



Australian Government

**BUILDING OUR FUTURE**



# M12 Motorway

Submissions report

October 2020

# Executive summary

Transport for New South Wales (TfNSW) is seeking approval to construct and operate the M12 Motorway project (the project) to provide direct access between the Western Sydney International Airport at Badgerys Creek and Sydney's motorway network. The project is expected to be open to traffic prior to the opening of the Western Sydney International Airport.

The project would comprise a new dual-carriage way (about 16 kilometres in length) between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham with three interchanges to connect to the existing road network and future Western Sydney International Airport. Work would include a motorway-to-motorway interchange at the M7 Motorway and a signalised intersection at The Northern Road. A grade separated interchange, including a dual-carriageway four lane airport access road, would provide direct access from the M12 Motorway to the Western Sydney International Airport.

Approval for the project is being sought under Division 5.2 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act).

## Environmental impact statement

An environmental impact statement (EIS) was prepared to address the Planning Secretary's Environmental Assessment Requirements (SEARs) issued for the project. The EIS was exhibited by the NSW Department of Planning, Industry and Environment (DPIE) for 33 days from 16 October 2019 to 18 November 2019.

The EIS was available to view and download from the M12 Motorway website, DPIE portal and Service NSW Centres computer terminals. Hardcopies were made available to the public at eleven locations. The complete EIS remains available on the DPIE website.

Consultation activities planned to support the display of the EIS included a series of community information sessions, 'pop-up' information stands, letterbox drops, local newspaper notices and advertisements, roadside signage, media releases, email and/or SMS to contacts on the established distribution list, website updates, and Facebook updates to provide community members an opportunity to discuss the EIS directly with members of the project team. There were also numerous stakeholder briefings with State and Federal Members of Parliament (MPs), councillors and other key stakeholders.

A number of external engagement channels were also established to seek input from stakeholders and communities on the project, including a project email address, a toll-free project phone number and postal address. The project website also provided background information, maps, project updates and announcements, and information on how to provide feedback.

## Submissions report

In accordance with section 5.17 of the EP&A Act, this submissions report has been prepared to provide responses to the issues raised in the submissions received for the project.

A total of 51 submissions were received by DPIE from 50 submitters (one submitter provided two submissions). The 50 submitters were comprised of:

- 23 individual community members
- Five special interest groups or businesses
- 22 government agencies, local council or utility providers.

A summary of the main issues raised by the community, special interest groups and businesses and TfNSW responses are provided below:

- The development of the project and consideration of design alternatives, particularly focusing on the limited number of lanes, the location and design of intersections and entry/exit ramps, and traffic congestion
  - The selection of the preferred route and location of project elements, including the location of the M7 Motorway interchange, has been based on a number of considerations including ramp lengths and configuration, tie-in locations, merging and safety, connection to Wallgrove Road and existing land use (ie Biobanking agreements)
  - The amended project has lowered the M7 Motorway interchange. This change from the project as described in the EIS and its associated benefits and impacts are discussed in Chapter 3 and Chapter 6 of the amendment report.
- Noise and vibration impacts, particularly in relation to future road traffic impacts of the proposed entry/exit ramps at the M7 Motorway
  - As described in Section 7.7.9 of the EIS, operational noise management measures would be implemented in accordance with the Noise Mitigation Guideline (NMG) (Roads and Maritime 2015a). Twelve months after opening of the project, TfNSW would undertake an “actual” measurement of noise levels, which would verify the noise impact of the project and may lead to an increased level of treatment if required
- Urban design, landscape character and visual impacts related to the structural elements of the projects, in particular Cecil Hills residents being exposed to artificial light from the motorway and the location and height of ramps
  - As described in Section 7.3.8 of the EIS, the project includes a commitment to design and orientate temporary and permanent lighting to minimise light spill and glare impacts on nearby receivers
  - As stated in the EIS, an Urban Design and Landscape Plan (UDLP) would investigate opportunities to provide vegetative screening to soften the appearance of structural elements of the project and provide screening of sensitive views
- Socio-economic impacts associated with access to private properties, land fragmentation, impacts to local businesses and property value and compensation concerns
  - As described in Section 7.2.8 and Section 7.4.6 of the EIS, environmental management measures have been included to manage access to private properties through consultation with landowners, to establish safe and appropriate alternate access arrangements in situations where current access routes would be impacted. Consultation with businesses would also be ongoing to manage potential impacts.

A summary of the main issues raised by government agencies, local councils and utility providers and TfNSW responses is provided below:

- Socio-economic concerns regarding access to private properties, impacts of land fragmentation, land acquisition, and disruptions to local businesses
  - As described above, an environmental management measure has been included in the EIS to manage access to private properties through consultation with landowners to establish safe and appropriate alternate access arrangements in situations where current access routes would be impacted. Consultation with businesses would also be ongoing to manage potential impacts

- As described in Section 7.4.6 of the EIS, the acquisition and valuation for the project would be in accordance with the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991(NSW)*
- As stated in the EIS, TfNSW would be working with property owners individually on their adjustment plans and will continue to consult with land owners through the detailed design process about these land parcels
- Surface water quality and hydrology impacts, particularly regarding the adjustment/ realignment of creeks and impacts to the quality of water in bulk water supply infrastructure
  - As described in Section 7.9.6 of the EIS, further monitoring and modelling would be undertaken during detailed design to further understand existing water quality and confirm potential impacts. A construction soil and water management plan (CSWMP) would be prepared which includes ongoing monitoring during construction and operation of the project to verify impacts and adapt management measures as required
- Impacts of the proposal to transport and traffic, particularly in relation to the design of the shared user path, accommodation for traffic incidents and traffic modelling assessment methodology
  - The shared user path would provide a dedicated continuous link for cyclists and pedestrians between The Northern Road and the Western Sydney Parklands. It would act as a commuter and recreational resource, promoting a healthy community and connecting future amenity areas proposed along the creek lines. TfNSW would continue consultation with Western Sydney Planning Partnership (WSPP) to integrate the shared user path into the broader active transport network
  - Incident response provisions have been detailed in Section 5.18 of the EIS. The traffic assessment methodology described in Section 7.2.2 of the EIS is considered justified and the transport and traffic assessment report has been updated for the amended project as described in Section 6.2 of the amendment report
- Government agencies, local council and utility providers requested to be consulted on future impacts to private property and future land uses during detailed design and construction
  - As described in Section 9 of the EIS, TfNSW would continue with regular consultation with nearby/adjoining properties, businesses and key stakeholders, which would include relevant Government agencies and Councils, during the detailed design and construction phase of the project.
- Provision of additional local connectivity to the Motorway
  - The amendment project considers an option to provide a new connection between the M12 Motorway and Elizabeth Drive near the M7 Motorway interchange subject to funding availability
  - TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network. TfNSW would also consult further with WSA Co in regards to opportunities for connectivity at Elizabeth Drive and the Western Sydney International Airport.

## Amendment report

TfNSW have made a number of amendments and refinements to the design since public exhibition of the EIS. This was done in response to feedback from stakeholders and the community, landowner discussions and further development of the concept design to improve functionality and minimise environmental impacts where possible.

A separate amendment report has been prepared at the request of DPIE which outlines the proposed amendments and refinements to the project since public exhibition of the EIS and assesses the environmental impact of these changes.

Key proposed amendments to the project as identified in the amendment report include:

- Amendments to the motorway-to-motorway interchange at the M7 Motorway, including:
  - Changes to Elizabeth Drive and Cecil Road intersections, proposed exit ramps, the Wallgrove Road connection to Elizabeth Drive and proposed shared user path realignments
  - The widening of Elizabeth Drive under the M7 Motorway and approaches
- An option to provide a new connection between the M12 Motorway and Elizabeth Drive near the M7 Motorway interchange
- Two new signalised intersections into the Western Sydney International Airport, with provisions for future connection to potential developments north of the Western Sydney International Airport. The delivery of these will be subject to funding from the WSA Co and adjoining developers
- Additional ancillary facilities to support the delivery of the project.

All proposed amendments and refinements are described in detail in Chapter 3 and Chapter 4 of the amendment report.

## Revised environmental management measures

The EIS identified a range of environmental management measures proposed to avoid or reduce environmental impacts. After consideration of the issues raised in the public submissions during exhibition of the EIS, and from proposed changes to the project, TfNSW has provided additions and revisions to the environmental management measures for the project where appropriate.

A full list of the revised environmental management measures proposed for the project, from both this submissions report and the amendment report is provided in **Chapter 6**.

## Next steps

This submissions report will be made available to the public in accordance with Section 5.17 of the *Environmental Planning and Assessment Act 1979*. This report and all accompanying documents have been made available electronically at the DPIE website –

**<https://www.planningportal.nsw.gov.au/major-projects/project/10226>**.

The amendment report will be publicly exhibited for at least 14 days, during which time any person (including a public authority) may make a submission on the amendment report to the Secretary. Following exhibition, DPIE would provide TfNSW with submissions received and may require TfNSW to prepare a supplementary submissions report to respond to the issues raised.

The DPIE and the Commonwealth Department of Agriculture, Water and the Environment (DAWE) (formerly Department of Energy and Environment (DoEE)) will then consider the responses to submissions and the amendment report during its assessment of the project. The NSW Minister for Planning and Public Spaces and the Commonwealth Minister for Environment will then decide whether or not to approve the project and identify any conditions of approval that would apply.

## Ongoing community and stakeholder consultation

A proactive regular social media campaign is already underway and will continue during this phase of the project to inform the community about the project's benefits and progress. In addition, regular methods of communication such as notifications, email alerts and information sessions will continue to keep the community up to date with the latest developments. Should the project be approved, TfNSW would continue to consult with community members, government agencies and other stakeholders during the detailed design and construction phase of the project in accordance with the Community Communication Strategy.

Consultation during construction will be carried out by TfNSW and the construction contractor and will include project updates on planned construction activities and the construction program. Consultation will seek to minimise potential impacts where possible and respond to enquiries and concerns in a timely manner.

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## Glossary of terms and abbreviations

Term	Meaning
ACHAR	Aboriginal cultural heritage assessment report
AEI	Areas of environmental interest
AF	Ancillary facility
AFG	Aboriginal focus group
Afflux	Afflux refers to the predicted changes, usually in flood levels, between two scenarios, pre-development conditions (without project) and post-development conditions (with project). Positive afflux indicates flood level increase under post-development conditions and negative afflux indicates flood level decrease under post-development conditions comparing to pre-development conditions.
AHIMS	Aboriginal Heritage Information Management System
airport access road	Part of the M12 Motorway connecting the Western Sydney International Airport interchange with the Western Sydney International Airport
Ancillary facilities	A temporary facility for construction of the project including an office and amenities compound, construction compound, material crushing and screening plant, materials storage compound, maintenance workshop, testing laboratory and material stockpile area.
APA Group	The Australian Pipeline Limited Group
Average annual daily traffic	The total volume of traffic passing a roadside observation point over a period of a year, divided by the number of days per year. It is calculated from mechanically obtained axle counts
ARI	Average recurrence interval: The long term average number of years between the occurrence of a flood as big as, or larger than, the selected event. For example, floods with a discharge as great as, or greater than, the 20 year ARI flood event will occur on average once every 20 years. ARI is another way of expressing the likelihood of occurrence of a flood event.
auxiliary lane	Additional length of lane on a motorway added to maintain traffic flow, such as at an entry or exit ramp, acceleration or deceleration lane
BAR	Biodiversity assessment report
batter	A receding slope of a wall, structure, or earthwork
BC Act	Biodiversity Conservation Act 2016 (NSW)
BH	Borehole

Term	Meaning
Bilateral agreement	The bilateral agreement made under Section 45 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth) relating to environmental assessment
BOS	Biodiversity Offset Strategy
BR	Bridge
CAQMP	Construction air quality management plan
CASA	Civil Aviation Safety Authority
CCTV	Closed circuit television
CCHMP	Construction cultural heritage management plan
CEMP	Construction environment management plan
CFD	Computational Fluid Dynamics
CLMP	Contaminated land management plan
CNVMP	Construction noise and vibration management plan
CNVG	Construction Noise and Vibration Guideline
Code	Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (2010)
Construction footprint	The construction footprint is the area required to build the project. This includes the area required for temporary work such as sedimentation basins, drainage lines, access roads, construction ancillary facilities.
CPCP	Cumberland Plain Conservation Plan
CPTED	Crime Prevention Through Environmental Design
CSSI	Critical state significant infrastructure
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSWMP	Construction soil and water management plan
CTTMP	Construction transport and traffic management plan
Curing	Curing is the process of maintaining suitable moisture content and temperature in newly poured concrete to allow it to set with the desired properties for its intended use

Term	Meaning
CWRMP	Construction waste and resource management plan
DAWE	Department of Agriculture, Water and the Environment (formerly Department of Environment and Energy (DoEE))
DECCW	Department of Environment, Climate Change and Water
DoEE	Department of the Environment and Energy (now Department of Agriculture, Water and the Environment (DAWE))
DITRDC	Department of Infrastructure, Transport, Regional Development and Communications (formerly Department of Infrastructure, Transport, Cities and Regional Development)
DP	Deposited plan
DPC (Heritage)	Department of Premier and Cabinet (Heritage) (formerly Office of Environment and Heritage (OEH))
DPE	Department of Planning and Environment
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment (formerly Department of Planning (DPE))
EEC	Endangered ecological community
EEP	Elizabeth Enterprise Precinct
EESG	Environment, Energy and Science Group of the Department of Planning, Industry and Environment (formerly NSW Office of Environment and Heritage)
EIS	Environmental impact statement
EGP	Eastern Gas Pipeline
EPA	Environment Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth).
EPL	Environment protection licence

Term	Meaning
Exclusion zones	Exclusion zones are areas of environmental importance (eg threatened vegetation or heritage items) that need to be protected. Exclusion zones are shown in figures throughout this EIS where relevant. These exclusion zones are defined as no-go areas and are to be protected for the duration of construction in that particular footprint area.
FBA	Framework for Biodiversity Assessment
FM Act	Fisheries Management Act 1994 (NSW)
Grade separated interchange	An interchange that is separated vertically (at different heights) involving bridges, underpasses and/or overpasses.
GSC	Greater Sydney Commission
HBT	Hollow-Bearing Tree
Heritage Act	Heritage Act 1977 (NSW)
ICNG	Interim Construction Noise Guideline
kV	Kilovolt, a measure of electric current equal to 1,000 volts
LCVIA	Landscape character, visual impact assessment
LEP	Local Environmental Plan
LGA	Local government area
LoS	Level of Service
LU14	The 2014 version of land use (population and employment) projections for the Sydney Greater Metropolitan Area produced by the Transport and Performance Analytics section of TfNSW. This 2014 land use data has been supplemented with traffic data from 2015 and 2017.
LU16	The 2016 version of land use (population and employment) projections for the Sydney Greater Metropolitan Area produced by the Transport and Performance Analytics section of TfNSW. This 2016 land use data has been supplemented with traffic data from 2015 and 2017.
LUIIP	Land Use and Infrastructure Implementation Plan
M12 Motorway	The proposed M12 Motorway which is the subject of this document (also known as 'the project')
M7 Motorway	The M7 Motorway is a major connecting road on Sydney's orbital motorway network. It runs for 40 kilometres and links the M4 Motorway and the M2 Motorway.

Term	Meaning
MNES	Matters of National Environmental Significance
MP	Member of parliament
NASF	National Airports Safeguarding Framework
NCA	Noise Catchment Area
NCG	Noise Criteria Guideline
NIA	Noise impact assessment
NMG	Noise Mitigation Guideline
NRAR	Natural Resource Access Regulator
NSW	New South Wales
OEH	Office of Environment and Heritage
ONVR	Operation noise and vibration review
Operational footprint	Generally includes the M12 Motorway and additional areas required for operation and maintenance of the project
PACHCI	Procedure for Aboriginal cultural heritage consultation and investigation (Roads and Maritime, 2011)
PAD	Potential archaeological deposit
PCT	Plant community type
PPV	Peak particle velocity
RNP	Road Noise Policy
Roads and Maritime	Roads and Maritime Services, now known as Transport for NSW
SA2	Statistical Area Level 2 (Australian Bureau of Statistics): medium-sized general purpose areas designed around whole suburbs or localities, generally with a population range of 3000 to 25,000 persons. The smallest area for the release of ABS non-Census and Intercensal statistics (ABS 2016)
SEARs	Secretary's environmental assessment requirements

Term	Meaning
Sensitive road users	Pedestrians and cyclists
SEPP	State environmental planning policy
SHI	State Heritage Inventory
SHR	State Heritage Register
SMS	Short messaging services
SoHI	Statement of heritage impact
SSI	State significant infrastructure
study area	The term study area is used to describe the locations investigated as part of the EIS. The study area varies based on the specific areas of interest targeted for each environmental issue (eg ecology, heritage, noise, visual amenity etc). The study area relevant to particular environmental issues is shown on figures, where relevant throughout the EIS.
SWMP	Soil and water management plan
TECs	Threatened ecological communities
the project	The proposed M12 Motorway
The EP&A Regulation	Environmental Planning and Assessment Regulation 2000
TfNSW	Transport for New South Wales
TMC	Transport Management Centre
TRAQ	Tool for Roadside Air Quality
TSC Act	<i>Threatened Species Conservation Act 1995</i> (NSW) (repealed) but relevant for this assessment due to being saved under the BC Transitional arrangements
TSS	Total suspended solids
UDLP	Urban Design and Landscape Plan
UIA	Urban investigation area
VMS	Variable Messaging Signs

Term	Meaning
Western Sydney Aerotropolis	As defined in the Western Sydney Aerotropolis Stage 1 Plan, the Aerotropolis surrounds the Western Sydney International Airport site at Badgerys Creek and will comprise industrial, commercial and residential development.
WSPP	Western Sydney Planning Partnership

# 1. Introduction and background

## 1.1 The project as described in the EIS

Transport for New South Wales (TfNSW; formerly Roads and Maritime Services) proposes to build the M12 Motorway between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham (the project), over a distance of about 16 kilometres.

The project would provide the main access from the Western Sydney International Airport at Badgerys Creek to Sydney's motorway network and is expected to be opened to traffic before the opening of the Western Sydney International Airport. The timing of opening of the M12 Motorway is subject to planning approval and the completion of detailed design. However, the project is expected to open in 2025. **Figure 1-1** shows the project as shown in the EIS in its regional context.

An environmental impact statement (EIS) was prepared to assess the potential impacts of the project and recommend management measures to appropriately address those impacts. The project, as described and assessed by the EIS, included the following key features:

- A new dual-carriageway motorway between the M7 Motorway and The Northern Road with two lanes in each direction with a central median allowing future expansion to six lanes
- Motorway access via three interchanges/intersections:
  - A motorway-to-motorway interchange at the M7 Motorway and associated works (extending about four kilometres within the existing M7 Motorway corridor)
  - A grade-separated interchange referred to as the Western Sydney International Airport interchange, including a dual-carriageway four-lane airport access road (two lanes in each direction for about 1.5 kilometres) connecting with the Western Sydney International Airport Main Access Road
  - A signalised intersection at The Northern Road with provision for grade separation in the future
- Bridge structures across Ropes Creek, Kemps Creek, South Creek, Badgerys Creek and Cosgroves Creek
- A bridge structure across the M12 Motorway into the Western Sydney Parklands to maintain access to the existing water tower and mobile telephone/other service towers on the ridgeline in the vicinity of Cecil Hills, to the west of the M7 Motorway
- Bridge structures at interchanges and at Clifton Avenue, Elizabeth Drive, Luddenham Road and other local roads to maintain local access and connectivity
- Inclusion of active transport (pedestrian and cyclist) facilities through provision of pedestrian bridges and an off-road shared user path including connections to existing and future shared user path networks
- Modifications to the local road network, as required, to facilitate connections across and around the M12 Motorway including:
  - Realignment of Elizabeth Drive at the Western Sydney International Airport, with Elizabeth Drive bridging over the airport access road and future passenger rail line to the airport
  - Realignment of Clifton Avenue over the M12 Motorway, with associated adjustments to nearby property access
  - Relocation of Salisbury Avenue cul-de-sac, on the southern side of the M12 Motorway

- Realignment of Wallgrove Road north of its intersection with Elizabeth Drive to accommodate the M7 Motorway northbound entry ramp
- Adjustment, protection or relocation of existing utilities
- Ancillary facilities to support motorway operations, smart motorways operation in the future and the existing M7 Motorway operation, including gantries, electronic signage and ramp metering
- Other roadside furniture including safety barriers, signage and street lighting
- Adjustments of waterways, where required, including Kemps Creek, South Creek and Badgerys Creek
- Permanent water quality management measures including swales and basins
- Establishment and use of temporary ancillary facilities, temporary construction sedimentation basins, access tracks and haul roads during construction
- Permanent and temporary property adjustments and property access refinements as required.

**Figure 1-2** provides an overview of the key features of the project as presented in the EIS. A detailed description of the project is provided in Chapter 5 of the EIS.

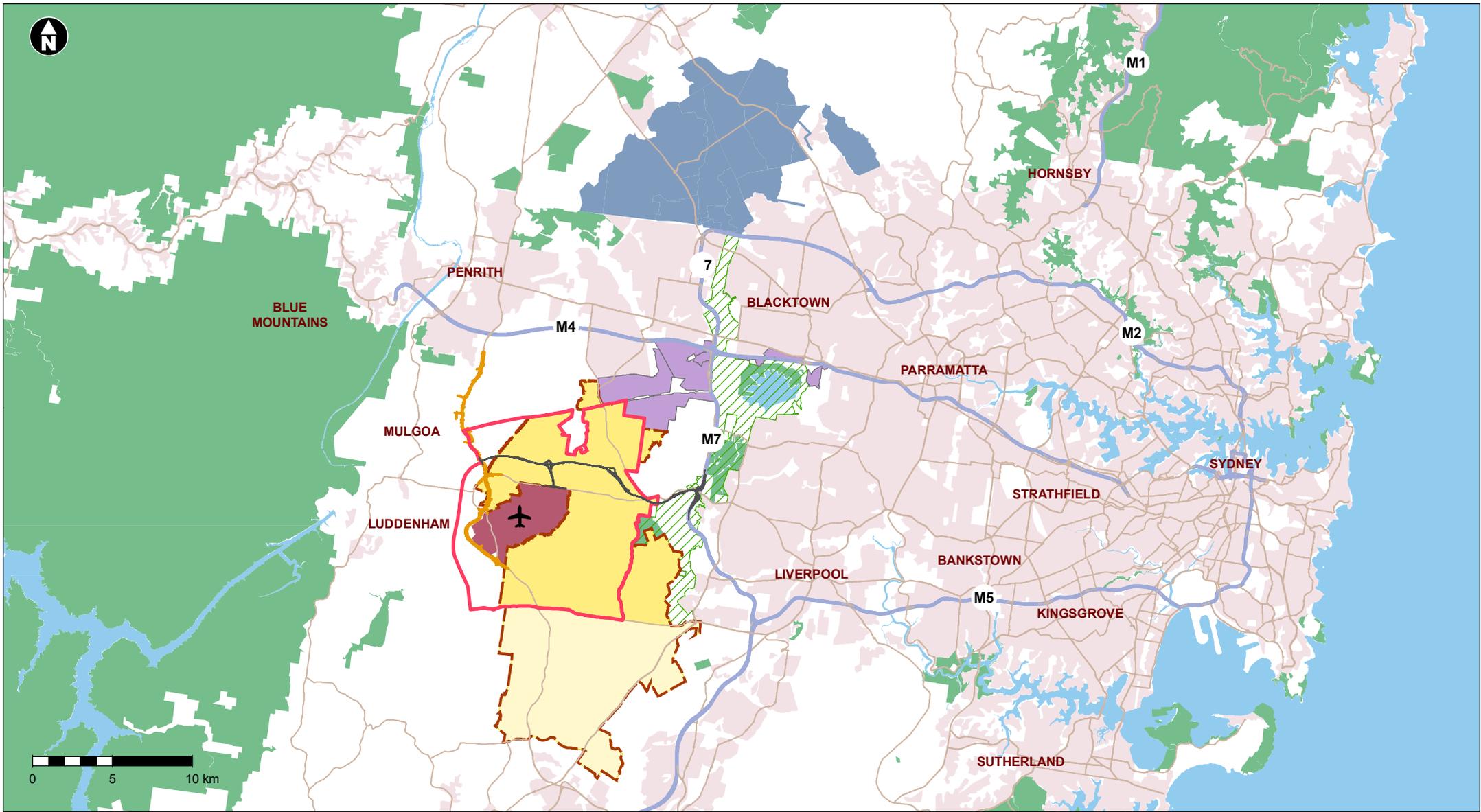
## 1.2 Statutory context

TfNSW formed the opinion that the project is likely to significantly affect the environment and would require the preparation of an EIS under Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The project does not require development consent under Part 4 of the EP&A Act. Accordingly as per clause 14 and Schedule 3 of State Environmental Planning Policy (State and Regional Development) 2011, the project is State significant infrastructure under Part 5 of the EP&A Act and requires the approval of the Minister for Planning and Public Spaces. The project has also been declared as a critical State significant infrastructure project under Section 5.13 of the EP&A Act.

An application was submitted under Section 5.15 of the EP&A Act to the Secretary of NSW Department of Planning, Industry and Environment (DPIE) to carry out the project. The Secretary of DPIE issued the Secretary's environmental assessment requirements (SEARs) for the project in July 2018 which identified the assessment requirements for the project. The SEARs were then revised on 30 October 2018 to reflect the decision that the project is a controlled action under the EPBC Act.

An EIS was prepared in accordance with the revised SEARs and Part 3 of Schedule 2 of the EP&A Regulation to assess the potential impacts of the project.

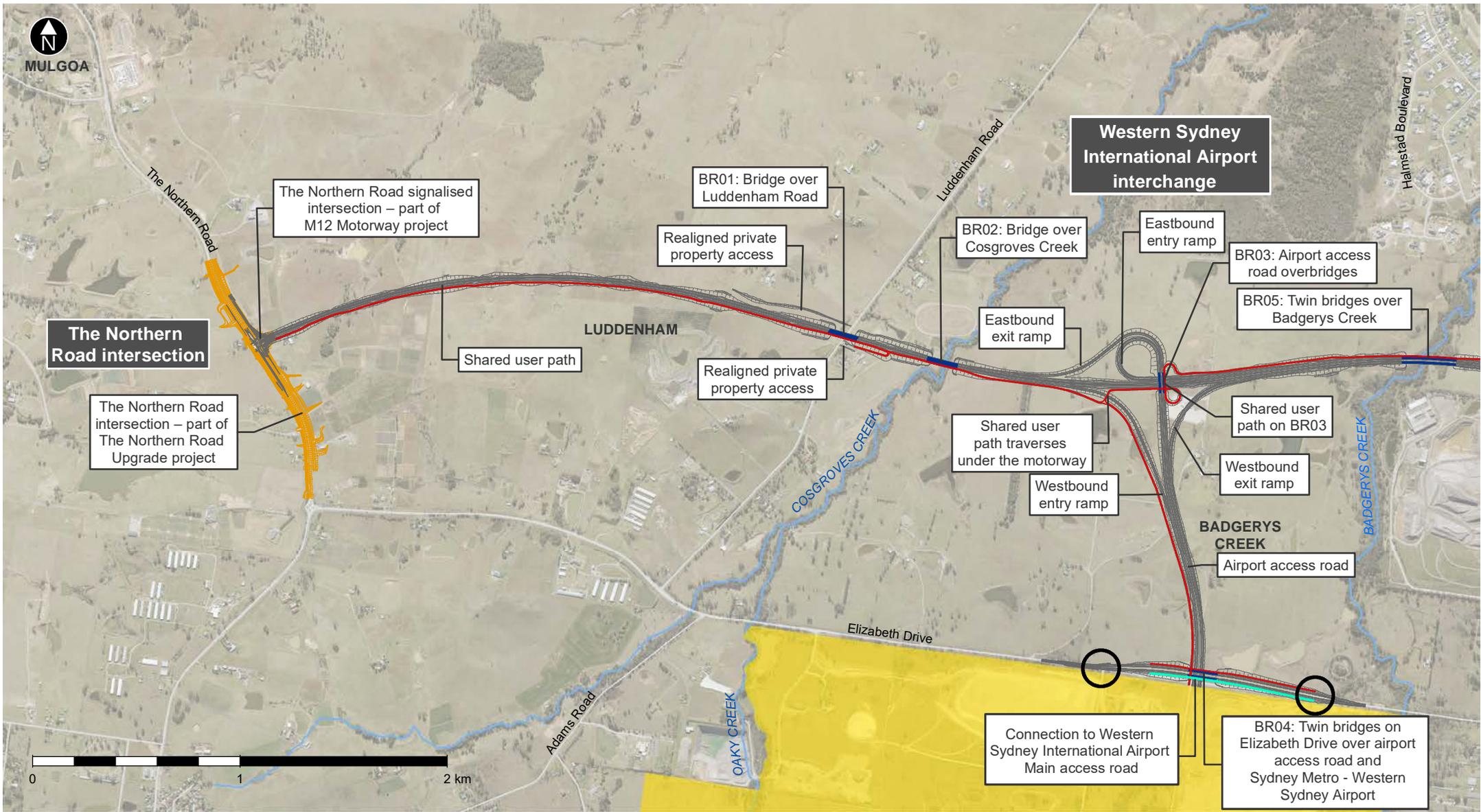
The approval process under Part 5, Division 5.2 of the EP&A Act is illustrated in **Figure 1-3**. Further information on the assessment process is available on the DPIE website ([www.planning.nsw.gov.au](http://www.planning.nsw.gov.au)).



- The project
- Motorways
- Existing main roads
- The Northern Road upgrade (currently under construction)
- Western Sydney Parklands
- NPWS estate / reserve
- Urban areas
- Main waterbodies
- Growth areas**
- Western Sydney Priority Growth Area
- South West Priority Growth Area
- South West Growth Area
- Western Sydney Airport
- Western Sydney Aerotropolis
- Western Sydney Employment Area
- North West Growth Area



**Figure 1-1** Project overview and location



- The project
- Part of The Northern Road upgrade project
- Shared user path
- Future shared user path (by others)
- Existing roads
- Waterways
- Bridges
- Western Sydney International Airport  
Note. The roads within this zone are being removed as part of airport construction.
- Potential future intersections (by others)  
Note: Locations to be confirmed

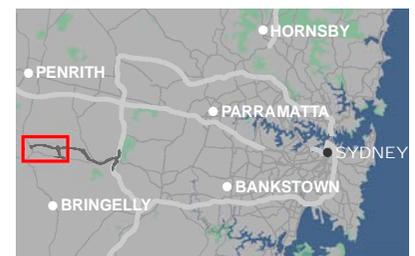
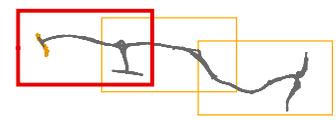
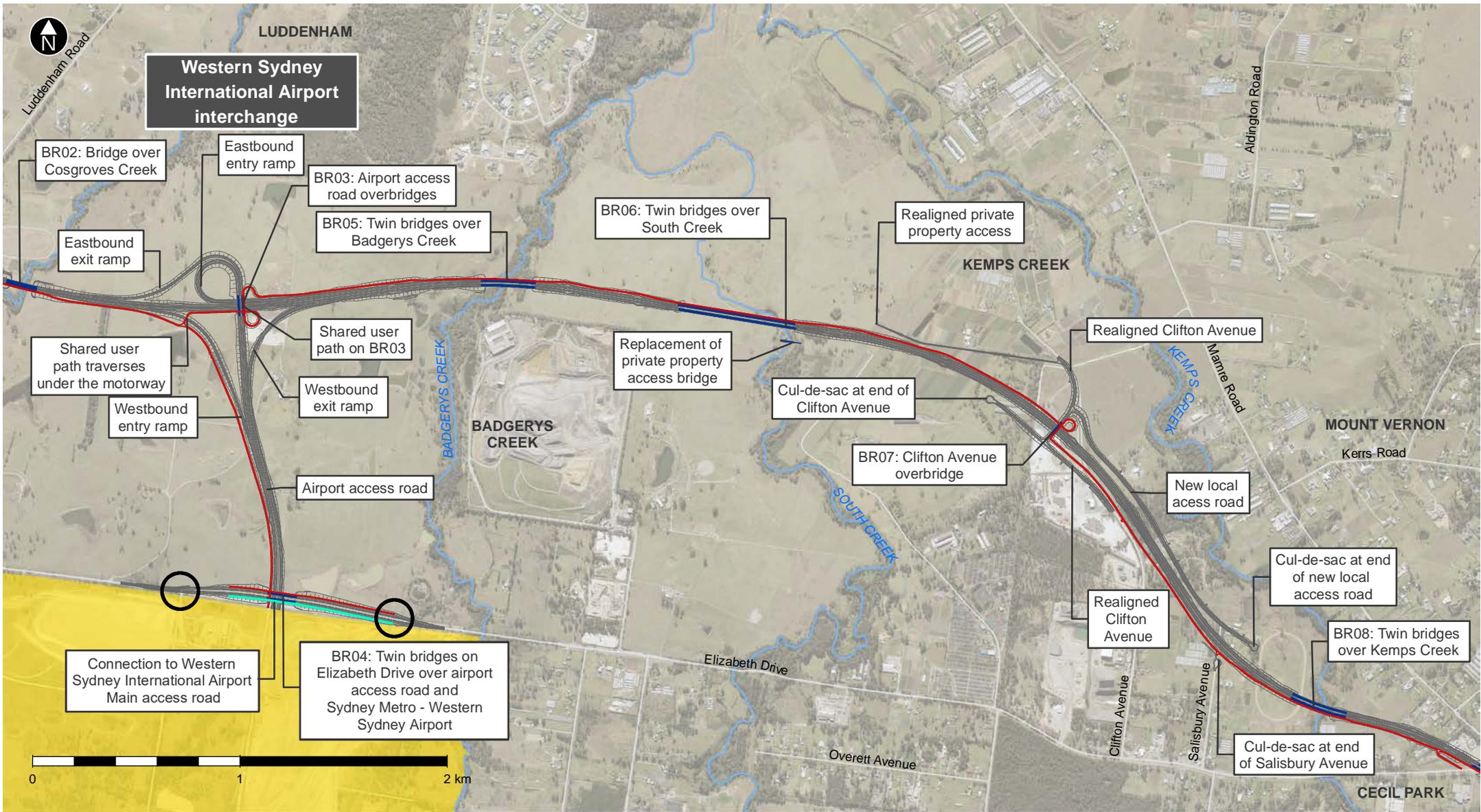


Figure 1-2 Key features of the project as described in the EIS



- The project
- Part of The Northern Road upgrade project
- Shared user path
- Future shared user path (by others)
- Existing roads
- ~ Waterways
- Bridges
- Potential future intersections (by others)  
Note: Locations to be confirmed
- Western Sydney International Airport  
Note: The roads within this zone are being removed as part of airport construction.

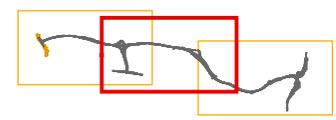
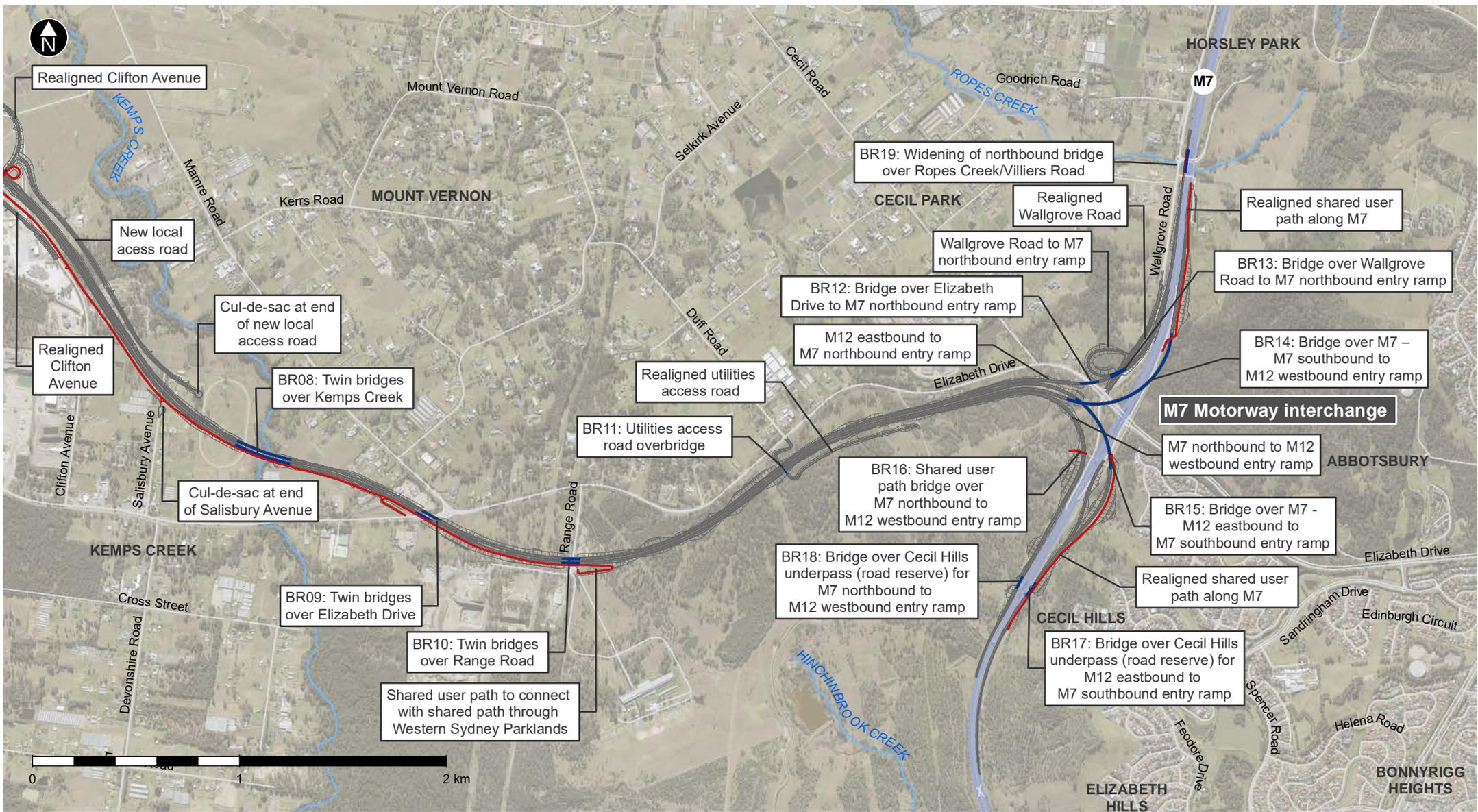
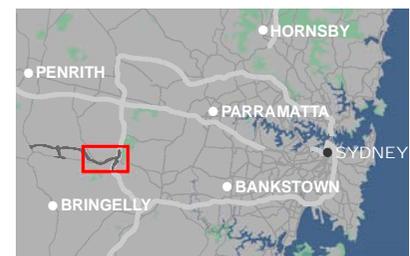
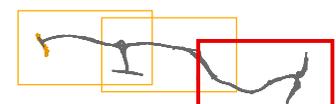


Figure 1-2 Key features of the project as described in the EIS



- The project
- Part of The Northern Road upgrade project
- Shared user path
- Future shared user path (by others)
- Motorway
- Existing roads
- Waterways
- Bridges



**Figure 1-2** Key features of the project as described in the EIS

## 1.3 Environmental impact statement exhibition

The EIS was publicly exhibited for 33 days from 16 October to 18 November 2019, during which time any person (including a public authority) was able to make a written submission to the Secretary.

The exhibition was advertised on the NSW Roads Facebook page, in a community update distributed via a mass mail out as well as in the following newspapers:

- The Australian on 16 October 2019
- Daily Telegraph on 16 October 2019
- Fairfield Advance on 16 October 2019
- Fairfield City Champion on 16 October 2019
- Liverpool Leader on 16 October 2019
- Penrith Press on 17 October 2019
- Sydney Morning Herald on 16 October 2019
- Western Weekender Penrith on 18 October 2019.

Hard copies of the EIS were exhibited at the following locations:

- TfNSW office – 20-44 Ennis Road, Milsons Point
- DPIE – 320 Pitt Street, Sydney
- Nature Conservation Council – 14/338 Pitt Street, Sydney
- Western Sydney International Airport Experience Centre – Eaton Road, Luddenham
- Council offices:
  - Fairfield City Council – 86 Avoca Road, Wakeley
  - Liverpool City Council – 33 Moore Street, Liverpool
  - Penrith City Council – Civic Centre, 601 High Street, Penrith
  - Camden Council – 70 Central Avenue, Oran Park
- Libraries:
  - St Clair Library – Shop 12, St Clair Shopping Centre, Bennett Road and Endeavour Avenue
  - Wetherill Park Library – 561-583 Polding Street, Wetherill Park
  - Carnes Hill Library – 600 Kurrajong Road, Carnes Hill.

Electronic copies of the EIS were available via:

- The project's web portal at: <https://v2.communityanalytics.com.au/rms/m12/about-the-eis>
- DPIE's website at: <https://www.planningportal.nsw.gov.au/major-projects/project/10226>
- Service NSW Centres.

Consultation activities carried out during the exhibition period included:

- Media releases
- Flyers
- Community update newsletters
- Email notifications
- Project phone number and email inbox
- Project website and web portal
- Social media posts
- Community information sessions
- 'Pop up' sessions
- Stakeholder briefings
- Stakeholder engagement during the EIS exhibition period
- Property owners likely to be affected by property acquisition were notified and discussions about this process have begun.

Once the exhibition period ended, the Secretary provided copies of submissions received to TfNSW. A total of 51 submissions were received in response to the EIS by 50 submitters (one submitter provided two submissions). This is discussed further in **Chapter 3**.

## 1.4 Amendment report

Following the exhibition of the EIS, TfNSW has made a number of amendments and refinements to the design in response to feedback from stakeholders and the community, landowner discussions and further development of the concept design to improve functionality and minimise environmental where possible.

A separate amendment report has been prepared which outlines the proposed amendments to the project since public exhibition and assesses the environmental impact of these changes. Where necessary, the amendment report has made provisions for additional management measures. These additional management measures are provided in **Chapter 6** of this report.

Key proposed amendments to the project identified in the amendment report include:

- Amendments to the motorway-to-motorway interchange at the M7 Motorway, including:
  - Changes to Elizabeth Drive and Cecil Road intersections, proposed exit ramps, the Wallgrove Road connection to Elizabeth Drive and proposed shared user path realignments
  - The widening of Elizabeth Drive under the M7 Motorway and approaches
  - An option to provide a new connection between the M12 Motorway and Elizabeth Drive near the M7 Motorway interchange
- Two new signalised intersections into the Western Sydney International Airport, with provisions for future connection to potential developments north of the Western Sydney International Airport
- Additional ancillary facilities to support the delivery of the project.

