow the Project boundary and consequential road alignment where possible in accordance with Environmental Performance Requirement LP1 and principles of the Urban Design Strategy. This should be done in particular at critical locations along the Eastern Freeway to provide capacity for acceptable visual, landscape and urban design outcomes, especially in the vicinity of the Koonung Creek linear reserve.           | Supported in principle noting any such reduction would be desirable and have significant benefits, even though it is not essential to achieve an acceptable overall outcome.  |
| 19.  | Include a set of guiding principles in the Urban Design Strategy to clarify relative priorities for the Project, generally as outlined in Chapter 7.3.3 of this report.   | Supported in principle.   |
| 20.  | Amend the Incorporated Document to require the preparation and approval of Urban Design Framework Plans for the following key locations:<br>a) M80/Greensborough Highway interchange.<br>b) Watsonia Neighbourhood Activity Centre.<br>c) Borlase Reserve and Lower Plenty Road Interchange.<br>d) Manningham/Bulleen Road Interchange.<br>e) Bulleen Road/Eastern Freeway Interchange.   | Supported in principle with urban design framework plans being included as part of a revised UDS.   |
| 21.  | The Urban Design Framework Plans recommended in Recommendation 20 should involve input from expert consultants including the Urban Design Advisory Panel, together with consultation with Councils as per the process in the recommended version of the Incorporated Document. Subsequent Urban Design and Landscape Plans must explain how they have responded to the relevant Urban Design Framework Plan.                      | Supported in principle. The preparation of the urban design framework plans is likely to benefit from consultation with councils, land and waterway managers, and the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation. However, I do not consider it necessary to mandate this in an incorporated document. |

| No.                      | IAC recommendation   | Summary response   |
|--------------------------|--|--|
| 22.                      | <p>In addition to matters required by the Incorporated Document, the Urban Design Strategy and subsequent amendments should be approved by the Minister for Planning including the following:</p> <ol style="list-style-type: none"> <li>a) An outline of and response to relevant principles of the Yarra River Protection (Willip-gin Birrarung Murrn) Act 2017, the Cultural Values assessment report prepared by the Wurundjeri Woi-wurrung Aboriginal Council and the Yarra Strategic Plan (when released).</li> <li>b) Consideration of the setting and requirements of schools along the Project alignment and surrounds and provide detailed direction to achieve acceptable urban design interfaces with them.</li> <li>c) Reconsideration of which elements of the Place-specific Requirements should be changed from complementary (and optional) to mandatory. At a minimum, this should:               <ul style="list-style-type: none"> <li>• include elements that are integral to ensuring the Project achieves relevant strategic objectives, including the Manningham Interchange, biodiversity and habitat links along the Yarra River corridor and opportunities in Water Sensitive Urban Design elements around the Yarra Park lands.</li> <li>• facilitate enhancement of local areas in line with Project objectives.</li> </ul> </li> </ol> | Supported.   |
| 23.                      | <p>Incorporate a broad range of works as an adjunct to the Project that would result in enhanced amenity and functionality for locally affected areas, with priority given to works identified by relevant local councils and submitters.</p>  | <p>Supported in principle with the proponent required to implement a Community Involvement Participation Plan or similar to provide support for a range of initiatives to offset the impact of the project on affected local communities by enhancing the local area and creating a positive project legacy.</p> |
| <b>Groundwater</b>       |  |  |
| 24.                      | <p>Undertake a revised groundwater assessment prior to construction commencing to reduce uncertainty regarding the environmental effects of groundwater drawdown on Bolin Bolin Billabong and large trees within and adjacent to the Project area.</p>   | Supported.   |
| <b>Cultural heritage</b> |  |  |
| 25.                      | <p>If works are permitted within the Simpson Barracks, further consultation should be undertaken with the Commonwealth Department of Defence to identify opportunities to relocate and reinstate memorials.</p>  | Supported.   |

| No.                            | IAC recommendation   | Summary response  |
|--------------------------------|--|---|
| 26.                            | The Proponent should continue to assist Aboriginal parties through all stages of the Project to enable their effective participation.  | Supported.  |
| <b>Further recommendations</b> |  |   |
| 27.                            | The use of a reference design for a project of this scale and extent as part of an Environment Effects Statement process in future should only be considered where there is a substantially resolved, well documented Project so that there can be certainty about the nature and extent of environmental effects. | Not supported. The use of a reference design as the basis for an EES process is a matter which should be determined on a case by case basis having regard to all relevant considerations. |
| 28.                            | The description of a risk or event as ‘planned’ is not an approach supported by the Australian Standard and should not be used in the risk assessment for future projects assessed by way of an Environment Effects Statement.   | Not supported. The risk assessment method presented in an EES is for the proponent to develop and justify in the context of each specific project.  |
| 29.                            | The Department of Transport should develop a Victorian Transport Plan as required under Section 63(1) of the Transport Integration Act 2010 to provide an effective framework for consideration of future major transport projects.  | Supported.  |



**HON RICHARD WYNNE MP**  
Minister for Planning

3 11/2/19

# Appendix A Environmental performance requirements

The IAC recommended specific changes to many of the EPRs that the proponent tabled in closing submissions at the IAC hearing. That version of the EPRs had itself developed from the EPRs published in the exhibited EES. I commend the proponent for the changes it proactively adopted in response to matters raised by submitters. I generally support the IAC’s recommended version of each EPR except where qualified below in the Minister’s assessment column.

The table below lists the proponent's fifth version of the EPRs that was tabled at the IAC hearing on 12 September 2019 and incorporates recommended changes from the IAC denoted as either ‘[additions](#)’ and/or ‘[deletions](#)’.

| No.                                      | IAC No.     | EPR Version 5 as amended by the IAC (note no EPR cross-references have been updated to reflect proponent, IAC or Minister’s assessment numbered references)  | Minister’s assessment  |
|--|-------------|--|--|
| <b>1. Environmental Management (EMF)</b> |             |  |  |
| EMF1                                     | EMF1        | <p><a href="#">Deliver project in general accordance with an Environmental Management System</a></p> <p>Develop, implement and maintain an Environmental Management System (EMS) that conforms to Australian Standard AS/NZS ISO 14001:2015 Environmental Management Systems – requirements with guidance for use through design, construction and operation of North East Link.</p>   | Supported.   |
| EMF2                                     | EMF2        | <p><a href="#">Deliver project in accordance with an Environmental Strategy and Management Plans</a></p> <p>Prepare and implement an Environmental Strategy, Construction Environmental Management Plan (CEMP), Worksite Environmental Management Plans (WEMPs), <a href="#">Construction Compound Management Plan (CCMP)</a>, Operation Environmental Management Plan (OEMP) (operator only) and other plans as required by the Environmental Performance Requirements (EPRs) and in accordance with the Environmental Management Framework (EMF).<br/>The Environmental Strategy, CEMP, <a href="#">CCMP</a>, WEMPs and OEMP must be developed in consultation with relevant stakeholders as listed in the EMF and as required by NELP or under any statutory approvals.<br/>The CEMP must be prepared with reference to <a href="#">best practice and EPA Victoria Publication 480 Best Practice Environmental Management: Environmental Guidelines for Major Construction Sites</a>.</p>   | Supported in principle. Remove reference to Construction Compound Management Plan, as new EPR CC1 is not supported.  |
| EMF3                                     | EMF3        | <p><a href="#">Audit and report on environmental compliance</a></p> <p>Appoint an Independent Environmental Auditor (IEA) to:</p> <ul style="list-style-type: none"> <li>Review the Environmental Strategy, CEMP, <a href="#">CCMP</a>, WEMPs, OEMP and other plans required by the EPRs for compliance with the EMF and the EPRs</li> <li>Undertake environmental audits of compliance with and implementation of the EPRs and the Environmental Strategy, CEMP, WEMPs, OEMP and other plans required by the EPRs.</li> </ul> <p><a href="#">The IEA must include persons with expertise, based on qualifications and experience, appropriate to allow the roles specified for the IEA in the EMF to be properly carried out; including statutory environmental auditors when necessary.</a></p> <p>Audits must occur during construction and for <del>two</del> <a href="#">five</a> years after opening of North East Link, or as otherwise agreed with the Minister for Planning.</p> <p>A six monthly summary report must be provided to the Minister for Planning that summarises the findings of audits carried out during the reporting period. A close-out report must be provided to the Minister for Planning at the conclusion of the auditing and reporting period. The summary reports must be made publicly available on a project website for the period of construction and a <a href="#">minimum of five</a> years after opening of North East Link.</p> | Supported in principle. Include an EPA appointed auditor for the assessment of contaminated soil and groundwater given the potential risk of acid sulphate soils, and to ensure that there is no risk of vapour or gas intrusion from former landfills.<br>Remove reference to CCMP. |
| EMF4                                     | EMF4<br>NEW | <p><a href="#">Complaints Management System</a></p> <p>Prior to the commencement of works a process for recording, managing, and resolving complaints received from affected stakeholders must be developed and implemented. The complaints management arrangements must be consistent with Australian Standard AS/NZS 10002: 2014 Guidelines for Complaints Management in Organisations.<br/>The complaints management system must be consistent with the Communications and Community Engagement Plan required under EPR SC2.</p>  | Supported.   |

## North East Link – Minister’s assessment of environmental effects

| No.                                | IAC No. | EPR Version 5 as amended by the IAC (note no EPR cross-references have been updated to reflect proponent, IAC or Minister’s assessment numbered references)   | Minister’s assessment   |
|------------------------------------|---------|---|---|
| <b>2. Aboriginal Heritage (AH)</b> |         |   |   |
| AH1                                | AH1     | <p><b>Comply with the Cultural Heritage Management Plan</b></p> <ul style="list-style-type: none"> <li>Implement and comply with the Cultural Heritage Management Plan (CHMP) approved under the <i>Aboriginal Heritage Act 2006</i>.</li> </ul>  | Supported.  |
| <b>3. Air Quality (AQ)</b>         |         |   |   |
| AQ1                                | AQ1     | <p><b>Implement a Dust and Air Quality Management and Monitoring Plan to minimise air quality impacts during construction</b></p> <p>Prepare and implement a Dust and Air Quality Management and Monitoring Plan(s), in consultation with EPA, which sets out best practice measures and controls to minimise and monitor impacts on air quality during construction. The plan(s) must:</p> <ul style="list-style-type: none"> <li>Set out how the project will monitor and control the emission of smoke, dust, fumes, odour and other pollution into the atmosphere during construction using best practice measures with reference to EPA Victoria Publication 480 Best Practice Environmental Management: Environmental Guidelines for Major Construction Sites. <del>and in accordance with the State Environment Protection Policy (Air Quality Management)</del></li> <li>Identify the main sources of dust and airborne pollutants, and the location of sensitive land uses relevant to each construction area</li> <li>Describe the monitoring requirements for each construction areas, including particulate matter monitoring where deemed to be required, and with reference to sensitive receptors and utilising consistent and common monitoring across the project</li> <li>Describe the air quality triggers for investigation, the mitigation measures, and the processes for implementing appropriate controls.</li> </ul> | Supported in principle. Include real-time monitoring of particulate matter to manage dust control in response to adverse weather events and reference to common monitoring equipment. |
| AQ2                                | AQ NEW  | <p><b>Construction Vehicle Fleet</b></p> <p>The construction vehicle fleet (heavy vehicles) for all contractors and sub-contractors must comply at a minimum with the Euro V European emission standards.</p>   | Supported.  |
| AQ3                                | AQ2     | <p><b>Design tunnel ventilation system to meet EPA requirements for air quality</b></p> <p>Design, construct and operate the permanent tunnel ventilation system to meet the requirements of the State Environment Protection Policy (Air Quality Management) and in accordance with the requirements of the EPA Victoria Works Approval and the EPA Victoria Licence. <b>The design should include provision for retrofitting of tunnel ventilation pollution control equipment if subsequently required.</b></p>  | Supported.  |
| AQ4                                | AQ3     | <p><b>In-tunnel air quality performance standards</b></p> <p>Design, construct and operate a tunnel ventilation system to introduce and remove air from the tunnels to meet the in tunnel air quality requirements for carbon monoxide (CO) and for NO<sub>2</sub> listed below and in accordance with the EPA Victoria Works Approval and EPA Victoria licence.</p> <p>In tunnel air quality must meet the following CO standards:</p> <ul style="list-style-type: none"> <li>Maximum peak CO value of 150 ppm</li> <li>15 minute average CO value of 50 ppm</li> <li>2-hour average CO value of 25 ppm.</li> </ul> <p>The tunnel ventilation system must also be designed and operated so that the tunnel average nitrogen dioxide (NO<sub>2</sub>) concentration is less than 0.5 ppm as a rolling 15 minute average.</p> <p>Develop and implement contingency measures to manage in-tunnel air quality in the event of incidents or emergencies.</p> <p>Apply best practice Australian management techniques to minimise impacts on health from in-tunnel exposure to PM<sub>2.5</sub> and PM<sub>10</sub>.</p>   | Supported.  |

## North East Link – Minister’s assessment of environmental effects

| No.                          | IAC No. | EPR Version 5 as amended by the IAC (note no EPR cross-references have been updated to reflect proponent, IAC or Minister’s assessment numbered references)  | Minister’s assessment |
|------------------------------|---------|--|-----------------------|
| AQ5                          | AQ4     | <p><b>Monitor ambient air quality</b></p> <p>Develop and undertake an ambient air quality monitoring program in consultation with EPA Victoria to measure the air quality impacts of North East Link during construction and operation. The ambient air quality monitoring program must be undertaken at a minimum of six locations (including a site where the highest increases of air pollution are predicted to occur), unless otherwise agreed by EPA Victoria; include at least one year of monitoring before operation; continue for 5 years after commencement of North East Link operation; and, for the ventilation structures, be in accordance with the EPA Victoria licence. <b>Monitoring results must be assessed against the Environmental Quality Objectives of the State Environment Protection Policy (Ambient Air Quality)</b>. Results of the monitoring program are to be made publicly available on a website related to the project, or through EPA Victoria’s Air Watch website, on a <del>monthly</del> <b>daily</b> basis.</p>  | Supported.            |
| AQ6                          | AQ5     | <p><b>Monitor compliance of in-tunnel air quality and ventilation structure emissions</b></p> <p>Monitor the in-tunnel air quality and ventilation structure emissions during operation of the ventilation system to demonstrate compliance with EPR AQ2, EPR AQ3 and the EPA Victoria licence to the satisfaction of EPA Victoria. Report the monitoring results publicly after validation and in accordance with the EPA Victoria licence.</p> <p>If standards outlined in EPR AQ2, EPR AQ3 and the EPA Victoria licence are not met, report to EPA Victoria, investigate the cause of the exceedance, and take remedial action as appropriate to the satisfaction of EPA Victoria.</p>  | Supported.            |
| <b>4. Arboriculture (AR)</b> |         |  |                       |
| AR1                          | AR1     | <p><b>Develop and implement a Tree Removal Plan</b></p> <p>Develop and implement a Tree Removal Plan, as part of the CEMP, that identifies all trees within the project boundary and includes:</p> <ul style="list-style-type: none"> <li>• Trees to be removed or retained as part of the works</li> <li>• Confirmation of the condition and arboricultural value of the amenity trees to be removed</li> <li>• The canopy area of all trees to be removed</li> <li>• The procedure for tree removal that addresses the requirements of EPR FF1, EPR FF2 and EPR FF5.</li> </ul> <p>Tree retention must be maximised to the extent practicable through detailed design and selection of construction methods to minimise canopy loss, and in accordance with EPR FF1, including by retaining trees where practicable and minimising potential impacts to trees. <b>This includes the River Red Gum (Caltex Tree) at 39 Bridge Street, Bulleen.</b></p> <p>Arboricultural assessments are to verify existing details and inform the detailed design, Tree Removal Plan and Tree Canopy Replacement Plan (required by EPR AR3) in order to maximise tree retention and long-term viability of amenity plantings in accordance with Australian Standard AS4970:2009 Protection of Trees on Development Sites.</p> <p>The Tree Removal Plan must be informed by a pre-construction site assessment to confirm the area and number of trees and other vegetation proposed to be impacted. Trees to be retained must be protected in accordance with EPR AR2. Vegetation removal is to occur in a staged manner with removal only occurring once necessary for the current stage of works.</p> <p>The area and number of trees and other vegetation actually removed is to be confirmed through a post-construction assessment.</p> | Supported.            |
| AR2                          | AR2     | <p><b>Implement a Tree Protection Plan(s) to protect trees to be retained</b></p> <p>The CEMP must include a Tree Protection Plan(s), which is to be developed and implemented in accordance with Australian Standard AS4970-2009 Protection of Trees on Development Sites. The Tree Protection Plan(s) must provide details of any tree protection actions that will ensure that trees proposed to be retained are adequately protected from the impact of construction or related activities, prior to those works being undertaken.</p> <p>Tree Protection Plans must be prepared based on detailed construction drawings and surveyed tree locations.</p> <p>Trees subject to protection must be monitored for a <del>three</del> <b>two</b>-year period following completion of construction works in that location to assess ongoing viability, with maintenance or replacement of stressed or damaged specimens to be undertaken.</p>   | Supported.            |



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| AR3                    | AR3       | <p><b>Implement a Tree Canopy Replacement Plan</b></p> <p>Develop and implement a Tree Canopy Replacement Plan to replace the canopy of native vegetation and amenity plantings removed as a result of the project and achieve a net gain in tree canopy cover by 2045. The plan must:</p> <ul style="list-style-type: none"> <li>• Show the location, size (including canopy spread) and species of replacement trees, in consultation with councils and other relevant land managers</li> <li>• Specify requirements to support the long-term viability of all replacement plantings including appropriate soil requirements, establishment works and ongoing maintenance.</li> <li>• <b>Maintain at least a depth</b> a ratio of 2:1 for replacement of amenity plantings</li> <li>• <b>Replanting should generally follow the hierarchy of:</b> <ol style="list-style-type: none"> <li>1. <b>Within the North East Link Project boundary - as first priority, in locations in close proximity to where trees are removed</b></li> <li>2. <b>Outside the Project boundary and within 400m walking catchment from where trees are removed</b></li> <li>3. <b>Within Victorian Government and local Council land within the municipalities of Manningham, Boroondara, Nillumbik, Yarra, Whitehorse and Banyule outside the Project boundary</b></li> <li>4. <b>Within the wider north east area outside the Project boundary, if required.</b></li> </ol> <p><b>Note: all locations selected must provide for long-term tree growth</b></p> </li> <li>• <b>Include understory plantings in addition to the tree canopy replacement plantings where feasible in consultation with Councils and/or the land manager</b></li> <li>• <b>Specify requirements for the ongoing responsibility for maintenance and monitoring of the Tree Canopy Replacement Plan</b></li> </ul> <p>The replacement planting should commence as soon as possible and in stages, once tree removal extent is confirmed and suitable replacement sites have been determined in consultation with relevant councils and authorities.</p> <p>A post-construction assessment is to be undertaken to confirm extent of tree removal and that the Tree Canopy Replacement Plan will achieve the net gain target set out above.</p> | Supported in principle. Understorey planting should be considered where canopy replacement is undertaken where feasible within the project area only.   |
| <b>5. Business (B)</b> |           |   |   |
| B1                     | B<br>NEW1 | <p><b>Business disruption mitigation plan</b></p> <p>Prepare and implement a Business Disruption Mitigation Plan in accordance with the Victorian Small Business Engagement Guidelines (Victorian Small Business Commission) to ensure that business disruption for small businesses, <b>including all businesses in the Bulleen Industrial Precinct</b>, arising from the project is mitigated to the extent practicable.</p>  | Supported.  |
| B2                     | B<br>NEW2 | <p><b>Business Relocation Strategy</b></p> <p>The State must develop and implement a Business Relocation Strategy to assist businesses directly affected by acquisition. The strategy must be developed in consultation with affected businesses, relevant local Councils, relevant local trader associations, and other affected stakeholders affected, immediately on approval of the EMF.</p> <p>The strategy must include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• The identification of affected businesses and other relevant stakeholders</li> <li>• Provide a program to support the relocation of businesses including identifying services and support programs.</li> <li>• The appointment of a specialised relocation adviser to support affected businesses</li> <li>• Procedures to disseminate information, including through the Business Liaison Group (EPR B5) regarding the business relocation strategy and services, key project milestones that may impact on business relocations, and other changes that may affect businesses during the closure of existing operations.</li> <li>• Assistance in the provision of targeted marketing and promotional initiatives to build community and customer awareness for relocated businesses.</li> <li>• Procedures to work with business and landowners to endeavour to reach agreement on the timeframe for possession of the land.</li> <li>• Procedures to engage with businesses and other stakeholders, and through which affected businesses and relevant local trader associations can provide comment or feedback in relation to the relocation strategy and its associated services.</li> </ul>  | Supported in principle. EPR should nominate which arm of the State is responsible for implementing individual business planning and support.<br><br>Cross reference to EPR B8 should read EPR B5. |

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|     |           | <p>NELP should also work with councils to identify and assess the feasibility of alternative location options for displaced businesses.</p> <p>In parallel with the Business Relocation Strategy, the State Government, led by the Department of Transport with appropriate expert advice, must prepare and implement a package of individual business plans prepared with each business in the Bulleen Industrial Precinct that:</p> <ul style="list-style-type: none"> <li>• understands at a fine-grained level their current operation</li> <li>• desire to relocate or cease operations</li> <li>• business needs for new sites</li> <li>• preliminary specific site identification</li> <li>• practical and reasonable assistance to implement these plans.</li> </ul> <p>Note: the requirements of this EPR are in addition to any rights or entitlements available under compulsory acquisition legislation.</p>   |  |
| B3  | B<br>NEW3 | <p><b>Employee Assistance Strategy</b></p> <p>The State must develop and implement an Employee Assistance Strategy to provide relevant workforce support measures for employees of businesses closing or relocating as a consequence of acquisition for the Project.</p> <p>The strategy must include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• The identification of affected businesses and employees</li> <li>• Provide a co-ordinated link to support services for affected employees (for example, access to a range of services such as training advice, careers advice, resume workshopping, advice on government entitlements, referral to other job support services, and skills assessments).</li> <li>• The identification of relevant government agencies and support services</li> </ul> <p>Procedures to disseminate information including through the Business Liaison Group (EPR B5), regarding the employee assistance strategy and services, key project milestones that may impact on business closures and relocations, and other changes that may affect businesses and their employees during the closure of existing operations.</p> <p>In parallel with the Employee Assistance Strategy, the State Government, led by the Department of Transport with appropriate expert advice, must prepare and implement a package of individual employee assistance plans prepared with and for each employee who requests it, in consultation with the employer, that:</p> <ul style="list-style-type: none"> <li>• understands at a fine-grained level their future employment plans</li> <li>• need for training and development</li> <li>• factors that would influence their desire to remain employed with a Bulleen Industrial Precinct business</li> <li>• practical and reasonable assistance to implement their assistance plan.</li> </ul> | <p>Supported in principle. EPR should nominate which arm of the State is responsible for implementing individual business planning and support.</p> <p>Cross reference to EPR B8 should read EPR B5.</p> |
| B4  | B2        | <p><b>Minimise disruption to businesses from land acquisition and temporary occupation</b></p> <p>Minimise disruption to businesses from permanent acquisition or temporary occupation of land to the extent practicable, and work with affected businesses and land owners to endeavour to reach agreement on the terms for possession of the land in accordance with relevant legislation.</p>   | <p>Supported in principle. Add text requiring efforts to provide for Bulleen Art and Garden’s continued operation from its current site.</p>   |
| B5  | B3        | <p><b>Minimise and remedy damage or impacts on third party property and infrastructure</b></p> <p>Through detailed design and construction, and in consultation with relevant land owners and parties as necessary, design and construct the works to minimise, to the extent practicable, impacts to, and interference with, third party property and infrastructure and to ensure that infrastructure and property is protected during construction and operation. Any damage caused to property or infrastructure as a result of North East Link must be appropriately remedied in consultation with the property or asset owner.</p>   | <p>Supported.</p>  |
| B6  | B4        | <p><b>Minimise access and amenity impacts on businesses</b></p> <p>Any reduction in the level of access, amenity or function of any business or commercial facility must be minimised to the extent and duration necessary to carry out the relevant construction related works. Affected business and commercial facilities must be provided with adequate notification of potential impacts and temporary access arrangements. Emergency access must be</p>  | <p>Supported in principle. I do not support the IAC’s recommended amendment.</p>   |

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|  |         | <p>maintained at all times. Access must be maintained for customers, delivery and waste removal unless there has been a prior arrangement with affected businesses.</p> <p>As well as minimising impacts above, temporary occupation of sites for construction must not:</p> <ul style="list-style-type: none"> <li>• reduce the viability of nearby businesses</li> <li>• cause adverse amenity impacts to views and amenity experience from nearby businesses</li> <li>• significantly increase travel time from the residential areas to businesses and shopping precincts including Watsonia Village</li> <li>• reduce car parking available to shoppers and traders in shopping areas including Watsonia Village.</li> </ul> <p>All permanent access to business and commercial facilities affected by North East Link works is to be reinstated, or relocated as agreed with the relevant property owner, including associated landscaping and reinstatement works, and temporary access arrangements put in place for construction must be removed when relevant construction activities have ceased.</p>   |  |
| B7   | B5      | <p><b>Protect utility assets</b></p> <p>Protect or, where required, relocate utility assets to the reasonable satisfaction of the service provider and/or asset owners.</p>  | Supported.   |
| B8   | B6      | <p><b>Business liaison groups</b></p> <p>Contractors must participate in the Business Liaison Groups established and managed by the North East Link Project to facilitate business and stakeholder involvement for the construction phase of the project. Participation must include:</p> <ul style="list-style-type: none"> <li>• Attendance at meetings</li> <li>• Regular and timely reporting of design and construction activities and key project milestones</li> <li>• Provision of advance notice about changes to traffic and parking conditions and the duration of impact</li> <li>• Timely provision of relevant information, including response to issues raised by the group</li> <li>• Regular reporting and monitoring of business community feedback, impacts and discussion of mitigation measures and their effectiveness</li> <li>• Recording, managing and resolving complaints from affected businesses in accordance with the complaints management process required under EPR SC2.</li> </ul>  | Supported in principle. Cross reference to EPR SC2 should read EPR EMF4.   |
| <b>NEW. Construction Compound Management</b> |         |  |  |
| CC1  | CC1     | <p><b>Implement a Construction Compound Management Plan</b></p> <p>Prepare and implement a Construction Compound Management Plan (CCMP) in accordance with the requirements of relevant regulations, standards and best practice guidelines.</p> <p>The CCMP must accord with the approved Construction Compound Plan under the Incorporated Document.</p> <p>The CCMP must define roles and responsibilities and include requirements and methods for:</p> <ul style="list-style-type: none"> <li>• Complying with applicable regulatory requirements</li> <li>• Identifying the nature and extent of construction activity at the particular site including buildings and works</li> <li>• Safe access that minimises impacts on local streets</li> <li>• Storage, handling, transport and disposal of spoil in a manner that protects human health and the environment and is consistent with the transport management plan(s) required by EPR T2.</li> <li>• Design and management of temporary stockpile areas</li> <li>• Minimising impacts and risks to waterways</li> <li>• Avoid and minimise increases to flood risk</li> <li>• Management of the construction compound, including health, safety and environment procedures that address risks associated with construction activities for visitors and general public; contain measures to control exposure in accordance with relevant regulations, standards and best practice guidance and to the requirements of WorkSafe and EPA Victoria; and include method statements detailing monitoring and reporting requirements</li> </ul> | Not supported. A construction compound plan will be required by the incorporated document. All other elements of this EPR are addressed by other EPRs. |

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| <b>6. Contamination and soil (CL)</b> |         |   |  |
| CL1                                   | CL1     | <p><b>Implement a Spoil Management Plan</b></p> <p>Prepare and implement a Spoil Management Plan (SMP) in accordance with relevant regulations, standards and best practice guidelines and with reference to the Spoil Management Strategy contained within the EES (Technical Report O). The SMP must be developed in consultation with the EPA Victoria, <b>any public land managers and in respect of transport of spoil, the relevant road authorities. The SMP must</b> <del>and</del> include processes and measures to manage spoil, <del>The SMP must</del> define roles and responsibilities and include requirements and methods for:</p> <ul style="list-style-type: none"> <li>• Complying with applicable regulatory requirements</li> <li>• Completing a detailed site investigation (in accordance with Australian Standard AS 4482.1:2005 Guide to the investigation and sampling of sites with potentially contaminated soil and the EPA Victoria Industrial Waste Resource Guidelines) prior to any excavation of potentially contaminated areas to identify location, types and extent of impacts and to characterise spoil to inform spoil and waste management</li> <li>• Identifying the nature and extent of spoil (clean fill and contaminated spoil)</li> <li>• Storage, handling, transport and disposal of spoil in a manner that protects human health and the environment and is consistent with the transport management plan(s) required by EPR T2. This includes requirements and methods for the appropriate treatment/remediation of any contaminated excavated spoil and contaminated residual material left on site</li> <li>• Design and management of temporary stockpile areas</li> <li>• Minimising impacts and risks from disturbance of acid sulfate soils (as per EPR CL2), odour (as per EPR CL3) and vapour and ground gas intrusion (as per EPR CL4)</li> <li>• <b>Transport of spoil along appropriate roads</b></li> <li>• Management of hazardous substances, including health, safety and environment procedures that address risks associated with exposure to hazardous substances for visitors, <del>and the</del> general public; <b>and local fauna</b>; contain measures to control exposure in accordance with relevant regulations, standards and best practice guidance and to the requirements of WorkSafe and EPA Victoria; and include method statements detailing monitoring and reporting requirements</li> <li>• Identifying where any contaminated or hazardous material is exposed during construction (notably through former landfills, service stations and industrial land) and how it will be made safe for the public and the environment. Beneficial uses of land and National Environment Protection (Assessment of Site Contamination) Measures 2013 guidance on criteria protective of those beneficial uses must be considered for the land uses in these areas. This must include methods for: <ul style="list-style-type: none"> <li>– Construction of appropriate cover (soil, concrete, geofabric etc) such that no contamination is left exposed at the surface or where it may be readily accessed by the public and <b>local fauna</b> such that it cannot generate runoff or leachate during rain events</li> <li>– Maintenance of the cover</li> <li>– Identification of the nature and depth of the contaminants</li> <li>– Mitigating impacts during sub-surface works in those areas, eg drilling and excavation</li> </ul> </li> <li>• Monitoring and reporting</li> <li>• Identifying locations and extent of any prescribed industrial waste (PIW), other waste, and the method for characterising PIW and other waste prior to excavation</li> <li>• Application of the <i>Environment Protection Act 1970</i> waste management hierarchy, including: <ul style="list-style-type: none"> <li>– Ongoing identification and, where practicable, adoption of options for the re-use of spoil</li> <li>– Identification of options for management of spoil</li> <li>– Identifying suitable sites for disposal of any waste. This includes identifying contingency arrangements for management of waste, where required, to address any identified capacity issues associated with the licensed landfill’s ability to receive PIW and other waste</li> </ul> </li> <li>• In areas used for temporary construction works, <b>and the construction of surface water management works</b>, contamination attributable to the project must be appropriately remediated in consultation with the relevant land manager.</li> </ul> | Supported in principle. Include need to confirm waste industry capacity for contaminated spoil material. |

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| CL2 | CL2     | <p><b>Minimise impacts from disturbance of acid sulfate soil</b></p> <p>The SMP referenced in EPR CL1 must include requirements and methods to minimise impacts from disturbance of acid sulfate soil, including but not limited to:</p> <ul style="list-style-type: none"> <li>• Characterising acid sulfate soil and rock prior to excavation</li> <li>• Developing appropriate stockpile areas including lining, covering and runoff collection to prevent release of acid to the environment, <b>including wetlands</b>, and impact to human health</li> <li>• Identifying suitable sites for re-use management or disposal of acid sulfate soil and rock</li> <li>• Preventing oxidation that could lead to acid formation if possible through cover and/or scheduling practices, ie ensuring acid sulfate soil and rock is not left in stockpiles for any length of time and/or addition of neutralising compounds.</li> </ul> <p>Requirements and methods must be in accordance with the Industrial Waste Management Policy (Waste Acid Sulfate Soils), EPA Victoria Publication 655.1 Acid Sulfate Soil and Rock, and the Department of Sustainability and Environment’s Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soil.</p>  | Supported.            |
| CL3 | CL3     | <p><b>Minimise odour impacts during spoil management</b></p> <p>The SMP referenced in EPR CL1 must include requirements and methods for odour management (in accordance with EPA Victoria requirements) during the excavation, stockpiling and transportation of contaminated material including:</p> <ul style="list-style-type: none"> <li>• Identifying the areas of contamination that may pose an odour risk</li> <li>• Monitoring of the excavated material for possible odour risk</li> <li>• Management measures to minimise odour.</li> </ul>   | Supported.            |
| CL4 | CL4     | <p><b>Minimise risks from vapour and ground gas intrusion</b></p> <p>Relevant North East Link sections must be designed and constructed to prevent ingress of vapours and gases associated with any construction that interfaces with landfill sites or contaminated areas.</p> <p>The SMP referenced in EPR CL1 must include requirements for assessment, monitoring and management of intrusive vapour including potentially toxic, flammable or explosive conditions in enclosed spaces or other impacts on human health and the environment. The plan must address vapour risks associated with excavation of impacted soils, extraction of impacted groundwater, open excavations and stockpiles and gases associated with landfills. This must include, where relevant:</p> <ul style="list-style-type: none"> <li>• Securing of the excavation and stockpile area from the public and signage warning of open excavations</li> <li>• Monitoring of vapours and odours while excavations are open and stockpiles remain onsite</li> <li>• Mitigation measures to prevent fugitive releases of vapours and gasses during construction.</li> </ul>   | Supported.            |
| CL5 | CL5     | <p><b>Manage chemicals, fuels and hazardous materials</b></p> <p>The CEMP and OEMP must include requirements for management of chemicals, fuels and hazardous materials including:</p> <ul style="list-style-type: none"> <li>• Minimise chemical and fuel storage on site and store hazardous materials and dangerous goods in accordance with the relevant guidelines and requirements</li> <li>• Comply with the Victorian WorkCover Authority and Australian Standard AS1940 Storage Handling of Flammable and Combustible Liquids and EPA Victoria publications 480 Environmental Guidelines for Major Construction Sites and 1698 Liquid Storage and Handling Guidelines</li> <li>• Develop and implement management measures for hazardous materials and dangerous substances, including: <ul style="list-style-type: none"> <li>– Creating and maintaining a dangerous goods register</li> <li>– Disposing of any hazardous materials, including asbestos, in accordance with Industrial Waste Management Policies, regulations and relevant guidelines</li> <li>– Implementing requirements for the installation of bunds and precautions to reduce the risk of spills</li> </ul> </li> <li>• Contingency and emergency response procedures to handle fuel and chemical spills, including availability of on-site hydrocarbon spill kits.</li> </ul> | Supported.            |