In addition, the amendment report outlines any refinements made which are consistent with the parameters of the EIS. These refinements include:

- Lowering the height of the M12 Motorway in and around the Western Sydney International Airport interchange
- Removal of the intersection of the M12 Motorway and The Northern Road from the scope of the project. This intersection would still be constructed, but would be delivered as part of The Northern Road upgrade
- Relocation of utilities
- Changes to property access and acquisition
- Changes to drainage
- Adjustments to construction access, hours, haulage, timing and material quantities.

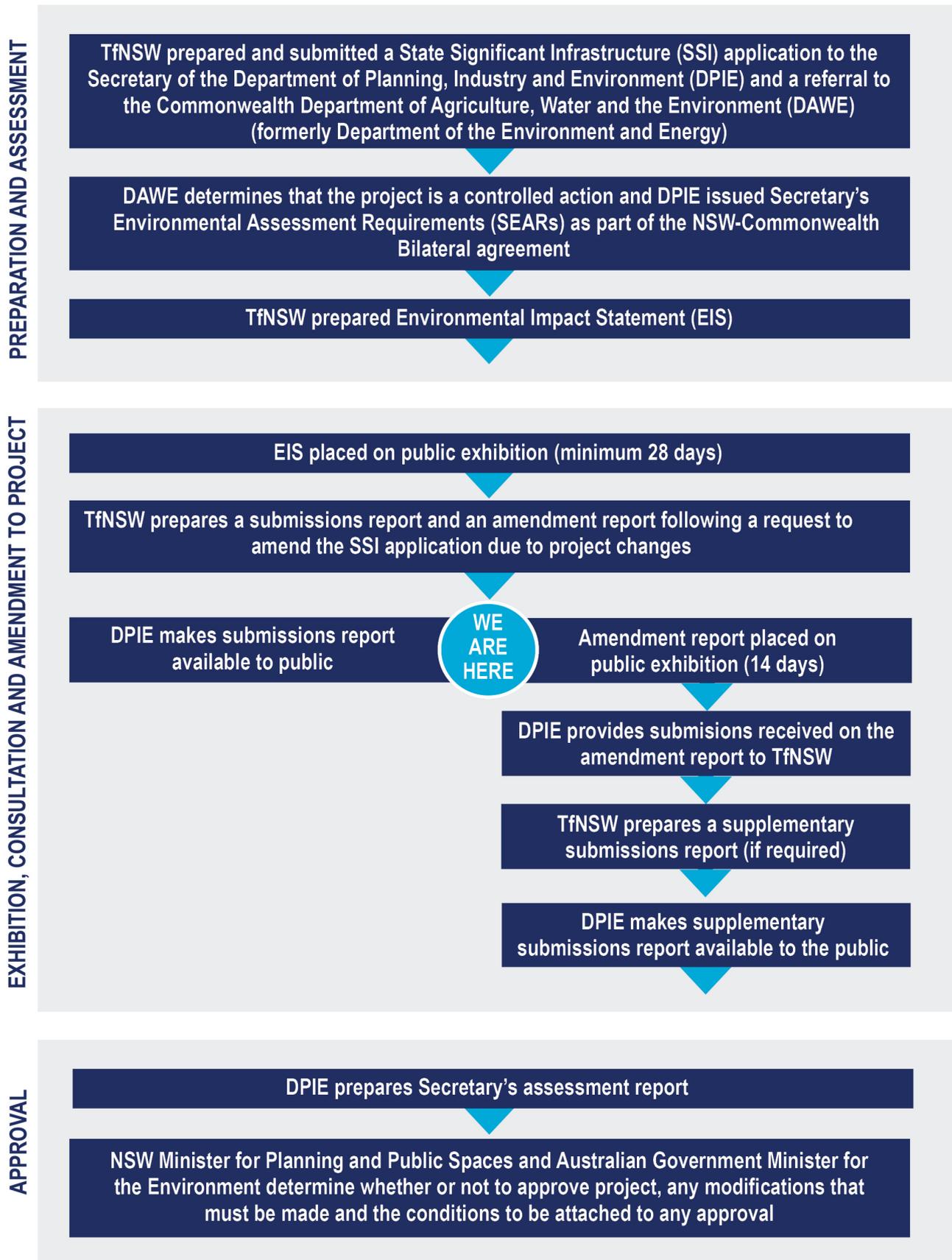
The project with all proposed changes above is referred to as the amended project. The amended project is described in detail in Chapter 3 and Chapter 4 of the amendment report.

The amendment report will be placed on public exhibition for 14 days, and any submissions received in response to it will be the subject of a supplementary submissions report (see **Figure 1-3**).

## 1.5 Purpose of the document

The Secretary of the DPIE provided copies of the submissions on the EIS to TfNSW. In accordance with Section 5.17(6) of the EP&A Act, the Secretary requires TfNSW to provide responses to issues raised in the submissions.

This report identifies the submitters and issues raised during exhibition of the EIS (**Chapter 2**), responses to issues raised during exhibition (**Chapter 3** and **Chapter 4**), and clarifications of discrepancies that have been identified since the exhibition of the EIS (**Chapter 5**). The environmental management measures for the project, including any updated or additional measures are also included in **Chapter 6**.



**Figure 1-3** Approval process under Part 5, Division 5.2 of the EP&A Act and amendment report process

## 2. Submissions received

### 2.1 Submitters

A total of 51 submissions were received by DPIE during exhibition of the EIS by 50 submitters (one submitter provided two submissions). The 50 submitters were comprised of:

- 23 individual community members
- Five (5) special interest groups or businesses
- 22 government agencies, local council or utility providers.

Each submission was assigned an individual submitter identification number by DPIE. These numbers are shown in **Table 3-1** and **Table 4-1**.

### 2.2 Overview of the issues raised

Each submission has been individually examined to properly understand each of the issues being raised. The issues raised in each submission have been extracted and collated, and corresponding responses to the issues have been provided. The issues raised and TfNSW responses to these issues form the basis of **Chapter 3** and **Chapter 4**.

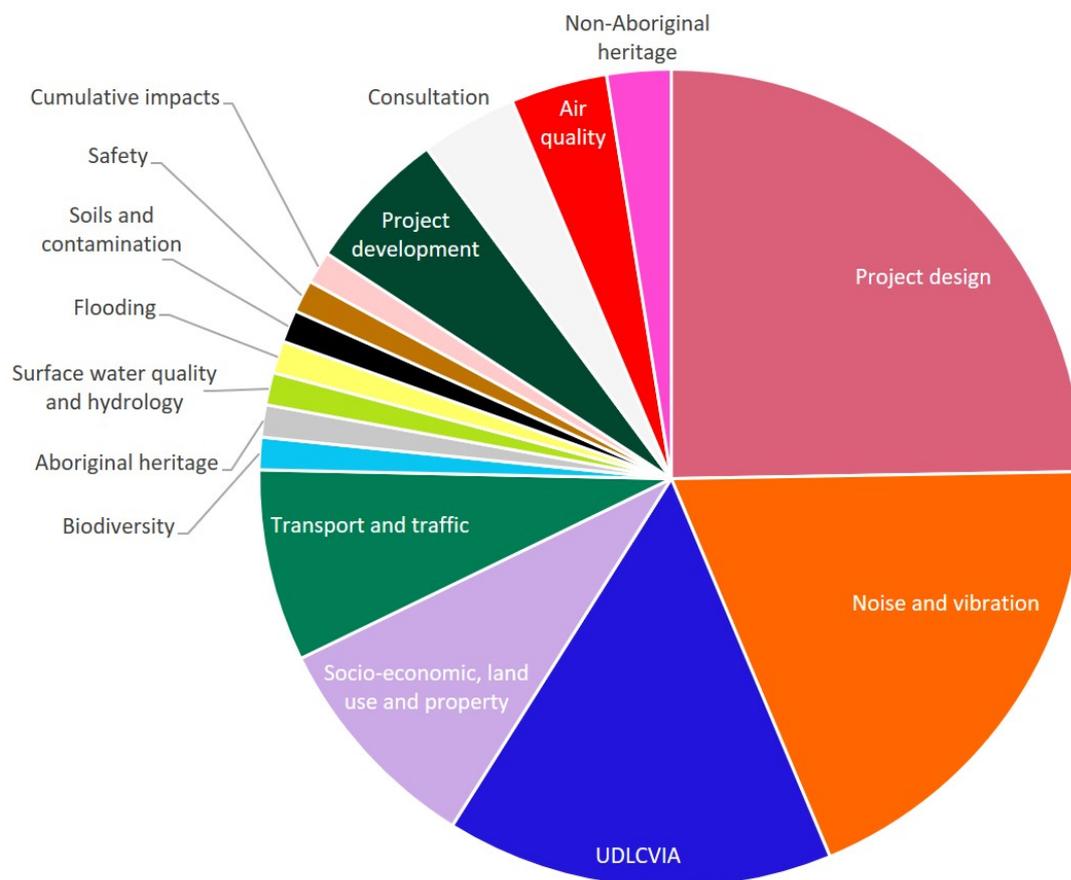
Of the 51 submissions received, 24 per cent of submitters recorded their position on the project via the DPIE website. Of these submitters, 16 per cent were in objection to the project and eight per cent were in support of the project. The majority of submitters (76 per cent) did not offer a position.

#### 2.2.1 Community, special interest groups and businesses

**Chapter 3** documents the submissions received from community, special interest groups and businesses. A summary of the main issues raised include:

- The development of the project and consideration of design alternatives, particularly focusing on the limited number of lanes, the location and design of intersections and entry/exit ramps, and traffic congestion
- Noise and vibration impacts, particularly in relation to future road traffic impacts of the proposed entry/exit ramps at the M7 Motorway
- Urban design, landscape character and visual impacts related to the structural elements of the projects, in particular Cecil Hills residents being exposed to artificial light from the motorway and the location and height of ramps
- Socio-economic impacts associated with access to private properties, land fragmentation, impacts to local businesses and property value and compensation concerns.

**Figure 2-1** shows a more detailed breakdown of the issues raised by the community, special interest groups and businesses.



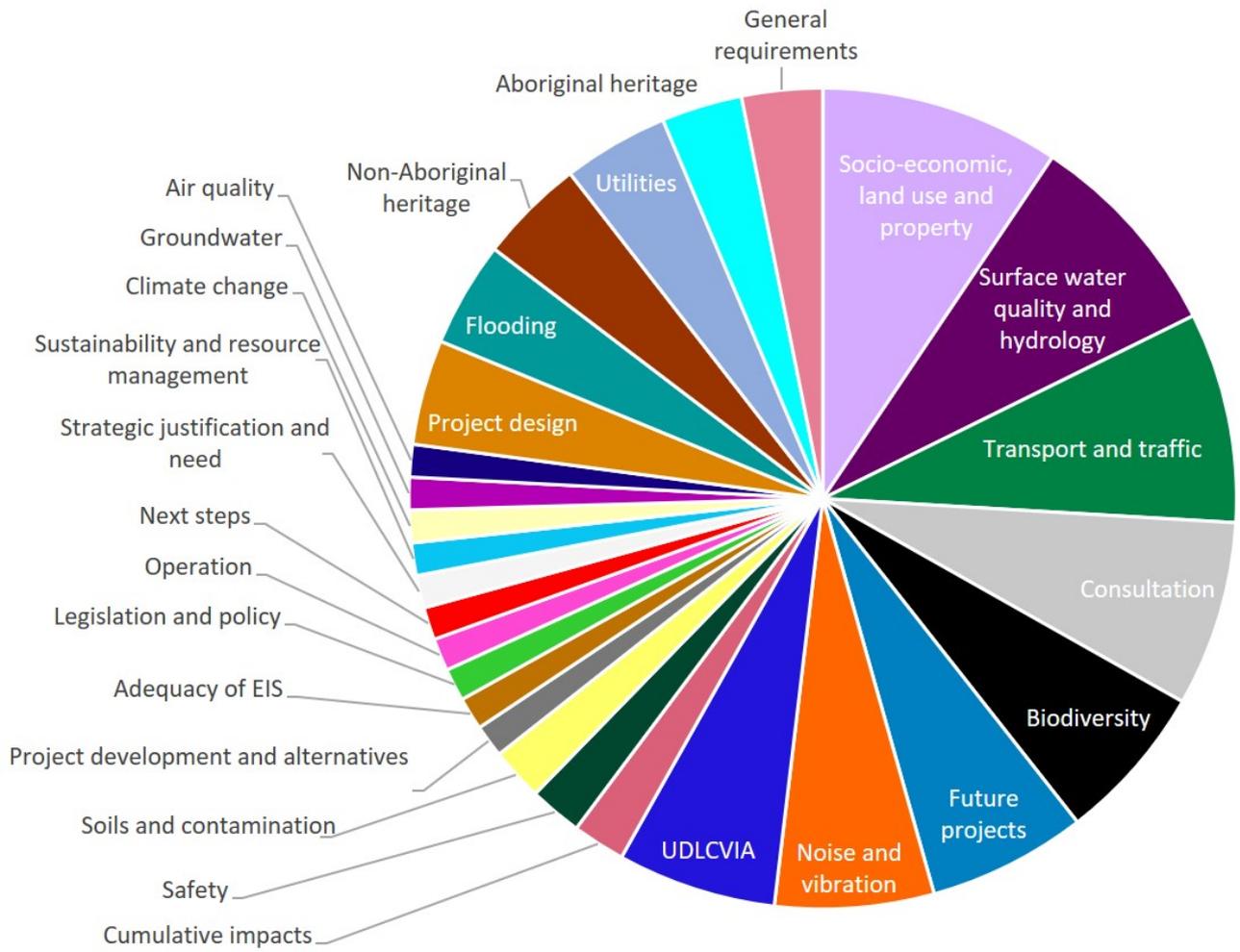
**Figure 2-1** Issues raised by community, special interest groups and businesses

## 2.2.2 Government agencies, local council and utility providers

**Chapter 4** documents the submissions received from government agencies, local council and utility providers. A summary of the main issues raised include:

- Socio-economic concerns regarding the retainment of access to private properties, impacts of land fragmentation, land acquisition, and disruptions to local businesses
- Surface water quality and hydrology impacts, particularly regarding the adjustment/realignment of creeks and impacts to the quality of water in bulk water supply infrastructure
- Impacts of the project to transport and traffic, particularly in relation to the design of the shared user path, accommodation for traffic incidents and traffic modelling assessment methodology
- Government agencies, local council and utility providers requested to be consulted on future impacts to private property and future land uses during detailed design and construction.

**Figure 2-2** shows a more detailed breakdown of the issues raised by government agencies, local council and utility providers. The spread of issues raised were fairly even, with the main issues raised being socio-economic, land use and property impacts; surface water quality and hydrology considerations; and transport and traffic impacts.



**Figure 2-2** Issues raised by government agencies, local council and utility providers

## 3. Response to community, special interest groups and business submissions

### 3.1 Introduction

A total of 28 community submitters provided submissions comprising 23 individual community members and five from special interest groups or business.

A list of the community submissions is provided in **Table 3-1**, including where the issue has been addressed in this report. The community issues raised and TfNSW's response to these issues forms the basis of this chapter.

Of the 28 community submissions, seven submitters either marked 'support' as the classification of their submission or mentioned support for the project within their submission.

**Chapter 4** addresses the 22 submissions received from government agencies, local council and utility providers which are assessed and responded to separately.

**Table 3-1** List of community submitters

Submitter	Submission Number	Section number where issues are addressed
Individual	1	<b>3.6.3</b>
Individual	2	<b>3.2, 3.3.1, 3.3.2, 3.6.1, 3.6.6</b>
Individual	3	This submission noted support for the project so has not been discussed further.
Individual	4	<b>3.3.1</b>
Individual	5	<b>3.7.1, 3.11.2</b>
Individual	6	<b>3.3.1</b>
Individual	7	<b>3.2, 3.3.2, 3.7.1, 3.8.2, 3.11.2</b>
Individual	8	<b>3.3.2, 3.4.1, 3.5.1, 3.6.2, 3.7.1, 3.8.4, 3.11.2, 3.15.1</b>
Individual	9	<b>3.8.5</b>
Individual	10	<b>3.3.2, 3.3.3, 3.7.1, 3.11.2</b>
Individual	11	<b>3.3.2, 3.7.1, 3.11.2</b>
Individual	12	<b>3.3.1, 3.3.2</b>
Individual	13	<b>3.3.2, 3.7.1, 3.11.2</b>
Individual	16	<b>3.3.2, 3.7.1, 3.11.2</b>

Submitter	Submission Number	Section number where issues are addressed
Business (Celestino Pty Ltd)	17	3.3.1, 3.3.2, 3.6.1, 3.6.2, 3.6.4
Special interest group (Bicycle NSW)	18	3.3.4, 3.16.1
Individual	21	3.2, 3.3.2, 3.11.2
Individual	22	3.2, 3.3.2, 3.11.2
Individual	23	3.2, 3.3.2, 3.11.2
Individual	25	3.3.3
Individual	26	3.2, 3.3.1
Business (University of Sydney)	33	3.3.2, 3.8.1, 3.8.3, 3.8.6, 3.10.1
Business (Boyuan Holdings Limited)	36	3.2, 3.3.2, 3.3.5, 3.6.4, 3.6.5, 3.6.7, 3.7.1, 3.8.1, 3.8.3, 3.8.5, 3.8.6, 3.8.7, 3.9.1, 3.10.2, 3.11.1, 3.11.2, 3.12.1, 3.13.1, 3.14.1, 3.15.1, 3.17.1
Business (Mirvac)	37	3.3.2, 3.8.6
Individual	38	3.3.2, 3.7.1, 3.11.2, 3.15.1
Individual	39	3.3.2, 3.3.3, 3.6.2, 3.7.1, 3.11.2
Individual	40	3.3.2, 3.3.3, 3.7.1, 3.11.2
Individual	41	3.3.2, 3.7.1, 3.8.2, 3.11.2

## 3.2 Project development and alternatives

### 3.2.1.1 Submission number(s)

2, 7, 21, 22, 23, 26, 36

### 3.2.1.2 Issue description

The submitters raised the following issues:

#### Project alternatives – Elizabeth Drive upgrade

- Request to build the project as an upgrade of the existing Elizabeth Drive, as Elizabeth Drive is already an established main road

### **Alignment alternatives**

- Concerns about the location of the start of the project and preference of original choice of the start of the motorway being further southbound of Elizabeth Drive; the submitters believed that the choice was based on not wanting to remove trees rather than the concerns of the residents
- Request for the preferred route alignment announced in November 2016 be reconsidered to minimise the amount of land acquired by TfNSW for the operational footprint, to avoid unnecessary land fragmentation and to better align with the airport access road
- One submitter was disappointed that their original proposed alignment for the project was not considered in the final alignment

### **Intersection and entry/exit ramp**

- Concern that the project did not consider having all infrastructure on the western side of the M7 Motorway to avoid impacts on Cecil Hills residents and that the future developments of Western Sydney Parklands were given priority over these residents

### **Public transport provisions**

- Concern regarding the lack of public transport links and lack of consideration of public transport during the development of the design.

## **3.2.1.3 Response**

### **Project alternatives – Elizabeth Drive upgrade**

In Section 4.1.2 of the EIS, the option to upgrade Elizabeth Drive as an alternative to the project was considered. This option would involve upgrading the existing Elizabeth Drive from a two-lane undivided road to a dual carriageway (two lanes in each direction) arterial road.

A traffic assessment completed as part of the strategic business case demonstrated that there would be insufficient capacity along Elizabeth Drive to cater for future traffic flow and would therefore result in less reliable journeys. This option would also not meet the Western Sydney Infrastructure Plan (WSIP) program objective of providing resilient transport connections to the Western Sydney International Airport site or the TfNSW project objective of providing a high standard connection to the Western Sydney International Airport. Therefore this option was not considered a feasible or long-term alternative to the project. While the traffic assessment indicated the project is needed (as the upgrade of Elizabeth Drive alone does not provide sufficient capacity), the upgrade of Elizabeth Drive is currently being investigated by TfNSW as a separate project to support the Western Sydney Aerotropolis and related planned development in the region.

### **Alignment alternatives**

TfNSW acknowledges the preference by a number of submitters for the preferred route announced in November 2016 and one submitter requesting reconsideration of their alternative alignment for the project.

Following the announcement of the preferred route option, two strategic planning documents were prepared, namely the draft South District Plan by the Greater Sydney Commission (2018) and the Southern Parklands Framework by the Western Sydney Parklands Trust (WSPT) (2018b). These two plans outlined the future land use within the area of the project. It was identified that the preferred route option was in direct conflict with the future land use within Western Sydney Parklands.

In response to this conflict, three alternative route options were developed which are shown in Section 4.6.2 of the EIS. The three alternative route options were assessed in a value management workshop with representatives from a broad range of stakeholders using the following criteria:

- Project delivery
- Land use
- Community
- Environment and heritage
- Functionality.

Based on the relative overall performance against the selection criteria, option 3 was recommended as the refined preferred corridor as it would:

- Deliver on the vision for the Western Parkland City
- Best meet the overall project objectives for the community in the Parklands
- Provide the best integrated land use and transport option
- Maintain the integrity of Western Sydney Parklands for future generations
- Protect scenic and cultural landscapes by locating the new infrastructure closer to disturbed areas and existing infrastructure
- Reduce community severance.

As demonstrated above, the selection of the refined preferred corridor considered both biodiversity and land fragmentation. Further details on the evaluation against criteria can be found in the Value Management Report: Eastern Section of the M12 Motorway (Roads and Maritime 2018a). Impacts associated with land fragmentation is discussed further in **Section 3.8.1.3**.

Further, the alternative alignment for the project presented to TfNSW by one submitter in 2018, was not progressed for the following reasons:

- This option would impact eight property owners not previously impacted by project
- This option would increase the impact to one heritage item: Fleurs Radio Telescope site
- This option does not take into account the future transport projects that integrate with the project
- This option would increase impact to endangered/critically endangered ecological communities
- This option would require a larger bridge structure over Luddenham Road
- This option does not consider the additional impacts to properties either side.

### **Intersection and entry/exit ramp**

TfNSW acknowledges the concern from submitters in relation to the location of the M7 Motorway entry/exit ramps, particularly near Cecil Hills, and the desire to change the proposed design and location of the ramps.

As discussed above, the project design and route selection has been an iterative process. Several options for the M7 Motorway interchange with the M12 Motorway were investigated. The following design aspects were considered:

- Ramp lengths and configuration
- Tie-in locations
- Merging and safety

- Tie-ins to the toll road of the M7 Motorway
- Connection to Wallgrove Road.

The route selection through the Western Sydney Parklands and current location of the M7 Motorway southern exit ramp was driven by a number of factors, with the current option providing the best overall performance against the selection criteria.

In addition, as discussed in Section 7.1.3 of the EIS and shown on Figure 7-5 of the EIS, an existing Biobank site (ID number 119) is located within Western Sydney Parklands, south-west of the M7 Motorway and Elizabeth Drive intersection. A Biobank site is an area that is conserved and managed to enhance and protect biodiversity values and is subject to a Biobanking agreement under Part 7A Division 2 of the *Threatened Species Conservation Act 1995* which continues in force under the *Biodiversity Conservation Act 2016*. The location of the southbound M7 Motorway ramp has been designed to avoid the existing site as much as possible.

### Public transport provisions

Bus services would use the project to access the Western Sydney Aerotropolis and Western Sydney International Airport however there would be no specific allowance for public transport such as dedicated bus lanes. TfNSW is taking an integrated approach by planning for the long-term transport needs of western Sydney by identifying and protecting corridors of land for future transport infrastructure, including the Outer Sydney Orbital motorway, and the proposed Sydney Metro – Western Sydney Airport, and their connections to the Western Sydney International Airport.

As outlined in the Draft Western Sydney Aerotropolis Plan (WSPP 2019) public transport services will be staged within the Western Sydney Aerotropolis and be provided by others. Initial services on the proposed Sydney Metro – Western Sydney Airport (Stage 1) and rapid bus services linking Liverpool, Penrith and Campbelltown with the Airport and Aerotropolis Core would be supported by local services delivered in line with demand.

## 3.3 Project design

### 3.3.1 Road design

#### 3.3.1.1 Submission number(s)

2, 4, 6, 12, 17, 26

#### 3.3.1.2 Issue description

The submitters raised the following issues:

##### The Northern Road intersection

- Concern about the construction overlap with The Northern Road

##### Lane numbers

- Concern about the limited number of lanes that would be provided at the opening of the project and the additional costs and disruptions associated with future widening

### **Pavement material**

- Concern regarding the pavement design and the suitability of the road material with regards to safety, vehicle damage and maintenance; request for the road surface to be laid in concrete only

### **Adams Road**

- Request for more detailed justification for the realignment of Adams Road and identification of how the existing local road function of Adams Road and Luddenham Road would be maintained.

### **3.3.1.3 Response**

#### **The Northern Road intersection**

In consideration of the submissions relating to the Northern Road intersection, TfNSW proposes to amend the project, so that the construction of The Northern Road and M12 Motorway signalised intersection will now be carried out as part of The Northern Road Upgrade project – stage 6. Constructing the intersection and stub as part of The Northern Road Upgrade project would have the following benefits:

- Avoid M12 Motorway construction work adversely impacting operation of The Northern Road
- Safety risks and traffic disruptions would be avoided
- Construction efficiencies and improved cost effectiveness by completing the intersection and stub as part of the current The Northern Road main carriageway work.

The amended project would still be responsible for some infrastructure work at The Northern Road and M12 Motorway signalised intersection, including pavement work, line marking and the installation of traffic signals, road signs and lighting. This is discussed in Chapter 3 of the amendment report.

#### **Lane numbers**

The project would be built as a dual-carriageway motorway with two lanes in each direction and a central median to separate opposing traffic flows. The project design accommodates for a future additional lane in each direction between the Western Sydney International Airport interchange and the M7 Motorway interchange.

The traffic assessment is not showing demand levels that warrant the additional lane to be implemented within ten years of the opening of the project. The addition of lanes would therefore be provided in the future based on future demand, need and available funding. TfNSW acknowledges that the provision of additional lanes at a future time would incur disruptions. The provision of additional lanes would be subject to a separate environmental assessment that would include environmental management measures to mitigate environmental impacts associated with the work.

#### **Pavement material**

The road pavement for the project would likely vary for each of the following components of the project:

- The main carriageway
- Entry and exit ramps
- Intersections and interchanges

- Arterial and local roads
- Property access roads
- Shared user paths and footpaths
- Median islands.

Several pavement options may be suitable for the main carriageway, such as concrete pavement or dense graded asphalt. The choice of pavement type would be based on material availability, local experience, noise mitigation and whole of life cost.

Pavements would be designed to minimise material wastage, and would include reusing or recycling pavement where practicable. Should asphalt be used, the specification that would be used for the project would allow for the incorporation of recycled asphalt into the pavement mixture. Where the project interfaces with local roads as part of widening or realignment work, the pavement would match the existing pavement composition, as a minimum, subject to satisfying the pavement design life requirements of 40 years.

### **Adams Road**

The proposed realignment of Adams Road and Luddenham Road is not part of this project scope. Future realignment is being considered as part of the future upgrade of Elizabeth Drive. This work would be subject to a separate environmental impact assessment when the project is progressed, which would consider impacts to the function of Adams Road and Luddenham Road and provide appropriate management measures.

Further information on the proposed Elizabeth Drive upgrade is provided at <https://www.rms.nsw.gov.au/projects/elizabeth-drive-upgrade/index.html>.

## **3.3.2 Intersection and entry/exit ramps**

### **3.3.2.1 Submission number(s)**

2, 7, 8, 10, 11, 12, 13, 16, 17, 21, 22, 23, 33, 36, 37, 38, 39, 40, 41

### **3.3.2.2 Issue description**

The submitters raised the following concerns in relation to the proposed intersections and entry/exit ramps:

#### **The Northern Road intersection**

- Concerns about the signalised intersection at The Northern Road and the M12 Motorway causing traffic congestion and delays
- Request for the project to link to The Northern Road via dedicated exit/entry ramps, flyover or a clover-style leaf intersection instead of a signalised T-intersection

#### **M12 Motorway / M7 Motorway entry and exit ramp**

- Concern that consideration has not been given to design speed or length of the M12 Motorway exit ramp to the M7 Motorway
- Concern about the M12 Motorway / M7 Motorway ramps encroaching across and above the ridgeline and creating unwanted visual impacts, noise, and air pollution for the residents of Cecil Hills

- The following requests have been made in relation to the M12 Motorway / M7 Motorway southbound ramp:
  - Ramp should be closer to the M7 Motorway to maintain the ridgeline as a barrier for light and sound pollution
  - The ramp is lowered
  - Amending of the design to camber the design of the off ramp
  - The incorporation of a tunnel into the design

#### **Elizabeth Drive and M12 Motorway**

- Concern that the grade separation at the intersection between the M12 Motorway and Elizabeth Drive does not allow for users of the motorway to easily access Elizabeth Drive and the surrounding employment lands
- Request for entry and exit ramps to be provided to connect the realigned Elizabeth Drive to the M12 Motorway

#### **Elizabeth Drive and Western Sydney International Airport**

- Concern that the two signalised intersections on Elizabeth Drive east and west of the airport access road which were proposed in the EIS are noted as future projects that will be carried out by others with no timeline provided as to when or who will carry out this work; these intersections must form part of the project scope of work for McGarvie Smith Farm and the Northern Gateway Precinct to be accessed
- Request for the project to consider the intent of Stage 1 Land Use and Infrastructure Implementation Plan (LUIIP) (and the future Stage 2 LUIIP) to inform the design, to ensure that access and connectivity priorities do not impede the economic function and viability of the Western Sydney Aerotropolis
- Request for a direct connection to Elizabeth Drive at the Western Sydney International Airport

#### **Mamre Road / Devonshire Road**

- Seeking clarification as to why the M12 Motorway / Mamre Road grade separated interchange has not been considered in the current design scope
- Request for a connection between the M12 Motorway and Elizabeth Drive to be developed at the Devonshire/Mamre Road intersection
- An exit ramp and an entry ramp to Mamre Road would act to alleviate increasing traffic and associated traffic noise along Elizabeth Drive.

### **3.3.2.3 Response**

The project is being designed to include interchanges at appropriate intervals in order to maintain optimal traffic operation. Motorists can access the M12 Motorway from the M7 Motorway interchange to the east or from The Northern Road to the west. The overall project design was selected based on a detailed assessment of options that would deliver the best option while balancing environmental impact, cost, safety and design constraints, as discussed in detail in Chapter 4 of the EIS. The development of specific intersections and entry/exit ramps are discussed in the following sections.

## The Northern Road intersection

The layout of The Northern Road intersection is driven by future transport corridors in this area and the first 500 metres of the M12 Motorway becoming an exit ramp to The Northern Road in the proposed Outer Sydney Orbital plan. Given these considerations, and the forecast traffic volumes using the intersection, a signalised T-junction was selected as the best option.

## M12 Motorway / M7 Motorway entry and exit ramps

TfNSW acknowledges the concern from submitters in relation to the location and design of the M7 Motorway entry/exit ramps, particularly near Cecil Hills.

As discussed in **Section 3.2.1.3**, the location of the entry and exit ramps has been an iterative process. A grade separated interchange provides a free-flowing connection for all movements between the M12 Motorway and the M7 Motorway. This interchange option was selected following a value management process that assessed a range of criteria including project delivery, land use, community, environmental and functionality factors. The grade separated interchange was considered to be the preferred option on balance of these factors. The inclusion of a tunnel as part of the project would have considerable construction, operation and maintenance costs, and is not considered a feasible option as part of the project design.

TfNSW acknowledges the request from submitters to lower the interchange at this location. The M7 Motorway interchange geometry is constrained due to significant vertical clearances requirement from the Eastern Gas Pipeline, vertical clearance of the ramps, Elizabeth Drive and the M7 Motorway, as well as the M7 Motorway existing geometry.

Compared with the EIS, the amended project has lowered the M7 Motorway southbound exit to M12 Motorway westbound and for the M7 Motorway southbound entry from M12 Motorway eastbound, near Cecil Hills. This is discussed further in Section 3.1 of the amendment report. Where possible, the design of the ramps (including the camber of the ramps) would continue to be refined during detailed design to minimise noise and visual impacts on Cecil Hills residents.

TfNSW acknowledges that the exit and entry ramps are located in an urban environment surrounded by other road noise contributors (ie Elizabeth Drive and the M7 Motorway) and in close proximity to residents. Management measures to manage noise and visual impacts associated with the operation of the project (including changes associated with the amended project) are discussed further in **Section 3.11** and **Section 3.7.1.3**.

## Elizabeth Drive and M12 Motorway

Two design options for the motorway-to-motorway interchange at the M7 Motorway are being considered as part of the amended project. The options are as follows:

- Option 1 – Without Elizabeth Drive connection
  - Interchange provides entry and exit ramps between the M12 Motorway and the M7 Motorway; in addition, it would maintain the existing connection of the M7 Motorway to Elizabeth Drive with new entry and exit ramp
- Option 2 – With Elizabeth Drive connection
  - Interchange as per option 1 and also provides entry and exit ramps between the M12 Motorway and Elizabeth Drive, Cecil Road and Wallgrove Road.

The key features and impacts of each option are discussed and assessed in Section 2.2 and Section 3.1.2 of the amendment report. A key benefit of option 2 is the provision of a toll-free connection between Liverpool and the Western Sydney International Airport.

The decision on which option would be built is dependent on funding available to include the Elizabeth Drive connection, however the environmental impacts of each option have been assessed. This would be defined during the detailed design phase of the project and prior to the award of the construction contract. If option 1 is progressed due to funding limitations, the M12 Motorway may be accessed via The Northern Road to the west and the M7 Motorway to the east.

### **Elizabeth Drive and Western Sydney International Airport**

Subject to available funding from WSA Co and adjoining developers, the amended project would incorporate the two new signalised intersections into the Western Sydney International Airport that were previously considered only as potential future options, with the eastern intersection tying into the realigned section of Badgerys Creek Road and the secondary airport access road to the west. The two new signalised intersections would improve access to the Western Sydney International Airport and include provisions for future connection to potential developments north of Elizabeth Drive, such as Northern Gateway. Further details on this amendment is provided in Section 3.2 of the amendment report.

The Stage 1 of the LUIP has been considered throughout the concept design of the project in addition to ongoing consultation with the Greater Sydney Commission. The detailed design of the project would continue to consider updated land use and planning information as it is released including the next stage of the LUIP which is the Draft Western Sydney Aerotropolis Plan (released in December 2019). Consultation with Greater Sydney Commission would be ongoing through detailed design.

### **Mamre Road / Devonshire Road**

As described in the Draft Western Sydney Aerotropolis Plan (WSPP 2019), the Mamre Road Precinct is part of the Western Sydney Employment Area (WSEA) and will be connected to the potential Western Sydney Freight Line. Future road upgrades would seek to promote connectivity between the WSEA and other precincts in the Aerotropolis.

A Mamre Road and Devonshire Road north–south connection is outside the current scope of the project. Funding is not currently available to deliver these connections. TfNSW has started to plan for the future, however by investigating the delivery of exit and entry ramps at these locations. The project has been designed to allow for a potential connection between Mamre Road and Devonshire Road. The existing design of the project would enable an interchange to be constructed without significantly impacting motorway traffic.

Road connectivity to support the Western Sydney Aerotropolis, South West Growth Centre and other planned employment precincts would be a function delivered by a combination of the motorway, arterial road, and the local road network. Future road network plans are also being developed by WSPP. TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network.

## **3.3.3 Tolling**

### **3.3.3.1 Submission number(s)**

10, 25, 39, 40

### **3.3.3.2 Issue description**

Concern about the toll onto the M7 Motorway, particularly after the Government made a non-toll commitment. Request for non-tolled entry and exit points at the eastern end of the M12 Motorway. Suggestions at either Wallgrove Road or Elizabeth Drive near the M7 Motorway terminus to provide an alternative non-tolled route.

### **3.3.3.3 Response**

Two design options for the motorway-to-motorway interchange at the M7 Motorway are now being considered as part of the amended project. The options are described in **Section 3.3.2.3** above.

The key features of each option are discussed in Section 2.2 and Section 3.1.2 of the amendment report. A key benefit of option 2 is the provision of a toll-free connection between Liverpool and the Western Sydney International Airport.

The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection. This would be defined during the detailed design phase of the project and prior to the award of the construction contract. If option 1 is progressed due to funding limitations, the M12 Motorway may be accessed via The Northern Road to the west and the M7 Motorway to the east.

## **3.3.4 Shared user path**

### **3.3.4.1 Submission number(s)**

18

### **3.3.4.2 Issue description**

Bicycle NSW requested that fully separated cycling and walking facilities be developed along the project shared user path.

Bicycle NSW also requested that the realignment of the off-road shared user path on the M7 Motorway north and south of Elizabeth Drive be prioritised, and that a direct active transport connection between airport terminals at Western Sydney International Airport be developed.

### **3.3.4.3 Response**

The project would provide an off-road shared user path alongside the proposed motorway corridor from The Northern Road to Range Road. A fully separated path for cyclists from the pedestrian path would not be provided for the project. TfNSW is working in collaboration with Western Sydney Parklands to deliver a shared user path between Range Road and the existing M7 Motorway shared user path. TfNSW would fund the work and Western Sydney Parklands would assess and deliver the shared user path.

The existing shared user path along the M7 Motorway would need to be relocated to the east of the M7 Motorway for about two kilometres between Villiers Road and south of Elizabeth Drive to facilitate construction of the motorway to motorway interchange at the M7 Motorway. The realigned path is currently planned to be constructed and opened to pedestrians and cyclists before the existing path is decommissioned to maintain access along the length of the facility. Safety barriers would separate users from the construction zone during construction of the new path and the

decommissioning of the old path to provide safe passage during the realignment work. At tie-in locations, any potential temporary disruptions would be managed so that users would be able to continue their journey.

The M12 Motorway would provide a shared path connection to the boundary of the Western Sydney International Airport. The provision of active transport corridors within the Western Sydney International Airport is outside the scope of the project and would need to be driven by other agencies such as WSA Co, the Government Business Enterprise established to build the Western Sydney International Airport. Further details on planning within the Western Sydney Aerotropolis would be provided in Western Sydney Planning Package documentation available at: <https://pp.planningportal.nsw.gov.au/draftplans/under-consideration/western-sydney-aerotropolis-planning-package>.

### 3.3.5 Utilities

#### **3.3.5.1 Submission number(s)**

36

#### **3.3.5.2 Issue description**

Request that details of all adjustments to existing infrastructure on their landholding, including the relocation of utility services and any other relocation of services be provided to the submitter. The submitter also requested to the M12 Motorway utilities to service severed land parcels. The submitter opposes the project and is seeking refinement.

#### **3.3.5.3 Response**

The project would impact on several utilities and services and some may need to be modified, protected or relocated, including on land owned by the submitter. TfNSW is carrying out ongoing consultation with utility providers with a view to refining potential utility modifications and utility protection measures during the detailed design process. During construction, utility works would be carried out in accordance with the utilities strategy prepared for the project in consultation with asset owners.

TfNSW would continue to consult with land owners and utility providers regarding any adjustments to existing infrastructure on their landholdings and potential future connections.

## 3.4 Consultation

### 3.4.1 Level and quality of consultation

#### **3.4.1.1 Submission number(s)**

8

#### **3.4.1.2 Issue description**

Concern about the lack of consultation with the residents of Cecil Hills. The level and quality of consultation thus far in the form of letter drops has been unsatisfactory.

### 3.4.1.3 Response

As described in Chapter 6 of the EIS and **Section 1.4** above, community consultation was carried out during the project development stage (between 2015 and August 2019) to provide community members, including Cecil Hills residents, with the opportunity to learn about the project and provide feedback before the public exhibition of the EIS.

Consultation primarily included four main stages:

- 13 July – 14 August 2015: An announcement was made of the start of the M12 Motorway investigations and study area, as well as the start of the strategic route options analysis study. Feedback was sought from the community on the constraints near the project and for input into the strategic route options.
- 15 February – 11 March 2016: Community feedback was sought on the eight shortlisted route options for the project for incorporation into the final route selection.
- November 2016 – A community newsletter that announced the selection of the modified orange option as the preferred corridor route.
- 22 February – 23 March 2018: Community feedback was sought on the modified preferred corridor, the preliminary design of the project and the preliminary access strategy.

Further information on the consultation activities and communication strategies carried out prior to public exhibition are provided in Table 6-2 of the EIS.

In addition, a number of ongoing engagement channels have been established for the project to seek input from the community and key stakeholders to facilitate engagement as the project develops. These included:

- A project email address to receive feedback from the community and provide updates to subscribers – [m12motorway@rms.nsw.gov.au](mailto:m12motorway@rms.nsw.gov.au)
- A toll-free project phone number for feedback, enquiries and complaints – 1800 517 155
- A postal address to receive written feedback (M12 Motorway, PO Box 973 Parramatta NSW 2124)
- A project website ([www.rms.nsw.gov.au/m12](http://www.rms.nsw.gov.au/m12)) that provides background information on the project, along with maps, project updates and announcements, and information on how to provide feedback on the project.

TfNSW has continued to engage with the local community, government agencies, councils, utility providers and business and industry stakeholders following the exhibition of the EIS. This is discussed further in Chapter 5 of the amendment report.

TfNSW would continue to update the local community and identified stakeholders about relevant activities and other project updates using the following engagement channels:

- Website updates
- Notifications to affected receivers
- One-on-one landowner consultation.

During construction, a dedicated community relations team comprised of both TfNSW and contractor staff would continue to update the community on project activities to facilitate communication and feedback between the project team and the community.

## 3.5 Biodiversity

### 3.5.1 Impacts to native vegetation and fauna

#### **3.5.1.1 Submission number(s)**

8

#### **3.5.1.2 Issue description**

A submitter was concerned about the general impacts of the project on local plant species and wildlife in Cecil Hills.

#### **3.5.1.3 Response**

Native vegetation, threatened flora species and threatened species habitat removal would be minimised where practicable through detailed design. Section 7.1.4 of the EIS discussed potential impacts to local biodiversity associated with the project.

Woodland habitat along the east and west sides of the M7 Motorway currently provides some limited north–south habitat connectivity. However, the M7 Motorway and Elizabeth Drive already create significant barriers to habitat connectivity and impact regional habitat corridors in the study area. Clearing of vegetation within the construction footprint is anticipated to result in the creation of an additional gap in connectivity.

Impacts to native vegetation and fauna would be managed through the preparation of a construction flora and fauna management plan for the project. This plan would outline requirements for clearing limits, exclusion fencing, pre-clearance surveys, vegetation clearing procedures, unexpected finds procedures, weed management and monitoring, de-watering processes, aquatic fauna relocation and the provision of supplementary fauna habitat (eg nest boxes).

Revegetation across the project would be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) (Guide 3: Re-establishment of native vegetation) and the urban design landscape plan prepared for the project. Habitat would also be replaced or re-instated in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 5: Re-use of woody debris and bushrock and Guide 8: Nest boxes), incorporated into a Habitat Compensation Plan.