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| CL6                            | CL6     | <p><a href="#">Minimise contamination risks during operation</a></p> <p>The OEMP must include requirements and methods for minimising contamination risks during operation and maintenance of North East Link including:</p> <ul style="list-style-type: none"> <li>• Maintaining relevant controls and preventing impacts during operation from contaminated material, odour, vapour and gas</li> <li>• Maintaining controls implemented as part of North East Link to make any known areas of contamination or hazardous material that were exposed during construction (notably through former landfills) safe for the public and the environment</li> <li>• Mitigating impacts during sub-surface works in any identified areas of contamination or hazardous materials, eg drilling and excavation</li> <li>• Implementing contingency measures, where required, to address any potential contamination, odour, vapour or gas impacts or incidents.</li> <li>• <a href="#">Monitoring any potential mobilisation of contaminants towards ecological and recreational assets including the Yarra River and wetlands and must include a groundwater monitoring program, intervention trigger levels and mitigation actions.</a></li> </ul>   | Supported.  |
| <b>7. Flora and Fauna (FF)</b> |         |   |   |
| FF1                            | FF1     | <p><a href="#">Avoid and Minimise impacts on fauna and flora</a></p> <p>The CEMP must include requirements and methods for avoiding, where practicable, and otherwise minimising to the extent practicable for:</p> <ul style="list-style-type: none"> <li>• Managing fauna that may be displaced due to vegetation removal or encountered on site during construction works in compliance with the <i>Wildlife Act 1975</i> and in consultation with public land managers where relevant</li> <li>• Complying with the <i>Fisheries Act 1995</i></li> <li>• Undertaking pre-clearing surveys and inspections to confirm the on-site location of fauna immediately prior to habitat removal or, where relevant, works on waterways, and to assist fauna to safety as necessary</li> <li>• <a href="#">Prepare a Kangaroo Management Plan for the Simpsons Barracks and M80 interchange in consultation with DELWP</a></li> <li>• Contingency and reporting procedures for the event that a listed threatened species is identified in order to mitigate any potential for significant impacts on the listed threatened species.</li> <li>• <a href="#">Protection of all vegetation inside and adjacent to the Project area that is not required to be removed</a></li> </ul> <p>Surveys, inspections and management actions must be undertaken by a qualified wildlife ecologist or aquatic ecologist with all necessary authorisations obtained prior to removal of fauna habitat.</p> <p><a href="#">The CEMP must be prepared in consultation with relevant land managers.</a></p> <p><a href="#">A copy of the approved CEMP must be provided to relevant land managers and each relevant municipal Council.</a></p> | Supported.  |
| FF2                            | FF2     | <p><a href="#">Minimise and offset native vegetation removal</a></p> <p>Through detailed design, avoid where practicable, and otherwise minimise the removal of native vegetation and fauna habitat and impacts on habitat connectivity, in particular in relation to <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> or <i>Flora and Fauna Guarantee Act 1988</i> listed threatened species. This must include minimising removal of Matted Flax Lily, the locally endemic Studley Park Gum and the loss of potential foraging habitat for the Powerful Owl, Swift Parrot and Grey-headed Flying Fox. Key areas for minimisation efforts must include Simpson Barracks, Yarra Bend, Trinity Grammar wetlands, Banksia Parkland, River Gum Walk Creek Bend Reserve and the Koonung Creek valley.</p> <p>The CEMP must include requirements for protection of native vegetation and listed species, including establishment of no-go-zones to protect vegetation <a href="#">and habitat</a> to be retained and Tree Protection Plan(s) as required by EPR AR2. No-go-zones must also be established for:</p> <ul style="list-style-type: none"> <li>• The Grey-headed Flying fox Campsite within the Yarra Bend Park</li> <li>• Bolin Bolin Billabong</li> <li>• <a href="#">Simpson Barracks</a></li> </ul>   | Supported in principle.<br>Remove Simpson Barracks and trees at/adjacent to Macleod Railway Station in the list of ‘no-go zones’. |

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|     |         | <ul style="list-style-type: none"> <li>• The Plains Grassy Woodland community between Enterprise Drive and the M80 Ring Road in Bundoora</li> <li>• The portion of 49 Greenaway Street, Bulleen (former Drive-in) heavily vegetated with trees along the Yarra River</li> <li>• <a href="#">Trees at and adjacent to Macleod Station (to protect habitat for Swift Parrots)</a></li> <li>• Surface impacts in the Banyule Flats and Warringal Parklands and the Heide Museum of Modern Art.</li> </ul> <p>Every effort must be made to avoid ecological impacts in other locations that are known to provide high habitat value for significant fauna species.</p> <p>Where the removal of native vegetation is unavoidable the project must meet the offset requirements of the Guidelines for the removal, destruction or lopping of native vegetation, DELWP December 2017 except as otherwise agreed to by the Secretary to DELWP.</p> <p>Where appropriate for the landscape and project location, tree replacement (as required by EPR AR3) and landscaping is to use locally indigenous species (utilising seed collected from species within the project boundary where appropriate and practical), which are suited to the landscape profile and setting being revegetated, and seek to maximise habitat value and connectivity for native fauna. Where practicable and appropriate for the landscape and project location, best practice measures must be applied to retain and reinstate topsoil to support growing conditions for native species. Where topsoil cannot be retained or reused for North East Link, alternative opportunities for reuse must be explored.</p> <p><del>Where direct impacts on Studley Park Gum occur, a Studley Park Gum Management Framework should be developed and corresponding management plan must be developed and implemented.</del></p> |                       |
| FF3 | FF3     | <p><a href="#">Avoid introduction or spread of weeds and pathogens</a></p> <p>The CEMP must include measures to avoid the spread or introduction of weeds and pathogens during construction, including vehicle and equipment hygiene.</p>  | Supported.            |
| FF4 | FF4     | <p><a href="#">Protect aquatic habitat</a></p> <p><del>In consultation with public land managers and Melbourne Water where relevant, design, locate and construct structures to minimise short and long term adverse impacts on riparian, riverbed and aquatic habitat in waterways and wetlands, including billabongs. The CEMP must contain and require implementation of measures to minimise adverse impacts from construction activities on riparian, riverbed and aquatic habitat and aquatic fauna connectivity.</del></p>  | Supported.            |
| FF5 | FF5     | <p><a href="#">Obtain Flora and Fauna Guarantee Act 1988 permits</a></p> <p><del>Prior to construction, a permit(s) must be obtained to take and destroy flora species protected under the Flora and Fauna Guarantee Act 1988.</del></p>   | Supported.            |
| FF6 | FF6     | <p><a href="#">Implement a Groundwater Dependent Ecosystem Monitoring and Mitigation Plan</a></p> <p>Prepare and implement a Groundwater Dependent Ecosystem Monitoring and Mitigation Plan <a href="#">to the satisfaction of the relevant water authorities</a>. The Groundwater Dependent Ecosystem Monitoring and Mitigation Plan must be informed by the groundwater modelling and groundwater monitoring required by EPR GW1 and EPR GW2, and must include (but not be limited to):</p> <ul style="list-style-type: none"> <li>• Identification of Groundwater Dependent Ecosystems (GDEs) predicted to be impacted <a href="#">prior to construction commencing, including Bolin Bolin Billabong</a></li> <li>• Details of the monitoring procedures and program for each relevant GDEs including monitoring periods appropriate to each GDE</li> <li>• Specific procedures to monitor groundwater levels at GDE’s predicted to be impacted including monitoring as close as possible to the GDE (considering ecological and access constraints) and for aquatic GDEs monitoring the surface water levels and quality as appropriate, <a href="#">including Bolin Bolin Billabong. These procedures should include:</a> <ul style="list-style-type: none"> <li>– <a href="#">Groundwater monitoring of the alluvium by specific monitoring bores as close as possible to billabongs must be undertaken before, during and after construction.</a></li> <li>– <a href="#">Monitoring of water levels and water quality in billabongs must be undertaken before, during and after construction.</a></li> <li>– <a href="#">Monitoring of water balance input and output volumes to and from billabongs must be undertaken before, during and after construction.</a></li> </ul> </li> </ul>   | Supported.            |

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|                                |             | <ul style="list-style-type: none"> <li>• Identification of relevant monitoring and management programs by Melbourne Water or other authorities and how these are referenced in the Groundwater Dependent Ecosystem Monitoring and Mitigation Plan</li> <li>• Measures to mitigate monitored changes in water levels and quality that could impact the billabongs or other GDEs, which take into account the natural variability</li> <li>• Where the survival of Groundwater Dependent Large Trees not requiring removal is predicted to be affected by groundwater drawdown during construction or operation based on groundwater modelling outputs, include measures to maintain the health of large trees</li> <li>• In relation to any trees unlikely to survive during operation as a consequence of groundwater drawdown, processes for offsets to be obtained in accordance with EPR FF2.</li> <li>• The process for review of the Plan, including how the groundwater modelling and monitoring under EPR GW1 and EPR GW2 will be considered and the GDE monitoring program and periods subsequently reviewed.</li> </ul> |  |
| FF7                            | FF7         | <p><b>Implement a salvage and translocation plan for Matted Flax-lily</b></p> <p>Where direct impacts on Matted Flax-lily occur, a salvage and translocation plan must be developed and implemented to the satisfaction of the Department of Environment, Land, Water and Planning and the Commonwealth Department of Environment and Energy, <b>prior to the commencement of the Project.</b></p>   | Supported. Timing should be prior to construction. |
| FF8                            | FF8         | <p><b>Minimise intense noise and vibration impacts on Australian Grayling</b></p> <p>The CEMP must include and require implementation of reasonable measures to avoid and mitigate intense noise and vibration impacts in or near the Yarra River (eg from activities such as pile driving and similar activities). This must include, to the extent practicable:</p> <ul style="list-style-type: none"> <li>• Selection of work methods to minimise noise and vibration</li> <li>• Avoiding activities that may generate intense noise and vibration and impact on the Australian Grayling during critical migration or breeding periods (March to June, September to November) as defined within the National Recovery Plan for the Australian Grayling <i>Prototroctes maraena</i> (Backhouse, G, Jackson, J &amp; O’Connor, J 2008)</li> <li>• Management and monitoring of noise and vibration in accordance with the CNVMP (EPR NV4).</li> </ul>   | Supported.   |
| FF9                            | FF9         | <p><b>Protect fauna habitat values in existing waterbodies that are modified for drainage purposes</b></p> <p>Where existing waterbodies within or near the project boundary are to be modified for drainage purposes (for example Simpson’s Lake, billabongs, and the southernmost waterbody in the Freeway golf course), the CEMP must include and require implementation of measures to minimise impacts on waterbirds and other fauna that use the wetlands including:</p> <ul style="list-style-type: none"> <li>• Retain dead and alive standing trees and other vegetation in and surrounding the waterbody</li> <li>• As far as practicable, undertake activities outside the typical nesting period for waterbirds (typically Sept to Jan)</li> <li>• Minimise the construction period to the extent practicable and refill the wetlands post construction if they have been drained.</li> <li>• <b>Include gross pollutant traps and water quality treatment measures to the satisfaction of the relevant waterway manager.</b></li> </ul>   | Supported.   |
| FF10                           | NEW<br>FF10 | <p><b>Studley Park Gum Mitigation</b></p> <p><b>To mitigate impacts on the Studley Park Gum, a Studley Park Gum Management Framework must be developed and corresponding management plan must be developed and implemented in consultation with DELWP.</b></p>   | Supported.   |
| <b>8. Ground Movement (GM)</b> |             |  |  |
| GM1                            | GM1         | <p><b>Design and construction to be informed by a geotechnical model and assessment</b></p> <p>Develop and maintain geological and groundwater model(s) (as per EPR GW1) to inform tunnel and trench design and the construction techniques to be applied for the various geological and groundwater conditions. The model(s) are to:</p> <ul style="list-style-type: none"> <li>• Identify sensitive receptors that may be impacted by ground movement</li> <li>• Inform monitoring of ground movement and ground water levels prior to construction to</li> </ul>  | Supported.   |



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|                            |         | <p>identify pre-existing movement</p> <ul style="list-style-type: none"> <li>• Inform tunnel design and the construction techniques to be applied for the various geological and groundwater conditions</li> <li>• Assess potential drawdown and identify trigger levels for implementing additional mitigation measures to minimise potential primary consolidation settlement</li> <li>• Assess potential ground movement from excavation and identify trigger levels for implementing additional mitigation measures to minimise potential ground movement.</li> </ul>  |  |
| GM2                        | GM2     | <p><b>Implement a Ground Movement Plan to manage ground movement impacts</b></p> <p>Develop and implement a Ground Movement Plan(s). The Ground Movement Plan must be informed by EPR GM1 and EPR GW1 (predictive model) and:</p> <ul style="list-style-type: none"> <li>• Address the location of structures/assets which may be susceptible to damage by ground movement</li> <li>• Identify baseline ground movement monitoring prior to construction. A baseline monitoring report is to be compiled summarising the results of the baseline surveys undertaken and included in the plan</li> <li>• Identify appropriate ground movement impact acceptability criteria</li> <li>• Identify appropriate mitigation measures should the geotechnical model (EPR GM1), predictive groundwater model (EPR GW1), or subsequent monitoring program indicate acceptability criteria may not be met</li> <li>• Establish ground movement monitoring requirements for the area surrounding proposed project works to measure ground movement consistency with the anticipated ground movement in the predictive model.</li> </ul>   | Supported.   |
| GM3                        | GM3     | <p><b>Carry out Condition surveys for potentially affected property and infrastructure</b></p> <p>Conduct condition survey(s) of property and infrastructure predicted to be affected by ground movement based on the results of the geological and groundwater model (EPR GM1) or, where a property owner reasonably expects to be potentially affected and has requested a pre-construction condition survey. Develop and maintain a database of pre-construction and as-built condition information for each potentially affected structure identified as being in an area susceptible to damage (see EPR GM1) or where a property owner has requested a pre-construction condition survey, specifically including:</p> <ul style="list-style-type: none"> <li>• A list of identified structures/assets which may be susceptible to damage resulting from ground movement resulting from project works</li> <li>• Results of pre-construction condition surveys of structures, pavements, significant utilities and parklands to establish baseline conditions and potential vulnerabilities</li> <li>• Records of consultation with land owners in relation to the condition surveys</li> <li>• Post-construction stage condition surveys conducted, where required, to ascertain if any damage has been caused as a result of project works.</li> </ul> <p>Pre- and post-condition assessments must be proactively shared with the property owner.</p> <p>All stakeholder engagement activities must be undertaken in accordance with the Communications and Community Engagement Plan (see EPR SC2).</p> | Supported.   |
| GM4                        | GM4     | <p><b>Rectify damage to properties and assets impacted by ground movement or settlement</b></p> <p>For properties and assets (including natural landscapes and parklands) damaged by ground movement caused by the project, undertake necessary repair works or other actions as agreed with the relevant property or asset owner (or land manager). For places listed on the Victorian Heritage Register, consultation with Heritage Victoria must be undertaken.</p> <p>Establish an independent mediation process for the assessment of claims for property and asset damage that cannot be agreed between the Project and the property or asset owner.</p>   | Supported.   |
| <b>9. Groundwater (GW)</b> |         |  |  |
| GW1                        | GW1     | <p><b>Design and construction to be informed by a groundwater model</b></p> <p>Develop a predictive and numerical groundwater model in consultation with EPA Victoria, informed by field investigations, to predict changes in groundwater levels and flow and quality, as they are affected by construction, and develop mitigation strategies, as per EPR GM1. The groundwater model must be of a standard that is at least comparable to the modelling</p>  | Supported in principle. The groundwater model should be developed in a process that involves independent review by a |

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|     |         | <p>documented within the Report on Additional Groundwater Modelling prepared by GHD and dated July 2019 and must be updated to take account of any changes to construction techniques or operational design features, and additional monitoring data from EPR GW2.</p> <p>The groundwater model must be developed with a process that involves independent review by the EPA appointed Independent Environmental Auditor consistent with the Australian Groundwater Modelling Guidelines (June 2012).</p>   | <p>multi-disciplinary independent environmental auditor, not limited to an EPA appointed independent environmental auditor.</p> |
| GW2 | GW2     | <p><b>Monitor groundwater</b></p> <p>Develop and implement a pre-construction, and construction groundwater monitoring program to:</p> <ul style="list-style-type: none"> <li>• Establish baseline water level and quality conditions throughout the study area, including the <del>identification (where possible)</del> delineation (to the extent practicable) of those portions of existing contaminant plume(s) that may be impacted by the project <del>to the extent required to manage groundwater impacts to acceptable levels</del></li> <li>• Calibrate the predictive model prior to commencement of construction, manage construction activities, and verify the model predictions</li> </ul> <p>Assess the adequacy of proposed design and construction methods, and where required, identify and implement any additional measures required to mitigate impacts from changes in groundwater levels, flow and quality.</p> <p>A post-construction groundwater monitoring program must be developed and implemented to:</p> <ul style="list-style-type: none"> <li>• Confirm the acceptability of resultant water quality and water level recovery (and potential mounding) as predicted by the numerical groundwater model. Acceptability is to be assessed with consideration to the Groundwater Dependent Ecosystem Monitoring and Mitigation Plan (as required by EPR FF6) and other identified beneficial uses of groundwater</li> <li>• Confirm the effectiveness of applied measures as identified in the Groundwater Management Plan (refer EPR GW4) and if required, identify and implement contingency measures to restore groundwater to an acceptable level.</li> </ul> <p>The duration of post-construction monitoring must be a minimum of two years or until acceptable restoration of groundwater and a stable hydrogeological regime has been confirmed by the Independent Environmental Auditor, in consultation with EPA Victoria and Melbourne Water. The pre-construction, construction and post-construction monitoring program(s) must be developed in consultation with EPA Victoria and Melbourne Water, and be consistent with EPA Victoria Publication 668 Hydrogeological assessment groundwater quality guidelines, EPA Victoria Publication 669 Groundwater Sampling Guidelines, and the State Environment Protection Policy (Waters).</p> | Supported.  |
| GW3 | GW3     | <p><b>Minimise changes to groundwater levels through tunnel and trench drainage design and construction methods</b></p> <p>Design long term tunnel and trench drainage and adopt construction methods which minimise changes to groundwater levels during construction and operation to manage, mitigate and/or minimise to the extent practicable:</p> <ul style="list-style-type: none"> <li>• Requirements for groundwater management and disposal</li> <li>• Mobilisation of contaminated groundwater</li> <li>• Dewatering and potential impacts of acid sulfate soils, including both unconsolidated sediments and lithified sedimentary rock</li> <li>• Potential impacts on waterways and potential groundwater dependent ecosystems, including terrestrial ecosystems</li> <li>• Any other adverse impacts of groundwater level changes such as subsidence.</li> </ul> <p>Design and implement engineering control measures and/or ground treatment to limit to the extent practicable groundwater inflow and groundwater drawdown during excavation, construction and operation of tunnels and trenches, cross passages and subsurface excavations.</p> <p>The Groundwater Management Plan (as required by EPR GW4) must contain measures and/or controls to minimise groundwater inflow during construction to excavations and groundwater drawdown, including contingency measures should monitoring indicate adverse impacts are occurring. These must include measures to:</p> <ul style="list-style-type: none"> <li>• Manage, mitigate and minimise to the extent practicable reduction or loss of groundwater discharge to waterways or loss of water availability for terrestrial ecosystems</li> <li>• Manage, mitigate and minimise the oxidation of acid sulfate soil materials and acidification of</li> </ul>  | Supported.  |

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|     |         | <p>groundwater</p> <ul style="list-style-type: none"> <li>• Manage, mitigate and minimise any movement of contamination that is identified</li> <li>• Manage, mitigate and minimise impacts on beneficial uses and risk of vapour intrusion</li> <li>• Ensure that groundwater seepage is collected, treated and disposed during construction in accordance with the <i>Environment Protection Act 1970</i> waste management hierarchy and EPA Victoria requirements. Obtain a trade waste agreement from the relevant water authority where disposal to sewer is required. Groundwater discharge to waterways must be approved by the relevant authority prior to discharges occurring and meet the State Environment Protection Policy (Waters) requirements.</li> </ul>  |                       |
| GW4 | GW4     | <p><a href="#">Implement a Groundwater Management Plan to Protect groundwater quality and manage groundwater interception</a></p> <p>A Groundwater Management Plan must be developed in consultation with EPA Victoria <a href="#">and Melbourne Water</a> and implemented to protect groundwater quality and manage interception of groundwater including documenting the measures required to achieve EPR GW2 and EPR GW3. The Groundwater Management Plan must be informed by the groundwater modelling required by EPR GW1 and updated where required in response to modelling results, new information resulting from the monitoring programs required by GW2 and assessment of the adequacy or effectiveness of controls.</p> <p>The Groundwater Management Plan must include requirements and construction methods to protect groundwater quality including where appropriate, but not limited to:</p> <ul style="list-style-type: none"> <li>• Selection and use of sealing products, caulking products, lubricating products and chemical grouts during construction that will not diminish the groundwater quality</li> <li>• Selection and use of fluids for artificial recharge activities that will not diminish the groundwater quality</li> <li>• Requirements to ensure compatibility of construction material with groundwater quality to provide long term durability for infrastructure design life</li> <li>• Design and development of drainage infrastructure that minimises clogging and maintenance risks from dissolved constituents in groundwater precipitating out of solution</li> <li>• Measures to assess, remove and dispose of contaminated groundwater and impacted soils associated with excavation and construction</li> <li>• Reinjection borefields for hydraulic control of drawdowns (or contaminated groundwater plumes)</li> <li>• Remedial grouting.</li> </ul> <p>The Groundwater Management Plan must include requirements and methods for management of groundwater interception during construction including where appropriate, but not limited to:</p> <ul style="list-style-type: none"> <li>• Identification, treatment, disposal and handling of contaminated seepage water and/or slurries including vapours in accordance with relevant legislation and guidelines</li> <li>• Assessment of barrier/damming effects</li> <li>• Subsidence management</li> <li>• Dewatering and potential impacts on acid sulfate soils, including both unconsolidated sediments and lithified sedimentary rock</li> <li>• Protection of waterways and potential groundwater dependent ecosystems</li> <li>• Management of unexpected contaminated groundwater eg using treatments, hydraulic controls, grouting and exclusion methods</li> <li>• Management of possible impact to groundwater monitoring and management by third parties of existing contamination plumes</li> <li>• Contingency actions when interventions are required.</li> </ul> <p>The Groundwater Management Plan must also include a review to confirm the status of potential use of extraction bores within the estimated construction drawdown area. Where required, measures must be developed and implemented, to the satisfaction of Southern Rural Water, to maintain water supply to identified, impacted groundwater users.</p> | Supported.            |
| GW5 | GW5     | <p><a href="#">Manage groundwater during operation</a></p> <p>Prepare as part of the OEMP and implement measures for management, monitoring, reuse where possible and disposal of groundwater inflows during operation that comply with relevant legislation and guidelines (and include provisions of EPR FF6 where relevant), including but not</p>   | Supported.            |

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|                                     |         | <p>limited to:</p> <ul style="list-style-type: none"> <li>• State Environment Protection Policy (Waters)</li> <li>• State Environment Protection Policy (Prevention and Management of Contaminated Land)</li> <li>• <i>Water Act 1989</i> and Water Industry Regulations 2006</li> <li>• <i>Occupational Health and Safety Act 2004</i> and Occupational Health and Safety Regulations 2017.</li> </ul> <p>The OEMP must include contingency measures and emergency response plans if unexpected groundwater contamination is encountered and requires disposal.</p> <p>A trade waste agreement from the relevant water authority must be obtained in accordance with regulatory requirements, where disposal to sewer is proposed. Approval from EPA and the relevant water authority (as required) must be obtained in accordance with regulatory requires, where discharge to waterways is proposed.</p>   |  |
| <b>10. Historical Heritage (HH)</b> |         |   |  |
| HH1                                 | HH1     | <p><b>Design and construct to minimise impacts on heritage</b></p> <p>Undertake detailed design of the permanent and temporary works to minimise impacts <b>with capacity to where practicable</b>, on the cultural heritage values of heritage places in consultation with Heritage Victoria and/or local councils (as applicable).</p> <p>Prior to commencement of works <b>with capacity to that</b> affect heritage places, structures or features, <b>directly or indirectly</b>, develop and implement in consultation with the relevant heritage authority:</p> <ul style="list-style-type: none"> <li>• Physical protection measures for <b>potentially affected</b> heritage places, structures or features as appropriate</li> <li>• Where required, a methodology for any required dismantling, storage or reinstatement of heritage fabric (with reference to the ICOMOS Burra Charter 2013) <b>and works to ensure an appropriate setting if relocation is required</b>.</li> </ul>          | Supported in principle. Include ‘minimising impacts to the greatest extent practicable’ and remove ‘with capacity to’ in the first sentence. |
| HH2                                 | HH2     | <p><b>Implement an Archaeological Management Plan to avoid and minimise impacts on historic archaeological sites and values</b></p> <p>Develop and implement an Archaeological Management Plan in consultation with Heritage Victoria detailing measures to avoid, minimise, mitigate and manage disturbance of archaeological sites and values affected by the project. Undertake investigations in accordance with the Guidelines for Investigating Historical Archaeological Artefacts and Sites, Heritage Victoria 2015 and to the satisfaction of the Executive Director, Heritage Victoria.</p> <p>The Archaeological Management Plan must include:</p> <ul style="list-style-type: none"> <li>• Requirements for background historical research, excavation methodology, research design, reporting and artefact management, artefact conservation, and analysis</li> <li>• Protocols for managing previously unidentified historical archaeological sites discovered during the works.</li> </ul> | Supported.   |
| HH3                                 | HH3     | <p><b>Monitor condition of heritage sites</b></p> <p>Undertake pre-construction and post construction condition survey(s) in accordance with EPR GM3 for heritage places at risk of impact from settlement and structural integrity disturbance as a result of the project. Measures to manage and monitor potential vibration impacts on heritage places during construction must be implemented in accordance with the Construction Noise and Vibration Management Plan required by EPR NV4 <b>and Groundwater Management Plan required by EPR GW4</b>. Report the results of monitoring for heritage places to the Executive Director, Heritage Victoria and take remedial action, if required, to the satisfaction of the Executive Director, Heritage Victoria.</p>  | Supported.   |
| HH4                                 | HH4     | <p><b>Undertake archival photographic recording</b></p> <p>Prior to construction, undertake archival photographic recording of all heritage places <b>or trees</b> demolished or modified by the works in accordance with Heritage Victoria’s specification for the archival photographic recording of heritage places or alternative applicable Heritage Victoria guidelines as updated, to the satisfaction of the Executive Director, Heritage Victoria.</p>   | Supported in principle. Include reference to the setting of historic heritage places or trees.   |

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| HH5                               | HH5     | <p><b>Minimise impacts on heritage trees</b></p> <p>Comply with any requirements of Heritage Victoria if the trees that are to be impacted by the project are listed on the Victorian Heritage Register.</p>  | Supported.   |
| <b>11. Land Use Planning (LP)</b> |         |   |  |
| LP1                               | LP1     | <p><b>Minimise land use impacts</b></p> <p>The project must be designed and constructed to:</p> <ul style="list-style-type: none"> <li>• Minimise the <b>construction and design footprint</b> and avoid, <b>or, where avoidance is not feasible, minimise to the greatest extent possible to the extent practicable</b>, any temporary and permanent impacts on the following land uses: <ul style="list-style-type: none"> <li>– Parks and reserves <b>including passive and active open space and pathways</b></li> <li>– Significant landscapes <b>including those</b> around the Yarra River</li> <li>– Other sensitive land uses such as educational facilities</li> <li>– <b>Sport, r</b>Recreational and community facilities</li> <li>– Residential properties</li> <li>– Commercial and industrial sites.</li> <li>– <b>Sites of identified cultural or social value including Heide Museum of Modern Art and Bulleen Art and Garden.</b></li> </ul> </li> <li>• Consolidate or minimise the fragmentation of, and provide access to, residual land parcels to support future viable land use to the extent practicable.</li> <li>• <del>Adopt an integrated approach to the Manningham interchange which supports viable future land uses (such as commercial and industrial) and includes maximising the developable area at surface level to the extent practicable.</del></li> </ul>  | Supported.   |
| LP2                               | LP2     | <p><b>Minimise impacts from location of new services and utilities</b></p> <p>New above ground services and utility infrastructure are to be located in a way that minimises impacts to existing residential areas, public open space and recreational facilities. This must include considering options to co-locate infrastructure where practicable.</p>   | Supported.   |
| LP3                               | LP3     | <p><b>Minimise inconsistency with strategic land use plans</b></p> <p><del>Design and development of the The project must avoid and minimise, to the extent practicable, impacts on residential, commercial, industrial, open space and community facility land uses from project development and operations which are inconsistent with strategic land use policy.</del> Development of the project must have regard to relevant <b>urban design and strategic</b> land use strategies, plans and frameworks including the Yarra Strategic Plan and Draft Yarra River Bulleen Precinct Land Use Framework Plan when approved or any superseding document. <del>C</del>onsultation must occur with land managers and <del>r</del> authorities responsible for the implementation of the relevant strategic land use plans and policies <b>in preparing Urban Design Framework Plans required by the Incorporated Document.</b></p> <p><b>An integrated approach must be adopted to the Manningham Interchange in consultation with Manningham City Council which supports viable future land uses (such as commercial and industrial) and includes maximising the developable area at surface level to the extent practicable in addition to requirements for the Urban Design Framework Plan for this interchange to be approved under the Incorporated Document.</b></p> <p><b>The project must avoid and minimise impacts on residential, commercial, industrial, open space, culturally valued and community facility land uses from project development and operations which would be inconsistent with strategic land use policies.</b></p> | Supported in principle. Amend references to urban design framework plans to reflect their inclusion in the UDS.  |
| LP4                               | LP4     | <p><b>Minimise overshadowing from noise walls and elevated structures and overlooking from elevated structures</b></p> <p>Overshadowing from elevated structures and noise walls to residential properties (including existing solar panels), community facilities, open spaces, waterways and valuable natural habitats must be minimised through detailed design. <b>Consultation must occur with directly affected property owners and occupiers to formulate acceptable parameters for these structures including location, design and materials.</b></p> <p>Unless with the consent of an affected landowner or in exceptional circumstances, the extent of additional overshadowing of residential properties from non transparent structures:</p>  | Supported in principle. Clarify the formulation of acceptable parameters for structures will be informed by consultation with directly affected property owners and occupiers. |

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|--------------------------------------|---------|---|---|
|                                      |         | <ul style="list-style-type: none"> <li>Should be no greater than the existing shadowing of secluded private open spaces associated with residential properties cast by existing structures including existing noise walls and other structures (e.g. elevated walkways) between the hours of 9:00 am to 3:00 pm as measured on September 22.</li> <li>If additional overshadowing occurs it must not be greater than 50% of the secluded private open space or 40 sqm, whichever is the greater, between the hours of 9:00 am to 3:00 pm as measured on September 22.</li> </ul> <p>Overlooking from elevated structures, especially within a distance of 15 metres to secluded open space and habitable room windows of residential properties, must be minimised through detailed design as far practicable. Consultation must occur with directly affected property owners and occupiers to formulate acceptable parameters, designs and materials for these structures.</p>   |   |
| LP5                                  | LP NEW1 | <p><b>Open Space Replacement</b></p> <p><del>The Proponent and the State must replace all public open space permanently required for the Project on a like-for-like basis by the commencement of operation of the Project. develop and implement a strategy with the objective to replace public open space permanently required for the Project. The strategy should</del> The Proponent in conjunction with the State must develop and implement a Relocation and Replacement Plan which must include:</p> <ul style="list-style-type: none"> <li>The replacement of all land used for parkland, reserves, passive open space and active open space including recreation facilities (where not addressed in SC4).</li> <li>Priorities for the acquisition of land within the Public Acquisition Overlay or private land in key strategic locations and a program identifying the timing of the acquisition or re-purposing of the identified new public open space sites. –</li> <li>An assessment of the suitability of the replacement land for public open space by reference to relevant strategic document–s, including the Yarra Strategic Plan (when released), reference to the Yarra River Bulleen Draft Land Use Framework Plan (or final document) and policies within relevant local planning schemes</li> <li>Functional concept plans for the future use of each site, prepared with input from relevant councils, land managers, public asset owners and stakeholders (in the case of formal sporting uses being replaced)</li> <li>A program identifying the timing and scope of works to be undertaken to provide appropriate or upgraded facilities to provide like-for-like facilities or to meet enhanced user needs beyond like-for-like status. This must identify temporary and permanent land use allocation. Identification of committed proposals to be provided by the Project to enhance the natural values of open space to be provided for conservation or passive recreation, including tree planting works, river bank improvements, water management upgrades and the like and complementary proposals to be achieved by others for this land.</li> </ul> <p><del>The definition of the public open space required for the Project (noting that this will not include land within a Road Zone).</del></p> <p><del>The identification of options to acquire private land or re-purpose land in public ownership for use as public open space. This will include:</del></p> <ol style="list-style-type: none"> <li><del>The assessment of the suitability of the land for public open space</del></li> <li><del>A general plan for the future use of the land (e.g. active open space, conservation land etc.)</del></li> </ol> <p><del>A program identifying the timing of the acquisition or re-purposing of the identified new public open space sites and the process to be used to ensure fair procedures with the aim of completing the acquisition/re-purposing and development program by the completion of construction of the Project.</del></p> | <p>Supported in principle. The EPR is to be redrafted for clarity to direct the development and implementation of an open space relocation and replacement plan. The plan must document the underlying philosophy of like-for-like replacement. The plan should clearly set out the process for assessing, selecting and acquiring suitable replacement open space. Land zoned Road Zone must be excluded from the replacement calculation. The proponent is to exclude the proposed land bridges that are part of the access network when providing like-for-like replacement of open space.</p> |
| <b>12. Landscape and Visual (LV)</b> |         |   |   |
| LV1                                  | LV1     | <p><b>Design to be in accordance with the Urban Design Strategy</b></p> <p>Urban Design and Landscape Plans must be developed and implemented for permanent above-ground buildings or structures (excluding preparatory buildings and works) in accordance with the North East Link Project – Incorporated Document. The design response must be in accordance with the North East Link Urban Design Strategy and, to the extent practicable:</p> <ul style="list-style-type: none"> <li>Avoid or minimise landscape and visual, overlooking, and shading (with reference to EPR LP4) impacts in extent, duration and intensity</li> <li>Maximise opportunities for enhancement of public and private receptors including public</li> </ul>   | <p>Supported in principle. Amend references to urban design framework plans to reflect their inclusion in the UDS.</p>  |

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|-------------------------------------|---------|--|---|
|                                     |         | <p>amenity, open space and facilities, and heritage places by <del>resulting from</del> the project including by facilitating value add/capture opportunities.</p> <ul style="list-style-type: none"> <li>• Respond to opportunities and constraints identified in an Urban Design Framework Plan for key interchanges, activity centres and interfaces identified in the Incorporated Document (where applicable).</li> <li>• Identify residential areas with the potential for high visual impact and develop targeted design options to avoid or minimise amenity impacts on these areas, including as a result of the proposed noise walls.</li> <li>• Detailed design to ensure landmark elements balance visual impact with minimal overshadowing.</li> </ul>  |   |
| LV2                                 | LV2     | <p><b>Minimise landscape and visual impacts during construction</b></p> <p>Temporary and construction works <del>are to</del> must be located designed and carried out in accordance with the <b>Construction Compound Plan to be approved under the Incorporated Document and the Urban Design Strategy</b> guidance on using design to help manage construction impacts. Areas disturbed by temporary and construction works <del>must are to</del> be reinstated <del>in consultation with the to the satisfaction of the</del> relevant land manager, <b>waterway manager and any relevant public asset owners.</b></p> <p><b>Design of acoustic sheds used during construction, to contribute to the image and identity of the area.</b></p> <p>Develop and implement measures to use temporary landscaping, features or structures (including viewing portals) during construction to minimise adverse visual impact of project works and provide visual appeal. Temporary landscape treatments, features or screening must be reused across the project, where appropriate.</p> <p>Implement landscaping enhancement <b>including early tree planting</b> (as part of permanent works) prior to construction works commencing, where practicable.</p>                                     | Supported.  |
| LV3                                 | LV3     | <p><b>Minimise construction lighting impacts</b></p> <p>Develop and implement <b>effective</b> measures to minimise light spillage <b>and glare</b> during construction <b>including from vehicles and equipment</b> to protect the amenity of adjacent neighbourhoods, parks, community facilities and any known significant native fauna habitat to the extent practicable. <b>Such measures must have regard to the content of guidelines or Australian Standards pertaining to outdoor lighting and best available technology.</b></p>   | Supported.  |
| LV4                                 | LV4     | <p><b>Minimise operation lighting impacts and maximise operational lighting benefits for open space</b></p> <p>Design and install lighting used during operation of permanent structures <b>and resulting from the orientation of all permanent structures (including from vehicle headlights)</b> in accordance with relevant standards, including but not limited to <b>relevant guidelines and Australian Standards pertaining to outdoor lighting and the protection of beneficial uses AS 4282-1997 Control of the obtrusive effects of outdoor lighting.</b></p> <p>Design and install lighting to minimise <b>light</b> spill and disturbance to significant fauna sites <del>(eg, including the</del> Grey-headed Flying-fox colony at Yarra Bend, wetlands and waterways immediately adjacent to roadways).</p> <p><b>Provide sensitively designed lighting to shared user paths and open spaces to provide improved safety for users without causing unreasonable effects on residential amenity or environmental and landscape values.</b></p> <p><b>Designs must consider Crime Prevention Through Environmental Design, including effects on safe movements of pedestrians and cyclists; including within undercrofts, bicycle and pedestrian tunnels and open spaces areas</b></p> | Supported.  |
| <b>13. Noise and Vibration (NV)</b> |         |  |   |
| NV1                                 | NV1     | <p><b>Achieve traffic noise objectives</b></p> <p>Design <del>and</del> construct <b>and maintain</b> the works to meet the following <del>L<sub>A10</sub></del> traffic noise objectives.</p>   | Supported in principle. Remove reference to noise criteria applying to all levels and revert to lowest habitable level of Category A and Category |