Specifically, the project would implement connectivity measures in accordance with Wildlife Connectivity Guidelines for Road Projects (TfNSW, under preparation). Fencing would be located to reduce roadkill of fauna species and funnel animals to creek crossings where safe passage would be available. Detailed design would retain fauna passage at all four main creek lines (Cosgroves, South, Kemps and Badgerys creeks).

The project would also focus on maintaining connectivity along riparian areas, where there is limited, current connectivity. Upon completion, riparian vegetation removed for the purposes of construction would be replaced and the area rehabilitated with the aim to improve the existing conditions where feasible. Detailed design would retain fauna passage at all four main creek lines (Cosgroves, South, Kemps and Badgerys creeks).

## 3.6 Transport and traffic

### 3.6.1 Assessment methodology

#### **3.6.1.1 Submission number(s)**

2, 17

#### **3.6.1.2 Issue description**

The submitters raised the following issues:

- Clarification on whether the transport and traffic assessment assessed traffic snarl areas, such as the M7 Motorway to M4 Motorway link section and M7 Motorway to M5 Motorway link, or a Computational Fluid Dynamics (CFD) traffic flow analysis was carried out that included inputs for incidents, slow traffic and other scenarios
- Concern that the traffic volume forecasts used in the transport and traffic assessment report are outdated given the land use forecasts adopted within the Greater Sydney Regional Plan, Western Parkland City District Plan and Future Transport 2026 for the Northern Gateway.

#### **3.6.1.3 Response**

The transport and traffic assessment has considered the interaction of the project with other roads within the network in the assessment of traffic flows (see Figure 7-16 in the EIS). Although the M7 Motorway / M4 Motorway and M7 Motorway / M5 Motorway interchanges weren't included in the level of service assessment, the impact on releasing vehicles into the modelled area was an important consideration. Impacts on the M7 Motorway north and south of the project and M4 Motorway link were also included in the assessment.

Consideration of traffic snarl areas at the M7 Motorway to M4 Motorway interchanges and M7 Motorway to M5 Motorway interchanges were outside the scope of the assessment. CFD modelling was carried out as part of the transport and traffic assessment.

The transport modelling used an adjusted land use (LU) 14 forecast scenario for the wider area model for the South Western Growth Area, and included the population and employment forecasts for the new airport transport corridor. This was the available released forecast data at the time of writing the EIS. Land use data for the Western Sydney Aerotropolis was not available at the time, however traffic demand from the airport and business parks have been factored into the transport modelling for the project.

A transport and traffic updated technical report has been prepared for the amended project and discussed in Section 6.2 of the amendment report. This is to account for the updated release of updated official forecast data. The traffic model uses the updated 2016 land use data (LU16) which is the current data set at time of amendment report preparation. Traffic demand from the airport and business parks provided by WSA Co has been factored into the transport modelling for the project.

## 3.6.2 Impacts on traffic flows

### 3.6.2.1 Submission number(s)

8, 17, 39

### 3.6.2.2 Issue description

The submitters raised the following issues:

#### Traffic flows on Elizabeth Drive

- Concern about the increased traffic along Elizabeth Drive and connecting roads that will result from vehicles avoiding tolled roads

#### M7 Motorway congestion

- Concern about traffic congestion on the M7 Motorway, particularly at the Elizabeth Drive intersection, at peak times and the impact this will have to larger vehicles when the oncoming traffic impacts the speed of the exit ramp
- Request to consider locating an exit ramp from the M12 Motorway to the M7 Motorway in areas where the traffic may be less congested at peak times

#### Use of The Northern Road

- The results of the traffic analysis indicate increased delays along The Northern Road and additional delays from increased traffic travelling from the M12 Motorway
- Concern that this will reduce the attractiveness of The Northern Road as the primary north–south corridor through the Western City and Western Sydney Aerotropolis and increase traffic on Luddenham Road

#### Poor Level of Service at Adams Road/ Luddenham Road intersection

- Concern regarding the poor Level of Service at the Adams Road and Luddenham Road intersection and the absence of management measures to address this.

### 3.6.2.3 Response

#### Traffic flows on Elizabeth Drive

In the absence of the project and given the operation of the Western Sydney International Airport, the majority of arterial and motorway corridors including Elizabeth Drive would experience high delays at critical constraints in the network.

The transport and traffic assessment prepared for the EIS identified the following:

- Analysis of the road network performance under the 2026 and 2036 future horizon years shows that the project is required to allow forecast traffic volumes to access Western Sydney International Airport
- The project would result in the redistribution of traffic, primarily from Elizabeth Drive onto the M12 Motorway, with minimal impacts to other regional roads
- The project would reduce travel times and delays on Elizabeth Drive by providing a high-speed alternative to Elizabeth Drive between The Northern Road and the M7 Motorway, and to the Western Sydney International Airport

- The project would reduce the number of heavy vehicles that would need to use Elizabeth Drive for access to the Western Sydney International Airport or for travelling between the M7 Motorway and The Northern Road; this would improve road safety by reducing opposing-lane overtaking of heavy vehicles and the associated risk of head-on crashes
- The project would improve intersection performance along Elizabeth Drive between The Northern Road and Mamre Road. However, for intersections between Mamre Road and the M7 Motorway, improvements to intersection performance would be limited, as vehicles would not have access to the project as an alternative route.

As discussed in **Section 3.3.2.3**, two design options for the motorway-to-motorway interchange at the M7 Motorway are now being considered and assessed as part of the amended project. The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection.

A transport and traffic updated technical report has been prepared for the amended project and is summarised in Section 6.2 of the amendment report. The updated technical report uses an updated traffic model, which includes a more recent land use and demographics scenario (LU16), upgrades along the network, and changes in future demand growth.

The updated traffic model for the amended project and the model used for the EIS traffic assessment factored in that the M7 Motorway is tolled. Therefore the impact to Elizabeth Drive as a result of drivers avoiding the M7 Motorway and M12 Motorway has been considered in the traffic assessments in the EIS and the amendment report.

The NSW Government has recognised the need for future upgrades to Elizabeth Drive to support growth of the airport and surrounding Western Sydney Aerotropolis development. The NSW Government has allocated funds to investigate improvements to Elizabeth Drive between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham and work is commencing on concept design for this project shortly.

The assessment for the amended project identified the following:

- Improvements in intersection performance along Elizabeth Drive due to the amended project reducing traffic volumes along Elizabeth Drive
- Travel times on Elizabeth Drive between The Northern Road and the M7 Motorway would generally decrease with the amended project
- Overall volumes on Elizabeth Drive would remain unchanged by 2036, however, there would be localised increases and decreases
- Option 2 would result in more traffic using the amended project and less traffic using Elizabeth Drive; as well as more traffic using Cecil Road and Duff Road, compared to option 1; this is due to the increased connectivity to the local road network that option 2 provides
- When compared to the project as described in the EIS, overall vehicular volumes are lower in 2026 and in 2036 on Elizabeth Drive.

This is discussed in detail in Section 6.2 of the amendment report. Overall, the amended project would reduce travel times and delays on Elizabeth Drive by providing a high-speed alternative to Elizabeth Drive between The Northern Road and the M7 Motorway, thereby reducing traffic volumes on Elizabeth Drive and improving the functionality of this arterial road. Option 2 would provide better benefits when compared to option 1 due to the additional connection at Elizabeth Drive that would improve connectivity to the local road network.

Given the project would not operate as a tolled road, traffic modelling for the project as described in the EIS or the amended project has not investigated the use of alternative routes to avoid tolls.

## **M7 Motorway congestion**

TfNSW acknowledges concern about traffic congestion on the M7 Motorway, particularly at the Elizabeth Drive intersection, at peak times and the impact this would have to larger vehicles when the oncoming traffic impacts the speed of the exit ramp.

The existing M7 Motorway currently experiences high levels of congestion caused by the high volumes of heavy vehicles that use the M7 Motorway and are affected by uphill grades between the M5 Motorway and Elizabeth Drive which cause heavy vehicles to slow down.

Without the project, travel times on the M7 Motorway, particularly in the vicinity of Elizabeth Drive would increase substantially by 2026. This is a result of the existing capacity issues that are observed on the M7 Motorway between Hoxton Park Road and Elizabeth Drive. Steep grades, particularly northbound on approach to Elizabeth Drive, cause heavy vehicles to slow down. As traffic volumes increase along the M7 Motorway in these locations, increased delays are expected even under the existing reduced speed zones that operate in this area

With the project, the transport and traffic assessment report for the EIS identified that the M7 Motorway/Elizabeth Drive interchange would continue to perform poorly in the morning and evening peak period. While the project would improve the existing situation by reducing demand for traffic travelling between Western Sydney International Airport and the M7 Motorway through this interchange, the remaining demand for this intersection would still exist and therefore it would still exceed its capacity.

Travel times along the M7 Motorway would generally increase in the project scenario when compared to the 'do minimum' scenario in the 2026 morning peak. These generally small increases in travel time would be due to additional merging of traffic at the locations where the M12 Motorway interfaces with the M7 Motorway. This merging would generate additional delay, particularly in the northbound direction, however most of these delays would be reduced following the assumed widening of the M7 Motorway in the 2036 scenario, which reduces the conflict between merging traffic and traffic on the mainline.

Traffic modelling for the amended project identified that without the amended project the Elizabeth Drive / M7 Motorway interchange would reach capacity by 2026. With the amended project, for both design options, the M7 Motorway/ Elizabeth Drive interchange would perform better during the morning and evening peak period when compared to the project as described in the EIS. The improvement reflects the change to the demand growth in the updated traffic model (Sydney Strategic Motorway Planning Model (SMPM) (version 1.1)) that has resulted in forecast traffic volumes being lower as described in Section 3.1 of the amendment report.

Traffic modelling identified that, similar to the project as described in the EIS, travel times on the M7 Motorway would generally increase with the amended project in operation during the morning and evening peaks. Most of these delays would be reduced, however, following the assumed widening of the M7 Motorway by 2036, which would reduce the conflict between merging traffic and traffic in through lanes. When comparing travel times between option 1 (without Elizabeth Drive connection) and option 2 (with Elizabeth Drive connection), option 2 would generally result in increased travel times as a result of more traffic using the M7 Motorway. This is discussed in detail in Section 6.2 of the amendment report.

TfNSW would investigate the use of early congestion warning along the M12 Motorway via variable messaging signs and variable speed signs to assist in managing traffic speeds on the approach to and entry on to the M7 Motorway.

As discussed in **Section 3.3.2.3**, a potential Elizabeth Drive connection is being considered as part of the amended project subject to funding. The key features of each option are discussed in Section 2.2 and Section 3.1.2 of the amendment report.

A transport and traffic updated technical report has been prepared for the amended project and discussed in Section 6.2 of the amendment report.

TfNSW acknowledges the suggestion to relocate the exit ramp to an area with less traffic congestion, however, the location of the ramps has been selected based on a consideration of environmental impact, cost, safety and design constraints. Justification for the location of the M7 Motorway entry/exit ramps is provided in **Section 3.3.2.3**. Relocating the exit ramp from the M12 Motorway to the M7 Motorway to a different location as suggested would not have a material impact on traffic congestion as the interchange would allow for free-flow movement for traffic.

### **Use of The Northern Road**

The Northern Road is currently being upgraded to realign the road around the Western Sydney International Airport site and to increase its capacity from a single lane in each direction to at least two lanes in each direction.

As described in Chapter 7.2 of the EIS, traffic modelling for the project as described in the EIS identified that travel times on The Northern Road northbound between Elizabeth Drive and the M4 Motorway in the evening peak would increase with the project, due to the changes in access to the Western Sydney International Airport. Traffic modelling for the amended project, similar to the EIS, identified an increase in travel times in the evening peak.

Without the M12 Motorway, some traffic from Western Sydney International Airport would travel south via Western Road and Devonshire Road and north via Luddenham Road to access the Western Sydney Aerotropolis. These routes are more direct and generally free-flowing, while The Northern Road would have several signalised intersections along its length once the various upgrade stages are complete.

With the M12 Motorway, access to The Northern Road via the motorway would make The Northern Road a more attractive alternative than the Western Road, Devonshire Road and Luddenham Road, as the motorway would provide a high-speed, free-flowing connection. As such, vehicles would not be deterred from using The Northern Road as the primary north–south corridor through the Western Parkland City and Western Sydney Aerotropolis. When comparing travel times between option 1 (without Elizabeth Drive connection) and option 2 (with Elizabeth Drive connection), option 1 would generally result in increased travel times as a result of more traffic accessing Elizabeth Drive via The Northern Road. This is discussed in detail in Section 6.2 of the amendment report.

Future road network plans are outside the scope of this project but are being developed by the WSPP. TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network.

### **Poor Level of Service at Adams Road / Luddenham Road intersection**

In general, the project would improve intersection performance as it would reduce traffic volumes along Elizabeth Drive, which would reduce delays at intersections along Elizabeth Drive between the M7 Motorway and The Northern Road, including Adams Road/Luddenham Road intersection.

Traffic modelling for the project as described in the EIS identified intersection performance at Elizabeth Drive/Luddenham Road (220 metres west of Adams Road) would perform worse under the 2026 with project scenario, however, would perform better in the 2036 than if the project was not

built. Similarly, traffic modelling for the amended project identified that the intersection would perform at a lower level of service in the 2026 scenario (albeit better than the project as described in the EIS) and better in 2036 than if the amended project was not built. When comparing option 1 (without Elizabeth Drive connection) and option 2 (with Elizabeth Drive connection), option 2 would perform better than option 1 at the Elizabeth Drive / Luddenham Road intersection.

The proposed intersection work at Adams Road and Luddenham Road is not part of this project scope. Future intersection work is being considered as part of the future upgrade of Elizabeth Drive. This work would be subject to a separate environmental impact assessment when the project is progressed, which would consider impacts to the function of Adams Road and Luddenham Road and provide appropriate management measures.

Further information on the proposed Elizabeth Drive upgrade is provided at <https://www.rms.nsw.gov.au/projects/elizabeth-drive-upgrade/index.html>.

### 3.6.3 Road safety

#### 3.6.3.1 Submission number(s)

1

#### 3.6.3.2 Issue description

A submitter was concerned about road safety at the western end of the Motorway with the 100 kilometres per hour limit ending at a signalised intersection. The submitter recommended the implementation of road safety initiatives such as a red light speed camera until grade separation is built in the future.

#### 3.6.3.3 Response

The road speed at the western end of the M12 Motorway would be reduced to 80 kilometres per hour and then progressively reduced further on approach to The Northern Road intersection. This speed reduction would consider appropriate design requirements including sight lines. Other road safety initiatives and appropriate early warning devices, such as flashing lights or rumble strips, would be investigated as part of the detailed design.

### 3.6.4 Road network strategy

#### 3.6.4.1 Submission number(s)

17, 36

#### 3.6.4.2 Issue description

The submitters raised the following issues:

- Request that the regional freight movement be reduced within the local road network by improving access to the M12 Motorway from Elizabeth Drive
- Request for a clear strategy and road network plan to manage the impacts to the local road network, particularly Adams Road and Luddenham Road
- Concern that the EIS did not recommend reclassifying Luddenham Road from a local unclassified regional road to a primary movement corridor.

### **3.6.4.3 Response**

The project would provide a new freight route to the Western Sydney Aerotropolis and provide a connection to other employment areas and population centres via the Sydney motorway network. The project could be used for freight movement east–west which would assist in reducing regional freight movement within the local road network.

As discussed in **Section 3.3.2.3**, a potential Elizabeth Drive connection to the east is also being considered as part of the amended project subject to funding. The key features of each option are discussed in in Section 2.2 and Section 3.1.2 of the amendment report.

The amended project would also provide two new signalised intersections (subject to funding from WSA Co and adjoining developers) that would improve access to the Western Sydney International Airport and include provisions for future connection to potential developments north of Elizabeth Drive, such as the Northern Gateway. Further detail on this amendment is presented in Section 3.2 of the amendment report.

Road connectivity to support the Western Sydney Aerotropolis, South West Growth Centre and other planned employment precincts would be a function delivered by a combination of the motorway, arterial road, and the local road network. Future road network plans are outside the scope for this project but are being developed by WSPP. TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network.

Road reclassification is outside the scope of this project. TfNSW undertakes regular reviews of road classification and a review of the existing road classification for Luddenham Road would be carried out during future review cycles.

## **3.6.5 Construction haulage**

### **3.6.5.1 Submission number(s)**

36

### **3.6.5.2 Issue description**

Consideration of whether the temporary haulage routes across Cosgroves Creek for the project can be retained as part of a future local road network.

### **3.6.5.3 Response**

Temporary creek crossings would be established to haul material along the project construction footprint and enable construction of the bridges spanning these creeks. The intention of these temporary crossings is to facilitate construction of the project only. The crossings would be built for construction purposes and maintained during the construction period. They would not be compliant with local road network design/construction standards or be suitable to retain as a permanent part of a future local road network. Temporary haulage routes would not be maintained after construction is complete.

## 3.6.6 Incident Response

### 3.6.6.1 Submission number(s)

2

### 3.6.6.2 Issue description

Concerns that an incident on the M12 Motorway, once operational would delay traffic significantly.

### 3.6.6.3 Response

The project would address major capacity constraints on the arterial road network arising from the development and operation of the Western Sydney International Airport and Western Sydney Aerotropolis. Without the project, ageing, narrow or lower-order roads would perform a traffic function that is better suited to motorway infrastructure. This reduces amenity and results in congestion, increased travel times, decreased travel time reliability and more traffic incidents.

Section 5.18 of the EIS outlines the emergency or incident facilities that would be provided for throughout the project. This includes the provision of:

- Emergency cross overs
- Emergency telephone bays
- Closed circuit television (CCTV) and intelligent transport system to respond to incidents.

As discussed in **Section 3.3.2.3**, the potential for additional entry and exit ramps at Elizabeth Drive have been considered and assessed as part of option 2 of the amended project (see Section 3.1 of the amendment report). If built, these ramps would provide an additional exit opportunity in the event of an incident. If the ramps are not built and option 1 goes ahead, motorists would need to use the emergency cross overs to exit the motorway in the event of an incident. The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection. This would be defined during the detailed design phase of the project and prior to the award of the construction contract.

## 3.6.7 Cumulative impacts

### 3.6.7.1 Submission number(s)

36

### 3.6.7.2 Issue description

Concern about the potential for construction traffic delays along key haulage routes and other cumulative impacts when combined with other developments within the Western Sydney Aerotropolis.

### 3.6.7.3 Response

A construction transport and traffic management plan (CTTMP) would be prepared as part of the CEMP which would include measures to manage construction traffic interfaces and access

arrangements with Western Sydney International Airport and the proposed Sydney Metro – Western Sydney Airport.

Regular consultation would be carried out with nearby/adjoining project teams and key stakeholders during the detailed design and construction phases to review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management) as far as practicable to minimise cumulative impacts. Cumulative impacts associated with the project as described in the EIS are described in Chapter 7 of the EIS. Cumulative impacts for the amended project are described in Chapter 6 of the amendment report.

A Community Communication Strategy would be prepared for the project to facilitate communication with the local community including relevant Government agencies, Councils, adjoining affected landowners and businesses, and other relevant stakeholders that may be affected by the project.

## 3.7 Urban design, landscape character and visual impact

### 3.7.1 Impacts to visual amenity

#### **3.7.1.1 Submission number(s)**

5, 7, 8, 10, 11, 13, 16, 36, 38, 39, 40, 41

#### **3.7.1.2 Issue description**

The submitters raised the following issues:

- Concerns about visual impacts (including lighting) of entry and exit ramps onto the M7 Motorway, particularly to Cecil Hills residents
- Request for vegetative screening/landscape mounds to screen road elements; a suggestion was provided to retain the ridgeline as a visual barrier
- Request that the community be consulted on visual mitigation.

#### **3.7.1.3 Response**

TfNSW acknowledges the concern from submitters in relation to the location and design of the M7 Motorway entry/exit ramps, particularly near Cecil Hills. The M7 Motorway interchange geometry is constrained due to significant vertical clearance requirements from the Eastern Gas Pipeline, vertical clearance of the ramps, Elizabeth Drive and the M7 Motorway, as well as the M7 Motorway existing geometry.

Compared with the EIS, the amended project has lowered the M7 Motorway southbound exit to M12 Motorway westbound and for the M7 Motorway southbound entry from M12 Motorway eastbound, near Cecil Hills. Further information on the development and justification for the location of the M7 Motorway entry/exit ramps is discussed in detail in **Section 3.3.2.3** and Section 3.1 of the amendment report.

During operation, it is expected that illuminance and light spill would be minor and would be mostly confined within the operational footprint. Temporary and permanent lighting would be designed and implemented with consideration of the need to orientate lighting to minimise light spill and glare impacts on nearby receivers.

A landscape character and visual impact supplementary technical memorandum was prepared for the amended project and discussed in Section 6.3 of the amendment report. Overall, the assessment concluded that the landscape character and the visual impacts during operation of the amended project would be similar to that of the project as described in the EIS. While the overall visual impact of the amended project would be similar to the project described in the EIS, the lowering of the M7 interchange ramps would provide some improvement for the residents of Cecil Hill. The lowering would potentially improve the effectiveness of visual impact mitigation measures such as vegetative screening.

A UDLP would be prepared to inform the detailed design of the project in order to minimise landscape character and visual impacts. The UDLP would detail and guide the implementation of landscape features to be installed as part of the project, including revegetation requirements. The UDLP would investigate opportunities to provide vegetative screening to soften the appearance of structural elements of the project and provide screening of sensitive views. TfNSW would investigate potential of undertaking early tree planting. This revised environmental management measure is provided in **Table 6-1** (see LVIA08).

Ongoing community consultation would be carried out as described in **Section 3.4.1.3**.

## 3.8 Socio-economic, land use and property

### 3.8.1 Property access

#### **3.8.1.1 Submission number(s)**

33, 36

#### **3.8.1.2 Issue description**

The submitters raised the following issues:

##### **Existing access**

- Request for access to landholdings be maintained at all times throughout construction of the project
- Request for any interruptions to access from Elizabeth Drive to a submitter's landholding be mitigated through alternate access arrangements, including via temporary haulage routes across Cosgroves Creek

##### **Proposed access and fragmented land parcels**

- Concern regarding property access to fragmented land parcels
- Request for additional access into land parcels that are fragmented or land locked based on the proposed design, including McMasters Field Station, McGarvie Smith Farm and Fleurs Radio Telescope Site
- Concern about the project design only proposing one access route to Fleurs Radio Telescope Site when it is currently accessible continuously along the full east–west alignment of the project
- The University of Sydney recommends the construction of additional access points to land parcels to the North (Lot 21/DP258414) and South (Lot 1/DP88836) with space/height allowances made for potential links under viaducts and/or adjacent to abutments

- Request for more detail on how the Elizabeth Drive overpass has considered potential locations for access into a submitter's landholding west of the project airport access road

#### **Active transport corridors**

- Request for more details around the shared user path and whether the path will allow for future connections into private land.

### **3.8.1.3 Response**

#### **Existing access**

As discussed in Section 7.2.8 of the EIS, access to landholdings would be maintained at all times. Access to private properties would be managed through consultation with landowners to establish safe and appropriate alternate access arrangements in situations where current access routes would be impacted. Any existing property access that is physically affected by the project would be reinstated, to an equivalent standard where possible, in consultation with the landowner.

TfNSW notes the request from a submitter to utilise the temporary haulage route across Cosgroves Creek. However the use of temporary haul roads would be strictly limited to construction traffic for the project only.

#### **Proposed access and fragmented land parcels**

TfNSW is committed to working with property owners on their adjustment plans and access arrangements. Any changes to access would form part of TfNSW's property acquisition negotiations with the relevant landowners. Access to all land parcels, including McMasters Field Station, McGarvie Smith Farm and Fleurs Radio Telescope Site would be provided via an alternate access on the property. Specifically, TfNSW has advised one property owner following EIS exhibition that an additional access point under Badgerys Creek or South Creek with appropriate clearance would be provided to their landholding.

Where alternative access is unable to be provided, TfNSW would endeavour to obtain an access easement to the land parcel from an adjoining property. Certain circumstances may warrant the purchase of severed or landlocked land for project purposes.

As discussed in **Section 3.3.2.3**, subject to funding from the WSA Co and adjoining developers, the amended project would include the construction of the two signalised intersections at the 'Elizabeth Drive overpass' to improve access to the Western Sydney International Airport. The intersections could provide for future connections to landholdings to the east and west of the project airport access road, and to future developments such as Northern Gateway. Further details on this amendment are provided in Section 3.2 of the amendment report.

#### **Active transport connections**

The location of the shared user path has been driven by a number of factors including how it would best integrate with future land uses for open space, consistent with the Greater Sydney Commission's vision for the Western Parkland City as discussed in Section 3.2.3 of the EIS.

The shared user path would not be designed to provide access to private land. As the project progresses during detailed design, further information about the shared user path and potential connection points would be provided.

## 3.8.2 Property value

### 3.8.2.1 Submission number(s)

7, 41

### 3.8.2.2 Issue description

The submitters raised the following issues:

- Concern that the cost burden for the project has been shifted from Government to local residents through diminished house values without any compensation
- Concern about the impact of the southbound exit ramp onto the M7 Motorway on future property values
- Concern that the Motorway will negatively affect the value of properties on the Rene Place / Western Sydney Parklands boundary.

### 3.8.2.3 Response

TfNSW acknowledges the submitters' concern regarding property prices. Future movements in property values are difficult to forecast as they are subject to many variables, including specific attributes of the property, local amenity and accessibility, demand and supply factors and other wider changes in the property market.

For example, property values may be positively influenced by the long-term benefits of the project as perceived by buyers in the market, such as improved amenity and traffic movements, as well as the new Western Sydney International Airport including the facilitation of future urban development.

The principles of the *Land Acquisition (Just Terms Compensation) Act 1991 (NSW)* would apply to any acquisition of land (or interest in land) for the purposes of the project.

## 3.8.3 Property acquisition and compensation

### 3.8.3.1 Submission number(s)

33, 36

### 3.8.3.2 Issue description

The submitters raised the following issues:

- Request that the extent of private land to be acquired for the project be minimised
- Request for more details of all farm dams to be removed within the construction footprint
- Concern about the substantial uncertainties in the land acquisition process
- One submitter requested that TfNSW to prepare a survey plan to reflect the actual land required for the project
- Clarification around whether the land for Ancillary Facility 3 will be acquired by TfNSW or temporarily leased
- Request for an additional buffer zone to be installed within Western Sydney Parkland which would act as compensation for the decrease in property values.

### 3.8.3.3 Response

Where reasonably practicable, the project was designed and aligned to minimise impacts on property. Where a property may be subject to partial acquisition (due to the project not impacting the whole of the property), consideration was given to ensuring that residual land holdings remain viable for their existing land use.

The project as discussed in the EIS would directly impact 41 properties and 15 farm dams (Section 7.4 of the EIS). Based on the amended project, 49 properties (eight additional) would be impacted and 16 farm dams (one additional) would be removed from landholdings. This is discussed further in Section 3.3.5 and Section 4.2.2 of the amendment report.

TfNSW is currently preparing the acquisition survey. TfNSW would be working with property owners individually on their adjustment plans and would continue to consult with land owners through the detailed design process about these land parcels.

Section 5.23 of the EIS outlines the property acquisition process for the project. TfNSW would acquire properties and farm dams for the project in accordance with the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991 (NSW)* and the Land Acquisition Reform 2016 process.

As stated in **Section 3.8.1.3** above, TfNSW would work with property owners on their adjustment plans. Business impacts associated with farm dam removal are discussed in **Section 3.8.5.3**. Further details regarding the compulsory land acquisition processes are provided at: [https://www.finance.nsw.gov.au/sites/default/files/NSW\\_Government\\_Response.pdf](https://www.finance.nsw.gov.au/sites/default/files/NSW_Government_Response.pdf).

TfNSW's preference would be to temporarily lease the land for Ancillary Facility 3 through negotiation with the landowner. To access the facility a temporary construction easement or access licence may also need to be obtained from an adjacent landholding. If the temporary lease of the property and acquisition of an easement are unable to be secured, TfNSW would investigate further options. TfNSW would consult and negotiate with the relevant landowners for each proprietary interests required for the construction or operation of the project. If access cannot be resolved, TfNSW would seek to acquire the property.

TfNSW acknowledges the request to plant a buffer zone within Western Sydney Parklands to act as compensation for the decrease in property values. Where possible, the project design has sought to minimise vegetation removal from the Western Sydney Parklands. As discussed in **Section 3.7.1.3**, the UDLP would investigate opportunities during detailed design to provide vegetative screening to soften the appearance of structural elements of the project.

## 3.8.4 Impacts to pedestrians and cyclists

### 3.8.4.1 Submission number(s)

8

### 3.8.4.2 Issue description

A submitter was concerned that the construction of the ramps at the M7 Motorway intersection will deter walkers and cyclists from visiting the Cecil Hills area.

### **3.8.4.3 Response**

Potential disruptions to local amenity from construction activities, the presence of construction activities and increased construction traffic may impact on the use and enjoyment of these shared user paths and perceptions of safety for some users.

Table 6-6 of the socio-economic, land use and property assessment report (Appendix J of the EIS) provides a summary of impacts on walking and cycling trails. During construction, the following walking and cycling trails would be impacted:

- Cecil Hills Walking Track
- Jaquetta Close pedestrian pathway
- Elizabeth Drive Shared Path
- M7 Motorway Shared Path.

During construction, access would be maintained for users of these trails, although temporary diversions may be required at some locations. Trails impacted by the project would be reinstated following construction, although realignments may be required to some trails.

Environmental and traffic management measures such as the implementation of a CTTMP would be implemented during construction to outline safe alternative routes for pedestrians and cyclists and manage potential impacts on path users. Following construction activities and the realignment of any trails, ongoing impacts are not expected.

Overall, the inclusion of an off road shared user path as part of the project would support safer and easier access for pedestrians and cyclists visiting the Cecil Hills area. As described in Section 7.4 of the EIS, the provision of safer and enhanced pedestrian and cycling accessibility and connectivity is likely to encourage increased walking and cycling, helping to increase general levels of physical activity and impacting positively on community health outcomes.

## **3.8.5 Business impacts**

### **3.8.5.1 Submission number(s)**

9, 36

### **3.8.5.2 Issue description**

The submitters raised the following issues:

- Concern that finishing the project at The Northern Road would push the Outer Sydney Orbital closer to local businesses which would be affected by future development and associated road traffic noise; submitter requested to finish closer to Elizabeth Drive
- Request for more details of all farm dams to be removed within the construction footprint
- A submitter has requested for the fauna passage under Bridge 02 to be suitable for livestock access across the project footprint, or alternatively, for the provision of a separate livestock access passage.

### **3.8.5.3 Response**

The project was designed and aligned to minimise impacts on property and businesses where reasonably practicable.

As discussed in Chapter 4 of the EIS, the design of the project has been an iterative process that have considered a number of route options closer to Elizabeth Drive (see Figure 4-2 of the EIS). The decision to progress the current design was based on the best outcomes for project delivery, land use considerations, community impact, environment and heritage and functionality.

For the project, a business impact risk register would be established and maintained for the duration of construction to identify and manage specific impacts on individual businesses. On-going consultation would be carried out with local business owners that may be impacted during construction (including owners of agricultural businesses) in accordance with the Community Communication Strategy for the project.

In relation to impacts associated with future development such as the Outer Sydney Orbital, this project would be subject to a separate environmental impact assessment when the project is progressed, which would consider business impacts and provide appropriate management measures.

TfNSW acknowledges the concern of the submitter in relation to disruption of existing agricultural land use through the loss of farm dams and maintenance of livestock access. As discussed in **Section 3.8.3.3**, the amended project would remove 16 farm dams from landholdings. TfNSW would acquire properties and farm dams for the project in accordance with the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991 (NSW)* and the Land Acquisition Reform 2016 process. Landowners would be duly compensated for any acquisition in accordance with the principles of that legislation.

The project is unable to provide a separate livestock passage under Bridge 02 given the lowering of the Western Sydney International Airport interchange at this location as part of the amended project. TfNSW would continue to consult with the landholder to facilitate alternative access for livestock passage.

## 3.8.6 Impacts on future development

### 3.8.6.1 Submission number(s)

33, 36, 37

### 3.8.6.2 Issue description

The submitters raised the following issues:

#### Impacts on future developments

- Concern that the project would result in fragmented landholdings, limiting future land uses and sterilising the landholdings for future development
- Concern that construction of the project would restrict access for any future development on nearby landholdings
- Concern about the inadequacy of the project access to accommodate future land use on its land and requested that grade separated road access be provided to the parcel of land that will be isolated by the project
- The EIS identifies the Elizabeth Enterprise Precinct (EEP) West and EEP East as land used for grazing and intensive agricultural land. However, the EEP West and EEP East are identified as future employment land in numerous strategic planning instruments and should be considered as such

- Concern that the project design does not mention or consider the University of Sydney's Planning Proposal in the EIS. Request for the University's Planning Proposal to be acknowledged in the assessment by DPIE
- Concern about the future uses and land connection of land on both sides of South Creek. Request for the new private property access bridge across South Creek to be in a location and specification that aligns with future uses and to be compliant with the 1:100 flood level
- Concern that the project access path beneath Bridge 02 over Cosgroves Creek will be inadequate given the size of the site the path connects to and the significant role this landholding will play in the development of the Western Sydney Aerotropolis. Request for grade separated road access to be provided to the parcel of land on a submitter's landholding which will be isolated by the project
- Concern about the design of Clifton Avenue and its associated bridges only allowing for vehicles up to 19 metres. Request for Clifton Avenue, Clifton Avenue Bridge and other new local roads to be designed to accommodate B-Double vehicles to accommodate for both the short and medium terms. A submitter recommended that the design for the bridge across Clifton Avenue should be revised to accommodate B-Triple trucks

#### **Inconsistency with planning priorities**

- Sterilisation of land for future development would be inconsistent with the Objectives within the Greater Sydney Regional Plan and the Planning Priorities within the Western City District Plan
- Given the significant amount of strategic planning work being carried out within the Western Sydney Aerotropolis, the design must consider how the future road network within the Western Sydney Aerotropolis could be planned to facilitate the land uses envisaged by the LUIP.

### **3.8.6.3 Response**

#### **Impacts on future developments**

TfNSW acknowledges the request by submitters for the project to accommodate future development. The primary objective of the project is to provide a connection between the existing road network and the Western Sydney International Airport. The location of the airport access road through these landholdings was largely driven by the connection point into the Western Sydney International Airport that was provided by the Federal Government.

TfNSW is committed to re-instate equivalent access to adjacent land holdings where possible, however it is not feasible or aligned with the project scope to provide a grade separated road for private property access to accommodate potential future development. Access to future developments would need to be provided by landholders or businesses as and when such development occurs. As described in Section 7 of the EIS, the project considered approved projects as part of the assessment however Northern Gateway, EEP and the University's Planning Proposal had not been approved for development as of July 2020 (ie the date of preparation of this submissions report). The amended project would incorporate the two new signalised intersections (subject to funding from WSA Co and adjoining developers) into the Western Sydney International Airport that would improve access to the Western Sydney Aerotropolis and include provisions for future connection to potential developments north of Elizabeth Drive, such as Northern Gateway.

The intersections would also aid in addressing potential land locking at the properties between the project's east to west alignment and the proposed southern approach to the Western Sydney

International Airport. Further detail on this amendment is provided in Section 3.2 of the amendment report.

In relation to specific concerns about the project design, TfNSW has committed to replacing the existing private access bridge located on private land over South Creek on private land. This bridge is proposed to be demolished and replaced with a similar bridge to the south of the project. The replacement bridge requirements would be discussed and agreed with the property owner during the detailed design process.

The proposed access path beneath Bridge 02 over Cosgroves Creek is considered suitable given the existing land use. Similarly, the project would design Clifton Avenue and its associated bridges to facilitate its existing use. Currently, Clifton Avenue is not an existing B-double route and would not be designed to accommodate B-Triple trucks.

TfNSW is committed to regular consultation with nearby/adjoining project teams and key stakeholders during the detailed design and construction phase to review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management), as far as practicable to minimise cumulative impacts.

The Stage 1 of the LUIP has been considered throughout the concept design of the project in addition to ongoing consultation with the Greater Sydney Commission. The detailed design of the project would continue to consider updated land use and planning information as it is released including the next stage of the LUIP which is the Draft Western Sydney Aerotropolis Plan (released in December 2019). Consultation with Greater Sydney Commission would be ongoing through detailed design.

Considerations of future developments as part of the land uses envisaged by the LUIP is further discussed below.

### **Inconsistency with planning priorities**

As discussed in Section 3.15 of the EIS, the project would directly address and support Objective 20 of the Greater Sydney Region Plan, which identifies the Western Sydney International Airport and the surrounding business zone as an economic catalyst for the Western Parkland City. The project would be a key section of road infrastructure that would help connect the Western Parkland City to the Greater Sydney motorway network.

The project would also directly address and support Planning Priority W1, W7 and W8 within the Western City District Plan, by providing infrastructure which aligns with forecast growth and providing transport links that would service employment areas in western Sydney. Table 3-2 of the EIS outlined how the project meets these objectives.

The integration of the project into the Western Sydney Aerotropolis and surrounding growth areas was based on the available information at the time which was only at a strategic level. The project does allow for future development and connections (ie Mamre Road/Devonshire interchange) to be made at a time when planning of these areas has progressed and more information is available. At that stage, it would be a matter for other agencies or Councils to plan and integrate future development with the project.

As discussed above, the amended project would include two new signalised intersections (subject to funding from WSA Co and adjoining developers) that would improve access to the Western Sydney International Airport and include provisions for future connection to potential developments north of Elizabeth Drive, such as Northern Gateway.

Road connectivity to support the Western Sydney Aerotropolis, South West Growth Centre and other planned employment precincts would be a function delivered by a combination of the motorway, arterial road, and the local road network. Future road network plans are also being developed by WSPP. TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network.

## 3.8.7 Cumulative impacts

### **3.8.7.1 Submission number(s)**

36

### **3.8.7.2 Issue description**

Seeking confirmation that sufficient land has been acquired to construct the new four lane eastbound carriageway for the Outer Sydney Orbital and that TfNSW will not be seeking to acquire additional land.

### **3.8.7.3 Response**

The property acquisition requirements discussed in Section 5.23.3 in the EIS and Section 3.3.5 in the amendment report relate only to the land requirements for the project. This comprises a two lane eastern carriageway only. Any requirement for additional property acquisitions as part of future projects, including any project to increase the number of eastern carriageway lanes is currently unknown and outside the assessment scope for the project. Any land required as part of future projects would be identified, assessed and negotiated with the relevant landowners at such future date when the proposals for these future projects are progressed.

## 3.9 Aboriginal heritage

### 3.9.1 Request for information

#### **3.9.1.1 Submission number(s)**

36

#### **3.9.1.2 Issue description**

A submitter requested the details of any Potential Archaeological Deposits identified outside of the construction footprint which were redacted within the EIS to be provided to the submitter to ensure these can be cross referenced and included in any future Aboriginal Cultural Heritage Assessments.

#### **3.9.1.3 Response**

The Aboriginal cultural heritage assessment and survey effort was focused on areas within the project construction footprint. The locations of Potential Archaeological Deposits are considered sensitive, and therefore redacted from the Section 7.5 of the EIS.

Findings of the survey and test excavations have been provided to the Environment, Energy and Science Group and added to the Aboriginal Heritage Information Management System (AHIMS) register. This register is used to inform future developments. The AHIMS register is publicly available and is located at <https://www.environment.nsw.gov.au/awssapp/login.aspx>.

## 3.10 Non-Aboriginal heritage

### 3.10.1 Assessment methodology

#### **3.10.1.1 Submission number(s)**

33

#### **3.10.1.2 Issue description**

The non-Aboriginal heritage report prepared for the project should address the impact areas caused by the project only and not address areas outside the project, including the South, Kemps and Badgerys Creek Confluence Weirs Scenic Landscape. The approval conditions should be limited to the impact areas caused by the project only.

#### **3.10.1.3 Response**

The non-Aboriginal heritage assessment report prepared for the EIS identified known heritage items across a broader study area (Section 7.6.3 of the EIS). Consideration of a broader study area is important when considering potential indirect impacts associated with the project, such as noise and visual impacts. This is particularly important when the significance of the heritage items is linked to the surrounding landscape and context. An assessment of the wider study area also informs the design team of constraints in the surrounding area to minimise/avoid impacts through detailed design.

The impact assessment (as part of the non-Aboriginal heritage assessment report) focused on the study area provided in Figure 7-70 of the EIS, noting where heritage items occur within the construction footprint/area of impact. The conditions of approval for the project would be created based on the impact assessment discussed in the EIS, the EPBC referral, the amendment report and supplementary submissions report.

Should changes to the construction footprint and EPBC referral area be required, TfNSW would follow the appropriate procedures for attaining further environmental approval. This can be done through consistency assessments (where the proposed changes are considered consistent with the Division 5.2 Approval issued under the *Environmental Planning and Assessment Act 1979 (NSW)*) or an application for modification. Any relevant approval process under the EPBC Act would also be undertaken.

## 3.10.2 Request for information

### **3.10.2.1 Submission number(s)**

36

### **3.10.2.2 Issue description**

A submitter requested further details around the proposed thematic heritage study of Commonwealth Scientific and Industrial Research Organisation (CSIRO) and McMaster Field Station and how this might be funded by TfNSW.

### **3.10.2.3 Response**

TfNSW would engage a heritage specialist to prepare a thematic heritage study of CSIRO and other agricultural research stations, including both McMaster Field Station and McGarvie Smith Farm, and other relevant agricultural research stations and similar facilities located in NSW. The thematic study would include a review of the role of such properties in veterinary research, association with agricultural, pastoral and animal husbandry groups, use of pioneering methods and practices and contribution to development of farming in NSW and Australia.

The thematic heritage study would be funded by TfNSW and carried out prior to construction. The study would be provided to the landholders.

## 3.11 Noise and vibration

### 3.11.1 Construction noise impacts

#### **3.11.1.1 Submission number(s)**

36

#### **3.11.1.2 Issue description**

Concern about the potential impacts of construction noise on future temporary land uses and request that TfNSW consult with them in relation to providing management measures.

#### **3.11.1.3 Response**

The implementation of construction noise and vibration management measures would be based on the existing land use and the Noise Mitigation Guideline (NMG) (Roads and Maritime 2015a).

A construction noise and vibration management plan (CNVMP) which forms part of the construction environmental management plan (CEMP) would be prepared for the project to mitigate and manage noise and vibration impacts during construction. Examples of standard construction environmental management measures are provided in Table 7-2 of Appendix K of the EIS.

Ongoing consultation would continue with affected landholders in accordance with a Community Communication Strategy that would be prepared for the project to manage impacts during construction.