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|-----|---------|---|-----------------------|
|     |         | <p><b>Aspect</b> External traffic noise levels</p> <p>(a) Traffic noise from North East Link Project Roads* must be no greater than:<br/>63 dBA (L10,18hr) measured between 6 am and midnight at Category A buildings**<br/>63 dBA (L10, 12hr) measured between 6 am and 6 pm at Category B buildings**.</p> <p>(b) For Category A and Category B buildings on non-Project Roads which: <a href="#">Abut the North East link project roads</a>, or directly intersect with North East Link project roads, and where total traffic noise for the design year and with Project exceeds the thresholds listed in paragraph (a).<br/>The combined noise from North East Link Project Roads and non-Project Roads must not be more than 2 dBA higher than the predicted traffic noise level under the design year ‘do nothing’ scenario. <a href="#">Intersecting n</a>Non-Project Roads must be modelled for a distance of 100 m from the intersection with North East Link Project Roads or to the first traffic intersection (whichever is the lesser).</p> <p>(c) <a href="#">Night-time traffic noise for category A buildings must meet the WHO 2009 interim target of LAeq night 55dB when adjusted to Australian conditions as per the EES Technical Appendix C i.e be no greater than 58dB LAeq 8hr (including façade correction). The 8hour time period is to be between 2200-0600hrs as consistent with the Better Apartment Design Standards.</a></p>  | B buildings.          |
|     |         | <p><b>Applies at</b></p> <p>The noise criteria in paragraphs (a) and (b) above are to apply <a href="#">at all levels to the lowest habitable level</a> of Category A buildings and Category B buildings at both the year of opening and <a href="#">20 10</a> years thereafter <a href="#">(the design year)</a>. Traffic noise mitigation measures must be maintained throughout this period.<br/>For the purposes of this EPR, Category A buildings and Category B buildings to be considered are those that are either existing or known to have planning approval prior to exhibition of the North East Link Environment Effects Statement.</p> <p>Where external traffic noise cannot be mitigated through project design solutions to meet the criteria outlined in paragraphs (a), <a href="#">and (b) and (c)</a>, at-property treatments <a href="#">may will</a> be required <a href="#">to ensure that internal noise levels achieve the following:</a></p> <p><a href="#">35dBA for bedrooms assessed as an LAeq, 8 h from 10pm -6am</a><br/><a href="#">40dBA for living areas assessed as LAeq, 16h from 6am-10pm</a><br/><a href="#">an equivalent internal level of attenuation is provided to the building.</a></p> <p>At-property treatments would be undertaken with reference to section 7.3 of the NSW Road and Maritime Services document ‘Noise Mitigation Guidelines 2015 – Roads and Maritime Services’, and in consultation with the owner of the relevant building. In circumstances where at-property treatments are proposed, the Independent Environmental Auditor must review the project design solutions to confirm that the criteria outlined in paragraphs (a), <a href="#">and (b) and (c)</a>, could not be achieved by the adoption of reasonable and feasible detailed design measures.</p> |                       |
|     |         | <p>* Project Roads are defined to be the M80 Ring Road (east of Plenty Road), the Greensborough Bypass (west of the Plenty River bridge and up to the M80 interchange with North East Link), the upgrade of the Eastern Freeway (between Hoddle Street and Springvale Road) and the new North East Link freeway (connecting the M80 Ring Road to the Eastern Freeway), including all access ramps.</p>  |                       |
|     |         | <p>** Category A Buildings and Category B Buildings means:</p> <ul style="list-style-type: none"> <li>– Category A Buildings – Residential dwellings, aged persons homes, hospitals, motels, caravan parks and other buildings of a residential nature</li> <li>– Category B Buildings – Schools (including buildings within the Carey Sports Complex),</li> </ul>  |                       |



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|--|--|--|---|--|--|-------------------------------|---|-------------------------------|-------------------|-------------------------------|--|-------------------------------|---|
|  |  | <p>kindergartens, libraries and other noise-sensitive community buildings.</p> <p>*** If a resident of a dwelling advises NELP that they consider their residence to be noise affected, NELP must assess external and internal noise levels against the above criteria. If the external noise levels do not comply and mitigation is not feasible then internal levels as above must be achieved. If the internal levels are not achieved then NELP must undertake at property treatment to achieve the required internal noise levels</p>   |   |  |  |                               |   |                               |                   |                               |  |                               |   |
| NV2  | NV<br>NEW  | <p>Noise at public open space and school recreation grounds</p> <p>Predicted noise levels at existing public open space and school grounds detailed in updated noise modelling for the final design and as-built construction of the Project must not exceed the predicted design year noise levels +2dB detailed in the EES -Technical Appendix C.</p> <p>Noise monitoring at appropriate locations must be performed post construction to verify that predicted levels have been achieved. Monitoring must be performed 10 years and 20 years after Project opening.</p>   | Supported in principle.<br>Remove the reference to +2 dB. |  |  |                               |   |                               |                   |                               |  |                               |   |
| NV3  | NV2  | <p><b>Monitor traffic noise</b></p> <p>Traffic noise monitoring must be carried out for at least the following time periods:</p> <ul style="list-style-type: none"> <li>• Baseline traffic noise must be re-measured after project award and prior to construction works</li> <li>• Traffic noise must be re-measured within six months of project opening during normal traffic flows (outside school or public holidays). For the purpose of determining compliance, the measurements conducted after project opening must be adjusted to the 10 year traffic flows.</li> <li>• Traffic noise must be re-measured 10 years and 20 years after project opening</li> </ul> <p>All traffic noise monitoring must be undertaken in accordance with the VicRoads Traffic Noise Measurement Requirements for Acoustic Consultants – September 2011, to verify conformance with the external traffic noise objectives set out in EPR NV1. The adequacy of the monitoring program is to be verified by the Independent Environmental Auditor.</p> <p>Remedial action must be taken as soon as practicable in the event that the measured traffic noise levels demonstrate that the external traffic noise objectives set out in EPR NV1 are not met.</p>   | Supported.  |  |  |                               |   |                               |                   |                               |  |                               |   |
| NV4  | NV3  | <p><b>Minimise construction noise impacts to sensitive receptors</b></p> <p>Construction noise and vibration must be managed in accordance with the Construction Noise and Vibration Management Plan (CNVMP) required by EPR NV4.</p> <p>Non-residential sensitive receptors</p> <p>For sensitive land uses (based on AS/NZS 2107:2016) implement management actions as per EPR NV4 if construction noise is predicted to or does exceed the internal and/or external noise management levels set out in the table below, and a noise sensitive receptor is, or is predicted to be, adversely impacted. If construction exceeds the noise management levels below, in determining whether a noise sensitive receptor is, or is predicted to be, adversely impacted:</p> <ul style="list-style-type: none"> <li>• Consider the duration of construction noise</li> <li>• Consider the existing ambient noise levels</li> <li>• Consult with the owner or operator of the noise sensitive receptor</li> <li>• Consider any specific acoustic requirements of land uses listed below to determine whether a noise sensitive receptor is adversely impacted.</li> </ul> <table border="1"> <thead> <tr> <th>Land use</th> <th>Construction noise management level, LAeq(15 min) applies when properties are in use</th> </tr> </thead> <tbody> <tr> <td>Classrooms in schools and other educational institutions</td> <td>Internal noise level 45 dB(A)</td> </tr> <tr> <td>Healthcare facilities including hospital wards and operating theatres, and rehabilitation centres</td> <td>Internal noise level 45 dB(A)</td> </tr> <tr> <td>Places of worship</td> <td>Internal noise level 45 dB(A)</td> </tr> <tr> <td>Active recreation areas characterised by sporting activities and activities which generate their own</td> <td>External noise level 65 dB(A)</td> </tr> </tbody> </table> | Land use  | Construction noise management level, LAeq(15 min) applies when properties are in use | Classrooms in schools and other educational institutions | Internal noise level 45 dB(A) | Healthcare facilities including hospital wards and operating theatres, and rehabilitation centres | Internal noise level 45 dB(A) | Places of worship | Internal noise level 45 dB(A) | Active recreation areas characterised by sporting activities and activities which generate their own | External noise level 65 dB(A) | <p>Supported in principle.</p> <p>Minor amendments to:</p> <ul style="list-style-type: none"> <li>• Include an additional notation in relation to school grounds that indicates that the achievement of the construction noise management level is subject to reasonable and feasible and further consultation with affected schools should be undertaken to designate the most sensitive areas where teaching occurs within sporting grounds.</li> <li>• Clarify that construction includes all construction works and construction compounds.</li> <li>• Integrate minor</li> </ul> |
| Land use   | Construction noise management level, LAeq(15 min) applies when properties are in use |  |   |  |  |                               |   |                               |                   |                               |  |                               |   |
| Classrooms in schools and other educational institutions   | Internal noise level 45 dB(A)  |  |   |  |  |                               |   |                               |                   |                               |  |                               |   |
| Healthcare facilities including hospital wards and operating theatres, and rehabilitation centres    | Internal noise level 45 dB(A)  |  |   |  |  |                               |   |                               |                   |                               |  |                               |   |
| Places of worship  | Internal noise level 45 dB(A)  |  |   |  |  |                               |   |                               |                   |                               |  |                               |   |
| Active recreation areas characterised by sporting activities and activities which generate their own | External noise level 65 dB(A)  |  |   |  |  |                               |   |                               |                   |                               |  |                               |   |

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|     |         | noise, making them less sensitive to external noise intrusion  | corrections to reflect terminology used in AS/NZS 2107. |
|     |         | Passive recreation areas characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, for example reading, meditation<br><a href="#">School grounds used for sport and associated teaching purposes are to be considered as passive recreation areas</a> |   |
|     |         | Community centres  |   |
|     |         | Industrial premises  |   |
|     |         | Offices, retail outlets  |   |
|     |         | Other noise sensitive land uses as identified in AS/NZS 2107:2016  |   |

Residential receptors

For residential dwellings, management actions must be implemented as per EPR NV4 if noise from construction works during normal working hours is predicted to or does exceed the noise management levels for normal working hours below.

Noise from construction works during weekend/evening work hours and the night period must meet the weekend/evening and night period noise guideline targets in the table below unless they are Unavoidable Works verified by the Independent Environmental Auditor as per EPR NV4. All reasonable strategies to mitigate the impacts of such Unavoidable Works must be applied.

| Time of day  | Construction noise guideline targets   |
|--|--|
| Normal working hours:<br>7 am – 6 pm Monday to Friday<br>7 am – 1 pm Saturday  | Noise affected: Background $L_{A90}+10$ dB<br>Highly noise affected: 75 dB(A)<br>Source: NSW Interim Construction Noise Guideline (ICNG) Chapter 4.1.1 Table 2<br>The noise affected level represents the point above which there may be some community reaction to noise<br>The highly noise affected level represents the point above which there may be strong community reaction to noise. |
| Weekend/evening work hours:<br>6 pm – 10 pm Monday to Friday<br>1 pm – 10 pm Saturday<br>7 am – 10 pm Sunday and public holidays | Noise level at any residential premises not to exceed background noise ( $L_{A90}$ ) by: <ul style="list-style-type: none"> <li>• 10 dB(A) or more for up to 18 months</li> <li>• 5 dB(A) or more after 18 months</li> </ul> Source: EPA Publication 1254 Section 2  |
| Night period:<br>10 pm – 7 am Monday to Sunday   | Noise inaudible within a habitable room of any residential premises<br>Source: EPA Publication 1254 Section 2 and EPA Publication 480 Section 5  |

Note: Where any reference is made to the rating background level (RBL) or background  $L_{A90}$ , the ‘average background’ over the assessment period as per Victorian noise policy practices is to be

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|     |         | <p>used. This applies to all receptors and all time periods.</p> <p>Unavoidable Works</p> <p>Unavoidable Works must be verified by the Independent Environmental Auditor for each instance they are undertaken, as per EPR NV4 and <a href="#">may</a> include the following:</p> <ul style="list-style-type: none"> <li>• The delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads</li> <li>• Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm</li> <li>• Maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours</li> <li>• Tunnelling works including mined excavation elements and the activities that are required to support tunnelling works (ie spoil treatment facilities)</li> <li>• Road and rail occupations or works that would cause a major traffic hazard</li> <li>• Other works where a contractor demonstrates and justifies a need to operate outside normal working hours and exceed the noise guideline targets such as work that once started cannot practically be stopped.</li> </ul>   |   |
| NV5 | NV4     | <p><a href="#">Implement a Construction Noise and Vibration Management Plan (CNVMP) to manage noise and vibration impacts</a></p> <p>Prepare, implement and maintain a Construction Noise and Vibration Management Plan (CNVMP) in consultation with EPA Victoria, <del>and</del> relevant councils <a href="#">and relevant stakeholders</a>. The CNVMP must comply with and address the Noise and Vibration EPRs, be informed by the noise modelling and monitoring results and must include (but not be limited to):</p> <ul style="list-style-type: none"> <li>• <a href="#">Identification and assessment of noise and vibration sensitive receptors along the project alignment, including but not limited to: habitat for listed threatened fauna likely to be impacted by the project buildings used for shop, gallery, commercial, office or industrial purposes including Bulleen Art and Garden and the Heide Museum of Modern Art school buildings and school grounds Residential buildings</a></li> <li>• <del>Identification and assessment of noise and vibration sensitive receptors along the project alignment, including habitat for listed threatened fauna likely to be impacted by the project, and the Heide Museum of Modern Art.</del></li> <li>• Construction noise and vibration targets as per EPRs NV3, NV5, NV8, NV9, NV10, NV11 and NV12, including any details of conversions between alternative metrics</li> <li>• Details of construction activities and an indicative schedule for construction works, including the identification of key noise and/or vibration generating construction activities that have the potential to generate airborne noise and/or surface vibration impacts on surrounding sensitive receivers</li> <li>• How construction noise (including truck haulage) and vibration would be minimised (see EPR T2)</li> <li>• A requirement for preliminary tests using the actual equipment to validate modelling for vibration and regenerated noise and review, with predictions to be remodelled as necessary and confirm prevention/mitigation/remediation measures confirmed</li> <li>• Management actions and notification and mitigation measures to be implemented with reference to the Appendix B and Appendix C of the New South Wales Roads and Maritime Services Construction Noise and Vibration Guideline 2016 (CNVG)</li> <li>• Any processes and measures to be implemented as part of the Communications and Community Engagement Plan including managing matters of interest raised by key stakeholders through CCEP processes, and measures concerning complaints management (see EPR SC2)</li> <li>• Requirements to assess and manage vibration impacts to scientific or medical establishments to the higher of ambient levels or ASHRAE VC Standards (as defined in the 2015 handbook), or manufacturers equipment levels (unless by agreement with occupant)</li> <li>• Measures to ensure effective monitoring of noise and vibration associated with construction with consideration to the construction noise and vibration targets</li> </ul> | <p>Supported in principle. Include reference to construction compounds as well as construction works.</p> |

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|     |         | <ul style="list-style-type: none"> <li>• Measures to minimise noise and vibration impacts from temporary traffic diversions and altered access to parking facilities</li> <li>• The Unavoidable Works <del>(as defined in NV3)</del> that would be undertaken, including their location, timing and duration. The CNVMP must either include a clear rationale for defining works or a list of the type of planned works that constitute Unavoidable Works and response strategies to mitigate the impacts of these Unavoidable Works, consistent with EPA Victoria Publication 1254 Noise Control Guidelines and with reference to Appendix B and Appendix C of the CNVG. The Independent Environmental Auditor must verify that the proposed Unavoidable Works meet the definition of Unavoidable Works <del>(as defined in NV3)</del> for each instance they are undertaken. Details of Unavoidable Works must be made publicly available. For emergency Unavoidable Work, a rationale must be provided to the satisfaction of the Independent Environmental Auditor as soon as practicable.</li> <li>• Noise from construction works during weekend/evening work hours and the night period must meet the weekend/evening work hours and night period noise guideline targets unless they are unavoidable works verified by the Independent Environmental Auditor. All reasonable measures must be implemented to mitigate the impacts of such unavoidable works. A clear framework for managing Unavoidable Work must be developed and include noise level thresholds and details of mitigation measures. The framework must be approved by the Independent Environmental Auditor.</li> </ul> <p>The CNVMP must be reviewed <del>(including external stakeholder review)</del> and updated as appropriate on a six monthly basis, and verified by the Independent Environmental Auditor.</p> |  |
| NV6 | NEW NV  | <p><b>Monitoring of Ongoing performance of operational traffic noise mitigation measures</b></p> <p>Permanent noise monitoring stations must be established in representative locations to enable the ongoing real time monitoring of operational traffic noise to demonstrate that the operational traffic noise limits in NV1 continue to be met for 20 years after project opening. If operational traffic noise limits in NV1 are not being met then mitigating works must be undertaken and completed within 6 months after the non-compliance is detected to the satisfaction of the Minister of the Crown at that time responsible for the administration or the Planning and Environment Act 1987 or any later similar enactment.</p> <p>Where open graded asphalt is used and is relied on to achieve compliance with noise limits the acoustic performance of the OGA must be assessed at least once in each 12 months to ensure that it continues to reduce operational traffic noise to the project traffic noise objectives in NV1.</p> <p>NELP interactive noise tool</p> <p>The following information is to be made freely available on a publicly accessible website as interactive layers:</p> <ul style="list-style-type: none"> <li>• Existing (pre-Project) noise levels</li> <li>• Final operational road traffic noise contours for the Project;</li> <li>• Operational noise criteria for the Project;</li> <li>• Operational noise monitoring data for the Project.</li> </ul> <p>The maps are to be interactive so as to enable the public to locate their position on a map, identify the operational noise criteria and data relevant to their location and submit a query or complaint to NELP online.</p>   | <p>Supported in principle. Amend the timeframe for mitigation works and a retrofitting criterion to be determined by the independent environmental auditor and reports to be provided to the Minister for Roads, or his/her successor.</p> |
| NV7 | NV5     | <p><b>Establish vibration guidelines to protect utility assets</b></p> <p>Prior to construction undertake condition assessments of above and below ground utility assets (EPR GM3) and consult with asset owners to establish and agree construction vibration guidelines to maintain asset integrity. In all cases the asset owner’s criteria takes precedence.</p> <p>Where construction vibration guidelines are not proposed by the asset owner, reference should be made to the relevant sections of German Standard DIN 4150 – Part 3 – Structural Vibration in Buildings – Effects on Structures (2016) for guideline assessment procedures for buried pipework or underground infrastructure. The integrity of the asset should be reviewed and assessed (by the contractor, in conjunction with the asset owner) to confirm these values are appropriate. If necessary, based on this assessment, limits must be reduced to the level necessary to maintain asset integrity.</p> <p>Monitor vibration levels during construction to demonstrate compliance with agreed vibration guidelines. Identify contingency measures to be implemented if guidelines are not met. Where</p>   | Supported.   |