## 3.11.2 Operational noise impacts

### 3.11.2.1 *Submission number(s)*

5, 7, 8, 10, 11, 13, 16, 21, 22, 23, 36, 38, 39, 40, 41

### 3.11.2.2 *Issue description*

The submitters raised the following issues:

#### **Operational noise impacts and management measures**

- Concerns about traffic noise impacts for the project, including the exit ramp from the M12 Motorway to the M7 Motorway, on residents of Cecil Hills and neighbouring suburbs
- Concerns about truck drivers using compression air brakes and the noise from bike riders shouting
- Consideration for the following:
  - Request for a soundproofing, concrete wall or man-made barrier to be installed to mitigate noise pollution
  - Requests for the current ridgeline at Cecil Hills to be maintained as a barrier for sound pollution
  - Request for a sign to be put up along Elizabeth Drive to ask drivers not to use compression brakes
  - Request for more trees to be planted along Elizabeth Drive and within the Western Sydney Parklands (near Rene Place) to curtail noise and act as a 'buffer area'
- Request for noise mitigation options to be reviewed by and developed in consultation with the residents located closest to the entry and exit ramps in Cecil Hills

#### **Noise impact on future land use**

- Request for appropriate noise management measures to be provided to ensure that potential noise and vibration impacts do not adversely affect the types of land uses that can be achieved on a submitter's landholding
- Request for the future Operational Noise and Vibration Review to consider future land uses envisaged for the Northern Gateway within the LUIIP.

### 3.11.2.3 *Response*

#### **Operational noise impacts and management measures**

TfNSW acknowledges the concern from submitters in relation to road traffic noise, particularly from Cecil Hills residents.

A noise and vibration assessment report was prepared for the project as part of the EIS (see Section 7.7 of the EIS). This assessment has been updated to assess the noise and vibration impacts of the amended project as part of the amended report (see Section 6.7 of the amended report).

For both assessments, the operational noise assessment compared road traffic noise levels predicted due to the project as described in the EIS in 2026 (modelled as the year 'at opening') and 2036 (modelled as 10 years after opening) with those predicted without the project (but assuming background traffic growth based on traffic forecast for 2026 and 2036).

Generally, the change in road traffic noise exposure as a result of the amended project is predicted to remain unchanged from the project as described in the EIS; less than a 2 db(A) increase in noise levels in areas adjacent to the existing major roads such as the M7 Motorway, Elizabeth Drive and The Northern Road. This would include the Cecil Hill area to the east of the M7 Motorway. This change in road traffic noise exposure is considered by the EPA to be barely perceptible.

Where road traffic noise levels at sensitive receivers are predicted to be above the Noise Criteria Guideline (NCG) (Roads and Maritime 2015b) criteria, the requirement for additional noise mitigation is determined using guidance from the NMG (Roads and Maritime 2015a) and based on existing land use. It is important to note that the noise exceedance levels are based on existing noise levels taken during the development of the EIS.

Potential noise management measures include (in order of preference outlined in the NSW Road Noise Policy (RNP) (DECCW 2011):

- Quieter road pavement surfaces
- Noise mounds
- Noise barriers
- At-property treatments.

A total of 183 sensitive receiver buildings (262 individual floors) qualified for consideration of additional noise mitigation under the EIS assessment (see Figure 7-111 to Figure 7-113 in EIS). Specifically at Cecil Hills, two buildings (three receiver floors) near the southbound exit ramp were identified for consideration of additional noise mitigation.

For the amended project, 212 sensitive receiver buildings (310 individual floors) for option 1 (without Elizabeth Drive connection) and 220 sensitive receiver buildings (320 individual floors) for option 2 (with Elizabeth Drive connection) have been considered for additional noise mitigation (see option 1 and option 2 description in **Section 3.3.2.3**). Based on the updated noise assessment, there are no buildings or floors triggered in Cecil Hills for additional noise mitigation due to a reduction in night-time noise levels. This is discussed further in Section 6.7 of the amendment report. Noise mitigation options would be determined during the detailed design taking into account whole-of-life engineering considerations and the overall social, economic and environmental benefits. The preference would be given to noise management measures that reduce outdoor noise levels and reduce the number of at-property treatments required. Management measures which would reduce source noise levels would also be determined during detailed design.

TfNSW acknowledges the request for noise barriers or soundproofing from submitters. Based on the NMG (Roads and Maritime 2015a), noise barriers are to be considered when four or more sensitive receivers are affected. In addition, design factors, such as cost to benefit ratio, constructability, and overhead power line clearance may result in these barriers being considered unfeasible and/or unreasonable.

In addition, other considerations from a community perspective may include:

- Potential visual or urban design impacts
- Potential overshadowing impacts
- Potential community safety/crime prevention considerations such as isolated walkways
- Form of future development in the area
- Preferences of the local community as identified during community consultation.

The EIS identified four noise barriers as potentially reasonable for the project as described in the EIS. The updated noise assessment for the amended project identified three noise barriers as potentially reasonable (for both option 1 and option 2). The implementation of noise barriers should be considered in conjunction with other mitigation measures for their feasibility and reasonability during the detailed design stage of the amended project.

A preferred noise mitigation option (low noise pavement, noise barrier, architectural treatments or a combination) would be determined during detailed design taking into account whole-of-life engineering considerations and the overall social, economic and environmental benefits. The preference would be given to noise mitigation measures that reduce outdoor noise levels and the number of at-property treatments required. This is discussed further in Section 6.7 of the amendment report.

Prior to construction, an Operation Noise and Vibration Review (ONVR) would be prepared based on the existing land use which would detail the specific management measures for eligible receivers to be applied across the project.

Twelve months after opening of the project, TfNSW would undertake an “actual” measurement of noise levels (see Section 7.9.9 of the EIS). These levels would be compared to the predicted levels from the noise and vibration assessment report. If the noise levels are higher than the predicted levels, it may lead to an increased level of treatment, in which case TfNSW would notify the property owner and arrange for the increased level of treatment.

TfNSW acknowledges the request from submitters for consideration of other management measures such as design changes, tree planting and signage, and notes the following:

- The justification of the preferred route and location of the M7 Motorway entry/exit ramps is discussed in **Section 3.2.1.3** and **Section 3.3.2.3**. The amended project has lowered the M7 Motorway southbound exit to M12 Motorway westbound, and the M7 Motorway southbound entry from M12 Motorway eastbound, near Cecil Hills. This is discussed in Section 3.1 of the amendment report. Where possible, the design of the ramp would be further refined during detailed design to minimise noise and visual impacts on Cecil Hills residents
- Areas within the project footprint would be revegetated as part of the UDLP however landscaping is not considered suitable to attenuate road noise as part of the NMG (Roads and Maritime 2015a). The attenuation provided by foliage (trees) is heavily dependent on the density of the foliage, which can change seasonally, and not considered suitable or reliable as a noise attenuation measure
- The use of compression brakes by heavy vehicles on the M7 Motorway between the M5 Motorway and Elizabeth Drive is largely attributed to road geometry and uphill grades which cause heavy vehicles to slow down. As described in Section 5.16.3 of the EIS, a signposting scheme for the project would provide clear and unambiguous direction and information to motorists, achieving a safe and compliant design.

As discussed in **Section 3.4.1.3**, TfNSW would continue to update the community on project activities and facilitate communication and feedback between the project team and the community.

### **Noise impact on future land use**

The review and consideration of operational noise and vibration management measures would be based on the existing land use and NMG (Roads and Maritime 2015a). The operational assessment does not consider future developments which were not approved at the time of the assessment.

## 3.12 Surface water quality and hydrology

### 3.12.1 Impacts to property owners

#### **3.12.1.1 Submission number(s)**

36

#### **3.12.1.2 Issue description**

A submitter was concerned about the potential for increased flows and residual impacts identified for drainage lines CC DL 4900, CC DL 4600 and CC DL 5050. The project must not discharge water to overland flow paths such that any increase in rate and volume of runoff should impact upon private land to the extent that it would adversely affect the future development potential of the subject landholding.

All management measures to control any flows and runoff from the project must be contained within the operational footprint.

#### **3.12.1.3 Response**

The potential impacts on hydrology during operation of the project relate to the increase in impervious surface from the introduction of a road into an otherwise mostly greenfield area, a change in surface flow paths within minor drainage lines across the project and from creek adjustments.

Section 7.9.4 of the EIS identifies that the impacts on peak flow velocities outside the project's operational footprint are considered negligible because the increases in velocity would be minor, and the magnitude of the peak flood velocities with the project in operation would be less than 1.5 metres per second for the majority of minor drainage lines.

All floodplain areas would experience little change beyond localised effects at bridge abutments, piers, and at the creek adjustments. The surrounding land use would be unaffected by the project with respect to flooding. It is therefore predicted that there would be no project related social or economic costs due to flooding.

A summary of the impacts and suggested management measures at minor drainage lines (including CC DL 4900, CC DL 4600 and CC DL 5050) is provided in Table 7-140 of the EIS.

A surface water quality and hydrology supplementary technical memorandum has been prepared for the amended project which includes an updated minor drainage line assessment and proposed management measures. The assessment concluded that there is no change to potential impacts at CC DL 4900, CC DL 4600 and CC DL 5050 due to the amended project. Further details are provided in Section 6.9 of the amendment report.

During the project's detailed design, further modelling would be carried out to verify the project's impacts on minor drainage lines and to confirm proposed management measures. TfNSW would consult with landowners regarding appropriate management measures to be implemented by the contractors in relation to each individual property.

## 3.13 Flooding

### 3.13.1 Cumulative impacts

#### **3.13.1.1 Submission number(s)**

36

#### **3.13.1.2 Issue description**

A submitter stated that the flood work carried out by TfNSW should undertake an assessment of the cumulative impacts of the future development within the Western Sydney Aerotropolis boundary to ensure that the impact of the project does not adversely affect and/or sterilise the development potential of adjacent land.

#### **3.13.1.3 Response**

Cumulative impacts associated with future development such as those identified in the LUIIP have been considered within the EIS. The flooding assessment has undertaken a qualitative cumulative flooding assessment of the following projects and major land releases:

- Western Sydney International Airport (approved)
- Sydney Metro – Western Sydney Airport (proposed)
- The Northern Road upgrade (approved)
- Elizabeth Drive upgrade (proposed)
- Mamre Road upgrade (proposed)
- Outer Sydney Orbital (proposed)
- Western Sydney Aerotropolis
- South West Growth Area
- Western Sydney Employment Area.

The assessment of cumulative flooding impacts is provided in Table 7-129 of the EIS. It is anticipated that major development upstream of the project would increase catchment runoff in flooding events. Increased runoff is typically managed through stormwater detention basins that restrict outflow rates. However the peaks are extended for longer time periods compared to existing conditions. Hence downstream waterways that previously experienced staggered peak flows from sub-catchments upstream have the potential to experience coinciding peak runoff rates, leading to an overall increase in flow rate.

A number of environmental management measures have been included in the EIS to mitigate flooding impacts associated with the above projects which include future modelling, design considerations and flood management plans (see Table 7-130 of the EIS).

The proposed design of the project's main waterway bridges have pre-empted increases in main creek flows. The current design of the project exceeds the minimum 1 in 100 year average recurrence interval (ARI) flood immunity requirement and therefore provides some excess capacity to accommodate larger flows as a result of future development within the catchment.

Any additional modelling of potential cumulative flooding impacts would need to be considered through a regional-scale assessment, which is beyond the scope of the design process of any individual proposal.

Future flood modelling during detailed design would include any recent data that is available from regional studies or nearby development. Any future developments, and/or any such regional-scale assessment carried out, would need to take into account the presence of the project within the landscape and provide appropriate management measures.

## 3.14 Soils and contamination

### 3.14.1 Contamination

#### **3.14.1.1 Submission number(s)**

36

#### **3.14.1.2 Issue description**

The submitter raised the following issues:

- Concern about the level of contamination identified within the EIS noting that BH202 and BH207 exceeded contaminant guidelines
- Recommendation for further studies to be conducted in relation to all identified contamination and that TfNSW liaise with the relevant stakeholders to ensure any remediation is appropriately carried out and does not adversely affect the development potential of adjacent land.

#### **3.14.1.3 Response**

The soil and contamination assessment for the EIS identified a number of areas of environmental interest (AEI) that may pose potential contamination or other risks for further investigation (see Section 8.1 in EIS). As described in the submission, the assessment identified that BH202 and BH207 exceeded contaminant guidelines.

BH202 is located within the Generic AEI for 'identified areas of potential fill' and BH207 is located within AEI 10: SUEZ Kemps Creek Resource Recovery Park.

A contaminated land management plan (CLMP) would be prepared for the project, which would outline control measures to manage identified areas of contamination, requirements for the excavation of unexpected contaminants and the disposal of contaminated waste in accordance with regulations.

For AEI 10, prior to construction activities, further gas investigations would be carried out in this area to assess the extent of high-risk soil gas which could impact upon construction and/or operation of the project.

No further investigations are proposed for the generic AEI, as the project has minimal potential to interact with groundwater. Unexpected contamination resulting from unexpected interaction with groundwater would be managed in accordance with the CLMP. Further investigations within areas of potential or historical fill would be carried out to determine the presence and/or extent of asbestos containing material within these areas.

## 3.15 Air quality

### 3.15.1 Impacts to health

#### **3.15.1.1 Submission number(s)**

8, 36, 38

#### **3.15.1.2 Issue description**

The submitters raised the following issues:

- Concern regarding air pollution that will come from the M12 Motorway exit-ramp to the M7 Motorway
- Concern that air quality will be compromised during operation of the Motorway
- Any impacts to air quality which adversely affect or restrict either temporary or future land uses on the adjacent submitter's landholding are considered unacceptable by the submitter.

#### **3.15.1.3 Response**

Changes to local air quality on sensitive receivers as a result of the operation of the project were quantitatively assessed using the TfNSW Tool for Roadside Air Quality (TRAQ) screening-level dispersion model. Sensitive receivers were identified based on existing land uses such as residences, schools and hospitals.

The assessment prepared for the EIS concluded that the project would not lead to unacceptable air quality impacts, and that the need for more detailed assessment would not be required. This conclusion is based on the determination of potential local and regional impacts to air quality during both construction and operational stages, including potential cumulative impacts.

No operational air quality environmental measures were deemed necessary as the assessment found that the project would not result in unacceptable changes in air quality for receivers near the project. In addition, the project would result in traffic-related air quality contributions that are comparable to, or less than, those in the vicinity of The Northern Road, the M7 Motorway and Elizabeth Drive.

An air quality updated technical memorandum has been prepared for the amended project and is discussed in Section 6.12 of the amendment report. The air quality memorandum concluded the amended project would not result in any substantial changes to the local operational air quality outcomes compared with the project as described in the EIS.

Requirements to co-ordinate with the other identified projects have also been included in order to limit the potential for cumulative air quality impacts during concurrent project construction activities. Further details on the quantitative assessment are provided in Section 8.2.4 of the EIS.

## 3.16 Safety

### 3.16.1 Impacts on pedestrians and cyclists

#### **3.16.1.1 Submission number(s)**

18

#### **3.16.1.2 Issue description**

Request that safe active transport connections be developed and maintained during construction of the project.

#### **3.16.1.3 Response**

The existing shared user path along the M7 Motorway would need to be relocated to the east of the M7 Motorway for about two kilometres between Villiers Road and south of Elizabeth Drive. The realigned path is currently planned to be constructed and opened to pedestrians and cyclists before the existing path is decommissioned to maintain access along the length of the facility.

Safety barriers would separate users from the construction zone during construction of the new path and the decommissioning of the old path to provide safe passage during the realignment work. At tie-in locations, any potential temporary disruptions would be managed so that users would be able to continue their journey.

A CTTMP would be prepared as part of the CEMP in consultation with relevant local councils, and in accordance with relevant guidelines. The CTTMP would include:

- Measures to minimise changes to the existing pedestrian/cyclist facilities where feasible
- Safe alternative routes for pedestrians and cyclists in accordance with relevant safety and accessibility standards
- Requirements for appropriate warning and signage for traffic and other road users such as cyclists and pedestrians in the vicinity of work areas and work site access, and road diversions.

## 3.17 Cumulative impacts

### 3.17.1 Construction

#### **3.17.1.1 Submission number(s)**

36

#### **3.17.1.2 Issue description**

A submitter has requested TfNSW explain how they intend to manage cumulative impacts during construction given the likelihood of the M12 Motorway project and the submitter's development occurring at the same time. The construction hours for the project must not impact upon the submitter's construction program.

### **3.17.1.3 Response**

Regular consultation would be carried out with nearby/adjoining project teams and key stakeholders during the detailed design and construction phase to review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management), as far as practicable to minimise cumulative impacts.

## 4. Response to government agencies, local council and utility provider submissions

### 4.1 Introduction

In addition to the 28 community submissions addressed in **Chapter 3** of this report, DPIE received a total of 22 government agencies, local council and utility provider submissions in response to exhibition of the EIS. This included submissions received up until 10 January 2020 in accordance with an extension granted by DPIE to some government agencies.

An overview of the issues raised by government agencies, local council and utility providers is provided in **Table 4-1**. This chapter addresses each submission and associated response provided by TfNSW. Each submission is outlined and individual responses have been provided specific to each submission.

**Table 4-1** Issues and comments raised by government agencies, local councils and utility providers

Submitter	Submission Number	Category of issue raised	Section addressed
DPIE – Division of Resources & Geoscience	14	<ul style="list-style-type: none"> <li>Socio-economic, land use and property</li> </ul>	<b>4.2</b>
Endeavour Energy	15	<ul style="list-style-type: none"> <li>Utilities</li> </ul>	<b>4.3</b>
NSW Health – South Western Sydney Local Health District	19	<ul style="list-style-type: none"> <li>General support</li> <li>Consultation</li> <li>Transport and traffic</li> <li>Urban design, landscape character and visual impact</li> <li>Noise and vibration</li> <li>Flooding</li> <li>Surface water quality and hydrology</li> <li>Soils and contamination</li> <li>Air quality</li> <li>Cumulative impacts</li> </ul>	<b>4.4</b>
DPIE DPI – Strategy & Policy	20	<ul style="list-style-type: none"> <li>Biodiversity</li> <li>Socio-economic, land use and property</li> <li>Surface water quality and hydrology</li> </ul>	<b>4.5</b>
Sydney Water	24	<ul style="list-style-type: none"> <li>Utilities</li> <li>General requirements</li> <li>Future projects</li> </ul>	<b>4.6</b>
DPIE Crown Lands	27	<ul style="list-style-type: none"> <li>General support</li> </ul>	<b>4.7</b>

Submitter	Submission Number	Category of issue raised	Section addressed
Federal Member for Werriwa, Anne Stanley MP	28	<ul style="list-style-type: none"> <li>• Project development and alternatives</li> <li>• Transport and traffic</li> <li>• Socio-economic, land use and property</li> <li>• Urban design, landscape character and visual impact</li> <li>• Noise and vibration</li> </ul>	<b>4.8</b>
Australian Pipeline Limited (APA) Group	29	<ul style="list-style-type: none"> <li>• General support</li> </ul>	<b>4.9</b>
TransGrid	30	<ul style="list-style-type: none"> <li>• Utilities</li> </ul>	<b>4.10</b>
WaterNSW	31	<ul style="list-style-type: none"> <li>• General requirements</li> <li>• Consultation</li> <li>• Socio-economic, land use and property</li> <li>• Non-Aboriginal heritage</li> <li>• Noise and vibration – Heritage items</li> <li>• Surface water quality and hydrology</li> <li>• DPIE request</li> </ul>	<b>4.11</b>
Western Sydney International Airport Corporation	32	<ul style="list-style-type: none"> <li>• General support</li> <li>• Project design</li> <li>• Consultation</li> <li>• Transport and traffic</li> <li>• Safety</li> <li>• Future infrastructure projects</li> </ul>	<b>4.12</b>
NSW Environment Protection Authority (EPA)	34	<ul style="list-style-type: none"> <li>• Noise and vibration</li> <li>• Surface water quality and hydrology</li> <li>• Contamination</li> </ul>	<b>4.13</b>
Western Sydney Parklands Trust (WSPT)	35	<ul style="list-style-type: none"> <li>• General support</li> <li>• Project design</li> <li>• Consultation</li> <li>• Biodiversity</li> <li>• Transport and traffic</li> <li>• Urban design, landscape character and visual impact</li> <li>• Socio-economic, land use and property</li> <li>• Future infrastructure projects</li> </ul>	<b>4.14</b>
NSW Resource Regulator	42	<ul style="list-style-type: none"> <li>• General support</li> </ul>	<b>4.15</b>

Submitter	Submission Number	Category of issue raised	Section addressed
Fairfield City Council	43	<ul style="list-style-type: none"> <li>• Adequacy of the EIS</li> <li>• Project design</li> <li>• Biodiversity</li> <li>• Transport and traffic</li> <li>• Socio-economic, land use and property</li> <li>• Noise and vibration</li> <li>• Flooding</li> <li>• Surface water quality and hydrology</li> <li>• Cumulative impacts</li> <li>• Future infrastructure projects</li> </ul>	<b>4.16</b>
Environment, Energy and Science (EES) Group	44	<ul style="list-style-type: none"> <li>• General support</li> <li>• Biodiversity</li> </ul>	<b>4.17</b>
Penrith City Council	45	<ul style="list-style-type: none"> <li>• General requirements</li> <li>• Legislation and planning policy</li> <li>• Project design</li> <li>• Utilities</li> <li>• Consultation</li> <li>• Biodiversity</li> <li>• Transport and traffic</li> <li>• Urban design, landscape character and visual impact</li> <li>• Socio-economic, land use and property</li> <li>• Aboriginal heritage</li> <li>• Non-Aboriginal heritage</li> <li>• Flooding</li> <li>• Surface water quality and hydrology</li> <li>• Future infrastructure projects</li> <li>• Operation</li> <li>• Next steps</li> </ul>	<b>4.18</b>
Department of Premier and Cabinet (Heritage NSW), Delegate of Heritage Council	46	<ul style="list-style-type: none"> <li>• Consultation</li> <li>• Aboriginal heritage</li> <li>• Non-Aboriginal heritage</li> </ul>	<b>4.19</b>
Western Sydney Planning Partnership (WSPP)	47	<ul style="list-style-type: none"> <li>• Strategic justification and need</li> <li>• Consultation</li> <li>• Transport and traffic</li> <li>• Urban design, landscape character and visual impact</li> <li>• Socio-economic, land use and property</li> <li>• Flooding</li> </ul>	<b>4.20</b>

Submitter	Submission Number	Category of issue raised	Section addressed
Liverpool City Council	48	<ul style="list-style-type: none"> <li>• General support</li> <li>• Project design</li> <li>• Biodiversity</li> <li>• Transport and traffic</li> <li>• Urban design, landscape character and visual impact</li> <li>• Socio-economic, land use and property</li> <li>• Aboriginal heritage</li> <li>• Non-Aboriginal heritage</li> <li>• Noise and vibration</li> <li>• Surface water quality and hydrology</li> <li>• Safety</li> <li>• Sustainability and resource management</li> <li>• Climate change</li> <li>• Future infrastructure projects</li> </ul>	<b>4.21</b>
NSW RFS	49	<ul style="list-style-type: none"> <li>• General support</li> </ul>	<b>4.22</b>
DPIE - Water	50	<ul style="list-style-type: none"> <li>• Surface water quality and hydrology</li> <li>• Groundwater</li> </ul>	<b>4.23</b>

## 4.2 DPIE – Division of Resources and Geoscience

### 4.2.1 Socio-economic, land use and property

#### 4.2.1.1 Issue description

The EIS identified one exploration licence (EL8429) partially overlapping the project footprint and four extractive resource areas (quarries and/or landfill sites with some extraction occurring) adjacent to the project footprint. Requests that consultation occurs with the exploration licence holder and operators of the extractive resource sites.

The Division also requests to be consulted in relation to the proposed location of any biodiversity offset area or any supplementary biodiversity measures to ensure there is no consequent reduction in access to prospective land for mineral exploration, or potential for sterilisation of mineral or extractive resources.

#### 4.2.1.2 Response

TfNSW would consult with exploration licence holders and operators of resource sites during the detailed design and construction phases of the project as part of the Community and Stakeholder Engagement Plan.

In relation to biodiversity offsets, TfNSW offsets its biodiversity impacts through the purchase of biodiversity credits generated on land that is the subject of a biodiversity stewardship agreement under the BC Act or equivalent credits under the repealed *Threatened Species Conservation Act 1995* (TSC Act). Section 5.9 of the BC Act requires that all owners of land seeking to enter biodiversity stewardship agreements obtain the agreement of the holder of any mining or petroleum lease or mineral claim over the land prior to entering the agreement with the Minister for the Environment.

As this project is being assessed under the BC Act transitional arrangements, TfNSW also has the option of using the supplementary measures, such as threatened species recovery programs, actions that contribute to threat abatement programs, biodiversity research and survey programs and rehabilitating degraded aquatic habitat. Therefore, supplementary measures may involve activities that do not result in a reduction in prospective land for mineral exploration, or potential for sterilisation of mineral or extractive resources.

## 4.3 Endeavour Energy

### 4.3.1 Utilities

#### **4.3.1.1 Issue description**

Requests that their processes and procedures will be followed when application is made for connection to Endeavour Energy's electricity supply network. These procedures require the submission of a Summary Environmental Report incorporating an environmental management plan with each electrical design submitted to Endeavour Energy's Network Connections Branch for Certification.

Endeavour Energy requests that TfNSW or their representatives engage with Accredited Service Providers to design and construct alterations to Endeavour's infrastructure.

#### **4.3.1.2 Response**

TfNSW acknowledges Endeavour Energy's processes and procedures regarding the environmental management of any proposed utility adjustments and notes the project approval would extend to utility relocation and individual environmental assessments for each utility location would not be required.

The management measures discussed in the project CEMP would be applicable to proposed utility adjustments to appropriately manage environmental issues and risks.

Consultation with Endeavour Energy would be ongoing as part of the project and proposed utility adjustments would be designed and constructed by appropriately accredited service providers.

## 4.4 NSW Health – South Western Sydney Local Health District

### 4.4.1 General support

#### **4.4.1.1 Issue description**

Would like to acknowledge the excellent provisions made for pedestrians and cyclists with the inclusion of a shared user path in the plans.

#### **4.4.1.2 Response**

TfNSW acknowledges the support for the project by NSW Health – South Western Sydney Local Health District.

### 4.4.2 Consultation

#### **4.4.2.1 Issue description**

The EIS is reliant on the development of further details in the CEMP, to be prepared by the construction contractor. NSW Health – South Western Sydney Local Health District requests to review the draft CEMP to ensure mitigation strategies adequately address identified issues relating to air and water quality, noise and vibration.

#### **4.4.2.2 Response**

If the project is approved, the CEMP would be developed in accordance with conditions of approval for the project and the commitments made within the EIS, this report, the amendment report and supplementary submissions report. The CEMP would be prepared in consultation with government agencies based on the conditions of approval for the project.

### 4.4.3 Transport and traffic

#### **4.4.3.1 Issue description**

Support for the shared user path being four metres wide, to ensure the safety and amenity of all pedestrians, cyclists and other micro-mobility options such as e-scooters, mobility scooters, etc. For the safety of all shared user path users, recommend the shared user path has speed signage and centreline delineation.

#### **4.4.3.2 Response**

The design of the shared user path would be confirmed during detailed design and the installation of speed signage and centreline delineation would be carried out in accordance with TfNSW guidelines and the UDLP.

## 4.4.4 Urban design, landscape character and visual impact

### 4.4.4.1 Issue description

The shared user path should include trees and shading along the route, water bubblers, lighting, high quality smooth surfaces, bike repair/pump stations, bins, signage and wayfinding to make the experience safer and attractive for users. As the entire shared user path stretches out over 16 kilometres, also recommend the inclusion of places to stop and rest, off the main path, including the provision of toilets within Western Sydney Parklands and at other locations along the shared user path.

The cultural interpretation strategy (discussed in Section 7.5 of the EIS) could tell the cultural story of the Darug people and places of significance along the shared user path.

### 4.4.4.2 Response

The inclusion of amenities, wayfinding and other facilities along the shared user path would be discussed in the UDLP and the design of the shared user path through the Western Sydney Parklands would be developed in consultation with the WSPT.

The cultural heritage interpretation framework and recommendations of the Aboriginal cultural heritage design process would guide development of the detailed urban design for the shared user path and interpretive initiatives would be discussed in the UDLP.

## 4.4.5 Noise and vibration

### 4.4.5.1 Issue description

The assessment has outlined standard and additional noise management measures to be deployed in the project's construction program to mitigate noise impacts and predicted sleep disturbance from out-of-hours (night) work. These include restricting some construction staging and specific noise-intensive activities such as impact piling, rock breaking and pavement saw cutting to day time periods, erecting noise hoardings and deploying low-noise plant. Periods of respite may also be required. Alternating night work to bridge construction is also suggested as noise from bridge construction is deemed to be less intrusive.

### 4.4.5.2 Response

Where possible, noisy construction activities would be carried out during standard construction hours and less-noisy work scheduled for out-of-hours. However, due to construction programming, construction worker safety, emergency work and disruptions to public infrastructure, some activities would need to be conducted out-of-hours. This is relevant to the construction of bridges over existing roads including Luddenham Road, Elizabeth Drive, Range Road and the M7 Motorway. Out-of-hours activities would include installing bridge girders, concrete decking, and barriers.

In addition to out-of-hours work listed in Section 5.24.14 of the EIS, TfNSW is proposing to carry out work at four of the construction ancillary facilities 24 hours a day, seven days per week as part of the amended project. Where possible, the delivery of construction materials would occur during standard hours. However, due to construction programming these ancillary facilities would need to be accessible 24-hours a day (see Section 4.5.2 of the amendment report).

This change in access requirements is reflected in the updated assessments, including the transport and traffic updated technical report and noise and vibration updated technical report (see Section 6.2 and Section 6.7 of the amendment report).

The updated noise model identified a number of residential receivers that are predicted to experience 'moderate' impacts associated with night-time stockpiling activities at each ancillary facility. The impacts are based on all equipment working in each assessed scenario. There would frequently be periods when construction noise levels are much lower than worst-case levels and there would be times when no equipment is in use and there are no impacts. Additionally, as works are confined to within the facility, site hoarding can be used effectively to mitigate noise impacts.

A CNVMP would be prepared for the project to mitigate and manage noise and vibration impacts during construction. The plan would outline requirements for the development and implementation of management measures, including respite, in accordance with the project environment protection licence (EPL), project conditions of approval, approved out-of-hours work protocol and the Construction Noise and Vibration Guideline (CNVG) (Roads and Maritime 2016).

Consultation with the community for out-of-hours work would be implemented in accordance with the CNVG (Roads and Maritime 2016) conditions of approval and the environment protection licence for the project.

## 4.4.6 Flooding

### **4.4.6.1 Issue description**

Request for Flood and Emergency Management Plans developed for the construction and operation phases of the project to be submitted to Local and District Emergency Management Officers for review.

### **4.4.6.2 Response**

The Flood and Emergency Management Plans would be prepared in consultation with government agencies based on the conditions of approval for the project.

## 4.4.7 Surface water quality and hydrology

### **4.4.7.1 Issue description**

Recommends the following in relation to surface water management measures:

- Stormwater detention ponds incorporated into the project for flood mitigation and scour protection purposes should be designed, constructed, operated and maintained so as not to become mosquito breeding areas
- During construction and operation phases of development, Soil and Water Management Plans should ensure that natural waterways and existing farm dams are protected from contaminants and any further degradation in accordance with relevant requirements of the NSW Environment Protection Authority, NSW Department of Primary Industries – Water and WaterNSW.

#### **4.4.7.2 Response**

The project would include permanent operational water quality basins upstream from sensitive receiving environments. These would treat road pavement runoff from the project and promote the settlement of sediments by slowing down and temporarily detaining flows. The design of operational water quality basins would be refined during detailed design and would investigate opportunities to deter mosquito breeding.

Detailed design would consider the use of 'dry basins' to reduce the potential risk of aeroplane bird strike. Dry basins function by allowing large flows of water to enter, but limit outflow by having a small opening at the lowest point of the structure so that all of the water eventually drains out and it remains dry between storms. The use of dry basins where appropriate would be expected to reduce the likelihood of basins creating mosquito breeding areas.

A construction soil and water management plan (CSWMP) would be prepared for the project which would outline measures to manage soil and water impacts associated with construction activities, including measures to manage contaminants, and outline the requirements for water quality monitoring. Should the results of water quality monitoring identify that the existing water quality management measures are not effective in adequately mitigating water quality impacts, additional management measures would be identified and implemented as required.

During operation, a water quality monitoring program would be implemented to observe any changes in surface water and groundwater and inform appropriate management responses.

TfNSW would prepare all sub-plans in accordance with the commitments, requirements and necessary consultation as discussed in the EIS and project's conditions of approval.

### **4.4.8 Soils and contamination**

#### **4.4.8.1 Issue description**

Recommends the following in relation to potential contamination risk:

- The assessment and remediation of contaminated land forming part of the development or potentially encountered during the construction phase should be documented in the Contaminated Land Management Plan and carried out in accordance with the requirements of the NSW Environment Protection Authority
- The storage and management of hazardous chemicals and materials during the construction phase of the development, including management measures to prevent the release of contaminants to the environment, should be documented in the Hazardous Materials Management Plan and carried out in accordance with the requirements of SafeWork NSW and the NSW Environment Protection Authority.

#### **4.4.8.2 Response**

A CLMP would be developed for the project, which would outline the assessment and remediation of encountered contamination during construction of the project. The plan would be written in accordance with the requirements of the NSW Environment Protection Authority, including consultation as required.

A hazardous building materials management plan would be prepared to outline the requirements for the storage and management of hazardous chemicals and materials during construction of the project. The plan would include management measures to prevent the release of contaminants to the environment and would be written in accordance with the conditions of approval for the project (should it be approved) and the commitments made within the EIS, this report, the amendment report and supplementary submissions report.

## 4.4.9 Air quality

### **4.4.9.1 Issue description**

Recommends air quality monitoring during construction to minimise the impact on air quality.

### **4.4.9.2 Response**

A construction air quality management plan (CAQMP) would be developed and implemented for the project to manage potential air quality impacts associated with construction. This plan would include procedures for inspection, monitoring and addressing air quality impacts.

## 4.4.10 Cumulative impacts

### **4.4.10.1 Issue description**

Cumulative impacts of this project with other construction projects such as The Northern Road upgrade and Western Sydney International Airport on nearby communities, residents and sensitive receptors have been identified and assessed. More detailed assessments on the overlap of the particular project and impacts on the immediate community and sensitive receptors need to be made.

NSW Health – South Western Sydney Local Health District recommends the potential impacts of these independent projects on sensitive receptors are considered using a coordinated approach.

### **4.4.10.2 Response**

The assessment of cumulative impacts associated with the project was based on the most current and publicly available information. Where detailed environmental assessments are available, such as for The Northern Road upgrade and Western Sydney International Airport these have been used to inform the cumulative assessment in the EIS. The potential impacts each project would have on sensitive receptors are detailed in these documents.

Some projects are in the early stages of strategic development or design and an environmental assessment has not been prepared. In these cases, a qualitative assessment was carried out.

The upgrade of The Northern Road is expected to be completed by the end of 2022 which would minimise the period of cumulative impacts from the construction of both projects. During detailed design and construction, TfNSW would consult with nearby/adjoining projects (such as the proposed Sydney Metro – Western Sydney Airport and Western Sydney International Airport) and other key stakeholders to review potential cumulative impacts. As far as practicable, TfNSW would aim to integrate designs and construction methodologies (including traffic impacts and noise management) to minimise cumulative impacts.

Further, the Community and Stakeholder Engagement Plan also identifies other sensitive stakeholders that TfNSW would continue to actively engage with as the project progresses.

## 4.5 NSW Department of Planning, Industry and Environment – Department of Primary Industries

### 4.5.1 Biodiversity

#### 4.5.1.1 Issue description

Requests the following in relation to riparian impacts:

- Planting of the creek banks and beds with native vegetation should be carried out to stabilise sediments and provide habitat and shading to the waterway
- Snag removal is identified as a key threatening process under Schedule 6 of the *Fisheries Management Act 1994*. Any proposed snag removal will require DPIE DPI approval and snags must be reinstated post-construction.

#### 4.5.1.2 Response

The creek corridors would be vegetated with native riparian vegetation suitable for the local area, in accordance with the requirements of the Policy and guidelines for fish habitat conservation and management (DPI 2013). The creek channels would be rehabilitated following active construction work in accordance with the landscape plans for the project.

A snag management plan would be prepared as part of the CFFMP for the project for snag removal and relocation at Badgerys Creek, Kemps Creek and South Creek in accordance with the Policy and guidelines for fish habitat conservation and management (DPI 2013). The management plan would be informed by additional field work which would provide details of the snags to be relocated (such as numbers and locations) and relocation methods. This revised environmental management measure is provided in **Table 6-1** (see B12).

TfNSW would notify DPI of any dredging and reclamation work, under section 199 of the FM Act. The project would be exempt from permit approvals under section 201, section 205 and section 219 of the FM Act, however, due to the application of Clause 5.23 of the EP&A Act.

### 4.5.2 Socio-economic, land use and property

#### 4.5.2.1 Issue description

The project management processes should minimise disruption to current agricultural enterprises and provide feasible and reasonable alternative infrastructure or access to meet landowner requirements during and post construction.

### 4.5.2.2 Response

As discussed in Section 7.4.4 of the EIS, impacts on rural land and agricultural uses in the primary study area may be associated with:

- Changes to farm infrastructure near the construction footprint, such as fencing and internal roads
- Changes in local access to rural properties, and traffic delays and disruptions due to construction activities
- Increased construction traffic and movement of construction vehicles within the construction footprint, increasing the risk of the spread of weeds and pests between properties
- Increased noise, dust and construction traffic, temporarily impacting the amenity of agricultural properties near the project.

Construction activities would be planned to minimise disruption to existing agricultural operations/activities in surrounding properties where feasible and reasonable, such as the maintenance of stock access to the property and farm dams, unless otherwise agreed by the landowner.

Consultation has commenced with property owners / business managers regarding property adjustments, including replacement of farm infrastructure (such as fencing) and relocation of property access, prior to work that may impact the property.

## 4.5.3 Surface water quality and hydrology

### 4.5.3.1 Issue description

Requests to review the detailed design for any waterway crossings in order to provide comments on proposed creek adjustments, rock armouring or other work in waterways. Wherever possible, adjustment/realignment of the creeks should be avoided.

### 4.5.3.2 Response

The need for, extent and design of potential creek adjustments would be reconsidered during detailed design with the aim of minimising the adjustments to the natural creek alignment and form.

The design of waterway crossing would be prepared in consultation with government agencies based on the conditions of approval for the project.

## 4.6 Sydney Water

### 4.6.1 Utilities

#### 4.6.1.1 Issue description

The following have been noted:

- Sydney Water assets are located within and near the project, including existing and future major trunk and reticulation assets. These assets are used to supply services to customers as per the Sydney Water Operating Licence and regulatory requirements

- Future assets (approximate sizes ranging from DN250 – DN1200) will possibly be crossing underneath and running alongside the project at various locations.

Sydney Water recommends close consultation from TfNSW with Sydney Water during all phases will benefit the project in determining potential constraints and opportunities.

#### **4.6.1.2 Response**

TfNSW acknowledges the presence of existing and future assets and would continue to consult Sydney Water regarding existing and future assets to minimise potential impacts to the construction and operation of assets.

### **4.6.2 General requirements**

#### **4.6.2.1 Issue description**

For any adjustment of Sydney Water assets:

- Existing water and wastewater mains are to be replaced like for like, unless otherwise advised
- New mains are to be designed and constructed to WSA 03-2001-3.1 Sydney Water Edition 2012
- Water mains must not be located within the road batter slope, either located at the toe or road shoulder
- TfNSW and its contractors must refer to the Asset Adjustment and Protection Manual as available on Sydney Water's website.

Sydney Water reserves the right to assess, based on final project layout and construction design prepared by the project team and/or their contractors, the impacts on Sydney Water assets located within the project scope and the potential needs for adjustments funded by the project to accommodate accessibility of Sydney Water pipes for operational and maintenance purposes, new pavement locations and changes to structures.

Access will need to be retained throughout the life of the project. Staging and timing will need to be carried out as part of the design work and delivery of the project, to allow for shutdown and reconnection of assets and to ensure that Sydney Water maintains services to customers in line with the Operating Licence.

The assessment of asset adjustments can be carried out through the Sydney Water Asset Adjustment process, which will consider the need for relocation or protection of assets. Additionally, if assets are required to be changed, environmental approval will need to cover any work identified that may fall outside of the project boundary, but will be a result of the project work.

Amplification of the mains may be required to facilitate future growth along the development corridor. This will be assessed as adjustment applications are referred to Sydney Water for review.

Adjustment/protection, building over/adjacent to Sydney Water assets application are to be submitted through Sydney Water's standard processes by a Sydney Water accredited Water Servicing Coordinator. Instructions of the processes and any related policies can be found on Sydney Water's website.

All adjustments to Sydney Water assets as a result of the project, including those to enable ongoing access for operation and maintenance will be funded by TfNSW, except for any upsizing of assets requested by Sydney Water.

#### **4.6.2.2 Response**

TfNSW would consult with Sydney Water before construction work, to determine the requirements for access to, protection of, or relocation of services. Where possible, disruption to existing services would be minimised and work would be staged. Local residents and businesses would be notified before any planned disruption. The replacement of utilities would be considered in the project cost.

In the event that changes to assets are required outside of the approved project footprint, TfNSW would follow the appropriate procedures for attaining environmental approval, such as consistency assessments, in consultation with Sydney Water.

### **4.6.3 Future projects**

#### **4.6.3.1 Issue description**

The following future work is noted for consideration and co-ordination:

- Sydney Water plan to deliver a new wastewater treatment facility in the vicinity of the project for the collection and treatment of wastewater from new homes and businesses in Western Sydney. The new plant site is likely to be bordering the project. Sydney Water is finalising the location and will require continued access to the proposed wastewater treatment facility during its construction and operation
- Sydney Water is currently planning and delivering trunk drinking water amplifications to increase the water supply to service construction work in and development of the WSAGA and SWGA. Sydney Water has reviewed TfNSW requirements for construction water for the project
- The timeframes provided in TfNSW's indicative construction program are in line with Sydney Water's planned delivery of the first stage of trunk drinking water to service the WSAGA. Sydney Water and TfNSW will need to continue to work together to share and coordinate delivery programs to ensure the water requirements for the construction of the project can be met.

#### **4.6.3.2 Response**

TfNSW notes the plans for a new wastewater treatment facility and future drinking water amplifications.

TfNSW would continue consultation with Sydney Water about their future developments and the supply of construction water for the project in order to minimise cumulative construction impacts that may cause disruptions to the delivery of Sydney Water projects.

## 4.7 DPIE Crown Lands

### 4.7.1 General support

#### **4.7.1.1 Issue description**

DPIE Crown Lands has reviewed the EIS and has no comment to make.

#### **4.7.1.2 Response**

TfNSW acknowledges the submission provided by DPIE Crown Lands.