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|------|---|---|--|-----------------|--|---|--|----|---|-----------------|----|---|---------|----|------|-----------------|--|---|---------------|-----|---|---|----|---|-------------------|----|--|
|      |   | <p>necessary rectify any defects that are attributable to the project.</p> <p>An overview of the key vibration guidelines values is presented below. In all cases, the supporting documentation within the Standard which describes, clarifies and sometimes modifies the tables below must be considered.</p> <p>Table 2 Guideline values for <math>v_i</math>, max, for evaluating the effects of short-term vibration on the lining of underground cavities</p> <table border="1"> <thead> <tr> <th>Line</th> <th>Lining material</th> <th>Guideline values for <math>v_i</math>, max in mm/s perpendicular to lining surface</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Reinforced or sprayed concrete, tubbing segments</td> <td>80</td> </tr> <tr> <td>2</td> <td>Concrete, stone</td> <td>60</td> </tr> <tr> <td>3</td> <td>Masonry</td> <td>40</td> </tr> </tbody> </table> <p>Note: The guideline values were measured during nearby mine blasting operations and apply only to the lining of underground structures, but not to any associated installations.</p> <p>Table 3 Guideline values for <math>v_i</math>, max, for evaluating the effects of short-term vibration on buried pipework</p> <table border="1"> <thead> <tr> <th>Line</th> <th>Lining material</th> <th>Guideline values for <math>v_i</math>, max in mm/s perpendicular to lining surface</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Steel, welded</td> <td>100</td> </tr> <tr> <td>2</td> <td>Vitrified clay, concrete, reinforced concrete, prestressed concrete, metal (with or without flange)</td> <td>80</td> </tr> <tr> <td>3</td> <td>Masonry, plastics</td> <td>50</td> </tr> </tbody> </table> | Line   | Lining material | Guideline values for $v_i$ , max in mm/s perpendicular to lining surface | 1 | Reinforced or sprayed concrete, tubbing segments | 80 | 2 | Concrete, stone | 60 | 3 | Masonry | 40 | Line | Lining material | Guideline values for $v_i$ , max in mm/s perpendicular to lining surface | 1 | Steel, welded | 100 | 2 | Vitrified clay, concrete, reinforced concrete, prestressed concrete, metal (with or without flange) | 80 | 3 | Masonry, plastics | 50 |  |
| Line | Lining material   | Guideline values for $v_i$ , max in mm/s perpendicular to lining surface  |  |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |
| 1    | Reinforced or sprayed concrete, tubbing segments  | 80  |  |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |
| 2    | Concrete, stone   | 60  |  |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |
| 3    | Masonry   | 40  |  |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |
| Line | Lining material   | Guideline values for $v_i$ , max in mm/s perpendicular to lining surface  |  |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |
| 1    | Steel, welded   | 100   |  |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |
| 2    | Vitrified clay, concrete, reinforced concrete, prestressed concrete, metal (with or without flange) | 80  |  |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |
| 3    | Masonry, plastics   | 50  |  |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |
| NV8  | NV6   | <p><b>Design permanent tunnel ventilation system and relevant fixed infrastructure to meet EPA requirements for noise</b></p> <p>Design and <del>construct</del> <del>implement</del> the permanent tunnel ventilation system and relevant fixed infrastructure that is subject to State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1 (SEPP N-1) to achieve compliance with SEPP N-1 (<del>or any later equivalent</del>) and in accordance with the Works Approval.</p> <p>Where SEPP N-1 (<del>or any later equivalent</del>) does not apply, design and implement the permanent tunnel ventilation system to comply with the internal Satisfactory Recommended Design Sound Levels as defined in AS/NZS 2107 for <del>relevant affected spaces</del>. <del>teaching purposes</del>.</p> <p>If the existing internal background noise level within any identified relevant already exceeds the Maximum Recommended Design Sound Level in AS/NZS 2107, then noise from the fixed plant associated with the Project must not exceed the existing background levels within these spaces.</p> <p><del>Provide detailed design of the tunnel ventilation system to the satisfaction of EPA Victoria prior to commencement of the works permitted by the Works Approval.</del></p>  | Supported in principle. Reflect terminology used in AS/NZS 2107. |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |
| NV9  | NV7   | <p><b>Monitor noise from tunnel ventilation system and relevant fixed infrastructure</b></p> <p>Measure noise from the permanent tunnel ventilation system and relevant fixed infrastructure that is subject to State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1 (SEPP N-1) on commencing road operation and monitor noise from the tunnel ventilation system post opening of the North East Link, as agreed with EPA Victoria, to verify compliance with SEPP N-1 (<del>or any later equivalent</del>) and the EPA Victoria Licence. Identify and implement contingency measures to be implemented if noise level limits are not met.</p>  | Supported.   |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |
| NV10 | NV8   | <p><b>Minimise construction vibration impacts on amenity</b></p> <p>Implement management actions if the following guideline target levels for vibration from construction activity to protect human comfort of occupied buildings (including heritage buildings) are not achieved (levels are calculated from the British Standard BS6472-1:2008 Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting.).</p>  | Supported.   |                 |  |   |  |    |   |                 |    |   |         |    |      |                 |  |   |               |     |   |   |    |   |                   |    |  |

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| Type of space occupancy                                       | Vibration Dose Values (m/s <sup>1.75</sup> ) |               |                      |               |
|---|--|---------------|----------------------|---------------|
|   | Day (7am to 10 pm)                           |               | Night (10 pm to 7am) |               |
|   | Preferred Value                              | Maximum Value | Preferred Value      | Maximum Value |
| Residential   | 0.2  | 0.4           | 0.1                  | 0.2           |
| Offices, schools, educational institutions, places of worship | 0.4  | 0.8           | 0.4                  | 0.8           |
| Workshops   | 0.8  | 1.6           | 0.8                  | 1.6           |

Notes

- 1 The Guideline Targets are non-mandatory; they are goals that should be sought to be achieved through the application of practicable mitigation measures. If exceeded then management actions would be required.
- 2 The Vibration Dose Values may be converted to Peak Particle Velocities within a noise and vibration construction management plan.
- 3 For the purpose of this EPR, the guideline target levels for ‘offices, schools, educational institutions, places of worship’ also apply to the Heide Museum of Modern Art and the outdoor sculpture exhibition area at Heide Museum of Modern Art.

NV11 NV9 **Minimise construction vibration impacts on structures** Supported.

Construction vibration targets for structures based on German Standard DIN 4150 – Part 3 – Structural Vibration in Buildings – Effects on Structures (2016) must be adopted. All sections of the German Standard DIN 4150 – Part 3 – Structural Vibration in Buildings – Effects on Structures (2016) standard apply, noting the guideline levels detailed in Section 5 and Section 6 (and any references sections).

An overview of the key vibration guidelines values is presented below. In all cases, the supporting documentation within the Standard which describes, clarifies and sometimes modifies the tables below must be considered.

Table 1 — Guideline values for vibration velocity,  $v_i$ , max, for evaluating the effects of short-term vibration on structures

| Type of structure |   | Guideline values for $v_i$ , max in mm/s                      |                |                     |   |  |
|-------------------|---|---|----------------|---------------------|---|--|
| Column Line       | 1   | Foundation, all directions, $i = x, y, z$ , at a frequency of |                |                     | Topmost floor, horizontal direction, $i = x, y$ | Floor slabs, vertical direction, $i = z$ |
|                   |   | 1 Hz to 10 Hz   | 10 Hz to 50 Hz | 50 Hz to 100 Hz (a) | All frequencies                                 | All frequencies                          |
| 1                 | Buildings used for commercial purposes, industrial buildings, and buildings of similar design | 20  | 20 to 40       | 40 to 50            | 40  | 20                                       |
| 2                 | Residential buildings and buildings of similar design and/or occupancy                        | 5   | 5 to 15        | 15 to 20            | 15  | 20                                       |
| 3                 | Structures that,  | 3   | 3 to 8         | 8 to 10             | 8   | 20 (b)                                   |

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|  |   |  |  |  |  |  |
|--|---|--|--|--|--|--|
|  | because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value (eg listed buildings) |  |  |  |  |  |
|--|---|--|--|--|--|--|

Note: Even if guideline values as in line 1, columns 2 to 5, are complied with, minor damage cannot be excluded.

- (a) At frequencies above 100 Hz, the guideline values for 100 Hz can be applied as minimum values.
- (b) Paragraph 2 of 5.1.2 must be observed.

Table 4 — Guideline values for  $v_i$ , max, for evaluating the effects of long-term vibration on buildings

| Type of building |  | Guideline values for $v_i$ , max, in mm/s |        |
|------------------|--|---|--------|
| Column Line      | 1  | 2   | 3      |
| 1                | Buildings used for commercial purposes, industrial buildings, and buildings of similar design  | 10  | 10     |
| 2                | Residential buildings and buildings of similar design and/or occupancy   | 5   | 10     |
| 3                | Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value (eg listed buildings) | 2.5                                       | 10 (a) |

Note: Even if guideline values as in line 1, column 2, are complied with, minor damage cannot be ruled out.

- (a) Section 6.1.2 must be observed.

Vibration levels above apply to all works, including unavoidable works as defined in NV3

|      |      |  |            |
|------|------|--|------------|
| NV12 | NV10 | <b>Minimise impacts from ground-borne (internal) noise</b> | Supported. |
|------|------|--|------------|

Implement management actions in consultation with potentially affected land owners to protect amenity at residences where the following ground borne noise guideline targets based on Section 4.2 of the New South Wales Interim Construction Noise Guidelines are exceeded during construction.

| Time of Day             | Internal noise level measured at the centre of the most affected habitable room |
|-------------------------|---|
| Evening (6 pm to 10 pm) | $L_{Aeq(15\text{ minute})} = 40\text{ dBA}$                                     |
| Night (10 pm to 6 am)   | $L_{Aeq(15\text{ minute})} = 35\text{ dBA}$                                     |

Notes

- 1 Levels are only applicable when ground borne noise levels are higher than airborne noise levels.

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|--|-----------------------------|---|---|-----------------------------|---|----------------|---------------------|---|---------------------|---|--|-------------------------------------|--|--|----------------------|--------------|--|------------|
|  |                             | <p>2 Management actions include community consultation to determine acceptable level of disruption and provision of respite accommodation in some circumstances.</p> <p>3 Noise levels above apply to all works, including unavoidable works as defined in NV3</p>  |   |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |
| NV13   | NV11                        | <p><b>Minimise amenity impacts from blast vibration</b></p> <p>Implement management actions if the following vibration values are not achieved. Blasting activities must comply with Australian Standard AS2187.2-2006, Explosives – Storage and use Part 2 – Use of explosives for all blasting.</p> <table border="1"> <thead> <tr> <th>Category (as defined in AS 2187.2-2006)</th> <th>Type of blasting operations</th> <th>Peak component particle velocity (mm/s)</th> </tr> </thead> <tbody> <tr> <td>Sensitive site</td> <td>More than 20 blasts</td> <td>5 mm/s for 95% blasts per year<br/>10 mm/s maximum (unless by agreement with occupier)</td> </tr> <tr> <td>Sensitive site</td> <td>Less than 20 blasts</td> <td>10 mm/s maximum (unless by agreement with occupier)</td> </tr> <tr> <td>Non-sensitive site (with occupants)</td> <td>All blasting</td> <td>25 mm/s maximum value (unless by agreement with occupier).</td> </tr> <tr> <td>Scientific equipment</td> <td>All blasting</td> <td>Existing ambient levels or ASHRAE VC Standards (as defined in the 2015 handbook) (whichever is the higher) or manufacturers equipment levels (unless by agreement with occupier)</td> </tr> </tbody> </table> | Category (as defined in AS 2187.2-2006) | Type of blasting operations | Peak component particle velocity (mm/s) | Sensitive site | More than 20 blasts | 5 mm/s for 95% blasts per year<br>10 mm/s maximum (unless by agreement with occupier) | Sensitive site      | Less than 20 blasts   | 10 mm/s maximum (unless by agreement with occupier)                    | Non-sensitive site (with occupants) | All blasting   | 25 mm/s maximum value (unless by agreement with occupier). | Scientific equipment | All blasting | Existing ambient levels or ASHRAE VC Standards (as defined in the 2015 handbook) (whichever is the higher) or manufacturers equipment levels (unless by agreement with occupier) | Supported. |
| Category (as defined in AS 2187.2-2006)                                | Type of blasting operations | Peak component particle velocity (mm/s)   |   |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |
| Sensitive site   | More than 20 blasts         | 5 mm/s for 95% blasts per year<br>10 mm/s maximum (unless by agreement with occupier)   |   |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |
| Sensitive site   | Less than 20 blasts         | 10 mm/s maximum (unless by agreement with occupier)   |   |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |
| Non-sensitive site (with occupants)                                    | All blasting                | 25 mm/s maximum value (unless by agreement with occupier).  |   |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |
| Scientific equipment   | All blasting                | Existing ambient levels or ASHRAE VC Standards (as defined in the 2015 handbook) (whichever is the higher) or manufacturers equipment levels (unless by agreement with occupier)  |   |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |
| NV14   | NV12                        | <p><b>Minimise amenity impacts from blast overpressure</b></p> <p>Implement management actions if the following overpressure values are not achieved. Blasting activities must comply with Australian Standard AS2187.2-2006, Explosives – Storage and use Part 2 – Use of explosives for all blasting.</p> <table border="1"> <thead> <tr> <th>Category (as defined in AS 2187.2-2006)</th> <th>Type of blasting operations</th> <th>Peak Overpressure Value (dBL)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Sensitive Site</td> <td>More than 20 blasts</td> <td>115 dBL for 95% blasts<br/>120 dBL maximum (unless by agreement with occupier)</td> </tr> <tr> <td>Less than 20 blasts</td> <td>120 dBL for 95% blasts<br/>125 dBL maximum (unless by agreement with occupier)</td> </tr> <tr> <td>Occupied non-sensitive sites such as factories and commercial premises</td> <td>All blasting</td> <td>125 dBL maximum (unless by agreement with occupier)<br/>For sites containing equipment sensitive to vibration, the vibration should be kept below manufacturers specification or levels that can be shown to adversely affect the equipment operation</td> </tr> </tbody> </table>                         | Category (as defined in AS 2187.2-2006) | Type of blasting operations | Peak Overpressure Value (dBL)           | Sensitive Site | More than 20 blasts | 115 dBL for 95% blasts<br>120 dBL maximum (unless by agreement with occupier)         | Less than 20 blasts | 120 dBL for 95% blasts<br>125 dBL maximum (unless by agreement with occupier) | Occupied non-sensitive sites such as factories and commercial premises | All blasting                        | 125 dBL maximum (unless by agreement with occupier)<br>For sites containing equipment sensitive to vibration, the vibration should be kept below manufacturers specification or levels that can be shown to adversely affect the equipment operation | Supported.   |                      |              |  |            |
| Category (as defined in AS 2187.2-2006)                                | Type of blasting operations | Peak Overpressure Value (dBL)   |   |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |
| Sensitive Site   | More than 20 blasts         | 115 dBL for 95% blasts<br>120 dBL maximum (unless by agreement with occupier)   |   |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |
|  | Less than 20 blasts         | 120 dBL for 95% blasts<br>125 dBL maximum (unless by agreement with occupier)   |   |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |
| Occupied non-sensitive sites such as factories and commercial premises | All blasting                | 125 dBL maximum (unless by agreement with occupier)<br>For sites containing equipment sensitive to vibration, the vibration should be kept below manufacturers specification or levels that can be shown to adversely affect the equipment operation  |   |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |
| NV15   | NV13                        | <p><b>Noise mitigation – noise walls</b></p> <p>Construction of permanent noise attenuation must, where feasible, be installed in advance of adjacent works.</p> <p>Where the ultimate wall cannot be constructed prior to demolition of the existing wall and noise sensitive premises will be exposed to significantly increased traffic noise for an extended period, install temporary noise walls where practicable.</p>   | Supported.                              |                             |   |                |                     |   |                     |   |  |                                     |  |  |                      |              |  |            |



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| NV16                                 | NV14       | <p><b>Reduce impacts from engine brake noise</b></p> <p>Measures to encourage heavy vehicle drivers to reduce use of engine brakes must be considered and implemented, where practicable.</p>  | Supported.   |
| <b>14. Social and Community (SC)</b> |            |  |  |
| SC1                                  | SC1        | <p><b>Reduce community disruption and adverse amenity impacts</b></p> <p>Design and construct the project to reduce disruption to residences, community infrastructure facilities and open space from direct acquisition or temporary occupation, <b>as far as is practicable to the maximum extent possible to preserve acceptable levels of amenity.</b></p>   | Supported.   |
| SC2                                  | SC<br>NEW1 | <p><b>Minimise and manage impacts of land acquisition and occupation</b></p> <p>Where private land is to be permanently acquired or temporarily occupied, the project <b>must will:</b></p> <ul style="list-style-type: none"> <li>• <b>Minimise the extent of the acquisition or the extent or duration of the occupation</b></li> <li>• Use a case-management approach for project interactions with affected land owners and occupants <b>including appointing a social worker, buyers’ advocate or equivalent to assist households with special needs to manage the transition</b></li> <li>• Endeavour to reach agreement on the terms for possession of the land <b>including purchasing properties early when identified for permanent acquisition and supported by the landowner</b></li> <li>• Consider the relative vulnerability and special needs of land owners and occupants.</li> <li>• <b>Communicate likely timing and steps to be taken including updates as relevant.</b></li> <li>• <b>Return private land not required for permanent project infrastructure to its pre-existing use post-construction as soon as practicable, unless otherwise agreed with the land owner.</b></li> </ul> <p>Where public land is to be permanently acquired or temporarily occupied, the project will:</p> <ul style="list-style-type: none"> <li>• Minimise the extent of the acquisition or the extent or duration of the occupation</li> <li>• <b>Stage works to the maximum extent possible to maintain functionality of the land for all users either within the site or on proximate land, subject to the Relocation and Replacement Plan</b></li> <li>• Endeavour to reach agreement with the land manager on the terms for possession of the land</li> <li>• Return public land not required for permanent project infrastructure to its pre-existing use post-construction as soon as practicable, <b>including with all relevant reinstatement works,</b> unless otherwise agreed with the land manager.</li> <li>• In the case of public land used for formal active recreation, ensure that impacts are minimised in accordance with SC4.</li> </ul> | Supported.   |
| SC3                                  | SC2        | <p><b>Implement a Communications and Community Engagement Plan</b></p> <p><b>Prior to construction, Before the project starts,</b> prepare and implement a Communications and Community Engagement Plan to engage the community and potentially affected stakeholders and communicate progress of construction activities and operation. The plan must include:</p> <ul style="list-style-type: none"> <li>• A process for identifying community issues and the recording, management and resolution of complaints from affected stakeholders <b>including business owners, community service providers, education providers, public and active transport key user groups and residents,</b> consistent with Australian Standard AS/NZS 10002:2014 Guidelines for Complaint Management in Organisations</li> <li>• Approach to stakeholder identification</li> <li>• Enquiry management and record keeping approach and procedures including making available <b>an attended</b> 24 hour telephone number, postal address, and an email address and publishing these on the project website</li> <li>• Approach to communicating and engaging with the community and potentially affected stakeholders in relation to:</li> <li>• Construction activities including temporary facilities and impacts that may affect the community, businesses or individual stakeholders (eg dust, noise, vibration and light) and relevant mitigation (eg relocations policy)</li> <li>• Changes to transport conditions and relevant mitigation (eg road closures, detours)</li> <li>• <b>Timelines and an outline of works that will affect particular local areas, to be updated to reflect current and anticipated conditions.</b></li> <li>• Identifying how stakeholders can access information on environmental performance that is to be made publicly available</li> </ul>  | Supported in principle. Retain ‘Prior to construction’ and some minor modifications to clarify that updates on project works need to be provided to the community rather than updating the Communications and Community Engagement Plan. |

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|     |         | <ul style="list-style-type: none"> <li>• Incident and emergency communications, including notification methods and timeframes in the event of a major incident or overrun</li> <li>• Approach and processes to ensure that the workforce has appropriate community awareness and sensitivity <a href="#">including to prevent the workforce from parking in local roads and in public parking in the vicinity of local shopping areas except when frequenting those areas for private purposes.</a></li> <li>• Innovative communications tools and methods to enhance the project’s ability to effectively communicate and engage with the community and stakeholders <a href="#">including best available technology in addition to conventional means.</a></li> <li>• Approach to engaging with local schools to <a href="#">ascertain safety requirements (including evacuation opportunities) and to</a> provide education opportunities on project activities.</li> <li>• Approach to making relevant project information available to the community with specific consideration to vulnerable groups (including culturally and linguistically diverse groups) <a href="#">and a responsive process for resolving complaints by vulnerable groups or individuals.</a></li> <li>• How it will evaluate the effectiveness of the communication and engagement under the Communications and Community Engagement Plan.</li> </ul> <p>The Communications and Community Engagement Plan must consider and where appropriate address matters of interest or concern to the following stakeholders, and provide for the appointment of a dedicated liaison officer (as appropriate):</p> <ul style="list-style-type: none"> <li>• Municipal councils</li> <li>• Recreation, sporting clubs and community groups</li> <li>• Schools and other educational institutions</li> <li>• Potentially affected residents and property owners</li> <li>• Potentially affected business</li> <li>• Other public facilities in proximity</li> <li>• Religious and worship groups</li> <li>• Vulnerable groups</li> <li>• Traditional owners</li> <li>• Public transport users</li> </ul> |  |
| SC4 | SC3     | <p><a href="#">Participate in the Community Liaison Group</a></p> <p>Contractors must participate in the Community Liaison Group (CLG) that has been established and managed by North East Link Project, to facilitate community and stakeholder involvement for the design and construction phases of the project. Participation must include:</p> <ul style="list-style-type: none"> <li>• Attendance at meetings</li> <li>• Regular reporting of design and construction activities</li> <li>• Timely provision of relevant information, including response to issues raised by the group</li> <li>• Regular reporting and monitoring of community feedback, impacts and discussion of mitigation measures and their effectiveness.</li> </ul>  | Supported.   |
| SC5 | SC4     | <p><a href="#">Minimise impacts of displacement of formal active recreation facilities</a></p> <p><a href="#">The project must be designed and delivered to avoid and minimise displacement of formal active recreation facilities including activities on private land such as schools.</a></p> <p>Where formal active recreation facilities are displaced by the construction or operation of the project, the project <del>identify relocation opportunities with the objective of accommodating displaced facilities and maintaining the continuity of those formal active recreational activities, except where otherwise agreed with the relevant facility owner. The project will prepare and implement a relocation plan, designed to achieve replacement of displaced facilities at suitable locations within a defined timeframe, to meet this objective.</del> <a href="#">must facilitate the relocation of all such facilities to an acceptable location to enable their continued functionality at a reasonable level of service for those activities (except where otherwise agreed with the relevant facility owner or where other compensation is provided by agreement or under relevant legislation).</a></p> <p><a href="#">The Proponent must <del>will</del> work in collaboration with facility operators, local Councils public land managers and relevant State authorities to prepare and implement a Facilities Relocation Plan. The Plan must:</a></p> <ul style="list-style-type: none"> <li>• <a href="#">seek to relocate all formal active recreation facilities to the extent possible before existing facilities are discontinued</a></li> </ul>   | Supported in principle. Remove avoid from first sentence, intent should be to minimise. Redraft to avoid prescription and to clarify that the relocation site and arrangements must be reasonable. . |

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|-------------------------------|---------|---|-----------------------|
|                               |         | <ul style="list-style-type: none"> <li>document measures to be provided by the Proponent to provide suitable replacement facilities at all relocated sites</li> <li>document measures to be provided by the Proponent to restore facilities that have been vacated to the same or higher standard than when the use was discontinued, accounting for identified growth of clubs (where applicable) and for any decline in condition of the facility during the time of disuse</li> <li>consider and provide a suite of reasonable measures to enable the ongoing viability of relevant sporting and recreation clubs affected by displacement and to reduce material disadvantage.</li> </ul>   |                       |
| SC6                           | SC NEW2 | <p><b>Minimise impacts on formal active recreation and other facilities</b></p> <p>Where construction or operation activities directly impact formal active recreation facilities or community infrastructure facilities <b>not on public land</b> such as schools, child care centres, and aged care centres, consultation must occur with facility operators, owners and user groups of the facilities to understand and, implement any practical measures that can be taken to avoid or minimise impacts. Such measures <b>must provide for</b> <del>should achieve</del> the continued operation of each facility, with suitable access <b>provision of generally proximate parking comparable to pre-development conditions (where possible)</b>, reasonable protection of amenity, <b>and maintenance of the current level and nature of activity</b>, except where otherwise agreed with relevant facility owners.</p> | Supported.            |
| SC7                           |         | <p>Recommended new EPR to give effect to the recommendation of my assessment that the proponent develop and implement a Community Involvement and Participation Plan (CIPP), or equivalent, in consultation with councils and representatives of local communities affected by impacts of the project to facilitate a range of initiatives to encourage community involvement and participation, enhance the local area and create a positive project legacy. The CIPP should apply for the duration of construction. Initiatives that could be considered for funding include community support grants, small capital works projects, sponsorship of local sporting clubs, community events and festivals, or other community-led initiatives.</p>   |                       |
| SC8                           |         | <p>Recommended new EPR to give effect to the recommendation of my assessment that the proponent implement a voluntary acquisition scheme for residential properties that satisfy defined criteria relating to significant amenity impacts. Criteria should include distance from major works, likely extent and duration of proximate works, predicted adverse effects on amenity and the presence of vulnerable occupants.</p>   |                       |
| <b>15. Surface Water (SW)</b> |         |   |                       |
| SW1                           | SW1     | <p><b>Discharges and runoff to meet State Environment Protection Policy (Waters)</b></p> <p>Meet the State Environment Protection Policy (Waters) requirements for discharge and run-off from the project, including by complying with the Victorian Stormwater Committee’s Best Practice Environmental Management Guidelines for Urban Stormwater (as published by CSIRO in 1999 with assistance from EPA Victoria and others).</p>  | Supported.            |
| SW2                           | SW2     | <p><b>Design and implement spill containment</b></p> <p>Design and construct the spill containment capacity of the stormwater drainage system for all freeway pavements (including ramps) to manage the risk of hazardous spills from traffic accidents at or prior to every stormwater outlet, to meet AustRoads requirements (Part 5 Drainage – General &amp; Hydrology Considerations). The design and location of spill containment must consider the risk and potential impact of a spill, as well as the effectiveness in reducing the risks associated with a spill on the environment. Develop procedures for freeway roads and ramps to be implemented in response to a hazardous spill. The OEMP must include requirements to maintain spill containment infrastructure and implement associated procedures.</p>  | Supported.            |
| SW3                           | SW3     | <p><b>Waste water discharges to be minimised and approved</b></p> <p>The Surface Water Management Plan (refer EPR SW5) and OEMP must include requirements and methods for minimising, handling, classifying, treating, disposing and otherwise managing waste water.</p> <p>Any proposed discharge of waste water from the site must be approved by the relevant authority prior to discharges occurring and meet the State Environment Protection Policy (Waters) requirements.</p>  | Supported.            |

North East Link – Minister’s assessment of environmental effects

| No. | IAC No. | EPR Version 5 as amended by the IAC (note no EPR cross-references have been updated to reflect proponent, IAC or Minister’s assessment numbered references)   | Minister’s assessment   |
|-----|---------|---|---|
| SW4 | SW4     | <p><b>Monitor water quality</b></p> <p>Develop and implement a surface water monitoring program prior to commencement of, and during construction, to assess surface water quality in multiple locations at suitable distances upstream and downstream of works to establish baseline conditions, and enable assessment of construction impacts on receiving waters.</p> <p>The surface water quality monitoring program must be implemented for a period up to three years after commencement of North East Link operation, or a lesser period agreed with the EPA, to assess the discharges and runoff from the project against SEPP requirements and confirm the effectiveness of environmental controls.</p> <p>The monitoring program must be developed in consultation with EPA Victoria and the asset owner/manager and as appropriate with reference to applicable policies and guidelines, including SEPP (Waters), Victorian Stormwater Committee’s Victoria Best Practice Environmental Management Guidelines for Urban Stormwater (as published by CSIRO in 1999 with assistance from EPA Victoria and others), EPA Victoria Publication 596 Point source discharges to streams: protocol for in-stream monitoring and assessment and Industrial Waste Resource Guideline 701 Sampling and analysis of waters, wastewaters, soils and wastes. The surface water monitoring program is to be used to inform the development and refinement of the Surface Water Management Plan (EPR SW5).</p>  | Supported.  |
| SW5 | SW5     | <p><b>Implement a Surface Water Management Plan during construction</b></p> <p>Develop and implement a Surface Water Management Plan, in consultation with EPA Victoria, for construction that sets out requirements and methods for:</p> <ul style="list-style-type: none"> <li>• Best practice sediment and erosion control and monitoring, in general accordance with EPA Victoria publications 275 Construction techniques for sediment pollution control, 480 Best Practice Environmental Management Environmental Guidelines for Major Construction Sites, 960 Temporary Environmental Protection Measures for Subdivision Construction Sites, and Industrial Waste Resource Guideline 701 Sampling and analysis of waters, wastewaters, soils and wastes</li> <li>• Maintaining the key hydrologic and hydraulic functionality and reliability of existing flow paths, drainage lines and floodplain storage</li> <li>• Retain existing flow characteristics to maintain waterway stability downstream of construction</li> <li>• Location and bunding of any contaminated material (including tunnel spoil and stockpiled soil) to the 1% AEP flood level and to the requirements of EPA Victoria and the relevant drainage authority</li> <li>• Works scheduling to reduce flood related risks</li> <li>• Bunding of significant excavations including tunnel portals and interchanges to an appropriate level during the construction phase</li> <li>• Protecting against the risk of contaminated discharge to waterways when working in close proximity to potential pollutant sources (eg landfill or sewer infrastructure)</li> <li>• Documenting the existing condition of all drainage assets potentially affected by the works (including their immediate surrounds) to enable baseline conditions to be established and potential construction impacts on these assets to be assessed and managed.</li> </ul> | Supported in principle. Plan to be completed prior to construction. |
| SW6 | SW6     | <p><b>Minimise risk from changes to flood levels, flows and velocities</b></p> <p>Permanent works and associated temporary construction works must not increase overall flood risk at relevant locations or modify the flow regime of waterways without the acceptance of the relevant flood plain manager, drainage authority or asset owner (typically Melbourne Water) and in consultation with other relevant authorities (eg Council, Department of Transport, Parks Victoria, SES, emergency services).</p> <p><b>Prior to construction, f</b>lood risk should be appropriately assessed using modelling of the design of permanent and temporary works to demonstrate the resultant flood levels and risk profile in accordance with Melbourne Water Standards for Infrastructure Projects in Flood-Prone Areas (2019).</p> <p>This modelling analysis is to include sufficient events (at least up to and including the 1% AEP event) and scenarios (eg with and without blockage) to support the estimation of tangible (eg average annual damages) and intangible flood damages. If significant increases in flood risk are</p>  | Supported.  |

North East Link – Minister’s assessment of environmental effects

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|------|---------|---|-----------------------|
|      |         | predicted for any events analysed, an assessment of overall flood risk considering tangible and intangible flood damages must be prepared and presented with appropriate mitigation measures for the acceptance of the relevant drainage authority or asset owner prior to commencement of construction for the relevant section of the works. If there are significant design changes during construction, the model must continue to be updated, as appropriate to represent those changes.   |                       |
| SW7  | SW7     | <p><b>Develop flood emergency management plans</b></p> <p>Develop and implement flood emergency management plans for each of construction and operation. Flood emergency management plans are to include but not be limited to measures to manage flood risk to construction sites (including consideration of scheduling works), the tunnels and tunnel portals including interchanges and substations, and operation, maintenance and emergency management procedures for flood protection works.</p>  | Supported.            |
| SW8  | SW8     | <p><b>Minimise impacts from waterway modifications</b></p> <p>Where waterway or flow regime modification is necessary, modifications will be designed and undertaken in a way that mitigates to the extent practicable the effects of changes to flow and minimises, to the extent practicable, the potential for erosion, sediment plumes, impacts on bed or bank stability and exposure or mobilisation of contaminated material during construction and operation to the requirements of Melbourne Water or the relevant drainage authority.</p> <p>Waterway modifications are to be designed and undertaken in a way that supports the visual and aesthetic amenity and environmental conditions (including habitat, connectivity, refuge and hydraulic conditions) to support aquatic ecosystems of the waterways having regard to relevant strategies, policies and plans for that waterway and in consultation with Melbourne Water or the relevant drainage authority.</p> | Supported.            |
| SW9  | SW9     | <p><b>Maintain bank stability</b></p> <p>Develop and implement appropriate measures to minimise erosion and protect bank stability of waterways affected by construction or operation activities both directly or indirectly (for example as a result of site access), to the requirements of Melbourne Water or the relevant drainage authority.</p>  | Supported.            |
| SW10 | SW10    | <p><b>Provide for access to Melbourne Water and other drainage assets</b></p> <p>Provide adequate clearances and access for ongoing maintenance of Melbourne Water and other drainage authority assets to the requirements of the relevant drainage authority.</p>   | Supported.            |
| SW11 | SW11    | <p><b>Adopt Water Sensitive Urban and Road Design</b></p> <p>Adopt and implement water sensitive urban design and integrated water management principles in the stormwater treatment design in consultation with the relevant flood plain manager, drainage authority, asset owner or land manager and in general accordance with the Urban Design Strategy, the specifications of the relevant local council as applicable, and VicRoads Integrated Water Management Guidelines (June 2013), the Victorian Stormwater Committee’s Victoria Best Practice Environmental Management Guidelines for Urban Stormwater (as published by CSIRO in 1999 with assistance from EPA Victoria and others) and the DELWP Integrated Water Management Framework for Victoria (September 2017).</p>   | Supported.            |
| SW12 | SW12    | <p><b>Minimise impacts on irrigation of sporting fields</b></p> <p>Maintain existing storage and available water supply of a quality that is suitable for the irrigation of sporting fields impacted by the project as necessary in consultation with the impacted stakeholders.</p>   | Supported.            |
| SW13 | SW13    | <p><b>Consider climate change effects</b></p> <p>The flood risk assessment (as required by EPR SW6) must consider current climate conditions as well as the potential effects of climate change on pre and post work scenarios for future climate conditions (ie increased rainfall intensity and sea-level rise) as predicted at the end of the asset’s design life using RCP8.5 projections from CSIRO to the requirements of Melbourne Water or the relevant drainage authority.</p>  | Supported.            |

## North East Link – Minister’s assessment of environmental effects

| No.  | IAC No. | EPR Version 5 as amended by the IAC (note no EPR cross-references have been updated to reflect proponent, IAC or Minister’s assessment numbered references)   | Minister’s assessment |
|--|---------|---|-----------------------|
| SW14   | SW14    | <p><b>Meet existing water quality treatment performance</b></p> <p>Retain or replace existing water quality treatment assets to meet or exceed water quality treatment performance as originally designed for that asset. In consultation with relevant asset owner or land manager, consider climate change effects and the potential for improved treatment outcomes where practicable.</p>   | Supported.            |
| SW15   | SW NEW1 | <p><b>Water Sensitive Urban Design asset transfer strategy</b></p> <p>Prepare a strategy identifying Water Sensitive Urban Design assets constructed as part of the Project to be transferred to public authorities. The strategy must include a process to consult with relevant asset managers to confirm the relevant delivery and maintenance standards to be met.</p>  | Supported.            |
| <b>16. Sustainability and Climate Change (SCC)</b> |         |   |                       |
| SCC1   | SCC1    | <p><b>Implement a Sustainability Management Plan</b></p> <p>North East Link Project must set sustainability targets and specify ratings to be achieved under the Infrastructure Sustainability Council of Australia’s Infrastructure Sustainability Rating Tool. Contractors must develop and implement a Sustainability Management Plan that contains measures to meet, as a minimum, the sustainability targets and specified ratings.</p>  | Supported.            |
| SCC2   | SCC2    | <p><b>Minimise greenhouse gas emissions</b></p> <p>Integrate sustainable design practices <a href="#">which are best practice for major infrastructure projects</a> into the design process and implement these to minimise, to the extent practicable, greenhouse gas emissions arising from construction, operation and maintenance of North East Link. <a href="#">These measures will, as a minimum, include the following (except where otherwise agreed with EPA Victoria):</a></p> <ul style="list-style-type: none"> <li>• <a href="#">Achieve at least a 30% reduction in carbon emissions from the construction of North East Link against an Infrastructure Sustainability Council of Australia (ISCA) verified base case calculated in accordance with their independent standards</a></li> <li>• <a href="#">Use a minimum of 50% of renewable energy for all electricity used to construct North East Link. (IS v1.2 Ene-2 Level 1.5)</a></li> <li>• <a href="#">Achieve net zero emissions in the operation and maintenance of North East Link (excluding emissions from traffic)</a></li> </ul> <p><a href="#">Reduce the amount of Portland Cement content in concrete across the project by a minimum of 30% against Green Building Council of Australia reference mix design levels subject to durability and strength requirements.</a></p> | Supported.            |
| SCC3   | SCC3    | <p><b>Apply best practice measures for energy usage for tunnel ventilation and lighting systems</b></p> <p>Best practice measures for energy usage are to be applied for the tunnel ventilation and lighting systems in accordance with the Protocol for Environmental Management (Greenhouse Gas Emissions and Energy Efficiency in Industry), the EPA Victoria Works Approval and the EPA Victoria Licence.</p>   | Supported.            |
| SCC4   | SCC4    | <p><b>Minimise and appropriately manage waste</b></p> <p>Develop and implement management measures for waste (excluding soils) minimisation during construction and operation in accordance with the <i>Environment Protection Act 1970</i> waste management hierarchy and management options, to address:</p> <ul style="list-style-type: none"> <li>• Litter management</li> <li>• Construction and demolition wastes including, but not limited to, washing residues, slurries and contaminated water</li> <li>• Organic wastes</li> <li>• Inert solid wastes.</li> </ul>  | Supported.            |
| SCC5   | SCC5    | <p><b>Minimise potable water consumption</b></p> <p>Stormwater, recycled water and groundwater inflow to tunnels or other water sources must be used in preference to potable water for construction activities, including concrete mixing and dust control, where this is available, practicable, of suitable quality, and meets health and safety requirements.</p>   | Supported.            |