## 4.8 Federal Member for Werriwa, Anne Stanley MP

### 4.8.1 Project development and alternatives

#### **Intersection and entry/exit ramps**

#### **4.8.1.1 Issue description**

Concerned, on behalf of constituents, regarding the location of the southbound exit ramp onto the M7 Motorway above the ridgeline at Cecil Hills. The location of the ramp would expose residents to unbearable amounts of light and noise pollution and have a significant effect on property prices.

#### **4.8.1.2 Response**

The location of the southbound exit ramp onto the M7 Motorway has been an iterative process, and is discussed in Chapter 4 of the EIS. The route selected through Western Sydney Parklands and current location of the M7 Motorway southbound exit ramp was driven by a number of factors, with the current option providing the best overall performance against the selection criteria.

In addition, as discussed in Section 7.1.3 of the EIS and shown on Figure 7-5 of the EIS, an existing Biobank site (ID number 119) is located within the Western Sydney Parklands, south-west of the M7 Motorway and Elizabeth Drive intersection. A Biobank site is an area that is conserved and managed to enhance and protect biodiversity values and is subject to a Biobanking agreement under Part 7A Division 2 of the *Threatened Species Conservation Act 1995* as preserved under the BC Act. The location of the M12 Motorway / M7 Motorway interchange has been designed to avoid the existing site as much as possible.

Several options for the M7 Motorway interchange with the M12 Motorway were investigated that considered the following design aspects:

- Ramp lengths and configuration
- Tie-in locations
- Merging and safety
- Tie-ins to the M7 Motorway toll road
- Connection to Wallgrove Road.

A grade separated interchange was selected as it was the best operational design and would provide a free-flowing connection for all movements between the M12 Motorway and the M7 Motorway.

The M7 Motorway interchange geometry is constrained due to significant vertical clearances requirement from various existing and resultant design elements, such as the Eastern Gas Pipeline, vertical clearance of the ramps, Elizabeth Drive and the M7 Motorway, as well as the M7 Motorway existing geometry.

Compared with the EIS, the amended project has lowered the M7 Motorway southbound exit to M12 Motorway westbound and the entry from M12 Motorway eastbound, near Cecil Hills. This is discussed further in Section 3.1 of the amendment report. Where possible, the design of the ramp would continue to be refined during detailed design to minimise noise and visual impacts on Cecil Hills residents.

The potential impact to property prices, visual impacts and operational noise impacts associated with the exit ramp is discussed in **Section 4.8.3.2**, **Section 4.8.4.2** and **Section 4.8.5.2**.

## ***Tolling***

### ***4.8.1.3 Issue description***

The NSW Government made a commitment that the project will not be tolled. The current proposal forces drivers coming from the east onto the M7 Motorway, a tolled motorway. This is tolling by stealth. Especially so, given a majority of Sydney's population would need to come via the M7 Motorway to access the project and the Western Sydney International Airport. Non-tolled entry and exit ramps at the eastern end of the project must be included in this project.

### ***4.8.1.4 Response***

TfNSW acknowledges the NSW Government commitment for the M12 Motorway to be toll free. To respond to this commitment TfNSW has developed an option to be delivered as part of the project if funding becomes available.

Two design options for the motorway-to-motorway interchange at the M7 Motorway are being considered as part of the amended project. The options are as follows:

- Option 1 – Without Elizabeth Drive connection
  - Interchange provides entry and exit ramps between the M12 Motorway and the M7 Motorway; in addition, it would maintain the existing connection of the M7 Motorway to Elizabeth Drive with new entry and exit ramp
- Option 2 – With Elizabeth Drive connection
  - Interchange as per option 1 and also provides entry and exit ramps between the M12 Motorway and Elizabeth Drive, Cecil Road and Wallgrove Road.

The key features of each option are discussed in Section 2.2 and Section 3.1.2 of the amendment report. A key benefit of option 2 is the provision of a toll-free connection between Liverpool and the Western Sydney International Airport.

The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection. This would be defined during the detailed design phase of the project and prior to the award of the construction contract.

If option 1 is progressed due to funding limitations, the M12 Motorway may be accessed via The Northern Road to the west and the M7 Motorway to the east.

## 4.8.2 Transport and traffic

### 4.8.2.1 Issue description

The traffic modelling for the project is based upon the assumption that by 2036, the M7 Motorway will have three lanes between Camden Valley Way and Old Wallgrove Road and four lanes between Old Wallgrove Road and the M4 Motorway interchange.

No commitment has been made to construct these additional lanes. Therefore the feasibility of this project is based on false and potentially flawed assumptions.

### 4.8.2.2 Response

A number of planned but as yet uncommitted upgrades have been included in the 2036 do minimum scenario to reflect the business-as-usual road network conditions that would occur if the Western Sydney International Airport was opened and the project was not built. These assumptions are considered reasonable and consistent with other major projects.

A transport and traffic updated technical report has been prepared for the amended project and discussed in Section 6.2 of the amendment report. The updated traffic model has been updated to SMPM version 1.1 (from WRTM version 2.3 for the EIS), which substantially improves the predictive robustness of the model for the Western Sydney area. The updated traffic model also includes an updated land use and demographics scenario (LU16), upgrades along the network and changes in future demand growth (see Section 6.2 of the amendment report).

## 4.8.3 Socio-economic, land use and property

### 4.8.3.1 Issue description

Raised concerns on behalf of constituents regarding the location of the southbound exit ramp onto the M7 Motorway above the ridgeline at Cecil Hills. The location of the ramp would expose residents to unbearable amounts of light and noise pollution and have a significant effect on property prices.

### 4.8.3.2 Response

Future movements in property values are difficult to forecast as they are subject to many variables, including specific attributes of the property, local amenity and accessibility, demand and supply factors and other wider changes in the property market.

For example, property values may be positively influenced by the long-term benefits of the project as perceived by buyers in the market, such as improved amenity and traffic movements, as well as the new Western Sydney International Airport and future urban development.

Potential visual impacts and operational noise impacts associated with the exit ramp is discussed in **Section 4.8.4.2** and **Section 4.8.5.2**.

## 4.8.4 Urban design, landscape character and visual impact

### 4.8.4.1 Issue description

As described in **Issue 4.8.3.1**, the submitter is concerned that the location of the southbound exit-ramp onto the M7 Motorway ramp would expose residents to unbearable amounts of light.

### 4.8.4.2 Response

During operation, it is expected that illuminance and light spill would be mostly confined within the operational footprint. Impacts associated with light spill are considered to be minor in the context of the project as a whole. Temporary and permanent lighting would be designed and implemented with consideration of the need to minimise light spill and glare impacts on nearby receivers.

Compared with the project as described in the EIS, the M7 Motorway southbound exit to M12 Motorway westbound and the M7 Motorway southbound entry from M12 eastbound, near Cecil Hills, has been lowered as part of the amended project. This is discussed further in Section 3.1 of the amendment report. Where possible, the design of the ramp would continue to be refined during detailed design to minimise noise and visual impacts on Cecil Hills residents.

## 4.8.5 Noise and vibration

### 4.8.5.1 Issue description

As described in **Issue 4.8.3.1**, the submitter is concerned that the location of the southbound exit ramp onto the M7 Motorway ramp would expose residents to unbearable amounts of noise pollution.

### 4.8.5.2 Response

A noise and vibration assessment report was for prepared for the project as part of the EIS (see Section 7.7 of the EIS). This assessment was then updated to assess the noise and vibration impacts of the amended project as part of the amended report (see Section 6.7 of the amended report).

Generally, the change in road traffic noise exposure as a result of the amended project was predicted to remain unchanged from the project as described in the EIS, with less than a 2 db(A) increase in areas adjacent to the existing major roads such as the M7 Motorway, Elizabeth Drive and The Northern Road. This would include the Cecil Hill area to the east of the M7 Motorway. This change in road traffic noise exposure is considered by the EPA to be barely perceptible.

A total of 183 sensitive receiver buildings (262 individual floors) qualified for consideration of additional noise mitigation under the assessment guidelines for the project as described in the EIS (see Figure 7-111 to Figure 7-113 in EIS). Specifically at Cecil Hills, two buildings (three receiver floors) near the southbound exit ramp were considered for additional noise mitigation.

For the amended project, 212 sensitive receiver buildings (310 individual floors) for option 1 (without Elizabeth Drive connection) and 220 sensitive receiver buildings (320 individual floors) for option 2 (with Elizabeth Drive connection) have been considered for additional noise mitigation (see option 1 and option 2 description in **Section 4.8.1.4**). Based on the updated noise assessment, there are no

buildings or floors triggered in Cecil Hills for additional noise mitigation due to a reduction in night-time noise levels. This is discussed further in Section 6.7 of the amendment report.

Where road traffic noise levels at sensitive receivers are predicted to be above the Noise Criteria Guideline (NCG) (Roads and Maritime 2015b) criteria, the requirement for additional noise mitigation is determined using guidance from the NMG (Roads and Maritime 2015a) and based on existing land use. It is important to note that the noise exceedance levels are based on existing noise levels taken during the development of the EIS.

Potential noise management measures include (in order of preference outlined in the NSW RNP (DECCW 2011)):

- Quieter road pavement surfaces
- Noise mounds
- Noise barriers
- At-property treatments.

Noise mitigation options would be determined during the detailed design, taking into account whole-of-life engineering considerations and the overall social, economic and environmental benefits. The preference would be given to noise management measures that reduce outdoor noise levels and reduce the number of at-property treatments required. Management measures which would reduce source noise levels would also be determined during detailed design.

TfNSW acknowledges the request for noise barriers or soundproofing from submitters. Based on the NMG (Roads and Maritime 2015a) noise barriers are to be considered when four or more sensitive receivers are affected. In addition, design factors, such as cost to benefit ratio, constructability, and overhead power line clearance may result in these barriers being considered unfeasible and/or unreasonable.

In addition, other considerations from a community perspective may include:

- Potential visual or urban design impacts
- Potential overshadowing impacts
- Potential community safety/crime prevention considerations such as isolated walkways
- Form of future development in the area
- Preferences of the local community as identified during community consultation.

Four noise barriers were identified as potentially reasonable for the project as described in the EIS. The updated noise assessment for the amended project identified three noise barriers as potentially reasonable (for both option 1 and option 2). The implementation of noise barriers should be considered in conjunction with other mitigation measures for their feasibility and reasonability during the detailed design stage of the amended project.

A preferred noise mitigation option (low noise pavement, noise barrier, architectural treatments or a combination) would be determined during detailed design taking into account whole-of-life engineering considerations and the overall social, economic and environmental benefits. The preference would be given to noise mitigation measures that reduce outdoor noise levels and the number of at-property treatments required. This is discussed further in Section 6.7 of the amendment report.

Prior to construction, an Operation Noise and Vibration Review (ONVR) would be prepared based on the existing land use which would detail the specific management measures for eligible receivers to be applied across the project.

Twelve months after opening of the project, TfNSW would undertake an “actual” measurement of noise levels (see Section 7.9.9 of the EIS). These levels would be compared to the predicted levels from the noise and vibration assessment report. If the noise levels are higher than the predicted levels, it may lead to an increased level of treatment, in which case TfNSW would notify the property owner and arrange for the increased level of treatment.

## 4.9 Australian Pipeline Limited (APA) Group

### 4.9.1 General support

#### **4.9.1.1 Issue description**

APA Group has reviewed the EIS and has no comment to make.

#### **4.9.1.2 Response**

TfNSW acknowledges the submission provided by APA Group.

## 4.10 TransGrid

### 4.10.1 Utilities

#### **4.10.1.1 Issue description**

The electricity supply chain within NSW is currently undergoing rapid transformation towards a low-carbon future. The augmentation of the transmission network within western Sydney is critical to the future supply of bulk electricity to Greater Sydney and Sydney CBD.

TransGrid request that the project anticipates the future need to widen the existing easement along the Transmission Line 39 corridor.

TransGrid is currently working with TfNSW to review the impact to TransGrid infrastructure and consider design modification to accommodate the new motorway. TransGrid will continue to work with TfNSW to seek a suitable outcome.

#### **4.10.1.2 Response**

TfNSW acknowledges future plans by TransGrid to widen the Transmission Line 39 corridor as part of future augmentation work to secure the future supply of bulk electricity to Greater Sydney and Sydney CBD.

Where feasible and reasonable, the project would be designed with the aim of minimising impacts on existing utilities and services. TfNSW would continue to consult with TransGrid to seek to accommodate future widening work.

## 4.11 WaterNSW

### 4.11.1 General requirements

#### 4.11.1.1 Issue description

Requests that the approval includes conditions addressing implementation of the management measures as stated in the EIS.

The CEMP should include (but not be limited to):

- Measures to protect Upper Canal water supply infrastructure at Cecil Hills Tunnel and to enable WaterNSW to access this infrastructure at all times
- Reference to relevant measures outlined in the current 'Guidelines for development adjacent to the Upper Canal and Warragamba Pipelines' (WaterNSW)
- Vibration monitoring
- Groundwater monitoring
- Water quality monitoring
- Stormwater runoff management
- Access provisions
- Erosion and sediment controls developed in accordance with the relevant requirements of Managing Urban Stormwater: Soils and Construction – Volume 1: Blue Book (Landcom 2004).

Consultation with WaterNSW during development of the CEMP.

#### 4.11.1.2 Response

The CEMP would be developed in accordance with the conditions of approval for the project (should it be approved) and the commitments made within the EIS, this report, the amendment report and supplementary submissions report. The CEMP would be prepared in consultation with government agencies based on the conditions of approval for the project.

TfNSW would continue to consult with WaterNSW during the detailed design phase of the project and as the preparation of management plans progress.

### 4.11.2 Consultation

#### 4.11.2.1 Issue description

Requests consultation on the following:

- Consultation with WaterNSW during detailed design for work near the Upper Canal corridor including:
  - a) placement of batters and bridge piers
  - b) access arrangements
  - c) stormwater runoff management and modelling

- d) borehole depths and encasements to prevent cross contamination
- Obtaining both a written consent and construction license to work from WaterNSW within the Upper Canal corridor, prior to the commencement of construction
- Advising WaterNSW of any proposed amendment or modified encroachment into the Upper Canal corridor
- Notification of any incidents that affect or could affect the Upper Canal corridor and its associated bulk water supply infrastructure to WaterNSW on the 24-hour Incident Notification Number 1800 061 069, as a matter of urgency.

#### **4.11.2.2 Response**

TfNSW would continue to consult with WaterNSW during the detailed design phase of work near the Upper Canal corridor and obtain relevant approvals. Consultation would also include informing WaterNSW of any changes to the design that may encroach upon the Upper Canal corridor.

TfNSW would notify WaterNSW of any incidents on their land that may affect the Upper Canal System and its associated bulk water supply infrastructure.

### **4.11.3 Socio-economic, land use and property**

#### **4.11.3.1 Issue description**

Concern regarding access impediments for operation and maintenance of the Upper Canal system.

WaterNSW requests that the approval includes conditions addressing providing safe and unobstructed access for WaterNSW plant and personnel to access the Upper Canal corridor, 24 hours a day, 7 days a week.

#### **4.11.3.2 Response**

Disruptions to access would be minimised where feasible. TfNSW would consult with WaterNSW before construction work starts to determine the requirements for access to the Upper Canal system. Any changes to access would be made in negotiation with the WaterNSW.

### **4.11.4 Non-Aboriginal heritage**

#### **4.11.4.1 Issue description**

Requests the following in relation to non-Aboriginal heritage impacts:

- Approval includes conditions addressing implementation of all practical measures to protect infrastructure within the Upper Canal Controlled Area, as required by WaterNSW
- WaterNSW requests that the approval includes conditions addressing consultation with WaterNSW during development of the construction cultural heritage management plan (CCHMP) prepared for the project as part of the CEMP
- WaterNSW requests that the approval includes conditions addressing advising WaterNSW of any unexpected heritage items found on WaterNSW land.

#### 4.11.4.2 Response

Management measures in the EIS require the following to be considered in regard to the Upper Canal System:

- Relevant conservation policies outlined in the Upper Canal Conservation Management Plan (NSW Public Works Government Architect's Office 2016) would be incorporated into the CCHMP prepared under the conditions of approval to protect the heritage fabric of the item
- The CCHMP would be consistent with and require implementation of relevant measures outlined in the Guidelines for Development Adjacent to the Upper Canal and Warragamba Pipelines (WaterNSW 2020) which sets out guidelines for designing, planning or assessing development on land adjacent to the canal at this location.
- Guidelines and associated safe working distances to be adhered to for heritage structures as discussed in Appendix K of the EIS and Appendix G of the amendment report
- A safe working distance exclusion zone would be established around the exposed tunnel air shaft in the M7 Motorway median in accordance with the process discussed in noise and vibration management measures NV10 – NV11.

The TfNSW Unexpected Heritage Items Procedure (Roads and Maritime 2015c) would be followed in the event that unexpected heritage finds are uncovered during construction. TfNSW would notify WaterNSW of any unexpected heritage finds on WaterNSW land.

The CCHMP (as part of CEMP) would be developed in accordance with the conditions of approval for the project (should it be approved) and the commitments made within the EIS, this report, the amendment report and supplementary submissions report. The CCHMP would be prepared in consultation with government agencies based on the conditions of approval for the project.

### 4.11.5 Noise and vibration – Heritage items

#### 4.11.5.1 Issue description

The Cecil Hills Tunnel segment of the Upper Canal passes beneath the proposed M12 Motorway and M7 Motorway interchange at the eastern extent of the M12 Motorway. The Upper Canal corridor is a controlled area declared under the *Water NSW Act 2014* and its associated Regulations, as it is a critical component of Sydney's bulk water supply infrastructure and is also a State Heritage listed item.

WaterNSW requests that the project approval includes conditions addressing specific management measures which must be implemented over WaterNSW infrastructure during construction and operation to achieve the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration – effects of vibration on structures (for structural damage).

#### 4.11.5.2 Response

The Upper Canal is located underground where the project crosses the canal alignment. These underground sections of the Canal would not be destroyed by the project. A safe working distance exclusion zone would be established around the exposed tunnel air shaft in the M7 Motorway median.

Several management measures are proposed in the EIS for the protection of the Upper Canal System including a dilapidation survey prior to construction to confirm the existing condition. A

dilapidation survey was carried out in July 2019 to catalogue the base-line condition of the tunnel and verification of the tunnel shaft locations prior to the commencement detailed design and construction work. Defects identified for remediation in the dilapidation survey were not considered to adversely affect the structural stability of the tunnel.

Further surveys would be carried out during detailed design in order to determine appropriate vibration criteria. This would also include consideration of distances from the vibration intensive activity (piling, rock-breaking and vibratory rolling), as well as ground conditions. A vibration criterion of a PPV would be determined in consultation with the relevant agencies, including WaterNSW.

While conditions of approval for the project would be a matter for the Minister for Planning and Public Spaces, TfNSW anticipates that in-situ monitoring would be carried out prior to and during construction to confirm the vibration levels and assess the impact of vibration. Where the monitoring identifies exceedances in the relevant criteria, or where impacts are identified, additional management measures would be identified and implemented to appropriately manage impacts.

## 4.11.6 Surface water quality and hydrology

### 4.11.6.1 Issue description

Based on the information provided, WaterNSW has no objection to the project, however requests the project to consider if it will have a neutral or beneficial effect on the quality of water in the bulk water supply infrastructure, where it crosses the Upper Canal corridor in the Western Sydney Parklands.

This arises from requirements under Section 13 of State Environmental Planning Policy (Western Sydney Parklands) 2009. Other requirements under this section have been addressed in the EIS.

### 4.11.6.2 Response

State Environmental Planning Policy (Western Sydney Parklands) 2009 does not apply to project by reason of section 5.22(2) of the EP&A Act. However potential water quality impacts and proposed management measures have been considered in Section 7.9.4 of the EIS. The assessment of potential water quality impacts associated with the project is considered adequate in addressing the requirements outlined in the project SEARs.

The WaterNSW Upper Canal is located underground where the project crosses the canal alignment and the project would not discharge to the Canal. As per Section 7.9.4 of the EIS, potential surface water quality and hydrology impacts associated with the project are considered minor and manageable.

Based on water quality modelling, pollutant loads for all indicators (Total Suspended Solids, Total Phosphorus and Total Nitrogen) reduced during operation compared to the existing (pre-development) conditions, with the greatest percentage reduction in loads for Total Suspended Solids and Total Phosphorus. Therefore, overall the water quality improves within modelled catchments (Badgerys; Cosgroves; South; Kemps and Hinchinbrook Creeks) during project operation, provided the water quality controls are implemented (see Table 7-143 of the EIS).

## 4.11.7 DPIE request

### **4.11.7.1 Issue description**

Requests the Department to continue to notify them for all proposals with the potential to impact on WaterNSW land, assets or infrastructure.

### **4.11.7.2 Response**

TfNSW notes the request and will pass it on to DPIE for a response.

## 4.12 Western Sydney Airport Corporation

### 4.12.1 General support

#### **4.12.1.1 Issue description**

Western Sydney Airport Corporation (WSA Co) is strongly supportive of the project as essential infrastructure to support the development of Western Sydney International (Nancy-Bird Walton) Airport and the growth of the region.

#### **4.12.1.2 Response**

TfNSW acknowledges the support for the project by WSA Co.

### 4.12.2 Project design

#### **Intersection and entry/exit ramps**

##### **4.12.2.1 Issue description**

###### **M12 Motorway / M7 Motorway and M12 Motorway / Mamre Road/ Devonshire Road**

Concern that the scope of the project does not optimise the opportunity to connect to Western Sydney International Airport and the locality from the east. WSA Co emphasises the need for improved connectivity at the M7 Motorway and airport ends of the project (Elizabeth Drive), and at a mid-point in the vicinity of Mamre and Devonshire Roads.

To achieve adequate network circulation with an appropriate level of redundancy in the event of the project being blocked or heavily congested, WSA Co has suggested improved, un-tolled connection when joining from the east, rather than only via the M7 Motorway, and also a grade-separated interchange with Elizabeth Drive at the airport site entrance. This would facilitate local as well as airport traffic and appropriate modal separation for traffic entering the site. Such added connectivity would better align with the project objective to provide a road that supports and integrates with the broader transport network.

Further, the design of the M7 Motorway and the M12 Motorway intersection does not consider connection opportunities between the M12 Motorway and Elizabeth Drive. This may result in an

increase in traffic from Liverpool and surrounds using Elizabeth Drive to access the airport in lieu of the project.

### **Elizabeth Drive and Western Sydney International Airport**

Improving M12 Motorway connectivity at the entrance to the airport would also be responsive to the increase in road traffic from the growth of the airport and other developments anticipated in the Western Sydney Aerotropolis, particularly the Northern Gateway precinct identified in the Western Sydney Aerotropolis LUIP. The project should provide access to these growth precincts as part of a regional road network solution.

The project design should not rely on the availability of a major interchange within the airport site to provide a local traffic solution and alternative connection to Elizabeth Drive. Such an approach would be inadequate and inappropriate for the immediate and ongoing demand and likely lead to the type of traffic conflict and congestion issues experienced at and around Sydney (Kingsford Smith) Airport.

One consequence of the current design may be substantial volumes of traffic entering the Airport site and circulating through the Airport's road network in order to gain access to Elizabeth Drive. This could include a substantial number of heavy vehicle movements given the likely nature of future developments in the Northern Gateway precinct. Elizabeth Drive is also a State Road and designated Heavy Vehicle truck route and as such, the M12 Motorway should provide the required connectivity by having a design that includes entry and exit-ramps at Elizabeth Drive.

WSA Co's suggested solution for improved connectivity at the airport entrance has been entry and exit-ramps to the M12 Motorway from signalised intersections at either end of the Elizabeth Drive overpass that tie into the realigned section of Badgerys Creek Road in the east and/or to the secondary airport access road to the west. However, there are many options that deliver some or all of the necessary connectivity that should be evaluated as part of the EIS.

#### **4.12.2.2 Response**

##### **M12 Motorway / M7 Motorway and M12 Motorway / Mamre Road/ Devonshire Road**

The project is being designed to include interchanges at appropriate intervals in order to maintain optimal traffic operation.

Two design options for the motorway-to-motorway interchange at the M7 Motorway are being considered as part of the amended project. The options are as follows:

- Option 1 – Without Elizabeth Drive connection
  - Interchange provides entry and exit ramps between the M12 Motorway and the M7 Motorway; in addition, it would maintain the existing connection of the M7 Motorway to Elizabeth Drive with new entry and exit ramp
- Option 2 – With Elizabeth Drive connection
  - Interchange as per option 1 and also provides entry and exit ramps between the M12 Motorway and Elizabeth Drive, Cecil Road and Wallgrove Road.

The key features of each option are discussed in Section 2.1 and Section 2.2 of the amendment report. A key benefit of option 2 is the provision of a toll-free connection between Liverpool and the Western Sydney International Airport.

The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection. This would be defined during the detailed design phase of the project and prior to the award of the construction contract. If option 1 is progressed due to funding limitations, the M12 Motorway may be accessed via The Northern Road to the west and the M7 Motorway to the east.

As described in the draft Western Sydney Aerotropolis Plan (WSPP 2019), the Mamre Road Precinct is part of the Western Sydney Employment Area (WSEA) and would be connected to the potential Western Sydney Freight Line. Future road upgrades would seek to promote connectivity between the WSEA and other precincts in the Aerotropolis.

A Mamre Road and Devonshire Road north–south connection is outside the current scope of the project. Funding is not currently available to deliver these connections, however TfNSW has started to plan for the future by investigating the delivery of exit and entry ramps at these locations. The project has been designed to allow for a potential connection between Mamre Road and Devonshire Road. The existing design of the project would enable an interchange to be constructed without significantly impacting motorway traffic. TfNSW would continue to consult with WSA Co in this regard.

### **Elizabeth Drive and Western Sydney International Airport**

The primary objective of the project is to provide a connection between the existing road network and the Western Sydney International Airport.

The project does not rely on the availability of a major interchange within the airport site to provide a local traffic solution or alternative connection to Elizabeth Drive. This is demonstrated by the traffic model not including the internal airport road network.

The project would not provide entry and exit-ramps from the signalised intersections along Elizabeth Drive into the Western Sydney International Airport however subject to funding from the WSA Co and adjoining developers the amended project would incorporate the two new signalised intersections into the Western Sydney International Airport that were previously considered in the EIS only as potential future options.

The two intersections would improve access to the Western Sydney International Airport, with the eastern intersection tying into the realigned section of Badgerys Creek Road and the secondary airport access road to the west. The two intersections would also include provisions for future connection to potential developments north of Elizabeth Drive, such as Northern Gateway. Further details on this amendment is in Section 3.2 of the amendment report.

Road connectivity to support the Western Sydney Aerotropolis, South West Growth Centre and other planned employment precincts would be a function delivered by a combination of the motorway, arterial road, and the local road network. Future road network plans are also being developed by WSPP.

TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network. TfNSW would also consult further with WSA Co in regards to opportunities for connectivity at Elizabeth Drive and the Western Sydney International Airport.

## ***Airport operations***

### ***4.12.2.3 Issue description***

Additional access points have been identified on the Airport site layout provided to TfNSW. These roads provide secondary access to the terminal, aviation support facilities as well as the business park lands. They provide necessary network redundancy and emergency access and egress in the event of the project being unavailable for any reason and are therefore critical to the operation of Western Sydney International Airport. Further, based on discussions with TfNSW, these access roads will also be used by the planned regional bus services to the airport from Liverpool, Penrith, Campbelltown and Parramatta.

The majority of Western Sydney International Airport development to service the first runway in the early years of its operation will be on the north-western side of the airport site. Access to and from Elizabeth Drive via the western secondary access road for aviation support activities is fundamental to this.

WSA Co considers it essential to reflect both intersection requirements in the design and provide connectivity to Elizabeth Drive on both sides of the main access road.

### ***4.12.2.4 Response***

As discussed in **Section 4.12.2.2**, the amended project would, subject to funding provisions, include two new signalised intersections that would improve access to the Western Sydney International Airport and include provisions for future connection to potential developments north of Elizabeth Drive, such as Northern Gateway.

Road connectivity to support the Western Sydney Aerotropolis, South West Growth Centre and other planned employment precincts would be a function delivered by a combination of the motorway, arterial road, and the local road network. Future road network plans are also being developed by WSPP. TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network.

## ***Tolling***

### ***4.12.2.5 Issue description***

WSA Co welcomes the NSW Government's commitment to providing toll-free access via the M12 Motorway to the new airport which provides clear equity with regard to the toll-free access being provided to Sydney (Kingsford Smith) Airport via the Sydney Gateway project.

WSA Co is concerned with the absence of entry and exit ramps at Mamre and Devonshire Roads, given there is no alternative egress for road users. This effectively forces road users onto the tolled M7 Motorway in order to access the toll-free M12 Motorway from the north or take what may be a heavily congested Elizabeth Drive as road users seek to avoid the M7 Motorway toll. Without appropriate pass through access, congestion in and around the airport would be highly detrimental to the efficient ingress and egress to the airport. Traffic congestion on Elizabeth Drive as a result of road users avoiding the M7 Motorway toll would impact local traffic and communities with heavy vehicles, in particular, choosing the toll-free option. This would potentially impact the commercial viability of the airport due to inefficient road access.

#### 4.12.2.6 Response

TfNSW acknowledges WSA Co's concern in regard to the absence of connections from Mamre Road and Devonshire Road to the M12 Motorway. Funding is not currently available to deliver these connections, however TfNSW has started to plan for the future by investigating the delivery of exit and entry ramps at these locations. TfNSW would continue to consult with WSA Co in this regard.

As discussed in **Section 4.12.2.2**, two design options for the motorway-to-motorway interchange at the M7 Motorway are now being considered as part of the amended project.

The key features of each option are discussed in Section 2.2 and Section 3.1.2 of the amendment report. A key benefit of option 2 is the provision of a toll-free connection between Liverpool and the Western Sydney International Airport.

The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection. This would be defined during the detailed design phase of the project and prior to the award of the construction contract. If option 1 is progressed due to funding limitations, the M12 Motorway may be accessed via The Northern Road to the west and the M7 Motorway to the east.

A transport and traffic updated technical report has been prepared for the amended project and discussed in Section 6.2 of the amendment report. The updated traffic model has been prepared for the amended project based on a more recent land use and demographics scenario (LU16), upgrades along the network and changes in future demand growth.

The updated traffic model for the amended project and the model used for the EIS traffic assessment factored in that the M7 Motorway is tolled. Therefore the impact to Elizabeth Drive as a result of drivers avoiding the M7 Motorway and M12 Motorway has been considered in the traffic assessments in the EIS and the amendment report.

The NSW Government has recognised the need for future upgrades to Elizabeth Drive to support growth of the airport and surrounding Western Sydney Aerotropolis development. The NSW Government has allocated funds to investigate improvements to Elizabeth Drive between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham and work is commencing on concept design for this project shortly. The assessment for the amended project identified the following:

- Improvements in intersection performance along Elizabeth Drive due to the amended project reducing traffic volumes along Elizabeth Drive
- Travel times on Elizabeth Drive between The Northern Road and the M7 Motorway would generally decrease with the amended project
- Overall volumes on Elizabeth Drive would remain unchanged by 2036. However, there would be localised increases and decreases
- Option 2 would result in more traffic using the amended project and less traffic using Elizabeth Drive; as well as more traffic using Cecil Road and Duff Road, compared to option 1; this reflects increased connectivity to the local road network that option 2 provides
- When compared to the project as described in the EIS, overall vehicular volumes are lower in 2026 and in 2036 on Elizabeth Drive.

This is discussed in detail in Section 6.2 of the amendment report. Overall, the amended project would reduce travel times and delays on Elizabeth Drive by providing a high-speed alternative to Elizabeth Drive between The Northern Road and the M7 Motorway. Given the project would not be tolled, traffic modelling for the EIS or the amended project has not investigated the use of alternative routes to avoid tolls.

## 4.12.3 Consultation

### 4.12.3.1 Issue description

The period of construction through to 2025 will be a period of intense construction activity in the local region, not only by WSA Co and in the delivery of the M12 Motorway and other roads but also in the anticipated construction of the Sydney Metro rail service adjacent to the M12 Motorway and in the potential private developments responding to increased economic activity.

WSA Co commits to ongoing participation in transport and traffic liaison groups that seek to ensure coordination of construction traffic activities, minimise traffic delays, address local community amenity (notably re noise and dust) and maintain road safety.

For the airport, much of this traffic activity will access and egress the airport site via Elizabeth Drive and realigned Badgerys Creek Road. Further, traffic in the region continues to grow generally, including the proposed expansion of the Suez waste facility on Elizabeth Drive. Activities, such as the Elizabeth Drive road closures at Mamre Road and the M7 Motorway (Section 5.24.17, Table 5-18 of the EIS), need careful coordination to ensure no critical impact on surrounding construction activities.

WSA Co will continue make itself available to work with NSW on matters of mutual interest and would be happy to participate in a liaison group to ensure appropriate level of consultation.

### 4.12.3.2 Response

TfNSW is committed to regular consultation with nearby/adjoining projects and key stakeholders, including traffic liaison groups. This would be done during the detailed design and construction phase to review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management) as far as practicable, to minimise cumulative impacts.

Activities, such as the Elizabeth Drive road closures at Mamre Road and the M7 Motorway (Section 5.24.17, Table 5-18 of the EIS), would be carefully coordinated to prevent any critical impact on surrounding construction activities.

A CTTMP would be prepared as part of the CEMP which would outline staging and planning of work to minimise the need to occupy roads where practicable, including identification of haulage routes. Where road closures are required, these would be managed in consultation with the Traffic Management Centre and communicated to the community in accordance with the Community Communication Strategy.

## 4.12.4 Transport and traffic

### *Incident response*

#### 4.12.4.1 Issue description

Whilst the design provides a motorway standard east–west connection, there are no other entry or exit ramps between the Western Sydney International Airport interchange and the M7 Motorway

and as such, there is no alternative capacity in the road design or exit opportunity in the event of an incident that blocks the project.

#### **4.12.4.2 Response**

The project is being designed to include interchanges at appropriate intervals in order to maintain optimal traffic operation. Section 5.18 of the EIS outlines the emergency or incident facilities provided for in the design. This includes the provision of:

- Emergency cross overs
- Emergency telephone bays
- CCTV and intelligent transport system to respond to incidents.

As discussed in **Section 4.12.2.2**, the potential for additional entry and exit ramps at Elizabeth Drive have been considered as part of option 2 of the amended project (see Section 3.1 of the amendment report). If built, these ramps would provide an additional exit opportunity in the event of an incident. If the ramps are not built and option 1 goes ahead, motorists would need to use the emergency cross overs to exit the motorway in the event of an incident. The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection. This would be defined during the detailed design phase of the project and prior to the award of the construction contract.

A Mamre Road and Devonshire Road north–south connection is outside the current scope of the project. Funding is not currently available to deliver these connections, however TfNSW has started to plan for the future by investigating the delivery of exit and entry ramps at these locations. The project has been designed to allow for a potential connection between Mamre Road and Devonshire Road.

The existing design of the project would enable an interchange to be constructed without significantly impacting motorway traffic. TfNSW would continue to consult with WSA Co in this regard.

### **4.12.5 Safety**

#### **4.12.5.1 Issue description**

Western Sydney International Airport and the M12 Motorway will play a critical part in transforming the landscape of Western Sydney and setting a standard for visual amenity. Urban design, drainage, landscaping species choices and maintaining biodiversity sympathetic to cultural heritage will also need to respond to aviation needs.

In particular, whilst a species planting schedule is indicated in the EIS, WSA Co requests that a condition of consent be imposed requiring WSA Co be consulted in the final species selection to ensure landscape species are selected that minimise bird attraction and the risk of wildlife strike.

The National Airports Safeguarding Framework (NASF) has been established to manage potential development encroachment on aviation activity and minimise any detrimental impact on public health and safety. WSA Co supports the approach to applying NASF as proposed in the M12 Motorway on such matters as management of lighting intensity and public safety zones, as

well as wildlife hazards. WSA Co will continue to work with TfNSW (and DPIE) to ensure appropriate controls are maintained.

In practical terms, WSA Co encourages TfNSW to consider an increased use of smart traffic management technology as an integral part of its safety in design and achieving safety levels as low as reasonably practicable. Similarly, it is important that the motorway lighting is not configured or be of a pattern that could distract pilots or result in the lighting being mistaken for aerodrome or runway lighting, particularly during periods of poor visibility at night or inclement weather.

#### **4.12.5.2 Response**

As discussed in Section 5.5 of the EIS, TfNSW are aware of a number of NASF guidelines that are relevant to the project. *NASF Guideline I – Public Safety Areas* is particularly relevant as it relates to the management of risks within the public safety area. These guidelines would be applied to the project during detailed design.

Specifically, consideration would be given to the proposed type of light fittings and lighting intensities within the six kilometre buffer radius from the airport in accordance with relevant guidelines, such as the *NASF Guideline E – Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports*. Landscape work would be compatible with the relevant guidelines of the NASF regarding bird strike close to the Western Sydney International Airport.

TfNSW acknowledges WSA Co's request for the consideration of smart technology. The project has allowed for future provision of smart technology.

TfNSW would continue to work with WSA Co as the project progresses to manage risks associated with the public safety area, tree planting and lighting.

### **4.12.6 Future infrastructure projects**

#### **4.12.6.1 Issue description**

Recommends that in the absence of an Elizabeth Drive connection onto the M12 Motorway as part of the current project scope, the EIS should evaluate bringing forward investment in Elizabeth Drive to provide the requisite connectivity to the airport for the residents of the wider region without the negative impacts for more local residents.

#### **4.12.6.2 Response**

The future upgrade of Elizabeth Drive is outside of the project scope.

The NSW Government has allocated funds to investigate improvements to Elizabeth Drive between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham. However, the Government has not announced funding or timing for construction.

## 4.13 NSW Environment Protection Authority

### 4.13.1 Noise and vibration

#### **4.13.1.1 Issue description**

##### **Noise logger locations**

The NIA (noise impact assessment) relies on 15 noise logging locations to determine the existing noise levels in the areas likely to be affected by the construction and use of the M12 Motorway. These noise levels are then used to determine the assessment noise levels for both construction and the future operation of the motorway.

The EPA advises that the NIA indicates that logger position L01 is representative of both NCA01 and NCA02. Similarly, the logger position L03 is representative of both NCA03 and NCA06. The claim that the noise levels across these Noise Catchment Areas (NCAs) are similar to that of the logger location is not evidenced by attended noise measurements at the NCAs that did not receive a noise logger. The EPA advises that isolated parts of NCAs may be subject to different background noise levels than those measured at the chosen noise monitoring locations. The EPA advises that the NIA should include confirmation and clarification that the noise levels at L01 and L03 are representative of the noise environment across the adjacent NCAs. Specifically, the EPA is concerned that the isolated areas of NCA03 and NCA01 may not be represented by L03 and L01, respectively.

##### **Application of Interim Construction Noise Guideline**

As previously advised prior to exhibition, the EPA continues to have concerns regarding how the construction noise has been assessed. Specifically, the proposed construction noise impact methodology in Table 7-110 of the EIS main report mirrors the CNVG (Roads and Maritime 2016). However, the EPA advises that the noise impact methodology should also be expressed as per the Interim Construction Noise Guideline (ICNG) (DECC 2009). The EPA notes that the ICNG provides guidance on assessing impacts at receivers as noise affected, highly noise affected, and noise affected outside recommended standard hours.

Further, the NIA should consider Section 5 of the ICNG to ensure that effective qualitative assessments of the noise impacts are taking place and are in line with the proposed mitigation and management methodology.

##### **Lack of information**

There is a lack of information and certainty on the potential duration and extent of construction noise impacts, particularly for work scheduled outside of the recommended standard hours. The EPA advises that the EIS should include more detailed information on the type and duration of noise that would be deemed “noise affected” and “highly noise affected” under the ICNG.

##### **Operational noise management measures**

The EPA notes that the predicted noise levels for the motorway are such that additional treatment is required for many dwellings and non-residential receivers. These receivers are contained within Annex D of the NIA. Several of these receivers trigger the additional mitigation by causing an increase in the noise level at the receivers of more than 2 dB. However, the EPA notes the NIA states that the noise model has an accuracy of +/- 2 dB, as well as the validation of the model indicating that noise levels may also differ in situ from the predicted noise level at a receiver based

on existing noise levels. Given that receivers that do not qualify for treatment are not presented in Annex D, the EPA requires confirmation that the accuracy of the noise model will not result in residents that qualify for mitigation not receiving treatment due to be modelled below the 2 dB increase threshold.

#### **4.13.1.2 Response**

##### **Noise logger locations**

NCA's are selected to be representative of varying land uses and the noise environment of sensitive receiver locations across the project. They allow discussion of potential impacts to be focused on specific areas that would likely have similar impacts. As noted in the EIS, it is not necessary or feasible to measure noise levels in every part of all NCA's, provided representative noise monitoring is carried out in a similar location.

Background noise monitoring is typically carried out in a location representative of receivers that are likely to be most affected by construction and operation of the project. The most affected receivers are typically those on the front row closest to the construction work that have direct line of sight to the work. While background noise levels may reduce for receivers which are further back from the proposed work (and nearby roads), construction and operational noise predictions are likely to reduce at a quicker rate with increasing distance meaning that the level of impact would generally be lower for more distant receivers than ones closer to the work, and it is not generally necessary to measure existing noise levels in distant parts of NCA's.

TfNSW notes that although the NSW EPA submission states that noise monitoring location used for NCA03 and NCA06 was L03, the correct noise monitoring location is L05. Noise logger location L05 is located in the Kemps Creek/Mount Vernon rural residential area, where noise levels are less influenced by major roads. This is considered representative of the majority of receivers in NCA03 and NCA06 which are generally distant from major roads but still influenced to some degree.

A small number of the nearest receivers in NCA03 are situated along Mamre Road (ie near L04) where noise levels would be higher, however, the majority of the nearest receivers in this catchment are not close to major roads and would generally have lower background noise levels, with the data measured at L05 considered to be more representative. As such, the measured existing data is considered representative for the likely most affected receivers in each catchment and further noise monitoring is not required.

##### **Application of Interim Construction Noise Guideline**

The noise assessment undertakes a quantitative assessment of construction noise impacts in accordance with the ICNG. The Noise Management Levels (NMLs) across the study area are determined in accordance with the ICNG, and construction noise levels predicted for each proposed activity and compared to the applicable NMLs. Table 7-110 of the EIS main report provides a visual key that is used to summarise the predicted noise impacts based on their exceedance of the applicable NMLs.

The NSW EPA notes that the ICNG provides guidance on assessing impacts at receivers as noise affected, highly noise affected, and noise affected outside recommended standard hours (as detailed in Table 7-102 of the EIS main report):

- Receivers classified as 'noise affected' are those where exceedance of the NML is predicted during standard construction hours (shown in Table 7-112 of the EIS)

- Receivers classified as ‘noise affected outside of recommended standard hours’ are those where exceedance of the NML is predicted outside of standard daytime hours (shown in Table 7-111, Table 7-113, Table 7-114 and Table 7-115 of the EIS)
- Receivers classified as ‘highly noise affected’ are those where the predicted noise level exceeds 75 dB(A) LAeq(15minute) (shown in Figure 7-103 and Figure 7-104 of the EIS).