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|---------------------------------------|---------|---|--|
| <b>17. Traffic and Transport (TT)</b> |         |   |  |
| T1                                    | T1      | <p><b>Optimise design performance</b></p> <p>Optimise the design of the works in consultation with appropriate road management authorities, public transport authorities, relevant land managers and local councils as part of the detailed design process to:</p> <ul style="list-style-type: none"> <li>• Minimise adverse impact on travel times for all transport modes, including walking and cycling</li> <li>• Maintain, and where practicable, enhance the traffic movements at interchanges and adjacent intersections within the project boundary</li> <li>• Design the road, walking and cycling and public transport elements to meet relevant road and transport authority requirements</li> <li>• Maintain, and where practicable, enhance pedestrian movements, bicycle connectivity, and shared use paths, including access (both vehicular and pedestrian) to public open space and reserves</li> <li>• Work with relevant public transport authorities and road authorities to minimise impacts on buses, trams and rail and, where practicable, enhance public transport facilities and services that cross or run parallel to the alignment of North East Link</li> <li>• Replace and enhance commuter car parking, where affected by the Project, in consultation with the Department of Transport</li> <li>• Minimise loss of other car parking in consultation with relevant local councils <b>and other stakeholders</b>.</li> </ul>   | Supported in principle. Include direct consultation with affected residents where it involves local access to roads. |
| T2                                    | T2      | <p><b>Transport Management Plan(s) (TMP)</b></p> <p>Prior to commencement of relevant works, develop and implement Transport Management Plan(s) (TMP) to minimise disruption to affected local land uses, traffic, car parking, public transport (rail, tram and bus), pedestrian and bicycle movements and existing public facilities during all stages of construction.</p> <p>The TMP must be informed and supported by an appropriate level of transport modelling and must include:</p> <ul style="list-style-type: none"> <li>• Requirements for maintaining transport capacity for all travel modes in the peak demand periods</li> <li>• Requirements for limiting the amount of construction haulage during the peak demand periods</li> <li>• A monitoring program to assess the effectiveness of the TMPs on all modes of transport</li> <li>• Where monitoring identifies adverse impacts, implement practicable and appropriate mitigation measures</li> <li>• Consideration of construction activities for other relevant major projects occurring concurrently with construction activities for North East Link and potentially impacting modes of transport in the same area</li> <li>• Potential routes for construction haulage and construction vehicles travelling to and from the project construction site, recognising sensitive receptors and avoiding the use of local streets where practicable</li> <li>• Suitable measures, developed in consultation with emergency services, to ensure emergency service access is not inhibited as a result of project construction activities</li> <li>• Provision of alternative parking where practicable to replace public, <b>private</b> and commuter parking lost as a result of project construction activities</li> <li>• Requirements to minimise impacts on local streets, community and commercial facilities by providing parking for construction workers at construction compounds where practicable</li> <li>• Measures to ensure connectivity and safety for all transport network users during construction</li> <li>• Measures to limit the extent of road closures</li> <li>• Consultation with the Department of Transport <del>and</del> relevant transportation authorities <b>and local Councils</b>.</li> </ul> <p>A TMP may be split into precincts where appropriate but must consider other precinct TMPs through the Transport Management Liaison Group as per EPR T3.</p> <p>TMPs must be submitted to the relevant authority for approval.</p> | Supported.   |

North East Link – Minister’s assessment of environmental effects

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|-----|---------|--|--|
| T3  | T3      | <p><b>Transport Management Liaison Group</b></p> <p>A Transport Management Liaison Group (TMLG) must be established and convene prior to the commencement of any works that may impact on existing roads, paths or public transport infrastructure. The TMLG must include representatives from the State, the Department of Transport, emergency services, the project, relevant transportation authorities and relevant local councils.</p> <p>The TMLG will be a forum for exchange of information and discussion of issues associated with Transport Management Plans. This must include review of proposed haulage routes for construction sites to minimise reliance on a single haulage route between Bell Street and the M80 Ring Road and facilitate different sites using different haulage routes.</p> <p>The TMLG must be provided with the Transport Management Plans, details as to timing of implementation, information about construction traffic monitoring conducted by the project, relevant sections of road safety audit reports and other reports, as relevant.</p> <p>Where construction activities have the potential to significantly impact on specific stakeholder or community group facilities, the TMLG should be satisfied that there has been adequate consultation to inform the Transport Management Plans.</p> <p>The TMLG must meet at least monthly until the completion of construction.</p> | Supported in principle. TMLG to consider inviting representatives from stakeholder and community groups to relevant meetings.        |
| T4  | T4      | <p><b>Road safety design</b></p> <p>Undertake independent road safety audits after each stage of detailed design and during and after construction. The project design and operational activities must meet all relevant road and transport authority requirements with respect to transport network user safety.</p>  | Supported.   |
| T5  | T5      | <p><b>Traffic monitoring</b></p> <p>Undertake traffic monitoring on selected roads (arterial and non-arterial) identified in consultation with the relevant transportation authorities and local council pre-construction, at six monthly intervals during construction, and up to two years after construction is complete. As part of the selection process, consideration must be given to roads that carry public transport services. <b>Ensure any adverse impacts of the Project are mitigated by implementing</b> <del>implement</del> local area traffic management works, <b>or other works as required</b> in consultation with the local relevant councils.</p> <p>Develop and implement traffic performance management to monitor conditions during construction. Real time traffic information must be provided to drivers.</p>   | Supported in principle. Subject to a review of ongoing traffic monitoring, a Local Area Traffic Management Strategy may be required. |



# Appendix B Additional information request



Hon Richard Wynne MP

Minister for Planning  
Minister for Housing  
Minister for Multicultural Affairs

8 Nicholson Street  
East Melbourne, Victoria 3002  
Telephone: 03 8683 0964  
DX210098

Mr Duncan Elliott  
Chief Executive Officer  
North East Link Project  
121 Exhibition Street  
MELBOURNE VIC 3000

Ref: MBR040903



Dear Mr Elliott

## **NORTH EAST LINK ENVIRONMENT EFFECTS STATEMENT**

I confirm that I am currently considering and preparing my assessment of the environmental effects of the North East Link pursuant to section 4(1) of the *Environment Effects Act 1978*.

Pursuant to section 5(1) of the Act I request that the North East Link Project provide me with a supplementary statement, to assist me in making my assessment.

In comparison to the reference design assessed through the North East Link Environment Effects Statement, please provide any additional information that you consider would assist me to assess the possible environmental effects of the following three design alternatives:

- a. extending the bored tunnel northwards to the vicinity of Grimshaw Street;
- b. designating the Simpsons Barracks as a no-go zone;
- c. excluding Borlase Reserve as a tunnel boring machine launch or retrieval site.

Please also include information in relation to any consequential impacts that these alternatives may have for the project.

I request that this information be provided by 20 November 2019, or as agreed with the Department of Environment, Land, Water and Planning (DELWP).

If you have any queries about this request, please contact Dr Bruce Abernethy, Director, Impact Assessment, DELWP, on (03) 8392 5471 or email [bruce.abernethy@delwp.vic.gov.au](mailto:bruce.abernethy@delwp.vic.gov.au).

Yours sincerely

HON RICHARD WYNNE MP  
Minister for Planning

10 | 11 | 19

# Appendix C Additional information response



Your Ref: MBR040903  
Our Ref: CM/19/29582

Hon Richard Wynne MP  
Minister for Planning  
8 Nicholson Street  
EAST MELBOURNE VIC 3002

Dear Minister Wynne

## **NORTH EAST LINK ENVIRONMENT EFFECTS STATEMENT**

I refer to your letter dated 10 November 2019 in relation to the North East Link Environment Effects Statement (**EES**).

In that letter you seek additional information from North East Link Project (**NELP**) in relation to possible environmental effects and consequential impacts associated with the following design alternatives, when compared with the reference design assessed in the EES:

- a) extending the bored tunnel northwards to the vicinity of Grimshaw Street;
- b) designating the Simpson Barracks as a no-go zone;
- c) excluding Borlase Reserve as a tunnel boring machine launch or retrieval site.

NELP understands that this is to assist you in the preparation of your assessment of the environmental effects of the North East Link project under the Environment Effects Act 1978.

### **The Assessment Approach**

The EES (at page 9) includes the following statement concerning the assessment approach adopted in the EES:

*The EES has adopted a performance-based approach to assess a reference project. The reference project is not the final design for the North East Link but demonstrates the project's feasibility and ability to achieve acceptable outcomes. The project contractors could make further refinements provided these changes meet the approved project objectives, satisfy the EPRs set for the project and are within the designated project boundary (the area within which all permanent structures and temporary construction compounds must be located).*

This remains NELP's position in respect of the assessment of design alternatives to the reference project.

In the EES and during the course of the North East Link Project Inquiry and Advisory Committee (IAC) hearing, NELP submitted information relevant to each of the matters referred to in your letter, including with regard to -

- longer tunnel options to the north<sup>1</sup>
- avoiding surface impacts at Simpson Barracks<sup>2</sup>
- a diamond interchange at Lower Plenty Road<sup>3</sup> and the use of Borlase Reserve as a construction compound to support use as a TBM launch site and construction of the interchange<sup>4</sup>

That information is accessible on the Engage Victoria website.

Each of these matters would create a range of environmental and community effects, and present their own project challenges from a design, time, cost and project delivery perspective. Set out below are some of the key challenges and effects that would need to be overcome and addressed when compared with the reference project. Based on the work undertaken to date over almost three years, including the development of the reference design, there is currently no solution that satisfactorily meets these challenges within the parameters and project objectives outlined in the business case.

NELP’s specific responses to the information request are set out below. It should be noted that the information contained in these responses reflect material provided either in the EES or in documents tabled during the public hearings.

#### **Extending the bored tunnel northwards to the vicinity of Grimshaw Street**

Extending the bored tunnel northwards to the vicinity of Grimshaw Street would require the tunnels to pass underneath the Hurstbridge Rail line and come to surface south of Grimshaw Street. This presents the following challenges and potential consequential impacts:

- a) Project Functionality.** The accessibility of the North East Link is a critical factor in achieving the project objectives, and the interchanges at Grimshaw Street and Lower Plenty Road are fundamental to achieve project objectives. Therefore, the construction of any interchange at Lower Plenty Road would result in surface impacts. Extending the tunnels toward Grimshaw Street has the potential to compromise the ability to provide suitable, efficient and safe ramp connections to and from North East Link to Grimshaw Street without possible further consequential impacts, including additional property acquisition. This is due to the significant depth that the tunnels would need to be to pass under the Hurstbridge Rail line. To maintain tunnel grades in accordance with requisite design standards, there would need to be either limited cover above the tunnel where it passes under the rail line or limited distance between the tunnel portal at surface and Grimshaw Street. Limited cover above the tunnel to the rail line has the potential to impact on the structural integrity of the rail line without material works to the rail infrastructure which may significantly add to the time and cost of delivering the project and result in further disruptions to the rail service. Such works may include ground stabilisation above the tunnel and preparatory support works prior to tunnel excavation. The limited distance between Grimshaw Street and the tunnel portal has the potential to steepen the ramps beyond design standards, or significant additional property acquisition including impacts on Watsonia Primary School and Concord School Watsonia Campus.
- b) Additional Land requirements.** Additional land acquisition may be required to accommodate the infrastructure associated with the northern portal and ventilation structure. Depending on the design it may also be necessary to further divert Greensborough Road and impact on additional residential properties, as well as community facilities and schools for several years, including:

<sup>1</sup> See Technical Notes 30, 31, 48, 54 and 55

<sup>2</sup> See Technical Note 48

<sup>3</sup> See Technical Note 48

<sup>4</sup> See Technical Note 44

- a. AK Lines Reserve;
  - b. Watsonia Primary School; and
  - c. Concord School Watsonia Campus.
- c) **New Ventilation Structure.** Tunnel ventilation structures are best placed at the downstream end of each tunnel. Extension of the tunnel would require a new tunnel ventilation structure adjacent to the northern portal in the vicinity of Grimshaw Street and adjacent to residents and community facilities. This would give rise to associated visual impacts, which may be further exacerbated in this area due to the topography and the potential for the ventilation structures to be taller at this location. Further, this design alternative may not result in the removal of the ventilation structure at Blamey Road within Simpson Barracks. Due to the increased length of the tunnel, a third structure near Blamey Road would most likely be required for air intake and/or exhaust. An extended tunnel would also require a significant increase in the overall capacity of the ventilation system and result in its operation having a higher energy consumption.
- d) **Potential impact on business case assumptions.** While economic cost is a matter for the government, it is an important consideration with regard to the government’s investment decision for the project. During the IAC hearings NELP undertook a cost estimate associated with a longer tunnel proposal and found that it would be in the order of an additional \$1.49B. A change of this magnitude could have significant impacts on the cost benefit analysis for the project, which underpins the project business case. It is also anticipated that the additional construction period would be approximately 1.5 to 2 years which would cause increased disruption to the community and associated construction impacts.

#### **Designating Simpson Barracks as a no-go zone**

As outlined above, the interchange near Lower Plenty Road is required to be maintained so as not to compromise on the achievement of the North East Link project objectives. To designate Simpson Barracks as no-go zone would require a significant change to the interchange design to connect North East Link to Lower Plenty Road and Greensborough Road. This presents the following challenges and potential consequential impacts:

- a) **Additional Land requirements.** To maintain the Lower Plenty Road interchange while avoiding the Simpson Barracks land would require a redesigned interchange layout. The remaining land on the north side of Lower Plenty Road outside Simpson Barracks cannot accommodate a Freeway interchange in accordance with appropriate design standards while maintaining safe and efficient operation. Due to these restrictions, the interchange would need to be designed as a traditional diamond freeway interchange with ramps on both the north and south sides of Lower Plenty Road. The provision of a traditional diamond interchange would require the acquisition of approximately 140 residential properties to the south of Lower Plenty Road.
- b) **Banyule Creek Impacts.** Reconfiguration of the Lower Plenty Road interchange as a traditional diamond interchange also has the potential to further impact on the environmental, cultural heritage and amenity values of Banyule Creek and River Gum Walk, south of Lower Plenty Road, which is not impacted by the Reference Design.
- c) **Designating Simpson Barracks as a no-go zone** would effectively mean that the road must be tunnelled underneath. It would also mean that the reference design location for the northern ventilation structure would need to change. Depending on the subsequent new northern tunnel portal location, the ventilation structure may need to be located in an established residential area and adjacent to houses.

As the Minister may be aware, NELP has recently received notification from the delegate to the Commonwealth Minister for the Environment of their intention to approve the North East Link project under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. This approval considers the impact of the project on the environment at Simpson Barracks and how it could be managed. Please find enclosed a copy of the proposed approval and approval conditions.

**Excluding Borlase Reserve as a tunnel boring machine launch or retrieval site**

As stated above, an interchange at Lower Plenty Road is fundamental to achieving the North East Link project objectives. As the four ramps for the interchange need to come to the surface they will need to transition from a potential mined construction to a cut and cover and trench method. This is to address the reducing cover above these ramps as they get closer to the surface. As a result, it is expected that there will always be major excavation works associated with this interchange in the Borlase Reserve. Given this disruption, there is limited benefit in attempting to avoid TBM launch in this location.

The reference design combines these two aspects so that the launch of the TBMs were in the same location as the construction of the ramps for the interchange so as to minimise the extent of impact and disruption to the community by having a consolidated construction site. It also ensures that additional impacts are not introduced in a location that would not otherwise be affected, or affected to a much lesser extent.

Notwithstanding this, the determination of a launch site for TBMs needs to consider a range of issues such as available site area, ultimate design, geotechnical conditions, amount of cover above the tunnel and timing and sequencing of other aspects of the construction. As such the location of a launch site needs careful consideration. Excluding Borlase Reserve as a TBM launch site would likely require the launching of the TBMs from the south of the project, in the proximity of the Bulleen Business Park. This would reduce the timeframe for completion of the land acquisition processes for affected properties in this area potentially impacting on the ability of these businesses to relocate in a timely and orderly manner.

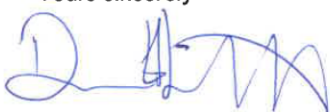
A TBM launch in the south would still require a TBM retrieval somewhere in the north. If not at Borlase Reserve, it is expected that it would be in a location that would potentially have further adverse impacts on the environment, require additional land acquisition or require significant closures to key arterial roads and transport networks. Depending on the final location of the northern TBM retrieval, this could also add time to the tunnel excavation which is on the critical path for completion of the project. If the TBMs were launched from the north, but not in Borlase Reserve, it is likely that this would have significant long-term impacts to the road network (such as closures to parts of Greensborough Highway) or result in further disruptions and impacts to the land near Simpson Barracks.

**Conclusion**

The range of design, time, cost, project delivery implications and consequential impacts outlined above in respect of the specified design alternatives are properly matters for the State. In the event that any one or more of these design alternatives are put forward by any tenderer as part of the procurement process, they will be considered at that point in time.

I trust that this adequately responds to your letter. However, should you require any further information to assist you in the preparation of your assessment, please do not hesitate to let me know.

Yours sincerely



Duncan Elliott  
Chief Executive Officer

20/11/2019