The construction noise and vibration environmental management measures detailed in Section 7.7.9 of the EIS are also based on the CNVG (Roads and Maritime 2016). The CNVG details the TfNSW approach to applying the EPA’s ICNG to road projects in NSW, inclusive of the checklist of work practices for qualitative assessment in Section 5 of the ICNG. As such, it is considered that assessment of potential construction noise impacts and recommendation of appropriate management measures has been carried out in accordance with the methodologies outlined in the ICNG.

### **Lack of information**

Additional details relating to duration and extent of noise impacts would be contained in the CNVMP. Where necessary, the CNVMP would contain management measures to manage “noise affected” and “highly noise affected” receivers under the ICNG and in accordance with the project EPL, project conditions of approval, approved out-of-hours work protocol and CNVG (Roads and Maritime 2016).

Community and stakeholder consultation carried out during construction would include project updates on planned construction activities and the construction program. Consultation would be in accordance with the project EPL and would seek to minimise potential impacts where possible and respond to enquiries and concerns in a timely manner.

### **Operational noise management measures**

A total of 183 sensitive receiver buildings (262 individual floors) qualified for consideration of additional noise mitigation under the EIS assessment (see Figure 7-111 to Figure 7-113 in EIS). For the amended project, 212 sensitive receiver buildings (310 individual floors) for option 1 (without Elizabeth Drive connection) and 220 sensitive receiver buildings (320 individual floors) for option 2 (with Elizabeth Drive connection) have been considered for additional noise mitigation.

The purpose of model validation is to demonstrate that the noise model is an accurate representation of the real world within the limitations of the algorithm. The operational noise model used for the project was within the validation tolerances and is considered fit for use.

Prior to construction, an Operation Noise and Vibration Review (ONVR) would be prepared based on the existing land use which would detail the specific management measures for eligible receivers to be applied across the project.

Twelve months after opening of the project, TfNSW would undertake an “actual” measurement of noise levels (see Section 7.9.9 of the EIS). These levels would be compared to the predicted levels from the noise and vibration assessment report. If the noise levels are higher than the predicted levels, it may lead to an increased level of treatment, in which case TfNSW would notify the property owner and arrange for the increased level of treatment.

## 4.13.2 Surface water quality and hydrology

### 4.13.2.1 Issue description

The EIS indicates sediment basin discharges will contain pH of 6.5 to 8.5 and total suspended solids (TSS) concentrations less than 50 mg/L. The EIS includes a qualitative assessment of the potential impact of discharges, suggesting that discharges with TSS concentrations less than 50 mg/L are likely to have turbidity less than the guideline value. However, the EIS notes that the concentrations of other potential pollutants are unknown and states, "Further water quality assessment would be carried out during detailed design to establish site specific discharge criteria for sediment basins."

The EPA requires a discharge impact assessment consistent with the EPA policy and the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ 2000) to inform Section 45 licensing decisions.

Given the location of the development and the nature of the receiving waterways (noting that discharge points appear to be located some distance from the sensitive receiving waterways) it is considered that the potential water pollution risks can be managed through appropriate erosion and sediment control measures and the requirement for a discharge impact assessment can therefore be addressed through conditions of approval.

The level of assessment and consideration of practical and reasonable management measures should be commensurate with the potential water pollution risks. For example, the proposed discharges to waterways that flow to the lower Hawkesbury-Nepean River are likely to pose a low risk and therefore a simple qualitative assessment could be appropriate to consider potential risks and identify appropriate management measures to manage any residual risks. Discharges to Hinchinbrook Creek flow to sensitive receiving environments. In this case discharges present a higher risk to the waterways and a more detailed assessment of the potential impacts and associated management measures is appropriate.

Prior to commencement of construction, the Applicant must provide a discharge impact assessment commensurate with the level of potential water pollution risk. This assessment must:

- a. Identify and estimate the quality and quantity of all pollutants that may be introduced into the water cycle by source and discharge point
- b. Describe the nature and degree of impact that any discharge(s) may have on the receiving environment, including consideration of all pollutants that pose a risk of non-trivial harm to human health and the environment
- c. Assess the potential impact of discharges on the environmental values of the receiving waterway. This should be done with reference to the national Water Quality Guideline criteria for relevant chemical and non-chemical parameters, including average or typical through to worst-case scenarios
- d. Where a mixing zone is required, demonstrate how the national Water Quality Guideline criteria for relevant chemical and non-chemical parameters are met at the edge of the initial mixing zone of the discharge

- e. Demonstrate how the proposal will be designed and operated to:
- i. Protect the Water Quality Objectives for receiving waters where they are currently being achieved
  - ii. Contribute towards achievement of the Water Quality Objectives over time where they are not currently being achieved
  - iii. Demonstrate that all practical and reasonable measures to avoid or minimise water pollution and protect human health and the environment from harm are investigated and implemented.

The proponent is encouraged to consult with the NSW EPA early in the assessment process to outline the proposed approach to the discharge impact assessment and what practical measures will be employed to maintain or restore the relevant environmental values.

#### 4.13.2.2 Response

TfNSW acknowledges the requirement for a discharge impact assessment. The discharge impact assessment would be prepared as part of detailed design in consultation with EPA and in accordance with the conditions of approval for the project (should it be approved) and the project EPL.

### 4.13.3 Contamination

#### 4.13.3.1 Issue description

##### Further investigations

- The proponent is required to conduct more investigations as detailed in Table 8-9 in the EIS main report, prior to construction
- The proponent must engage an EPA accredited site auditor to prepare a section B site audit statement that confirms that the remediation action plan is appropriate for the site and that the site can be made suitable for the proposed use
- The proponent must adhere to the management measures accepted by the Auditor.
- The processes outlined in State Environmental Planning Policy 55 - Remediation of Land (SEPP55) be followed in order to assess the suitability of the land and any remediation required in relation to the proposed use
- The proponent must ensure the proposed development does not result in a change of risk in relation to any pre-existing contamination on the site so as to result in significant contamination [note that this would render the proponent the 'person responsible' for the contamination under Section 6(2) of *the Contaminated Land Management Act 1997*]
- The EPA recommends the use of "certified consultants". Please note that the EPA's Contaminated Land Consultant Certification Policy, Version 2, November 2017, (<http://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/clm/18520-contaminatedland-consultant-certification-policy.pdf?la=en>) supports the development and implementation of nationally consistent certification schemes in Australia, and encourages the use of certified consultants by the community and industry. Note that the EPA requires all reports submitted to the EPA to comply with the requirements of the *Contaminated Land Management Act 1997* to be prepared, or reviewed and approved, by a certified consultant

## Management Plans

- The EPA requires the preparation of the following management plans and report as part of the Response to Submissions to document how remediation would be carried out, if required:
  - Asbestos Management Plan
  - Contaminated Land Management Plan
  - Unexpected Finds Protocol (The protocol should include detailed procedure for identifying and dealing with unexpected contamination, asbestos and other unexpected finds. The proponent should ensure that the procedure includes details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved)

## Notification

- The EPA is to be notified under Section 60 of the *Contaminated Land Management Act 1997* for any contamination identified which meets the triggers in the Guidelines for the Duty to Report Contamination.

### 4.13.3.2 Response

#### Further investigations

As discussed in Section 8.1.4 of the EIS, further investigations would be carried out in the form of a Phase 2 Detailed Site Investigation (Phase 2 DSI) for sites assessed as having a risk ranking of moderate or high. These sites and the further investigation proposed are provided in Table 8-9 of the EIS. Additional locations have also been identified for the amended project and described in Section 6.11.5 of the amendment report. These additional locations are included in revised management measures (see SC05; **Table 6-1**).

The Phase 2 DSI would assess the existing and potential contamination risk at these sites, the proposed construction activities and outline any remediation required so the land is suitable, or would be made so, for the proposed use. In doing so, the Phase 2 DSI would prevent the project causing a change of risk in relation to any pre-existing contamination on the site so as to result in significant contamination.

The assessment would be written in accordance of relevant guidelines and legislation, including State Environmental Planning Policy 55 – Remediation of Land (SEPP55) and *Contaminated Land Management Act 1997*.

Where the detailed site investigations confirm a moderate to very high contamination risk a remediation action plan and/or environmental management plans would be prepared for each area. As discussed in Section 8.1.4 of the EIS, the process for the preparation and implementation of the Remedial Action Plans includes:

- The plan be prepared by a suitably qualified and experienced contaminated lands consultant
- Remediation and validation activities would be carried out; typical activities for remediation of sites within the construction footprint may include excavation and off-site disposal or capping and containment
- A validation report would be prepared by the consultant
- The validation report would be reviewed by the appointed independent NSW EPA accredited site auditor.

A section B site audit statement would be prepared for the asbestos encapsulation and for sites where intrusive investigations confirm highly complex contamination issues. This revised environmental management measure is provided in **Table 6-1** (see SC09). TfNSW would adhere to the management measures accepted by the Auditor, and those outlined as part of the conditions of approval for the project (should it be approved) and the commitments made within the EIS, this report, the amendment report and supplementary submissions report.

All reports submitted to the EPA are to comply with the requirements of the *Contaminated Land Management Act 1997* and are to be prepared, or reviewed and approved, by a certified consultant.

### **Management Plans**

As detailed in Section 8.1.6 of the EIS, TfNSW is committed to the preparation of a contaminated land management plan which would include an asbestos management plan and unexpected finds protocol.

These management plans would be prepared as part of the CEMP and be prepared post-approval in accordance with the conditions of approval for the project (should it be approved) and the commitments made within the EIS, this report, the amendment report and supplementary submissions report.

NSW EPA would have an opportunity to review the Remedial Action Plans and contaminated land management plan.

### **Notification**

TfNSW would notify NSW EPA in accordance with the requirements under Section 60 of the *Contaminated Land Management Act 1997* and the Guidelines on the Duty to Report Contamination under the *Contaminated Land Management Act 1997* (EPA 2015).

## **4.14 Western Sydney Parklands Trust (WSPT)**

### **4.14.1 General support**

#### **4.14.1.1 Issue description**

Supports the location of the motorway, subject to measures to ensure the motorway does not adversely impact on the ability to develop the Parklands in accordance with the Western Sydney Parklands Plan of Management 2030 and the Western Sydney Parklands Southern Parklands Framework (2018).

Redesign and relocation of the Wylde Mountain Bike Trail will occur before the start of construction allowing access to the trails and other facilities to be maintained during construction and helping to reduce disruptions for users. WSPT supports this and the design work has already commenced on the relocation of Wylde Mountain Bike Trail. WSPT looks forward to continuing to work with TfNSW on relocating this important community facility.

#### **4.14.1.2 Response**

TfNSW acknowledges the support by WSPT for the project and redesign and relocation of the Wyld Mountain Bike Trail. TfNSW is committed to continued collaboration with the WSPT during the detailed design phase of the project.

### **4.14.2 Project design**

#### **Road design**

##### **4.14.2.1 Issue description**

WSPT notes the following concerns regarding the proposed design:

- Align the project as close to Elizabeth Drive as possible to maximise the usable land within the Parklands and minimise superfluous land within the Parklands
- The current M7 Motorway underpass could be aligned, with better design in fencing and property management, to allow for better underpass for pedestrians or wildlife or both. This underpass is a perfect example of a simple opportunity to improve permeability of the motorways
- The current Wallgrove Road access to the M7 Motorway (located in Precinct 11 Cecil Park North) as shown by TfNSW as a filled road loop has major impacts to significant native vegetation and is a poor urban design outcome. TfNSW should investigate alternate designs for this arrangement that provide a better outcome on the biodiversity impacts and to improve the urban design outcome. In doing so, the outcome must design for suitable access to be maintained to allow wildlife habitat and movement and bushland maintenance
- WSPT reiterates that both the M12 Motorway and Elizabeth Drive should be designed concurrently and delivered together if possible. There are further opportunities to improve the design of entries into the Parklands and integrate better with either the M12 Motorway or Elizabeth Drive projects.

##### **4.14.2.2 Response**

Where possible, the operational footprint has been located near to Elizabeth Drive and the M7 Motorway, helping to minimise fragmentation of the parkland. As discussed in Section 4.6 of the EIS, three alignment options were considered within the Western Sydney Parklands (see Figure 4-5 of the EIS). Based on the relative overall performance against the selection criteria, the new refined preferred corridor which is aligned in close proximity to Elizabeth Drive was selected through the Western Sydney Parklands as it would:

- Deliver on the vision for the Western Parkland City
- Best meet the overall project objectives for the community in the Parklands
- Provide the best integrated land use and transport option
- Maintain the integrity of Western Sydney Parklands for future generations
- Protect scenic and cultural landscapes by locating the new infrastructure closer to disturbed areas
- Reduce community severance.

The current M7 Motorway underpass is not accessible to the public. The project and bridge structure (Bridge 17) in this location would maintain the existing access requirements in this location. The suitability of the underpass for providing wildlife access is discussed in **Section 4.14.4.2**.

The amended project would provide a straight Wallgrove Road to M7 Motorway northbound entry ramp instead of the loop ramp discussed in the EIS. Biodiversity and urban design impacts associated with the project design and amended project is discussed in **Section 4.14.4.2** and **Section 4.14.6.2**.

Transport for NSW would continue to consult with WSPT to maintain property access to Western Sydney Parklands at all times for bushland maintenance. Existing property access that is physically affected by the project would be reinstated to at least an equivalent standard, in consultation with WSPT.

The upgrade of Elizabeth Drive is currently outside of the project scope and would be delivered as a separate Transport for NSW project. This is discussed further in **Section 4.14.8.2**.

## **Shared user path**

### **4.14.2.3 Issue description**

TfNSW requested that the WSPT review the potential opportunity to accommodate a shared user path linking the M12 Motorway to the M7 Motorway through the Parklands. The options provided by TfNSW did not align with the future master planning for the precinct, and was therefore determined to not be a suitable option. WSPT has developed a potential suitable alignment for consideration. The proposed main link through the Southern Parklands would accommodate the regional shared user path function. This shared user path connects the M7 Motorway to the proposed M12 Motorway shared user path. This path would accommodate faster speed cyclists passing through the Parklands. The shared user path would be lit to the standard of the M7 Motorway shared user path to allow function for recreation and commuter users.

The alignment for the shared user path connects along the proposed Mirror Dam Path to the central area of the Parklands, passes the proposed new Wylde Mountain Bike Trail Entry Precinct to the Range Road entry and would create a memorable experience. If the RMS does not wish to pursue this alignment then it is recommended that the cycle link be provided next to the M12 Motorway within the proposed road corridor.

The EIS states that this section of the shared user path through the Western Sydney Parklands, linking the M12 Motorway to the M7 Motorway cycleways, does not form part of the M12 Motorway project. WSPT considers that a shared user path linking the M12 Motorway cycleway to the M7 Motorway cycleway should be part of the project. This link, known as the Mirror Dam Cycleway, could be implemented by the WSPT with full financial support from TfNSW.

In addition to these connections WSPT considers that pedestrian/cycle connections should be considered and provided in the following locations:

- On the vehicle connection at Duff Road (currently referred to by TfNSW as a utilities access road bridge: Bridge 11)
- Between the Abbotsbury Woodland to the north-east of the Elizabeth Drive/M7 Motorway intersection, and the Parklands to the south-west of the M12 Motorway / M7 Motorway

intersection. A cycle pedestrian pathway needs to be considered with modifications to the design of the M7 Motorway entry-ramp to the M12 Motorway to provide an underpass for connectivity

- On the north-east of the M7 Motorway/Elizabeth Drive to create a connection into Plough & Harrow West Picnic Area of the Parklands. This should use the M12 Motorway construction haulage track with further design input required by TfNSW in collaboration with WSPT to achieve an agreed design outcome
- South-east of the M7 Motorway/Elizabeth Drive the existing cycle connection should integrate with future track connection desires down to Cecil Park shops
- South west of the M7 Motorway/Elizabeth Drive a connection should link the proposed lookout on the hill near the water towers down to the intersection of the M7 Motorway and Elizabeth Drive.

#### **4.14.2.4 Response**

The scope to deliver the shared user path linking the M12 Motorway cycleway to the M7 Motorway cycleway, known as 'Mirror Dam Cycleway', is being planned as a collaborative effort between Western Sydney Parklands and TfNSW. TfNSW would fund the work, while Western Sydney Parklands would assess and deliver the cycleway separately to the M12 Motorway construction. TfNSW would continue to work with WSPT to develop the Mirror Dam Cycleway and resolve the best location for the Cycleway.

TfNSW would maintain the existing connections to the Western Sydney Parklands from the M7 Motorway shared user path. Additional shared user path connections would be confirmed during detailed design.

### **4.14.3 Consultation**

#### **4.14.3.1 Issue description**

Requests to be consulted on the following:

- It is noted that the public entry and exit to the Sydney International Shooting Centre and Wylde Mountain Bike Trail carpark will be impacted, as well as Gates D, E and G. A condition of consent should be imposed that requires the gate relocations to be endorsed by WSPT
- The proposal has the potential to significantly impact the physical environment, native fauna and native vegetation, and the users of Western Sydney Parklands. WSPT requests that the CEMP specifically address work within the Western Sydney Parklands, and that this part of the CEMP for Package 3 must be prepared in collaboration with and endorsed by WSPT.

WSPT has been approached by TfNSW about potential compound areas within the Parklands to facilitate the construction of the project. WSPT will consider these, subject to location and environmental impacts.

#### **4.14.3.2 Response**

TfNSW would continue to consult with WSPT about proposed car park gate locations, potential compound areas and property adjustment plans during detail design. Where possible, TfNSW would endeavour to minimise impacts within Western Sydney Parklands.

If the project is approved, the CEMP would be developed in accordance with conditions of approval for the project and the commitments made within the EIS, this report and the amendment report and supplementary submissions report. The CEMP would be prepared in consultation with government agencies based on the conditions of approval for the project.

## 4.14.4 Biodiversity

### 4.14.4.1 Issue description

Concerns and recommendations in relation to biodiversity include:

- WSPT is concerned that the concept design does not provide adequate widths for actual connectivity and wildlife corridors, particularly the safe movement of macropods in the landscape. The operational footprint of the project will be a barrier and planting of native species along the edge, whilst providing an aesthetic for road users, will not be a flora/fauna corridor or connection as stated in the design report if it is not adequately designed and managed. Further detail is required along the project footprint to detail how wildlife may move through the region to key corridors and habitat and how the project will facilitate this movement
- The M7 Motorway underpass at Villiers Rd is the top of Ropes Creek corridor and any access or construction impacts should ensure wildlife corridors are maintained
- Ensure underpasses or bridges are provided over and under the project to facilitate the movement of fauna
- Native tree planting within the corridor adjacent to the Parklands should be grown from locally sourced seed. Seed collection for the project could be carried out within the Parkland corridor with remnant and older growth vegetated areas be considered as a higher priority to be targeted for source seed
- Make good of impacted bushland should be managed by qualified bush regeneration company.

### 4.14.4.2 Response

Native vegetation, threatened species and threatened species habitat removal would be minimised where practicable through detailed design. The biodiversity assessment (Appendix E of the EIS) notes that woodland habitat along the east and west sides of the M7 Motorway currently provides some limited north–south habitat connectivity. However, the M7 Motorway and Elizabeth Drive already create significant barriers to habitat connectivity and impact regional habitat corridors in the study area.

The amended project would result in an additional seven hectares of native vegetation clearing and a slight increase in habitat fragmentation across the whole construction footprint which has been assessed in biodiversity supplementary technical report. As described in Section 6.1 of the amendment report, the majority of this vegetation is located within the Western Sydney Parklands.

The project would implement connectivity measures in accordance with Wildlife Connectivity Guidelines for Road Projects (TfNSW, under preparation). Fencing would be located to reduce roadkill of fauna species and funnel animals to creek crossings where safe passage would be available.

The project would also focus on maintaining connectivity along riparian areas, where there is limited, current connectivity and existing regional biodiversity links (see Figure 7-3 in EIS). Upon

completion of construction, riparian vegetation in the vicinity of creek work would be improved and enhanced where possible. Detailed design is to retain fauna passage at all four main creek lines (Cosgroves, South, Kemps and Badgerys creeks).

TfNSW understands there is existing connectivity within the Western Sydney Parklands under the M7 Motorway south of Elizabeth Drive. The M12 Motorway design in this location would allow for this connectivity to be maintained.

Revegetation across the project would also be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) (Guide 3: Re-establishment of native vegetation) and the urban design landscape plan prepared for the project.

Where possible, seed would be sourced from within the project footprint and the local area. TfNSW has commenced a seed collection programme and would work with the Western Sydney Parklands to identify the best areas to collect these seeds within the Parklands. Bush regeneration would be carried out by a suitably qualified bush regeneration company.

## 4.14.5 Transport and traffic

### 4.14.5.1 Issue description

Primary access to the Cecil Hills area of the Southern Parklands will be off the intersection of Elizabeth Drive and Range Road. WSPT continues to reiterate the requirement that this intersection should be signalised as part of the Elizabeth Road upgrade. The Transport and Traffic Report for the project does not appear to address the Elizabeth Drive / Range Road intersection.

### 4.14.5.2 Response

The delivery of the intersection upgrade is not part of the scope of the project. This is discussed further in **Section 4.14.8.2**.

## 4.14.6 Urban design, landscape character and visual impact

### 4.14.6.1 Issue description

There will be an impact along the edge of the Parklands during the construction period of the project. This will need to be managed to ensure that amenity and operation of the Parklands is maintained.

WSPT have requested the following about landscaping to manage impacts to visual amenity:

- Ensure well planted landscape treatments to the edges of the project
- Create sufficient landscape buffer and transition between the project and the park uses, using endemic Cumberland Plain plant species
- Retain as many existing mature trees as possible within the Parklands
- Ensure sufficient area within the dedicated Wylde Mountain Bike Trail areas for the trails to be contained within the woodland and undulating landscape
- Provide sufficient buffers to other land/park uses or motorway

- Ensure the areas allocated for the Wylde Mountain Bike Trail are contiguous and are not interrupted by road crossings or other park trails
- Provide bridges or underpasses if needed to achieve contiguous travel for Wylde Mountain Bike Trail users that enhance the existing natural setting and park experience.

WSPT requests that conditions of consent require that the UDLP and tree management strategy are endorsed by WSPT for the proposed planting within and adjacent the Western Sydney Parklands. WSPT would welcome early discussions in the preparation of this UDLP. The Parklands may be a place to assist with replacement tree planting to assist with Government meeting the 40 per cent tree canopy target within the area.

#### **4.14.6.2 Response**

A landscape character and visual impact supplementary technical memorandum was prepared for the amended project (see Section 6.3 of the amendment report). Overall, the assessment concluded that the landscape character, visual impact assessment impacts during operation of the amended project would be similar to that of the project as described in the EIS.

Native vegetation, threatened species and threatened species habitat removal would be minimised where practicable through detailed design.

Revegetation would be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) (Guide 3: Re-establishment of native vegetation) and the UDLP prepared for the project. The objectives of the Biodiversity Guidelines are to ensure revegetation is representative of the natural ecological community of the area, such as Cumberland Plain Woodland, and provide vegetation that provides habitat and fauna connectivity.

A UDLP would also make provisions for vegetative screening to soften the appearance of structural elements of the project and provide screening of sensitive views to minimise landscape character and visual impacts on adjacent land use such as the Western Sydney Parklands and Wylde Mountain Bike Trail.

TfNSW would continue to work with WSPT to support their delivery of a replacement for the Wylde Mountain Bike Trail by WSPT. This is discussed further in **Section 4.14.7.4**.

TfNSW is continuing to work with the WSPT and Bicycle NSW to design, plan and deliver a replacement trail that integrates with existing facilities and future plans for the parklands, helping to minimise long-term impacts for users of the mountain bike facility. The redesign and relocation of the Wylde Mountain Bike Trail would occur before the start of construction, subject to WSPT delivery timeframes, allowing access to the trails and other facilities to be maintained during construction and helping to reduce disruptions for users.

TfNSW would continue consultation with WSPT during the preparation of the UDLP and tree management strategy.

Conditions of approval would be a matter for the Minister for Planning and Public Spaces.

## 4.14.7 Socio-economic, land use and property

### *Impacts on future development*

#### **4.14.7.1 Issue description**

The proposed vehicular access and entry connections to the Parklands, at Duff Road and Range Road, are considered inadequate to allow for future development of the Parklands and to provide a positive arrival and visitor experience on entry into the Parklands.

The proposed Duff Road entry off Elizabeth Drive will be a future major entry point for visitors to the Parklands. As such, it is essential that this intersection be signalised (which is assumed in traffic modelling for the project), and that appropriate pedestrian, cyclist and vehicle capacity be provided when building the access bridge. It is understood that this is being developed in coordination with the proposed urban area north of Elizabeth Drive.

The bridge (Bridge 11) should be designed as a major entry into the Parklands, not simply as a utilities access road with basic engineering design and no urban design overlay.

WSPT continues to reiterate that the second road access at Duff Road into the Parklands needs to allow for the capacity for the future traffic demand of the Parklands' recreation and tourism land uses such as hotel, camping and cabins, lookout, and recreational facilities and infrastructure of Cecil Hills area of Southern Parklands. The current dog-leg arrangement of only a two-lane road for accessing this precinct and future tourism and recreation hubs is a safety concern due to 'blind corners' and poor arrival experience for all future visitors to the Parklands.

Given the difficulty and cost of developing over major transport routes the intersection and access road work, the project should be constructed to accommodate the development identified in the Western Sydney Parklands Plan of Management 2030 and Western Sydney Parklands Southern Parklands Framework. The project could otherwise result in limited viability for redevelopment of this area into this emerging major Parkland destination. The area is intended to accommodate a major recreation, sport and structured recreation, entertainment and tourism destination which could receive over 10 million visits per annum in the long-term.

The Range Road bridge (Bridge 10) / underpass design is not appropriate as the future major entry to the Southern Parklands. The vehicle entry points to the Parklands should be of a high-quality design that is aesthetic, functional and modern whilst respecting the existing landscape. Range Road bridge and underpass needs to be wider, more open and create a visual sense of arrival to the Parklands and the future land uses of the Adventure Sports and Tourism Precincts and support active travel links.

This bridge (Bridge 10) / underpass should also consider future traffic requirements to ensure that if a widening of Range Road is required in the future that there is adequate width to allow for this widening of Range Road without impact to the arrival experience and active travel paths.

WSPT reiterates the need for the project to facilitate the following entries for future development and event use:

- Legible park entries
  - The main entry for the Northern Precinct of the Southern Parklands will be accessed off Elizabeth Drive
  - Ensure the entry to the Parklands has a generous clear and legible connection

- Provide a minimum of two main Parkland entry points, with signalised intersections to facilitate safe egress into and out of the Parklands
- Main entries to cater for vehicle, cycle and pedestrian connections separated by landscape buffers
- Secondary entrance to Parklands either off Range Road or Mamre Road
- SISC to be connected with a direct and legible park entry
- Park entry experience
  - The entry experience to the Parklands to be a quality outcome enhancing the sense of arrival
  - Provide quality culverts or bridge underpasses connecting to the Parklands
  - Entries to cater for future planned venues and destinations within the Parklands
- Wylde Mountain Bike Trail flexibility for event use
  - Area required for event use, with flat open grassed areas suitable to camping, stalls and gathering areas
  - Event use area to be connected to entry precinct
  - Ensure access for future event use to allow traffic flow for community events with visitation numbers ranging in scale from 5,000 to 20,000
- Wylde Mountain Bike Trail Entry Precinct
  - Ensure the new Wylde Mountain Bike Trail entry precinct is a high quality recreation experience equal to and better than the current Wylde Mountain Bike Trail
  - Entry Precinct to include areas for carparking, public toilets, shaded seating areas
  - Connection to trail head
  - Connection to the event use area.

#### **4.14.7.2 Response**

The project has been designed to maintain the existing main entry at Range Road to the Western Sydney Parklands.

The intersection at Elizabeth Drive and Duff Road entry has been designed to maintain access to major utilities located in the Western Sydney Parklands, including the Cecil Hills water reservoir and radio and mobile communications towers. The amended project includes a realignment of the access into the Western Sydney Parklands further to the west when compared to the project as described in the EIS. The intersection of this access with Elizabeth Drive is not signalised, as the access is not designed for public vehicular access into the Western Sydney Parklands however the current design does not preclude future signalisation.

TfNSW has identified that the bridge design (one lane each direction) is sufficient for expected future traffic and patronage if the access is used as a major entry way into the into the Western Sydney Parklands in the future to service proposed development identified in the Western Sydney Parkland Plan of Management 2030 (WSPT 2018a) and the Southern Parklands Framework (WSPT 2018b). TfNSW would continue to consult with Western Sydney Parklands about the design of the intersection and bridge design.

As detailed in Table 5-6 of the EIS, the bridge over Range Road (Bridge 10) would be long enough to span over Range Road with allowance for a potential future path on the western side of Range

Road. Additional work would be carried out during detailed design to inform the bridge design at Range Road in consultation with Western Sydney Parklands Trust.

A UDLP would be prepared to minimise landscape character and visual impacts, and detail and guide the implementation of landscape features to be installed as part of the project, including re-vegetation requirements.

TfNSW would continue to work with WSPT to support their delivery of a replacement for the Wylde Mountain Bike Trail by WSPT and provide legible park entries such as Range Road. Adjustments to facilities in Western Sydney Parklands (eg walking and cycling trails and Sydney International Shooting Centre access) would also be carried out in consultation with the WSPT.

## ***Impacts on Wylde Mountain Bike Trail***

### ***4.14.7.3 Issue description***

WSPT have requested the following in relation to the redesign and relocation of Wylde Mountain Bike Trail:

- Ensure the new Wylde Mountain Bike Trail is a high quality recreation experience equal to and better than the current Wylde Mountain Bike Trail, with design inclusions to meet above expectations for mountain biking riding experiences available in 2018
- Ensure the areas allocated for the Wylde Mountain Bike Trail are contiguous and are not interrupted by road crossings or other park trails
- Provide bridges or underpasses if needed to achieve contiguous travel for Wylde Mountain Bike Trail users that enhance the existing natural setting and park experience.

### ***4.14.7.4 Response***

TfNSW are currently working with WSPT to carry out the design and relocation of the Wylde Mountain Bike Trail. This process has involved consulting with the original designer for the Wylde Mountain Bike Trail to assist in the modification of the trails. The proposed design for the relocated Wylde Mountain Bike Trail has already noted the following improvements when compared with the existing design:

- Increase in length and enjoyment of the descent sections of trails
- Decrease the intensity of the climbs
- Offer increased options to experience the Wylde Mountain Bike Trail Park
- Enhancement of the skills park area
- Cater for more families and novice riders
- At present, a location has already been identified for the trail head and carpark.

The UDLP prepared for the project would consider options to minimise landscape character and visual impacts on adjacent land use such as the Western Sydney Parklands and Wylde Mountain Bike Trail. This would include requirements for the provision of vegetative screening to soften the appearance of structural elements of the project such as noise barriers and provide screening of sensitive views.

TfNSW and WSPT have held community feedback and community information sessions in February 2020. Further information of the proposed design is provided at:

<https://www.rms.nsw.gov.au/projects/01documents/m12-motorway/m12-motorway-wylde-mtb-boards.pdf>.

## ***Property access***

### ***4.14.7.5 Issue description***

WSPT have requested the following in relation to maintaining access to Western Sydney Parklands:

- Maintenance access is required by WSPT for all vegetated sections to manage weeds and landscaping
- Ensure underpasses or bridges are provided over and under the project to ensure permeability for park users.

### ***4.14.7.6 Response***

TfNSW would continue to consult with WSPT to maintain property access to Western Sydney Parklands for bushland maintenance. Existing property access that is physically affected by the project would be reinstated to at least an equivalent standard, in consultation with WSPT.

Construction and operation of the project would directly impact existing walking and cycling trails within the Parklands at Cecil Hills. During construction, access would be maintained for users of walking and cycling trails, although temporary diversions may be required at some locations. Trails impacted by the project would be reinstated following construction however realignments may be required to some trails. Impacts to specific walking and cycling trails at Western Sydney Parklands is provided in Table 6-6 of Appendix H in the EIS (socio-economic, land use and property assessment report).

Bridges and underpasses are provided for the project as demonstrated **Figure 1-2**. During construction, the project would impact on the existing pedestrian bridge across the M7 Motorway which connect the Cecil Hills Walking Track with the M7 Motorway shared user path however access would be maintained for users through temporary diversions. This access would be reinstated following construction, minimising any ongoing impacts.

## ***Property impacts***

### ***4.14.7.7 Issue description***

There will be an impact along the edge of the Parklands during the construction period of the project. This will need to be managed to ensure that amenity and operation of the Parklands is maintained.

WSPT requests that consideration be given to ensuring the minimum amount of Parklands is impacted by the project. This should include consideration of narrow construction and acquisition corridors and retention and management of as many existing mature, old growth trees as possible.

WSPT requests that the CEMP specifically address work within the Western Sydney Parklands.

#### **4.14.7.8 Response**

Impacts to Western Sydney Parklands would be minimised where practical through detailed design and in consultation with WSPT.

The CEMP would be developed in accordance with the conditions of approval for the project (should it be approved) and the commitments made within the EIS, this report, the amendment report and supplementary submissions report. The CEMP would include management measures to manage impacts to Western Sydney Parklands during construction.

### **4.14.8 Future infrastructure projects**

#### **4.14.8.1 Issue description**

Both the M12 Motorway and Elizabeth Drive should be designed concurrently and delivered together if possible. There are further opportunities to improve the design of entries into the Parklands and integrate better with either the M12 Motorway or Elizabeth Drive projects.

#### **4.14.8.2 Response**

The future upgrade of Elizabeth Drive is outside of the project scope; however, the M12 Motorway design has taken the future upgrade into consideration.

The NSW Government is planning for the future with funding allocated to investigate improvements to Elizabeth Drive between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham. As discussed in **Section 4.14.5.2**, the transport and traffic report prepared for the EIS and for the amended project (Section 6.2 of the amendment report) has taken into account the future upgrade of Elizabeth Drive.

An official announcement has not been made on when the Elizabeth Drive project would commence. TfNSW would continue to inform WSPT regarding future upgrades to Elizabeth Drive.

## **4.15 NSW Resource Regulator**

### **4.15.1 General support**

#### **4.15.1.1 Issue description**

NSW Resource Regulator has reviewed the EIS and has no comment to make.

#### **4.15.1.2 Response**

TfNSW acknowledges the submission provided by NSW Resource Regulator.

## 4.16 Fairfield City Council

### 4.16.1 Adequacy of the EIS

#### 4.16.1.1 Issue description

Council at its meeting of the 19 November 2019 resolved to advise DPIE that it has the following concerns in relation to the M12 Motorway EIS.

- The EIS fails to take into account the impacts of the project on the Fairfield/Penrith Urban Investigation Area (UIA) and proposed future population of the area
- Inadequate assessment and modelling of traffic generation issues has been included in the EIS in relation to the road network and intersections of Fairfield City surrounding the proposed project corridor, having regard to their interaction with the Fairfield/Penrith UIA
- There will be unacceptable traffic noise impacts on the existing and future community of Cecil Park and Horsley Park and the EIS has inadequate consideration of measures required to mitigate the detrimental effects on the residential amenity of the area
- Based on the above concerns, the EIS is considered inconsistent with the Secretary's Environmental Assessment Requirements (SEARs) for the project and relevant provisions of the *Environmental Planning and Assessment Act* (EP&A) Regulations.

#### 4.16.1.2 Response

The EIS has been considered adequate in addressing the requirements issued by the Secretary of the NSW DPIE and the relevant provisions of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (the EP&A Regulation) prior to being placed on exhibition.

The EIS was supported by a range of comprehensive technical studies (contained in Appendices E to Appendix P of the EIS). These technical studies were prepared in accordance with the key issues identified in the SEARs, which included requirements issued by key Government regulatory agencies as well as industry standards and guidelines.

The EIS considered approved projects as part of the assessment. The proposed structure plan developed by Fairfield Council for the UIA is yet to be approved by Greater Sydney Commission/DPIE and any change to current rural zoning for the land has not been approved. As such, the draft structure plan for the Fairfield UIA was not considered in the EIS, amendment report or associated technical reports.

TfNSW is aware of the proposed Horsley Park and Vernon Urban Investigation Area (UIA) and the draft structure plan Council has prepared for Fairfield section of the UIA (Fairfield Rural Lands UIA). TfNSW provided a written submission on the draft structure plan for the Fairfield Council areas of the UIA on the Fairfield City Council website at [http://www.fairfieldcity.nsw.gov.au/downloads/file/2512/transport\\_nsw](http://www.fairfieldcity.nsw.gov.au/downloads/file/2512/transport_nsw).

This submission raised several concerns about the draft structure plan including, amongst other issues, the need for consideration of the East-West Rail Link corridor preservation requirements and the lack of strategic traffic modelling. TfNSW's view was that any formal land use change for the Fairfield area of the UIA would need further consideration of issues raised.

The Fairfield UIA is currently in early stages of planning and more detailed precinct planning (involving resolution of infrastructure requirements, traffic, open space and environmental issues) needs to be carried out.

TfNSW would note that the route selection process resulted in the project not directly impacting on the Cecil Hills and Mount Vernon area. Chapter 4 of the EIS refers to the development of route options for the project, which started with a long list of options that were then refined to a short list. During the assessment of the long list, options for the project that traversed the Cecil Park / Mount Vernon area were discarded from further progression.

The amended project construction and operational footprints have moved further to the north at Cecil Park to account for the realignment of Wallgrove Road. As such, the amended project now sits within the south eastern boundary of the UIA. Information on the UIA and has been included Section 6.4 of the amendment report.

TfNSW is committed to regular consultation with nearby/adjoining projects and key stakeholders during the detailed design and construction phase. TfNSW would review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management), as far as practicable to minimise cumulative impacts.

The traffic and noise assessment reports prepared for the EIS and the amended project are based on the existing land use. The assessment methodologies for these disciplines are detailed in **Section 4.16.4.2** and **Section 4.16.6.2**.

## 4.16.2 Project design

### 4.16.2.1 Issue description

The location of the new interchange at Wallgrove Road should be at a sufficient distance from the existing interchange at Elizabeth Drive so that there are no adverse impacts on the traffic network on the M7 Motorway and Elizabeth Drive ramps.

### 4.16.2.2 Response

The amended project would include the realignment of Wallgrove Road to connect to Cecil Road, including a connection between Elizabeth Drive and Wallgrove Road via Cecil Road with a signalised intersection with Elizabeth Drive. The amended project would provide a straight ramp Wallgrove Road to M7 Motorway northbound entry ramp instead of the loop ramp discussed in the EIS.

A transport and traffic updated technical report has been prepared for the amended project and discussed in Section 6.2 of the amendment report. The intersection performance of the Elizabeth Drive / M7 Motorway northbound ramps has improves in comparison to the project as described in the EIS, particularly during the evening peak. This is discussed further in Section 6.2 of the amendment report.

## 4.16.3 Biodiversity

### 4.16.3.1 Issue description

The EIS does not include detailed information or reports relating the next stages required for detailed assessment of the loss of biodiversity as required under the NSW *Biodiversity Conservation Act 2016*, including measures to mitigate the above impacts and proposed offsetting measures covering the loss of biodiversity in Fairfield City.

In this regard, these reports will need to be referred to Council for review and comment.

### 4.16.3.2 Response

The project has been saved under the Biodiversity Conservation (Savings and Transitional) Regulation 2017 and therefore assessed under the repealed TSC Act. As such the project was assessed under the Framework for Biodiversity Assessment (FBA) (OEH 2014a) and NSW Biodiversity Offsets Policy for Major Projects (OEH 2014b).

Section 7.1.6 of the EIS outlines a number of management measures that would be prepared during detailed design, pre-construction and construction including:

- Construction flora and fauna management plan
- Habitat compensation plan
- Unexpected threatened species finds procedure.

The BAR (Appendix E of the EIS) also provides a biodiversity offset strategy which details how the required biodiversity credits are to be secured and retired. TfNSW began sourcing credits in Western Sydney in early 2016 and has attempted to source credits from the EESG Biobanking register and EOIs in the local community. Through this process 2,112 suitable ecosystem credits had been purchased by October 2019 to be retired as offsets for the project, representing over 80 per cent of the ecosystem credits required. Since the EIS was exhibited, more credits have been secured.

Searches in October 2019 of the public biodiversity credits register revealed more than 2,000 suitable species credits for two species impacted by the project: Cumberland Plain Land Snail and Southern Myotis. These credits require further investigation to confirm and secure.

A biodiversity supplementary technical report was prepared for the amended project which included a recalculation of biodiversity offsets. An additional 456 credits would be secured for the amended project. Further details are provided Section 6.1 of the amendment report.

Future biodiversity management plans would be prepared in consultation with government agencies based on the conditions of approval for the project.

## 4.16.4 Transport and traffic

### 4.16.4.1 Issue description

#### Assessment methodology

The lack of regard to the UIA and draft preferred Structure Plan is considered a significant flaw in the EIS as it fails to examine both the cumulative impacts of the proposal on the future population of the UIA, as well as the implications of traffic generation from the UIA on the M12 Motorway and associated road network providing access to the motorway. This includes a number of critical road corridors/intersections located in Fairfield City associated with The Horsley Drive, Wallgrove Road, Elizabeth Drive, Cowpasture Road and the M7 Motorway.

#### Traffic flows

Insufficient information and modelling have been included in the EIS to understand the traffic impacts of the proposed entry-ramp from the M12 Motorway onto Wallgrove Road including the associated impact of the proposed ramp from the M12 Motorway to the M7 Motorway.

The EIS does not provide details on how residents immediately east of the M7 Motorway would access the M12 Motorway. Would they need to travel on the M7 Motorway (and pay a toll) to access the M12 Motorway? This issue needs to be clarified.

#### Provision of public transport services

The NSW Government proposes to establish rapid bus services from the Metropolitan centres of Penrith, Liverpool and Campbelltown to the Western Sydney Aerotropolis and to the Western Sydney International Airport before it opens. There is no direct connection proposed from Fairfield to Western Sydney International Airport. A rapid bus service linking Bonnyrigg T-way Station to Western Sydney International Airport via Elizabeth Drive or the M12 Motorway should be provided with the opening of the airport.

### 4.16.4.2 Response

#### Assessment methodology

As discussed in **Section 4.16.1.2**, TfNSW acknowledges the proposed Fairfield/Penrith Urban Investigation Area (UIA). The proposed structure plan developed by Fairfield City Council for the UIA is yet to be approved by Greater Sydney Commission/DPIE and any change to current rural zoning for the land has not been approved. Traffic modelling as part of the transport and traffic assessment report was based on approved projects or endorsed future strategic government projects as detailed in Chapter 7 of the EIS. At the time of preparing the EIS and the amendment report, no traffic forecast or traffic modelling information has been released from Fairfield Council for the draft structure plan for the UIA precinct. In addition Penrith City Council is yet to release any plans for their portion of the UIA area. This information is required to adequately consider the impacts of the Fairfield/Penrith Urban Investigation Area (UIA) on the surrounding road and transport network. TfNSW is committed to regular consultation with nearby/adjoining projects and key stakeholders during the detailed design and construction phase. TfNSW would review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management) as far as practicable to minimise cumulative impacts.

The traffic model was informed by base and future population and employment data sourced from NSW DPIE. The transport modelling for the EIS used an adjusted LU14 forecast scenario for the wider area model for the South Western Growth Area, and included the population and employment

forecasts for the new airport transport corridor. Land use data for the Western Sydney Aerotropolis and the Fairfield/Penrith Urban Investigation Area UIA was not available at the time, however traffic demand from the Western Sydney Airport EIS and further updates provided by WSA Co for the airport and business parks have been factored into the transport modelling for the project.

The consideration of cumulative impacts associated with Fairfield UIA is discussed in **Section 4.16.9.2**.

### **Traffic flows**

In relation to the concern of the proposed entry ramp from the M12 Motorway onto Wallgrove Road, it is assumed that the Council is referring to the Wallgrove Road to M7 Motorway northbound entry ramp. The amended project would include the realignment of Wallgrove Road to connect to Cecil Road, including a connection between Elizabeth Drive and Wallgrove Road via Cecil Road with a signalised intersection with Elizabeth Drive. The amended project would provide a straight ramp Wallgrove Road to M7 Motorway northbound entry ramp instead of the loop ramp discussed in the EIS.

An updated traffic model has been prepared for the amended project based on a more recent land use and demographics scenario (LU16), upgrades along the network and changes in future demand growth. The intersection performance at Elizabeth Drive / M7 Motorway northbound ramps has improved in comparison to the project as described in the EIS, particularly during the evening peak. This is discussed further in Section 6.2 of the amendment report.

Two design options for the motorway-to-motorway interchange at the M7 Motorway are being considered and assessed as part of the amended project. The options are as follows:

- Option 1 – Without Elizabeth Drive connection
  - Interchange provides entry and exit ramps between the M12 Motorway and the M7 Motorway; in addition, it would maintain the existing connection of the M7 Motorway to Elizabeth Drive with new entry and exit ramp
- Option 2 – With Elizabeth Drive connection
  - Interchange as per option 1 and also provides entry and exit ramps between the M12 Motorway and Elizabeth Drive, Cecil Road and Wallgrove Road.

The key features of each option are discussed in Section 2.2 and Section 3.1.2 of the amendment report. A key benefit of option 2 is the provision of a toll-free connection between Liverpool and the Western Sydney International Airport.

The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection. This would be defined during the detailed design phase of the project and prior to the award of the construction contract. If option 1 is progressed due to funding limitations, the M12 Motorway may be accessed via The Northern Road to the west and the M7 Motorway to the east.

### **Provision of public transport services**

As outlined in the draft Western Sydney Aerotropolis Plan (WSPP 2019) public transport services will be staged within the Western Sydney Aerotropolis. Initial services on the proposed Sydney Metro – Western Sydney Airport (Stage 1) and rapid bus services linking Liverpool, Penrith and Campbelltown with the Airport and Aerotropolis Core would be supported by local services delivered in line with demand.

Bus services would be able use the project to access the Western Sydney Aerotropolis and Western Sydney International Airport. The project would not provide specific allowance for public transport, however. Bus route planning and servicing is outside the scope of this project.

Road connectivity to support the Western Sydney Aerotropolis, South West Growth Centre and other planned employment precincts would be a function delivered by a combination of the motorway, arterial road, and the local road network. Future road network plans are also being developed by WSPP.

TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network.

## 4.16.5 Socio-economic, land use and property

### 4.16.5.1 Issue description

#### Assessment methodology

The EIS fails to take into account the impacts of the project on the Fairfield/Penrith Urban Investigation Area (UIA) and proposed future population of the area

#### Property access

Affected property owners must be consulted about any impact on access arrangements associated with construction activities

### 4.16.5.2 Response

#### Assessment methodology

The socio-economic, land use and property assessment report identified benefits and impacts of the project based on the existing conditions and values.

The assessment was based on approved projects or endorsed future strategic government projects as detailed in Chapter 7 of the EIS. At the time of preparing the EIS and the amendment report, the proposed structure plan developed by Fairfield Council for the UIA is yet to be approved by Greater Sydney Commission/DPIE and any change to current rural zoning for the land has not been approved. As such, the Fairfield UIA was not considered in the socio-economic, land use and property assessment report prepared for the EIS (see Section 7.4 of the EIS) or the supplementary technical memorandum prepared for the amendment report (see Section 6.4 of the amendment report).

TfNSW is committed to regular consultation with nearby/adjoining projects and key stakeholders during the detailed design and construction phase. TfNSW would review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management), as far as practicable to minimise cumulative impacts.

#### Property access

Property access would be maintained at all times. Any changes to access arrangements or alternative access that are necessary during construction would be done in consultation with the landowner. Any changes to access would provide the same equivalent pre-existing level of access unless agreed to by the land owner.

Consultation has commenced with property owners / business managers regarding property adjustments. This includes replacement of farm infrastructure (such as fencing) and relocation of property access, prior to work that may impact the property.

## 4.16.6 Noise and vibration

### *Assessment methodology*

#### *4.16.6.1 Issue description*

Concerns regarding the noise and vibration assessment report include:

- Assessment of future development: The noise assessment has a fatal deficiency in that it does not account for the Fairfield Rural Lands UIA. The UIA has progressed to the point that rural areas directly impacted by the proposed M12 Motorway are identified for potential residential, commercial and industrial zones following the opening of the project. This scenario has not been accounted for in the noise operational assessment. The addition of the UIA scenario would affect recommendations for type and amount of noise mitigation for the operational phase of the project
- There will be unacceptable traffic noise impacts on the existing and future community of Cecil Park and Horsley Park and the EIS has inadequate consideration of measures required to mitigate the detrimental effects on the residential amenity of the area
- The Fairfield section of the UIA includes a proposed future town centre in Cecil Park, located at the existing Brickworks Site on Cecil Road. In future, this centre would have potential to support a passenger rail station on the proposed east/west rail line from the Western Sydney International Airport to Parramatta. Information included in the EIS indicates the location of the proposed town centre in Cecil Park would be highly impacted by traffic noise associated with operation of the project that would reach levels of between 40-60 dB(a) at night-time by 2036
- Traffic noise impacts on existing and future residential properties in Cecil Park would be compounded by the proposed future upgrading of Elizabeth Drive to dual carriageways to act as a secondary east/west connection to the Western Sydney International Airport. A major source for traffic noise levels will be from heavy vehicles supporting the 24 hour freight operations of the Western Sydney International Airport. The traffic noise levels from the project would significantly compromise the amenity of the potential town centre that would support higher residential densities if a railway station was provided at Cecil Park
- This fact is not acknowledged in the EIS that treats the locality as rural lands and does not consider the constraints created for potential future high density residential development in the area. This includes the need for management measures both in design of the project (including noise attenuation measures) and implications for the design and layout of the potential Cecil Park Town Centre
- The noise impact assessment carried out for the project focuses on a relatively narrow study area running along the length of the proposed motorway. Information about the extent of noise impacts on the remainder of the UIA in Cecil Park has not been included in the EIS. Again, this is a major shortcoming of the EIS.

#### **4.16.6.2 Response**

The assessment of operational noise was based on the NSW RNP (DECCW 2011) and the Noise Criteria Guideline (NCG) (Roads and Maritime 2015b). The NSW RNP (DECCW 2011) is used to assess and manage potential airborne noise impact from new and redeveloped road projects. The NCG (Roads and Maritime 2015b) provides a consistent approach to identifying road noise criteria for TfNSW projects.

The study area for the operational noise assessment extends to a distance of 600 metres from the centreline of the outermost traffic lane on each side of the project roads, as specified in the NSW RNP (DECCW 2011) and NCG (Roads and Maritime 2015b). This distance is based on the limit of accuracy of currently approved road traffic noise models. The operational study area is delineated by the project extents, as per TfNSW's application of the NCG (Roads and Maritime 2015b).

The assessment takes into account all existing sensitive land uses as defined by the NSW RNP (DECCW 2011). Developments which have planning approval prior to the exhibition of the EIS are also considered. At the time of preparing the EIS and the amendment report the proposed structure plan developed by Fairfield Council for the UIA was yet to be approved by Greater Sydney Commission/DPIE and any change to current rural zoning for the land had not been approved. Therefore the EIS assessed the existing land use of the area ie rural lands. This approach is consistent with how the EIS assessed land use across the whole project alignment. Future developments that are constructed post approval of the project, would need to take into account the presence of the project and provide appropriate management measures, in accordance with the relevant planning provisions.

In relation to the cumulative impacts of Elizabeth Drive upgrades and associated traffic with the Western Sydney International Airport, these have been considered as part of the noise and vibration assessment. Impacts and management measures associated with construction haulage associated with nearby projects such as the Western Sydney International Airport would be detailed in the CNVMP prepared under the conditions of approval and be in accordance with the relevant guidelines.

### **Management measures**

#### **4.16.6.3 Issue description**

There will be unacceptable traffic noise impacts on the existing and future community of Cecil Park and Horsley Park and the EIS has inadequate consideration of measures required to mitigate the detrimental effects on the residential amenity of the area.

Fairfield City Council also presents the following concern in their submission in relation to the preparation of management plans.

The noise assessment states:

*"The project would apply all feasible and reasonable work practices to reduce the potential impacts. Specific strategies will be determined as the project progresses and would be detailed in the construction environmental management plan (CEMP) for the project.*

*Site specific construction noise and vibration management plans (CNVMP) and construction noise and vibration impact statements (CNVIS) will also be developed before any work begin.*

*These plans would provide a detailed assessment of the potential impacts from the work (including re-modelling of construction noise impacts) and would define the site-specific*

*environmental management measures to be used to control the impacts, particularly where evening or night-time work are required.”*

At a bare minimum, draft copies of the above-mentioned documents should have been included in the EIS for review. The noise assessment details that there is going to be evening and night-time work; predicting “high” impact on the surrounds.

Being in the form and not limited to that the sleep disturbance criterion is likely to be exceeded when night work are occurring near residential receivers

#### **4.16.6.4 Response**

As discussed above in **Section 4.16.6.2**, the noise and vibration assessment, including impact assessment and management measures is based on existing land use.

TfNSW is committed to the preparation of a CNVMP and updated construction noise and vibration assessments before construction begins. The CNVMP and associated assessments would be prepared after the EIS to capture potential changes in detailed design or changes in construction methodology as determined by the construction contractor.

The CNVMP would include additional details relating to duration and extent of noise impacts. Where necessary, the CNVMP would contain management measures to manage “noise affected” and “highly noise affected” receivers under the ICNG and in accordance with the project EPL, project conditions of approval, approved out-of-hours work protocol and the CNVG (Roads and Maritime 2016).

The CNVMP would be prepared in accordance with the conditions of approval for the project (should it be approved) and the commitments made within the EIS, this report, the amendment report and supplementary submissions report. Consultation with government agencies during preparation of the CNVMP would be based on the conditions of approval for the project.

### **4.16.7 Flooding**

#### **4.16.7.1 Issue description**

Ropes Creek, which is proposed to be traversed by a bridge, is shown as high, medium and low flood risk precinct. It is proposed that the existing bridge over Ropes Creek on the M7 Motorway is widened. The bridge widening has been designed to match the existing bridge with similar bridge type, bridge spans and piers arrangement.

Council's Catchment Branch concur with the following critical statement in the EIS:

*“Further flood investigations and hydrological and hydraulic modelling will be undertaken during detailed design to ensure the flood immunity objectives and design criteria for the project are met.*

*The modelling will be used to define the nature of both main stream flooding and major overland flow along the full length of the project corridor under pre- and post- project conditions and to define the full extent of any impact that the project will have on patterns of both main stream flooding and major overland flow.*

*The hydraulic model(s) will be based on 2-dimensional hydraulic modelling software. The modelling will take into account any updated regional flood modelling and information available at the time.”*

The results of this additional modelling must be referred to Fairfield City Council for review and comment.

#### **4.16.7.2 Response**

As part of the EIS design, the existing M7 Motorway bridge over Villiers Road and Ropes Creek, north of Elizabeth Drive (Bridge 19), would be widened on its western side to accommodate the M12 Motorway to M7 Motorway northbound entry ramp. As the proposed bridge widening adopts the same design (including bridge type, spans and piers) as the existing bridge structure and the project vertical alignment would also be similar to the existing M7 Motorway in this location, no changes to current flood conditions are expected. The amended project for Bridge 19 would also widen the existing southbound bridge from two to four lanes. Bridges over creeks have been designed to be outside of the 1:100 year flood zone. A flooding supplementary technical memorandum has been prepared for the amended project and discussed in Section 6.8 of the amendment report.

Further flood investigations and hydrological and hydraulic modelling for the project would be prepared during detailed design and provided to Council for comment following detail design completion.

### **4.16.8 Surface water quality and hydrology**

#### **4.16.8.1 Issue description**

Requests the following in relation to surface water quality and hydrology:

- During the project’s detailed design, further modelling is required to verify the project’s impacts on minor drainage lines to ensure the free flow of water through the culverts, taking into consideration appropriate blockage factors and potential development upstream
- Where stream flow velocities are increased above the natural threshold of erosion, scour protection must be provided to eliminate any risks of erosion to the infrastructure and the waterway. This would occur at the bridge abutments, around the piers and at culvert outlets. The design methodology should minimise changes in peak flows and velocities as much as possible
- Water Sensitive Urban Design should be considered at the detailed design stage to ensure that the project objective of maintaining or improving water quality is achieved. This should not be limited to the areas deemed as environmentally sensitive, but to all waterways in the project area. This should include the impact of additional impervious areas as well as the pollutants that will be introduced to the catchment from the addition of thousands of vehicles daily.

#### **4.16.8.2 Response**

As part of detailed design a minor drainage line assessment would be carried out to determine the size and location of the cross drainage required along the project using hydraulic software. Measures to address potential impacts of culvert blockage on afflux would be further investigated and may include the installation of debris deflectors, trash racks or similar on drainage inlets where reasonable and feasible.

For main stream flooding and overland flooding, a set of hydrologic and hydraulic models would be developed, along the full length of the project operational footprint under pre- and post-project conditions. This hydraulic model(s) is to be based on the TUFLOW (or equivalent) two-dimensional (in plan) hydraulic modelling software. This model would also be used during detailed design to describe the interaction between the project and flows particularly with respect to culverts and to assist in refining the design for flows arriving at and travelling through culverts.

These above models would be used to verify the nature and extent of impacts and to confirm the type of management measures required to manage scour and erosion.

The use of water sensitive urban design measures would be considered during detailed design to meet water quality objectives. This revised environmental management measure is provided in **Table 6-1** (see SWH10).

### **4.16.9 Cumulative impacts**

#### **4.16.9.1 Issue description**

None of the EIS technical reports associated with the project make any reference to or undertake an analysis of the impacts of the proposal on the Fairfield/Penrith Rural Lands Urban Investigation Area (UIA), as identified in the Western City District Plan, comprising the suburbs of Horsley Park, Cecil Park and Mount Vernon. Rather these areas are treated as rural lands.

In 2018 a UIA Steering Committee (chaired by the Greater Sydney Commission), comprising senior officers from State Government agencies and Council was established to oversee the preparation of a draft preferred Structure Plan (attached to this submission) relating to the Fairfield section of the UIA.

The project has involved extensive consultation with the local community and adoption of the draft Structure Plan by Fairfield City Council, providing the basis for further detailed planning investigations for the Fairfield section of the UIA. The current draft preferred Structure Plan has potential to generate up to 20,000 dwellings in Horsley Park/Cecil Park with medium to higher density housing being located to the south of the WSA 20-25 ANEF in Cecil Park.

The lack of regard to the UIA and draft preferred Structure Plan is considered a significant flaw in the EIS as it fails to examine both the cumulative impacts of the proposal on the future population of the UIA, as well as the implications of traffic generation from the UIA on the M12 Motorway and associated road network providing access to the motorway.

This includes a number of critical road corridors/intersections located in Fairfield City associated with The Horsley Drive, Wallgrove Road, Elizabeth Drive, Cowpasture Road and the M7 Motorway.

#### **4.16.9.2 Response**

A number of approved projects or endorsed future strategic government projects were considered as part of the cumulative impact assessment (listed in Table 7-3 of the EIS) based on the following criteria:

- Project size – major projects or known development planned in the study area were considered
- Project location – includes projects or developments planned near the project, including link and feeder roads within about 10 kilometres of the project
- Project timeframe – relevant projects likely to be carried out at some point during the construction period of, and would interact with, the project.

At the time of the EIS preparation, the proposed draft structure plan developed by Fairfield City Council for the UIA was yet to be approved by Greater Sydney Commission/DPIE and any change to current rural zoning for the land was not approved. TfNSW is aware of the proposed Fairfield/Penrith Urban Investigation Area (UIA) and the draft structure plan Council has prepared for Fairfield section of the UIA. TfNSW provided a written submission on the draft structure plan at the time of its exhibition in June 2019. This submission raised several concerns about the draft structure plan including, amongst other issues, the need for consideration of the East-West Rail Link corridor preservation requirements and the lack of strategic traffic modelling. The TfNSW submission advised that any formal land use change for the Fairfield area of the UIA needed further consideration. As such, the Fairfield UIA was not considered in the EIS, amendment report or associated technical reports.

TfNSW is committed to regular consultation with nearby/adjoining projects and key stakeholders during the detailed design and construction phase. TfNSW would review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management) as far as practicable to minimise cumulative impacts.

### **4.16.10 Future infrastructure projects**

#### **4.16.10.1 Issue description**

Requests the following in relation to future TfNSW projects:

- In the short to medium term, the primary means of access to Western Sydney Aerotropolis will be by road. The existing roads that surround Western Sydney Aerotropolis, including Elizabeth Drive and the M7 Motorway are reaching the limits of their capacity during peak periods. To address the capacity constraint, the upgrade of Elizabeth Drive and the M7 Motorway will need to be brought forward
- The proposed east–west rail from Parramatta to Western Sydney International Airport / Aerotropolis should be brought forward to alleviate the effects of increased traffic on the regional road network.

#### **4.16.10.2 Response**

The future TfNSW projects listed in the above submission are outside of the project scope.

The NSW Government is planning for the future with funding allocated to investigate improvements to Elizabeth Drive between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham. An official announcement has not been made on when the project would commence. The Government has also not made any announcements in relation to upgrades to the M7 Motorway.

A north–south rail link, ie the proposed Sydney Metro – Western Sydney Airport, is being prioritised over the east–west link however an east–west link is being investigated by TfNSW.

## 4.17 Environment, Energy and Science (EES) Group

### 4.17.1 General support

#### **4.17.1.1 Issue description**

The cultural values assessment describes intangible cultural themes identified by the Registered Aboriginal Parties which they wish to translate into interpretive cultural products to raise awareness of Aboriginal cultural heritage to a wider audience particularly, for visitors alighting from airport destinations. EES Group supports this enterprise.

EES notes the proposed salvage excavations that form part of the Aboriginal cultural heritage assessment report (ACHAR) recommendations to mitigate harm, including the recommended salvage of high numbers of stone artefacts for analysis. The ACHAR also argues for opportunities to date archaeological material during excavation and documents the Registered Aboriginal Parties request for residue analysis and research of the artefacts sourced from red silcrete which are reported to have cultural meaning. The combination of cultural and scientific objectives for a lithic analysis carries a creditable argument and EES supports the research proposal.

#### **4.17.1.2 Response**

TfNSW acknowledges the support for the project by EES Group, in particular the assessment process and management approach discussed in the EIS.

### 4.17.2 Biodiversity

#### **4.17.2.1 Issue description**

Threatened species pre-clearance surveys will be required on those properties which could not be accessed due to private property restrictions. Depending on the results of these surveys, the number of species credits required to be offset may need to be recalculated.

It is recommended any approval include a condition requiring the development of a biodiversity offset package, like condition B13 for the WestConnex New M5 State significant infrastructure project, to address any additional offset requirements as well as any supplementary measures if the required credits cannot be retired.

#### **4.17.2.2 Response**

A biodiversity supplementary technical report was prepared for the amended project which included a recalculation of biodiversity offsets. An additional 456 credits would be secured for the amended project. Further details are provided Section 6.1 of the amendment report.

Pre-clearance surveys would be carried out prior to construction and clearing activities. This would include threatened species surveys on areas previously not surveyed. Recalculation of species credits/offsets would be carried out in accordance with the findings of future field surveys.

Conditions of approval would be a matter for the Minister for Planning and Public Spaces.

## 4.18 Penrith City Council

### 4.18.1 General requirements

#### **4.18.1.1 Issue description**

Recommends that suitable conditions of consent reflect the recommendations in the EIS for the preparation of a CEMP and sub-plans, to satisfactorily minimise and manage construction impacts as a result of the project. These plans are to be prepared by appropriately qualified consultants and submitted to the consent authority for endorsement, prior to commencement of construction work.

#### **4.18.1.2 Response**

The CEMP and sub-plans would be prepared in accordance with the conditions of approval for the project (should it be approved) and the commitments made within the EIS, this report, the amendment report and supplementary submissions report. These management plans would be prepared by appropriately qualified personnel submitted to the consent authority for endorsement, prior to commencement of construction work.

### 4.18.2 Legislation and planning policy

#### **4.18.2.1 Issue description**

The EIS would also need to have regard for the future Draft Western Sydney Aerotropolis SEPP and DCP, which are forthcoming (as indicated in the Western Sydney Aerotropolis 'What We Heard' Report)

#### **4.18.2.2 Response**

At the time of the EIS preparation, the draft Western Sydney Aerotropolis SEPP and DCP were not available. TfNSW has participated in regular consultation with Greater Sydney Commission, however, to discuss district plans and how best to integrate the development of transport projects with the Greater Sydney Commission's strategic planning for the Western Parkland City. In addition, TfNSW participated in briefings and regular meetings with WSPP to discuss strategic planning, road hierarchy, project development, urban design and accessibility.

Detailed design would consider provisions in the draft Western Sydney Aerotropolis state environmental planning policy (SEPP) and DCP, however TfNSW note that the draft Western Sydney Aerotropolis SEPP has not been gazetted and is subject to change.

## 4.18.3 Project design

### *Intersections and entry/exit ramps*

#### **4.18.3.1 Issue description**

Concerns regarding the provision of intersections and entry/exit ramp including:

##### **Elizabeth Drive connections**

- Currently there are no plans for an interchange with Elizabeth Drive. If an interchange is expected between the M12 Motorway and Elizabeth Drive through the airport road network, the long term viability of this option should be considered given the inability of NSW Government to ensure an airport-related connection on Commonwealth land

##### **Property access to fragmented land parcels**

- The proposal would appear to render a number of properties between the project east/west alignment, the proposed southern approach to the planned airport and the mapped flooding extent coinciding with Badgerys Creek as being land locked. The design interface and relationship of Elizabeth Drive and the airport entry is not yet known and as such it is not clear how orderly development and access arrangements to this land will be retained. This should be further investigated and clarified

##### **Connection to growth areas**

- Noting that the Western City is a key part of the rationale for the project, there doesn't appear to be any inclusion of, or definitive provision for interchange into the Northern Gateway, which is an initial precinct within the Western Sydney Aerotropolis as envisaged in the Western Sydney Aerotropolis Stage 1 LUIP
- Connectivity across the corridor needs to be considered as a priority, either by including the provision for/of bridges and underpasses across the Northern Gateway precinct, or enabling these to be delivered by others at a future point in time. This is because the Northern Gateway is (in part) divided by this future infrastructure
- Provision for future vehicular access and connectivity to the Western Sydney Priority Growth Area lands to the north of the project should be provided as part of the development. In particular, the lands north of the project between Badgerys Creek and South Creek will likely become land locked as a result of the proposed development. Provision of an underpass should be provided as part of the project development proposal. Access to the lands between Cosgrove Creek and Badgerys Creek north of the project should also be considered. Any suggestion for access to the Western Sydney Priority Growth Area lands from the local road network of Twin Creeks is not considered acceptable and a suitable arrangement must be provided for as part of this proposal
- As the road network develops for the Western Sydney Aerotropolis during the Stage 2 LUIP and precinct planning, the EIS (and the design of the project) should be updated to respond to, and ensure consistency with, these developments. This could include the provision of additional interchanges as the arterial and sub arterial road network develops through the Western Sydney Aerotropolis
- Private, public and active transport connectivity across the project corridor north–south, as well as east–west connectivity across the Airport – the project link should not be prohibited by the proposed motorway.

### **4.18.3.2 Response**

#### **Elizabeth Drive connections**

The M12 Motorway is being designed to include interchanges at appropriate intervals in order to maintain optimal traffic operation. Motorists can access the M12 Motorway from the M7 Motorway interchange to the east or from The Northern Road to the west.

Two design options for the motorway-to-motorway interchange at the M7 Motorway are being considered as part of the amended project. The options are as follows:

- Option 1 – Without Elizabeth Drive connection
  - Interchange provides entry and exit ramps between the M12 Motorway and the M7 Motorway; in addition, it would maintain the existing connection of the M7 Motorway to Elizabeth Drive with new entry and exit ramp
- Option 2 – With Elizabeth Drive connection
  - Interchange as per option 1 and also provides entry and exit ramps between the M12 Motorway and Elizabeth Drive, Cecil Road and Wallgrove Road.

The key features of each option are discussed in Section 2.2 and Section 3.1.2 of the amendment report. A key benefit of option 2 is the provision of a toll-free connection between Liverpool and the Western Sydney International Airport.

The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection. This would be defined during the detailed design phase of the project and prior to the award of the construction contract. If option 1 is progressed due to funding limitations, the M12 Motorway may be accessed via The Northern Road to the west and the M7 Motorway to the east.

The amended project would also incorporate the two new signalised intersections into the Western Sydney International Airport (subject to funding from WSA Co and adjoining developers), with the eastern intersection tying into the realigned section of Badgerys Creek Road and the secondary airport access road to the west. Further details on this amendment is in Section 3.2 of the amendment report.

#### **Property access to fragmented land parcels**

The location of the airport access road through these landholdings was largely driven by the connection point into the Western Sydney International Airport that was provided by the Federal Government.

The two new signalised intersections would aid in providing access to properties between the east-west alignment of the project, the proposed southern approach to the planned airport and the mapped flooding extent coinciding with Badgerys Creek.

Consultation with impacted owners has commenced regarding property access arrangements. Access has been provided to all parcels of land impacted by the project either via an underpass or changed access arrangement. The project provides access to lands between Cosgrove Creek and Badgerys Creek via an underpass at Bridge 02 and Bridge 05 based on existing land use.

#### **Connection to growth areas**

The integration of the project into the Western Sydney Aerotropolis and surrounding growth areas was based on the available information at the time. TfNSW has participated in regular consultation with Greater Sydney Commission to discuss district plans and how best to integrate the

development of transport projects with the Greater Sydney Commission's strategic planning for the Western Parkland City.

The two new signalised intersections that would improve access to the Western Sydney International Airport and land to the north and include provisions for future connection to potential developments north of Elizabeth Drive, such as Northern Gateway. As discussed above, the project has provided access to all land parcels, including Northern Gateway land holdings, either via an underpass (based on existing land use) or changed access agreement.

Road connectivity to support the Western Sydney Aerotropolis, South West Growth Centre and other planned employment precincts would be a function delivered by a combination of the motorway, arterial road, and the local road network. Future road network plans are also being developed by WSPP. TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network.

The EIS for this project has been completed and if approved, the project would be carried out in accordance with the approval. As the road network develops for the Western Sydney Aerotropolis, those developments would be assessed at the relevant time. Future accesses and interchanges would be driven by traffic growth and demand in the area.

As described in the draft Western Sydney Aerotropolis Plan (WSPP 2019), the Mamre Road Precinct is part of the Western Sydney Employment Area (WSEA) and would be connected to the potential Western Sydney Freight Line. Future road upgrades would seek to promote connectivity between the WSEA and other precincts in the Aerotropolis.

A Mamre Road and Devonshire Road north-south connection is outside the current scope of the project. Funding is not currently available to deliver these connections, however TfNSW has started to plan for the future by investigating the delivery of exit and entry ramps at these locations. The project has been designed to allow for a potential connection between Mamre Road and Devonshire Road. The existing design of the project would enable an interchange to be constructed without significantly impacting motorway traffic.

For active users, the project would provide an off-road shared user path alongside the proposed motorway corridor from The Northern Road to Range Road. The vision of the project is to have the shared user path linked to open recreation spaces. TfNSW would continue to work with WSPP to integrate the project into the broader active transport network and investigate opportunities to support the Blue Green Grid as it continues to be developed.

TfNSW has been in early consultation with Greater Sydney Commission regarding opportunities to improve green grid connections in western Sydney as part of planning for transport corridors.

For public transport users, the project currently provides for the future delivery of the proposed north-south rail link, Sydney Metro – Western Sydney Airport. The project also does not prohibit the delivery of a future east-west rail link.

## ***Road design***

### ***4.18.3.3 Issue description***

Requests in relation to project road design include:

- All local road construction within the Penrith Local Government area is to be carried out in accordance with Council's standards and specifications. Detailed design plans for the local

access road construction are to be reviewed by Penrith City Council. This specifically relates to work associated with Clifton Avenue and Salisbury Avenue

- The proposed engineered batters contrast against the natural existing landforms as outlined in the Landscape Character Zones. The urban design analysis has sought to demonstrate that the visual prominence of the resulting road levels and batters will not be excessive as viewed from various vantage points, however the scale and gradient of the batters is still excessive and has the potential to dictate finished ground levels when the broader precinct is developed. The rationale for the finished road levels and the necessity for excessive batters, irrespective of landscaping requires further explanation.

#### **4.18.3.4 Response**

Local roads such as Clifton Avenue and Salisbury Avenue would be designed in accordance with Council standards and specifications. TfNSW would provide Council with design drawings of these roads for review.

The finished road levels for the project were determined based on a number of factors including design speed, flood modelling, future transport corridors, utilities, adjacent properties, safety, clearances and environmental consideration. The final road levels would be determined during the detailed design phase. Where possible, engineered slopes with gradients no steeper than 3H:1V where possible to maximise the establishment of vegetation on these batters and allow for appropriate maintenance. This would be reviewed and confirmed during detailed design as part of the UDLP.

### **4.18.4 Utilities**

#### **4.18.4.1 Issue description**

It should be clarified if power is intended to be provided underground for the entire alignment and if not, how is development inclusive of exposed power poles and the like, sufficiently responding to the need for integrated and environmentally responsive design solutions.

#### **4.18.4.2 Response**

Table 5-10 of the EIS outlines the proposed strategy, which includes both above and belowground relocations. Underground cabling would be installed for use by the project for lighting, ITS communications power supply and VMS. Modification to existing power would be done in consultation with authorities with a view of refining potential utility modifications and utility protection measures during detailed design.

### **4.18.5 Consultation**

#### **4.18.5.1 Issue description**

The shared user path is noted as having high amenity and separation from the highway where possible. A dialogue with TfNSW during design phases of the shared user path is encouraged to ensure sufficient amenity is achieved. This includes maximising canopy cover over the shared user path for pedestrian and cyclist comfort and health.

#### **4.18.5.2 Response**

TfNSW would continue to consult with Council during detailed design of the project including design developments to the shared user path.

### **4.18.6 Biodiversity**

#### ***Impacts to flora and fauna***

##### **4.18.6.1 Issue description**

Concerns regarding impacts to flora and fauna include:

- The EIS states that “Fauna within the area would already be adapted to photo pollution and the increased artificial lighting associated with the project is unlikely to have a significant effect.” There is no clear justification for this conclusion, and it is considered necessary that light management measures be included in the assessment of impact and be reflected within proposed management measures. This potentially could be addressed through conditions of consent if the proposal is supported
- The EIS suggests that detailed design is to be progressed that will ascertain the retention of fauna passages at all four main creek lines (Cosgroves, South, Kemps and Badgerys Creeks). In the absence of this detailed design, it cannot reasonably be concluded that fauna passages will not be impacted upon which should be investigated and suitably addressed as part of the development application stage rather than being deferred to construction
- The proposal has identified the opportunity to provide a connection between the creek crossings and the shared pathways. The gradients of these connections must be confirmed through detailed design as part of the initial work proposed, to ensure that large areas of vegetation are not compromised when regrading for the secondary connections planned for the future.

##### **4.18.6.2 Response**

The project would only provide lighting at decision points, such as the interchanges and intersections. The shared user path would be lit for the entire length; however, this would be to a lower standard compared to the motorway.

As described in Section 7.1 of the EIS, although the project would increase artificial lighting within the study area and surrounds, existing roads within the locality are currently lit and the M7 Motorway and Elizabeth Drive experience increased photo pollution due to heavy traffic and regular road work. As such, fauna within the area would already be adapted to photo pollution and the increased artificial lighting associated with the project is unlikely to have a significant effect.

Where practicable, the need for artificial lighting during construction and operation would be minimised through detailed design where feasible, including directing lighting away from vegetated areas.

TfNSW is committed to retain fauna passage at all four main creek lines (Cosgroves, South, Kemps and Badgerys creeks) during detailed design. Connectivity measures would be implemented in accordance with Wildlife Connectivity Guidelines for Road Projects (TfNSW, under preparation). Fencing would be located to reduce roadkill of fauna species and funnel animals to creek crossings where safe passage would be available.

During detail design, native vegetation, threatened species and threatened species habitat removal would be minimised where practicable. Where required, habitat would be replaced or re-instated and revegetation would be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) (Guide 3: Re-establishment of native vegetation).

In addition, an UDLP would be prepared to minimise landscape character and visual impacts, and detail and guide the implementation of landscape features to be installed as part of the project, including re-vegetation requirements.

The design of the shared user path, including gradients, would be determined by finished road levels, flood levels, local road connections, existing shared user paths and future areas presumed to be developed into recreational open space. The shared user path is also required to meet the standards for the *Disability Discrimination Act 1992* and requirements in AUSROADS. The grades of the shared user path would be reviewed during detailed design. Secondary connections to the shared user path would be provided by others and would need to consider appropriate gradients and associated biodiversity impacts.

## **Management measures**

### **4.18.6.3 Issue description**

Concerns regarding the proposed biodiversity management measures include:

#### **Biodiversity offsets**

- While the application is supported by a Biodiversity Offset Strategy (BOS), the BOS is not finalised and an offset to the extent of clearing proposed has not been identified in the EIS. This is critical in the consideration of impact. While the TfNSW Service in a recent presentation to Council suggested that 80 per cent of offset credits have been secured, this is not reflected within the EIS and security or retirement of all 100 per cent offset credits should be ascertained prior to determination of the application. This is recommended to ensure that the credits are firstly available, and that the credits are appropriate to compensate for the extent of loss identified as a direct consequence of the proposed work.
- The EIS also makes numerous statements that “certain impacts on biodiversity values require further consideration by the relevant consent authority” and “Further surveys of these areas would be undertaken during detailed design and prior to construction and new calculations performed as necessary”. It is considered necessary that this survey work be carried out up front as part of the Development Application process, to inform an assessment of significance. This required survey work will ascertain the extent of biodiversity, specifically native vegetation impact and as a consequence, the amount of credits to be secured/retired to conclude if the proposal will, or will not, have a detrimental impact on native flora.

#### **Pathogen management**

- While pathogen management is referenced within the EIS, it is recommended that pathogen management be carried out in accordance with Guide 7 Pathogen management of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011). This is recommended to be addressed by a condition of consent should the proposal be supported.

### Sea-eagle management

- If the pre-clearing survey finds the sea-eagle nest needs to be removed, it is recommended that a detailed plan be developed and implemented in conjunction with a sea-eagle expert. This potentially could be addressed through conditions of consent if the proposal is supported.

### Cumberland Plain Conservation Plan

- The proposed Cumberland Plain Conservation Plan (CPCP) is part of the Government's commitment to delivering the Western Parkland City. The CPCP will seek to offset impacts on threatened plants and animals through a conservation program that includes new reserves and ecological restoration. Given the above, and the importance that the State Government is placing on using "strategic conservation planning", it is considered imperative that the project and the EIS that supports it specifically address the intended CPCP and demonstrate how the strategic intentions of the proposed CPCP are being maintained and addressed through the design and development of this proposal. While it is appreciated that the CPCP is yet to be finalised, an infrastructure project of this scale should integrate and reflect the intentions and strategic objectives of this plan which are known to the NSW Government.

#### 4.18.6.4 Response

##### Biodiversity offsets

As a critical State significant infrastructure project, the project is assessed under Part 5, Division 5.2 of the EP&A Act. As such, the project does not require development consent under Part 4 of the EP&A Act. The project has also been saved under the Biodiversity Conservation (Savings and Transitional) Regulation 2017 and therefore assessed under the now repealed *Threatened Species Conservation Act 1995* (TSC Act). As such the project was assessed under the Framework for Biodiversity Assessment (FBA) (OEH 2014a) and NSW Biodiversity Offsets Policy for Major Projects (OEH 2014b).

TfNSW began sourcing credits in Western Sydney in early 2016 and has attempted to source credits from the EESG Biobanking register and EOIs in the local community. Through this process 2,112 suitable ecosystem credits had been purchased by October 2019 to be retired as offsets for the project, representing over 80 per cent of the ecosystem credits. Since the EIS was exhibited, more credits have been secured.

Searches in October 2019 of the public biodiversity credits register also revealed more than 2,000 suitable species credits for two species impacted by the project: Cumberland Plain Land Snail and Southern Myotis. These credits require further investigation to confirm and secure.

A biodiversity supplementary technical report was prepared for the amended project which included a recalculation of biodiversity offsets. An additional 456 credits would be secured for the amended project. Further details are provided Section 6.1 of the amendment report.

The BOS outlines TfNSW's strategy for satisfying the required offset obligations as a result of the project. The retirement of biodiversity offsets would be in accordance with the conditions of approval for the project (should it be approved) and the commitments made within the EIS, this report, the amendment report and supplementary submissions report.

Under the FBA, 'matters for further consideration' are a class of biodiversity impacts that require further consideration by the relevant consent authority. These are detailed in Section 7.1.4 of the EIS and include:

- Impacts that would substantially reduce the width of vegetation in the riparian buffer zone bordering rivers and streams fourth order or greater
- Any impact on a CEEC (unless specifically excluded in the SEARs).

Field surveys and survey effort as part of the biodiversity assessment meets the requirements of the FBA and the majority of the construction footprint was able to be surveyed. Additional field surveys have also been carried out as part of updated biodiversity assessment for the amended project, described within Section 6.1 of the amendment report.

As discussed in Section 7.1.4 of the EIS, the majority of the construction footprint was surveyed, however some areas could not be accessed due to landowner permissions and restricted access. As such, while the location of transects/plots were stratified to the greatest extent possible, not all areas of vegetation were surveyed. Where possible, vegetation was viewed from the roadside or public areas to verify the plant community type (PCT) and vegetation condition. Vegetation zones within inaccessible sites were conservatively assumed to be of moderate to good quality.

Further surveys of these areas would be carried out during detailed design and prior to construction. Pre-clearing surveys are a standard measure to determine extent of populations at time of construction. These are in addition to surveys carried out to determine impact and assist with ensuring that changes to population or ecological extent are managed appropriately during construction.

Biodiversity credits/offsets would be reviewed during detailed design following additional field surveys and project design refinements which may provide opportunities to minimise biodiversity impacts.

### **Pathogen management**

As per Section 7.1.6 of the EIS, pathogens would be managed in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) (Guide 2: Exclusion zones).

### **Sea-eagle management**

In relation to the White-bellied Sea-Eagle nest, if design cannot avoid the nest, then pre-clearing measures to avoid impact to the nest would be implemented. This would include a pre-clearing survey to establish if it is currently being used and removal of the nest by an ecologist experienced in similar procedures.

The potential impacts of habitat removal would be minimised by removing the nest outside of the nesting period (typically lays between June and September, with young remaining in the nest for 70 days). Time would be allowed on either side of the nesting period to allow individuals to select and construct a new nest site prior to clearing. An initial pre-clearing inspection should be carried out at least 21 days prior to commencement of clearing, to give the ecologist time to check the nest and then relocate if needed. This revised environmental management measure is provided in **Table 6-1** (see B05).

### **Cumberland Plain Conservation Plan**

At time of writing, the Terms of Reference for the proposed CPCP were currently being developed based on community consultation completed in January 2019. The project falls within the larger

CPCP study area. The project would be located within Western Sydney Transport Corridor, however, which is not subject to the CPCP. Despite this, the aims of the project are to balance conservation with the provision of infrastructure for western Sydney communities, providing management measure and offset requirements to mitigate biodiversity impacts. Therefore, overall the project aligns with the objectives of the CPCP.

## 4.18.7 Transport and traffic

### ***Construction haulage***

#### ***4.18.7.1 Issue description***

The bridge over South Creek on Luddenham Road has a load limit and is not suitable for heavy traffic. Any construction traffic or haulage along Luddenham Road for construction of the bridge is to occur from Elizabeth Drive.

A dilapidation report of the existing pavement condition of Luddenham Road is to be carried out prior to any use of Luddenham Road as a haulage route.

#### ***4.18.7.2 Response***

Where possible, haulage of materials would generally be carried out within the construction footprint along the project alignment to minimise construction vehicle movements on public roads. The location of haulage routes is demonstrated in Figure 5-24 in the EIS.

Luddenham Road would be used as a temporary haulage route for the construction of Bridge 01. Any construction traffic or haulage along Luddenham Road for construction of the bridge would occur from Elizabeth Drive, and not extend north over the existing bridge over South Creek.

Under the conditions of approval for the project (if approved), a road dilapidation report would be prepared before impacts on local roads in consultation with relevant councils and other relevant stakeholders. The report would document the existing conditions of local roads and outline measures to repair damage to roads from heavy vehicle movements associated with the project.

### ***Shared user path***

#### ***4.18.7.3 Issue description***

Part of the shared user path along the project relies on upgrades made by Western Sydney Parklands. Further detail on the certainty of this upgrade is requested, as the benefits of the shared user path would be best realised if there is connectivity through to the M7 Motorway shared user path network.

Pedestrian and cycle connections along the road corridor are linked to open space recreation (creek) corridors which may, or may not, be established at the time of road construction. The assessment of the application should consider and address how these connections will still be delivered if no recreation path networks exist in open space corridors.

#### **4.18.7.4 Response**

TfNSW is committed to having a shared user path from the M7 Motorway to The Northern Road at the time of opening. TfNSW is currently working with the WSPT to determine the appropriate alignment of the shared user path through the Parklands and to integrate with future WSPT plans. The shared user path through the Parklands would ultimately be delivered by WSPT and funded by TfNSW.

The vision of the project is to have the shared user path linked to open recreation spaces however it is acknowledged that this may be staged given construction timeframes. TfNSW has been in early consultation with Greater Sydney Commission regarding opportunities improve green grid connections in western Sydney as part of planning for transport corridors. The delivery of open recreation spaces would be delivered by others.

### **4.18.8 Urban design, landscape character and visual impact**

#### **Assessment methodology**

##### **4.18.8.1 Issue description**

Recommends further view corridor analysis up and down the north–south creek corridor as these will be key areas of open space in accordance with the LUIIP. This includes South Creek, Kemps Creek, Badgerys Creek and Thompsons Creek.

##### **4.18.8.2 Response**

As per the Guideline for landscape character and visual impact assessment (Road and Maritime Services 2018c), 30 viewpoints evaluated representative of views within catchment. Viewpoints 4,9,10 and 16 are in close proximity to South Creek, Kemps Creek, Badgerys Creek and Thompsons Creek. The viewpoint considered in the Landscape Character, Visual Impact Assessment (LCVIA) and web portal is considered sufficient to visually demonstrate the project.

A landscape character and visual impact supplementary technical memorandum was prepared for the project and is discussed in Section 6.3 of the amendment report. Overall, the assessment concluded that the landscape character, visual impact assessment impacts during operation of the amended project would be similar to that of the project as described in the EIS.

As discussed in **Section 4.18.8.4** below, TfNSW is committed to implementing a revegetation strategy along creeks and floodplains, such as the interface at South Creek, and at major interchanges along the project which would contribute to the vision of the Green Grid and ultimately increase tree canopy cover in this location in western Sydney.

#### **Landscaping and water bodies**

##### **4.18.8.3 Issue description**

Recommendations in relation to landscaping and the inclusion of water bodies include:

- A landscape connection between Luddenham Road and The Northern Road would service as a spine for further recreational and ecological connections to be provided. Opportunities may exist for an overpass as an innovative open space infrastructure outcome for the

Western Parkland City. It is also noted that the proposal is identified as a key link in the implementation of the NSW 'Green Grid' network however the opportunities that this establishes are not yet realised in the current proposal due to the missing connections west.

- Canopy tree planting is predominantly shown at the toe of batters and significant distance to road pavements. This planting arrangement is not considered to suitably address Council's 'Cooling the City' plan by ensuring the appropriate locations for planting of trees for maximum amenity and shading effect. Opportunities should be pursued to locate trees that provide canopy shade on road pavements, with the use of barriers considerate of the need to enable non-frangible canopy trees.
- There are opportunities through this proposal to include and exhibit 'parkland city principles' and contribute to the 5 million trees program (eg through the planting of additional trees and improvement of the interface with the South Creek corridor, etc).
- Existing dams add visual interest and contribute to landscape character. Given the extensive loss of dams, consideration should be given to proposed water bodies being designed to be more naturalistic elements in the landscape (not standard engineered forms).
- The proposal provides for water quality treatment measures in the form of basins however basins of this nature are usually required to be fenced. Opportunities to better integrate the basins as landscape features with recreational attraction should be investigated, rather than just acting as civil drainage and biofiltration infrastructure.

#### **4.18.8.4 Response**

The urban design concept plan illustrated in Appendix G of the EIS has provided a landscape connection between Luddenham Road and The Northern Road. The shared user path at this location would provide an open space connection and would be revegetated with a mix of native species to enhance the landscape character of the area. The urban design concept plan would be implemented as part of the UDLP under the conditions of approval for the project (if approved).

TfNSW acknowledges Councils 'Cooling the City' plan however the project is unable to provide canopy cover over the road pavement on the operational motorway footprint due to the creation safety hazards and maintenance costs. Where possible, the project would provide canopy cover over the shared user path. This would be investigated and refined during the development of the UDLP.

The five million trees grants program has been created to support and increase tree planting in all LGAs across Greater Sydney. As part of the landscape revegetation strategy for the project, the project would draw upon existing vegetation patterns and characteristics of vegetation communities to implement new tree planting along the project footprint, where space permits. The revegetation strategy provides an opportunity to strengthen remnant vegetation along creeks and floodplains, such as the interface at South Creek, and at major interchanges along the project which would contribute to the vision of the Green Grid and ultimately increase tree canopy cover in this location in western Sydney.

The primary objective of operational water quality basins would be to treat road pavement runoff from the project and promote the settlement of sediments by slowing down and temporarily detaining flows. Public access would not be permitted to operational water quality basins. TfNSW acknowledges the desire for water bodies within the project area however the incorporation of waterbodies into the urban design has the potential to increase the risk of bird strike and create an aviation hazard.

## 4.18.9 Socio-economic, land use and property

### 4.18.9.1 Issue description

Concerns relating to property impacts include:

- Impacts on land owners should be minimised to the maximum degree possible, including the return of construction required land to productive use as soon as possible.
- Consideration of the impacts on surrounding land should also be carried out in a manner which identifies the future urban use of surrounding sites (rather than considering in a rural context only). This may require some further work to minimise future impacts.
- The impact of any property adjustments, if any, on on-site sewage management systems and disposal areas should be considered and addressed as these allotments are not serviced by Sydney Water infrastructure and rely on site specific effluent management systems. Whilst the EIS does not specifically discuss property acquisition and resulting impacts to existing operational onsite sewerage management systems, it is recommended that this issue be raised for the Department to consider in the assessment of the application and the need for suitable recommended conditions of consent that are addressed during the detailed design phase, ensuring that any impacts to approved effluent management systems resulting from required land acquisition are rectified through the necessary consent processes prior to commencement of construction.

### 4.18.9.2 Response

Areas of land leased for the purposes of construction would be reinstated at the end of the lease to at least equivalent standard unless otherwise agreed with the landowner.

The EIS and technical papers have considered approved projects or endorsed future strategic government projects surrounding the project and airport, specifically Western Sydney Aerotropolis, South West Growth Area and WSEA, as described in Chapter 7 of the EIS.

The integration of the project into Western Sydney Aerotropolis and surrounding growth areas was based on the available information at the time. The amended project would incorporate the two new signalised intersections (subject to funding from WSA Co and adjoining developers) into the Western Sydney International Airport and include provisions for future connection to potential developments north of Elizabeth Drive, such as Northern Gateway. Further details on this amendment is in Section 3.2 of the amendment report.

Regular consultation would be carried out with nearby/adjoining projects and key stakeholders during the detailed design and construction phase to review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management), as far as practicable to minimise cumulative impacts.

Consultation has commenced with property owners / business managers regarding property adjustments prior to work that may impact the property. TfNSW would consider properties with on-site sewage systems and negotiations with affected property owners during consultation activities.

## 4.18.10 Aboriginal heritage

### ***Impacts to Aboriginal cultural heritage***

#### ***4.18.10.1 Issue description***

The Aboriginal cultural heritage assessment report does not clearly detail if this alignment was deemed to be the least impactful having specific regard to aboriginal heritage values or the basis on which this alignment was the most appropriate balance of all competing considerations. The report does however confirm that the least extent of impact would be realignment to areas of high ground disturbance, specifically referencing the existing Elizabeth Drive corridor or operational quarries. This however was not deemed strategically appropriate due to perceived unacceptable impacts on existing infrastructure, transport and commercial operations.

The Department is therefore requested to confirm what alignment options were tested with a constraints and benefit analysis that would support the identified impacts to Aboriginal heritage values including sites of 'total harm' in considering impacts to infrastructure, transport links and commercial operations.

#### ***4.18.10.2 Response***

The preferred corridor route and evaluation of the modified shortlisted options for the project took into account a number of environmental considerations, including impacts to Aboriginal heritage. The impact assessment was informed by desktop assessment and field investigations.

The results of the environmental investigations together with community feedback and preliminary costings were used by workshop participants to carry out a comparative assessment of each option against the criteria and to recommend a preferred route. Further information on the route options considered for the project are detailed in Chapter 4 of the EIS and the preferred route corridor report which is provided at <https://www.rms.nsw.gov.au/projects/01documents/m12-motorway/m12-motorway-preferred-corridor-route-summary-report-2016-11.pdf>.

The location of the potential archaeological deposits within the study area are extensive and re-routing of the proposed motorway would not avoid all impacts on Aboriginal heritage. The focus has been on minimising impacts on the areas of highest Aboriginal heritage significance.

### ***Qualifications***

#### ***4.18.10.3 Issue description***

It should be demonstrated by nomination of author and qualification that this the Aboriginal heritage assessment and author is independent to TfNSW, and that the conclusions are informed by that independent analysis given the implications of the proposal on identified items of significant.

#### ***4.18.10.4 Response***

The qualifications of the archaeologists are provided in Section 1.6 of the Aboriginal cultural heritage assessment report (Appendix I of the EIS).

## 4.18.11 Non-Aboriginal heritage

### *Impacts to heritage items*

#### **4.18.11.1 Issue description**

Concerns regarding non-Aboriginal heritage impacts include:

- The Non-Aboriginal heritage assessment report which forms Appendix J of the EIS while lengthy, is not considered to be sufficient in the analysis that has been carried out to inform the conclusions made. The report recommends destruction and archival recording of all known and documented items of heritage significance where they are directly impacted by the proposed development.
- The proposal should be informed by a detailed analysis of site conditions, heritage significance and suitably demonstrate that the proposal has respected and responded to that significance. The proposal and alignment of the road corridor, including the future planned connection with the airport, does not appear to have been prepared in response to these items given the recommendations made. This is particularly concerning as the report itself acknowledges that major impacts are proposed to items of identified State significance being McGarvie Smith Farm and McMaster Field Station.
- The assessment report states that for the McGarvie Farm: “options will be investigated to provide funding support to prepare a thematic heritage study ...”. It is recommended that this be prepared prior to approval of the proposal, to better understand if this site has a greater significance than currently thought/understood (national or commonwealth significance). The assessment of significance and requirements of the project to respond to that significance should then be assessed based on the results of this study.
- Alternatively, the assessment must detail why, on the grounds of heritage conservation, it is most appropriate to remove/destroy and archive photographically.
- Luddenham Road is also still listed as containing heritage significance and while the reports note impact is minimal it is thought that this might not be the case in respect to road alignment, rural setting, landscaping and fencing.

Further discussion should be sought through the amended impact assessment. It is therefore requested that the Department consider pursuing an amended Heritage Impact Assessment, or an addendum to the existing report that is prepared from a suitably qualified independent heritage consultant which addresses the above points and the following key questions and considerations:

- What other options have been explored (in a heritage context) to avoid impacts to the sites?
- Archival recording should be the last resort for options relating to demolition of listed heritage items. Have other options been explored and where is this discussion if they were not thought to be feasible options? ie has salvaging been explored? Relocation of structures? Partial demolition as opposed to demolition of all buildings?
- What interpretation strategy is taking place for demolished structures/site? This should be provided prior to construction and available for the consent authority and affected local Council to review.
- Is the demolition essential at this time? Or can it be postponed in case future circumstances change? ie entry/exit ramp locations.

#### 4.18.11.2 Response

As detailed in Chapter 4 of the EIS, the preferred route option and design for the project was refined through an extensive assessment and review process which took into account impacts to heritage items. Where possible, the project has sought to avoid heritage impacts however it is acknowledged that the project would have a major impact on the following heritage items:

- McGarvie Smith Farm
- McMaster Field Station
- Fleurs Aerodrome
- Cecil Park School, Post Office and Church Site.

A non-Aboriginal heritage supplementary technical memorandum has been prepared for the amended project and discussed in Section 6.6 of the amendment report. Overall, the assessment concluded that the amended project would have the same magnitude of impacts on all heritage items.

Where heritage impacts were unable to be avoided, site-specific management measures would be applied, which include archival photographic recording, protective fencing, exclusion zones, interpretive strategies and archaeological salvage excavation. Site specific management measures would be further described in the CCHMP that would be developed for the project under the project approval.

As discussed in **Section 4.18.3.2**, the location of the airport access road through McGarvie Smith Farm and McMaster Field Station was largely driven by the connection point into the Western Sydney International Airport that was provided by the Federal Government.

The non-Aboriginal heritage assessment has already assessed the significance of both McGarvie Smith Farm and McMasters Field Station against the NSW criterion and assessed them to be State Significant. The preparation of the thematic studies at both heritage sites would be prepared prior to construction. Undertaking the thematic heritage study after project approval would still meet the stated purpose of the thematic study, that is to identify other examples of the same or similar (or greater) significance than the McGarvie Smith Farm. In the event that the findings of the thematic study demonstrate a rare significance, TfNSW would consult with appropriate agencies to develop a management strategy.

At McGarvie Smith Farm and McMasters Field Station, while permanent and irreversible impacts would occur due to the demolition of some of the buildings/ structures at the site and landscape features, and bisection of the site by the project, undertaking a full archival photographic recording would provide an opportunity to capture important information about the site. Further, undertaking a thematic study into CSIRO and other agricultural research stations would be important in identifying other potential heritage items in NSW and nationally that would demonstrate the same or similar significance, therefore reducing the overall impact on that type of heritage item. For both McGarvie Smith Farm and McMasters Field Station, proposed vegetation and design elements and development of an interpretation strategy for the project would further minimise the level of impacts.

The destruction of buildings or structures would largely relate to those within the construction footprint, therefore demolition cannot be postponed. Where possible, the project would investigate the possibility of appropriate reuse of some of the buildings at the McMaster Field Station. This would mitigate some of the impact on the broader site. In relation to the feasibility of relocating structures, heritage significance is related to the overall layout of the heritage item as a complex and therefore the relocation of a building may be redundant.

Luddenham Road has not been identified or assessed as having landscape or aesthetic values. It is significant for its historical significance demonstrating the connection of late 19<sup>th</sup> century settlements in this part of Western Sydney. The non-Aboriginal heritage supplementary technical memorandum concluded that the overall impact to Luddenham Road would be negligible. Further details provided in Section 6.6 of the amendment report.

As discussed above, a non-Aboriginal heritage supplementary technical memorandum has been prepared as part of the amendment report however TfNSW does not believe an addendum NAH report is necessary to further justify the site-specific management measures over and above the assessment of impacts and identification of management measures carried out for the EIS (See Section 7.6 of the EIS) or the amendment report (see Section 6.6 of the amendment report).

A suitably qualified heritage specialist would be engaged to prepare a heritage interpretation framework to guide development of the detailed urban design for the project. This framework would be prepared in accordance with the Interpreting Heritage Places and Items Guidelines (NSW Heritage Office 2005) and would include:

- Integration of heritage themes and values to be incorporated
- Collaboration with other design elements and themes for the project, including those associated with Western Sydney International Airport and the proposed Sydney Metro – Western Sydney Airport, to develop an integrative design approach with surrounding development
- Opportunities for design responses for non-Aboriginal heritage.

## **Qualifications**

### **4.18.11.3 Issue description**

The heritage assessment also does not make identifiable reference to the heritage qualifications of the author and given the proposal seeks to destroy and archive all directly impacted items of heritage significance, it is imperative that the analysis is carried out by a suitably qualified heritage consultant that explores all opportunities for retention or amendment of the development to provide for some retention or relocation.

### **4.18.11.4 Response**

The qualifications of the heritage consultants are provided in Section 3.7 of the non-Aboriginal heritage assessment report (Appendix F of the EIS).

## **4.18.12 Flooding**

### **4.18.12.1 Issue description**

Concerns about flood impacts associated with the project include:

- Further consideration should be given to upgrading the existing culverts under Luddenham Road to eliminate any potential risk to motorists and pedestrians from overland flow flooding in major storm events. This aspect could be addressed as a recommended condition of consent if the proposal is supported.
- Where the motorway drainage network proposes to connect into existing Council drainage systems, the capacity of such existing systems is required to be assessed with any

upgrades to existing systems to be provided with the development. This aspect could be addressed as a recommended condition of consent if the proposal is supported.

- The construction standards and finished levels for the proposed motorway have been designed for a 100-year ARI year flood immunity however it is considered necessary that the EIS be amended to provide a cross section of each bridge showing the top water level for various flood events up to and including the PMF event. This is considered necessary to adequately consider the implications of the proposal stemming from flood events beyond the 1 in 100-year flood.
- The Flooding and Drainage Design Criteria (Table 3-1 of Appendix L) also states that culverts are to be designed to a 50-year ARI where surcharge is allowable. It is considered necessary that the assessment of the application, specifically the impacts of surcharge on land be considered having regard to the strategic intentions for this area, which is planned to undergo significant change in response to the Western Sydney Aerotropolis.
- The Flood Impact Objectives (Table 3-2 Appendix L) states that less than 50 mm increase in flood levels for the 20 and 100-year ARI flood events is acceptable for houses, urban areas and commercial areas. It has been the position of Penrith City Council that no increase in flood levels is suitable for such areas. It is considered imperative that this position be maintained that that any increase in flood levels resulting from the development should not have any adverse impact upon neighbouring properties. As such, any increase in flood levels upon properties that are not affected by flooding is not considered to be supportable and should be addressed and resolved as part of this application assessment process.
- The EIS identifies that the bridges will span across the 1:100 year flood extent. However, some plans and diagrams illustrate the bridge span falling short of the illustrated flood areas. It should be confirmed that the plans to be relied upon for the bridge extent align with the management measures outlined within the EIS being an expanse for the full width of the flood zone.

#### **4.18.12.2 Response**

The project has catered for future Luddenham Road upgrades by providing a large bridge span which should not restrict design options for any road or drainage upgrades. During detailed design, the capacity of the existing stormwater system would be considered as part of the drainage design for the project.

The creek/flood bridges have been sized based on clearing the active flow in the 1 in 100 year flood event. Bridge pier sizes, locations and orientations have been advised from the flood modelling and would be further refined during detailed design. As such, it is not considered suitable to provide bridge design drawings and cross-sections at this stage.

The EIS provided indicative cross-sections of the proposed bridges (see Figure 5-10 to Figure 5-14 of the EIS) with the flood levels (1:50 flood year level, 1:100 flood year event and a 1:2000 flood event) illustrated on bridges over creek lines.

Flood models demonstrating the extent and depth of flooding during a PMF event are provided in Appendix L of the EIS. It should be noted that during modelling as part of the 80 per cent concept design, the indicative 2000-Year ARI flood levels did not reach the underside of any of the proposed bridge. This does not include the replacement of the private property bridge (south of South Creek bridge (BR06)) which would be constructed to replace the existing bridge based on the current design (see **Figure 1-2**).

Culverts have been designed to the 100-Year ARI assuming that no surcharge is allowable, and would be refined further during detailed design.

A flooding supplementary technical memorandum has been prepared for the amended project and is discussed in Section 6.8 of the amendment report. Flood level increases outside of the amended operational footprint are considered minimal when compared with similar infrastructure projects. Recommendations in the EIS and amended project on ultimate allowable flood level increase under fully developed catchment conditions are aligned with values for similar large-scale transport infrastructure projects.

## 4.18.13 Surface water quality and hydrology

### 4.18.13.1 Issue description

The protection of waterway health is considered to be an important consideration for Penrith City Council and given the scale of the proposed motorway, the management and treatment of stormwater will be important to ensure the impact on receiving waterway and catchments is minimised. In order to improve the water quality outcomes, the following recommendations are provided:

- It is recommended that the stormwater management strategies be further refined and ensure that the proposal meets current best practice water quality, pollutant reduction and flow management targets to ensure the impacts on all receiving waterways are minimised and adequately managed
- An appropriate water management and monitoring strategy should be prepared and implemented to ensure water management measures are adequately maintained and appropriately function both during the construction and operational phases of the project
- There are opportunities to ensure that the stormwater treatment measures are provided in an integrated manner with the associated riparian corridors. The measures should serve to maximise opportunities to enhance passive recreational benefits of the riparian corridors.

It is noted that these recommendations could be addressed as conditions of consent to be further refined and compliance demonstrated through detailed design progression.

Council recommends that all stormwater treatment measures associated with the construction of the motorway, be owned and maintained by the TfNSW or operator of the road and not be dedicated to Council.

### 4.18.13.2 Response

The key water quality objective for the project is to protect downstream waterways and identified sensitive receiving environments against the potential impacts from surface runoff generated by the project.

Section 7.9.6 of the EIS outlines a number of management measures to protect water quality during construction and operation of the project, including the preparation of detailed soil and water management plan, specific construction methods and other procedural controls in accordance with relevant guidelines and subject to the conditions of approval provided by DPIE.

A construction water quality monitoring program would be developed and included the CSWMP for the project to establish baseline conditions, observe any changes in surface water and groundwater during construction and inform appropriate management responses. An operational water quality

monitoring program would also be implemented to observe any changes in surface water and groundwater following construction and respond accordingly.

As mentioned above, the primary water quality objective for the project is to protect downstream waterways and identified sensitive receiving environments not necessarily to enhance passive recreational benefits of the riparian corridors. However, based on water quality modelling the overall the water quality improves within modelled catchments (Badgerys; Cosgroves; South; Kemps and Hinchinbrook Creeks) during project operation, provided the water quality controls are implemented (see Table 7-143 of the EIS).

TfNSW would operate and maintain stormwater infrastructure within the operational footprint of the project.

## 4.18.14 Future infrastructure projects

### **4.18.14.1 Issue description**

The EIS has acknowledged there is a proposal for a future extension of Devonshire Road to Mamre Road, which would provide a north–south arterial road connection with a potential connection to the project. Given the significance of this infrastructure to western Sydney, including the Western Sydney International Airport and Growth Area, along with its relationship to transport movements in the region, it is recommended that the timeframe for the Devonshire Road / Mamre Road interchange be brought forward to coincide with the opening of the project and this form part of, or be facilitated by, this State significant infrastructure proposal. It is also noted that the options analysis could be expanded to demonstrate this potential connectivity, as it would enable the opportunities and constraints of bringing forward such connectivity to be assessed.

### **4.18.14.2 Response**

As discussed in **Section 4.18.3.2**, a Mamre Road and Devonshire Road north–south connection is outside the current scope of the project. Funding is not currently available to deliver these connections, however TfNSW has started to plan for the future by investigating the delivery of exit and entry ramps at these locations. The project has been designed to allow for a potential connection between Mamre Road and Devonshire Road. The existing design of the project would enable an interchange to be constructed without significantly impacting motorway traffic.

Future accesses and interchanges would be driven by traffic growth and demand in the area, and the availability of funding.

## 4.18.15 Operation

### **4.18.15.1 Issue description**

Confirmation is sought from the applicant as to what authority is intended to be responsible for the future long-term maintenance of any infrastructure that is to be delivered by the project including: water quality / detention basins; landscaping; public art; shared pathways and associated lighting. Specifically, there needs to be up front advice and negotiated agreement with Council for any assets that are proposed to be handed over to Council at the completion of the project.

#### **4.18.15.2 Response**

TfNSW would be responsible for the maintenance of assets within the operational footprint with the exception of utilities. TfNSW would consult with Council regarding the work along Clifton Avenue and Salisbury Avenue, as these assets are outside of the operational footprint and would be handed back to Council. The maintenance of the shared path within Western Sydney Parklands would be carried out by Western Sydney Parklands Trust.

### **4.18.16 Next steps**

#### **4.18.16.1 Issue description**

Recommendation that TfNSW have any opportunity to amend the proposal and/or submit further documentation that adequately responds to the matters raised prior to the determination of the State significant infrastructure application.

#### **4.18.16.2 Response**

TfNSW would respond to formal submissions, provide clarifications and correct minor discrepancies in this report, which would be exhibited by DPIE.

A separate amendment report has been prepared based on the amended project, which outlines the proposed amendments to the project since public exhibition and assesses the environmental impact of these changes. The amendment report would be exhibited by DPIE, inviting public and government agency submissions. TfNSW would then respond to formal submissions in a separate supplementary submissions report, which will be exhibited by DPIE.

## **4.19 Department of Premier and Cabinet (Heritage NSW), Delegate of Heritage Council**

### **4.19.1 Consultation**

#### **4.19.1.1 Issue description**

McGarvie Smith Farm and Fleurs Radio Telescope Site are listed as local heritage items under the Penrith Local Environmental Plan 2010 (LEP). To avoid any duplication or conflict of opinion, Heritage Council will defer to the comments and recommended conditions from Penrith City Council for McGarvie Smith Farm.

#### **4.19.1.2 Response**

Noted. TfNSW would continue to consult with Penrith City Council during detailed design about impacts to McGarvie Smith Farm and Fleurs Radio Telescope Site.

## 4.19.2 Aboriginal heritage

### 4.19.2.1 Issue description

Should any Aboriginal 'objects' be uncovered by the work, excavation or disturbance of the area is to stop immediately and the Chief Executive is to be notified in accordance with Section 89A of the *National Parks and Wildlife Act 1974* (as amended). Work affecting Aboriginal 'objects' on the site must not continue until Heritage NSW has been informed. Aboriginal 'objects' must be managed in accordance with the *National Parks and Wildlife Act 1974*.

### 4.19.2.2 Response

TfNSW would follow the Unexpected Heritage Finds Procedure for any unexpected Aboriginal finds, which would include the above stop work and notification requirements (Roads and Maritime 2015c).

## 4.19.3 Non-Aboriginal heritage

### *Impacts to heritage items*

#### 4.19.3.1 Issue description

Construction and operation of the project should aim not to diminish the potential of the following heritage items for nomination to the State Heritage Register: McGarvie Smith Farm, McMaster Field Station and Fleurs Radio Telescope Site.

#### 4.19.3.2 Response

Where possible, the project has sought to avoid heritage impacts, however where heritage impacts were unable to be avoided, site-specific management measures would be applied. Management measures provided in Section 7.6.6 of the EIS include archival photographic recording, protective fencing, exclusion zones, interpretive strategies and archaeological salvage excavation. Site specific management measures would be further described in the CCHMP that would be developed for the project.

### *Management measures - General*

#### 4.19.3.3 Issue description

Recommendations regarding conditions of consent in relation to general heritage impacts include:

- Detailed design: A suitably qualified and experienced heritage specialist must be integrally involved in the detailed design development
- Construction Cultural Heritage Management Plan: Identified impacts to heritage items should be minimised through both detailed design and construction. The measures for ensuring this are to be detailed in the CCHMP
- Heritage Interpretation Plan: The Proponent should engage a suitably qualified and experienced heritage specialist to prepare a Heritage Interpretation Plan that identifies and

interprets the key heritage values and stories of the heritage items impacted by the project. The Heritage Interpretation Plan must include but not be limited to:

- a) Integration of heritage themes and values
  - b) Collaboration with other design elements and themes for the project, including those associated with Western Sydney International Airport and Sydney Metro – Western Sydney Airport, to develop an integrative design approach with surrounding development
  - c) Opportunities for design responses for Aboriginal and Non-Aboriginal heritage.
  - d) This framework should be prepared in accordance with the Interpreting Heritage Places and Items Guidelines (NSW Heritage Office 2005)
- Archival Recording: The Proponent must engage a suitably qualified and experienced heritage specialist to prepare an Archival Photographic Digital Recording of listed heritage items and sites of potential heritage significance affected by the proposed work, to be recorded prior to the commencement of any work
  - The archival recording to be prepared in accordance with NSW Heritage Office's How to Prepare Archival Records of Heritage Items (1998) and Photographic Recording of Heritage Items Using Film or Digital Capture (2006)
  - The Proponent must submit the Archival Photographic Digital Recording to the Secretary, Heritage NSW, relevant councils, relevant local libraries and local historical societies in the respective local government areas within 12 months of completing the archival recording.

Where State Significant archaeology and substantially intact archaeological resources would be affected by the project, the impacts should be mitigated through the following measures:

- Historical Archaeological Research Design and Excavation Methodology: An Historical Archaeological Research Design and Excavation Methodology to guide the approach to any archaeological excavation should be prepared by a suitably qualified and experienced excavation director who fulfils the Heritage Council's Excavation Director Criteria
- The Historical Archaeological Research Design and Excavation Methodology must:
  - a) be consistent with the NSW Heritage Council's Archaeological Assessments Guideline (1996) or as updated
  - b) provide for the detailed analysis of any heritage items discovered during the investigations
  - c) include management options for discovered heritage items, whether known or unexpected finds (including options for avoidance, salvage, relocation and display)
  - d) for unexpected finds that are determined to be relics, set out the assessment process that will determine an appropriate archaeological response to managing their significance
  - e) include procedures for notifying the Heritage Council of NSW (or its delegate) and Secretary of any relic findings
  - f) if the findings of the investigations are significant, provide for the preparation and implementation of a Heritage Interpretation Plan
- The Historical Archaeological Research Design and Excavation Methodology be submitted to the Heritage Council of NSW (or its delegate) for review and comment prior to finalisation

- Where excavation work are required in the vicinity of potential archaeological sites, the Excavation Director must be consulted to advise on how the work are to be managed and any archaeological impact minimised. The Excavation Director must be given the authority to advise on the duration and extent of oversight required during excavation
- Work within the vicinity of the find must not recommence until the relevant requirements of the Historical Archaeological Research Design and Excavation Methodology or advice on unexpected finds from the Excavation Director have been met
- Archaeological Excavation Report: The Proponent must prepare an Archaeological Excavation Report containing the findings of any excavations, including artefact analysis and the identification of a final repository of any finds
- The preparation of final reporting shall be required to include the following:
  - a) An executive summary of the archaeological programme
  - b) Due credit to the client paying for the excavation, on the title page
  - c) An accurate site location and site plan (with scale and north arrow)
  - d) Historical research, references, and bibliography
  - e) Detailed information on the excavation including the aim, the context for the excavation, procedures, treatment of artefacts (cleaning, conserving, sorting, cataloguing, labelling, scale photographs and/or drawings, location of repository) and analysis of the information retrieved
  - f) Nominated repository for the items
  - g) Detailed response to research questions (at minimum those stated in the DPIE approved Research Design)
  - h) Conclusions from the archaeological programme. This information must include a reassessment of the site's heritage significance, statement(s) on how archaeological investigations at this site have contributed to the community's understanding of the Site and other Comparative Site Types and recommendations for the future management of the site
  - i) Details of how this information about the excavations have been publicly disseminated (for example, include copies of press releases, public brochures and information signs produced to explain the archaeological significance of the sites)
- The report must be submitted to the Secretary within 12 months of completing all archaeological investigations. The Archaeological Excavation Report must also be submitted to the Heritage Council of NSW, relevant local libraries and local historical societies in the respective local government areas
- A copy of the Archaeological Excavation Report must be retained with the relics at all times
- Unexpected Heritage Finds Procedure: The Proponent must ensure that if unexpected archaeological deposits or relics not identified and considered in the supporting documents are discovered, work must cease in the affected area(s) and the Heritage Council of NSW must be notified
 

An Unexpected Heritage Finds Procedure must be prepared:

  - a) to manage unexpected heritage finds in accordance with any guidelines and standards prepared by the Heritage Council of NSW or Heritage NSW
  - b) by a suitably qualified and experienced heritage specialist. The Procedure must be included in the CCHMP

- Additional assessment and approval may be required prior to work continuing in the affected area(s) based on the nature of the discovery
- Human remains that are found unexpectedly during work are under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately.

#### **4.19.3.4 Response**

TfNSW would engage a heritage specialist to review the detailed design with regards to impacts on heritage values.

TfNSW acknowledges the requirements of the Department of Premier and Cabinet (Heritage NSW), Delegate of Heritage Council, in the preparation of the plans listed above in their submission, including:

- CCHMP
- Heritage Interpretation Plan
- Archival Recording
- Historical Archaeological Research Design and Excavation Methodology
- Archaeological Excavation Report
- Unexpected Heritage Finds Procedure.

TfNSW would prepare the CCHMP and sub-plans in accordance with the conditions of approval for the project (should it be approved) and the commitments made in the EIS, this report, the amendment report and supplementary submissions report.

Heritage management plans including procedures for the management of unexpected finds, would be prepared in consultation with government agencies based on the conditions of approval for the project.

### ***Management measures – Upper Canal System***

#### **4.19.3.5 Issue description**

Recommends the following conditions of consent in relation to the Upper Canal System:

- A suitably qualified and experienced heritage specialist should be involved in guiding the heritage protection of the Upper Canal System
- Upper Canal System must be managed according to Upper Canal Pheasants Nest to Prospect Reservoir Conservation Management Plan (NSW Public Works Government Architect's Office 2016)
- The CCHMP should be consistent with and require implementation of relevant conservation policies and measures outlines in the Upper Canal Pheasants Nest to Prospect Reservoir Conservation Management Plan (NSW Public Works Government Architect's Office 2016) and The Guidelines for development adjacent to the Upper Canal and Warragamba Pipelines (Sydney Catchment Authority 2012) to ensure the heritage fabric of the canal system is not impacted or damaged by the project
- A safe working distance exclusion zone be established around the exposed tunnel air shaft (Tunnel Shaft 4) in the M7 Motorway median in accordance with the process outlined in noise and vibration management measures NV09 - NV10. The Proponent must not

destroy, modify or otherwise cause direct or indirect damage during construction and operation to Tunnel Shaft 4 of the Upper Canal System

- The condition of the canal to be confirmed by TfNSW during or prior to the detailed design stage of the project in order to determine appropriate vibration criteria. In-situ monitoring should be used to establish site laws to confirm the site-specific vibration propagation to assess the impact of vibration on the canal.

#### **4.19.3.6 Response**

The Upper Canal is located underground where the project crosses the canal alignment. These underground sections of the Canal would not be destroyed by the project. A safe working distance exclusion zone would be established around the exposed tunnel air shaft in the M7 Motorway median.

A suitably qualified heritage specialist would be engaged to prepare a heritage interpretation framework to guide development of the detailed urban design for the project.

The CCHMP prepared under the project approval (if approved) would incorporate relevant conservation policies outlined in the Upper Canal CMP (NSW Public Works Government Architect's Office, 2016) and in the Guidelines for Development Adjacent to the Upper Canal and Warragamba Pipelines (WaterNSW 2020) to protect the heritage fabric of the item from the project.

In addition, a dilapidation survey was carried out in July 2019 to catalogue the base-line condition of the tunnel and verification of the tunnel shaft locations prior to the commencement detailed design and construction work. Defects identified for remediation in the dilapidation survey were not considered to adversely affect the structural stability of the tunnel.

Further surveys would be carried out during detailed design in order to determine appropriate vibration criteria. This would also include consideration of distances from the vibration intensive activity (piling, rock-breaking and vibratory rolling), as well as ground conditions. A vibration criterion of a PPV would be determined in consultation with the relevant agencies.

In-situ monitoring would be carried out prior to and during construction to confirm the vibration levels and assess the impact of vibration. Where the monitoring identifies exceedances in the relevant criteria, or where impacts are identified, additional management measures would be identified and implemented to appropriately manage impacts.

### ***Management measures – Fleurs Radio Telescope Site***

#### **4.19.3.7 Issue description**

Recommends the following conditions of consent in relation to Fleurs Radio Telescope Site:

- In addition to recommended conditions for the Upper Canal System and McMaster Field Station, the Heritage Council recommends specific conditions for the Fleurs Radio Telescope Site because the latter is potentially also of National significance and therefore should be afforded a higher level of heritage consideration
- The Proponent should engage a suitably qualified and experienced heritage consultant to prepare an Archival Photographic Digital Recording of the entire property, in accordance with Heritage NSW guidelines (Heritage Council of NSW 2006)

- Prior to any ground disturbance, ground penetrating radar, or other remote sensing survey techniques, could be carried out (within the heritage curtilage of Fleurs Radio Telescope Site included in the construction footprint) under the supervision of a suitably qualified and experienced archaeologist, to detect sub-surface cables that connected the antenna elements to the signal processing units. TfNSW to provide a copy of this report to the University of Sydney
- A dilapidation survey should be carried out to confirm the sensitivity of the item to vibration-induced damage and the appropriate criteria applied. The vibration criteria should be reviewed with respect to the condition of the structural item (eg footing, frame, beams or fabric). Vibration monitoring of relevant Fleurs Radio Telescope structures nearby must be performed during construction. The management measures must be included in the CCHMP to describe how the heritage values of the Fleurs Radio Telescope Site will be conserved and managed during the construction of the motorway
- Contractors and subcontractors working in the area must be informed of the exclusion zones, the elements and their significance, to prevent accidental damage or encroachment
- All extant elements of the radio telescopes and associated infrastructure, including rubbish mounds (outside of the construction footprint) must be left intact
- Historic heritage interpretation and improvement of community awareness of the significance of the Fleurs Radio Telescope Site must be included in a Heritage Interpretation Plan. Further investigation by TfNSW during detailed design should be carried out to investigate where and how the heritage interpretation could be presented near the site in an area accessible by the public.

#### **4.19.3.8 Response**

TfNSW acknowledges the requirements of the Department of Premier and Cabinet (Heritage NSW), Delegate of Heritage Council, for the protection of the Fleurs Radio Telescope Site as listed above and discussed in Section 7.6.6 of the EIS. Based on the current commitments listed in the EIS, archival photographic recording is only required for the impacted area before its disturbance and/or removal, not the entire property.

All heritage management plans and site-specific measures would be developed in accordance with the conditions of approval for the project and the commitments made within the EIS, this report, the amendment report and supplementary submissions report.

TfNSW would provide any reports on the findings of ground penetrating radar or other remote sensing survey techniques on the site to the University of Sydney.

### **Management measures – McMaster Field Station**

#### **4.19.3.9 Issue description**

Recommends the following conditions of consent in relation to McMasters Field Station:

- The Proponent to engage a suitably qualified and experienced heritage specialist to prepare an Archival Photographic Digital Recording of the impacted area, in accordance with Heritage NSW guidelines (Heritage Council of NSW 2006). This should include both buildings and landscape features such as dams and earthwork. The recording shall include a detailed map showing the location of the features.

- A potential use zone be established around the McMaster Farm group of buildings, including a suitable buffer zone, and construction activities must not take place within this zone. This zone should be incorporated into the CCHMP. The potential use zone to include safe working distances to be adhered to for heritage structures as outlined in Appendix K (Noise and Vibration assessment report).
- Before occupying or utilising the buildings, a dilapidation survey should be carried out and the heritage specialist shall advise on proposed modifications and management measures to avoid and minimise impact on the buildings.

#### **4.19.3.10 Response**

TfNSW is committed to the requirements of the Department of Premier and Cabinet (Heritage NSW), Delegate of Heritage Council, for the protection of McMasters Field Station as listed above and described in Section 7.6.6 of the EIS.

All heritage management plans and site-specific measures would be developed in accordance with conditions of approval for the project and the commitments made within the EIS, this report, the amendment report and supplementary submissions report.

## **4.20 Western Sydney Planning Partnership (WSPP)**

### **4.20.1 Strategic justification and need**

#### **4.20.1.1 Issue description**

The EIS identifies Premiers Priorities for Better Environment – Greening public spaces and Better Environment – Greener public spaces (Section 3.1.2 on p.18 of the EIS) but does not explicitly explain how the project will contribute to achieving it. Further explanation is needed.

#### **4.20.1.2 Response**

The project would support the NSW Premier’s priority, ‘Better environment: Greener public spaces’ by promoting the creation of a network of high-quality open spaces that supports recreation, biodiversity and waterway health through the provision of a shared user, revegetation strategy and the implementation of surface water quality measures.

In addition the project would also support the NSW Premier’s priority, ‘Better environment: Greening our city’, through the landscape revegetation strategy. This strategy provides an opportunity to strengthen remnant vegetation along creeks and floodplains, such as the interface at South Creek, and at major interchanges along the project which would contribute to the vision of the Green Grid and ultimately increase tree canopy cover in this location in western Sydney.

## 4.20.2 Consultation

### 4.20.2.1 Issue description

The EIS discusses future land uses along the project corridor by referring to those contained in the Stage 1 Western Sydney Aerotropolis LUIIP, including reference to the potential land uses including flexible employment, non-urban land, etc. The WSPP will advise the TfNSW project team of updated proposed zones along the project that will be contained in the Western Sydney Aerotropolis Plan (WSAP).

### 4.20.2.2 Response

TfNSW would continue to consult with WSPP around future proposed zoning.

## 4.20.3 Transport and traffic

### 4.20.3.1 Issue description

A continuous active transport corridor will be provided along the portion of the project running through the Western Sydney Aerotropolis. However, integration of this into a broader active transport network is not addressed. The WSPP can work to inform how active transport can link to a broader network, in particular at crossings with creeks and a future Blue Green grid framework for the Western Sydney Aerotropolis, as detailed precinct planning progresses.

### 4.20.3.2 Response

The project would create a motorway and shared user path network that connects existing services and provides for future strategic, district and local centres, public transport hubs, and residential areas. TfNSW is considering how future connections could be integrated into the proposed shared path along the M12 Motorway.

TfNSW has been in early consultation with Greater Sydney Commission regarding opportunities to improve green grid connections in western Sydney as part of planning for transport corridors. TfNSW would continue to work with WSPP to integrate the project into the broader active transport network and investigate opportunities to support the Blue Green Grid as it continues to be developed.

## 4.20.4 Urban design, landscape character and visual impact

### 4.20.4.1 Issue description

The EIS identifies that the project will involve the removal of approximately 960 trees but that new tree planting will result in a net increase in trees (p.413 EIS). However, it is unclear how this will be achieved as an indicative figure of the number of new tree plantings is not provided.

#### **4.20.4.2 Response**

As described in Section 7.3.8 of the EIS, TfNSW is committed to new tree planting that would result in a net increase of trees and therefore canopy cover. This commitment is demonstrated by the preparation of a tree management strategy which outlines measures to minimise and avoid tree removal and requirements for replacement trees (see LVIA15 in **Table 6-1**). The exact number of plantings is currently unknown, however and would be developed during detailed design and under the UDLP prepared under the project approval (if approved).

Where possible, seed would be sourced from within the project footprint and the local area. TfNSW has commenced a seed collection programme and would work with the Western Sydney Parklands to identify the best areas to collect these seeds within the Parklands. Bush regeneration would be carried out by a suitably qualified bush regeneration company.

The project would draw upon existing vegetation patterns and characteristics of vegetation communities to implement new tree planting along the project footprint, where space permits. The revegetation strategy provides an opportunity to strengthen remnant vegetation along creeks and floodplains, such as the interface at South Creek, and at major interchanges along the project which would contribute to the vision of the Green Grid and ultimately increase tree canopy cover in this location in western Sydney.

### **4.20.5 Socio-economic, land use and property**

#### **4.20.5.1 Issue description**

Potential land isolation continues to be an issue for areas around the approach towards the Airport site due to the alignment of the M12 Motorway and Sydney Metro – Western Sydney Airport. Approach to land affected will need to be defined as detailed planning investigations for the Western Sydney Aerotropolis progresses.

#### **4.20.5.2 Response**

Access has been provided to all parcels of land impacted by the project either via an underpass or changed access arrangement.

The amended project would incorporate the two new signalised intersections (subject to funding from WSA Co and adjoining developers) that would provide for an additional connection west and east of the airport access road, and north of Elizabeth Drive. These intersection would aid in providing access to the properties between the project and the proposed Sydney Metro – Western Sydney Airport. Further details are provided in Chapter 3 of the amendment report.

The integration of the project into Western Sydney Aerotropolis and surrounding growth areas was based on the available information at the time. TfNSW has participated in regular consultation with Western Planning Partnership to discuss district plans and how best to integrate the development of transport projects with the WPP's strategic planning for the Western Parkland City.

Road connectivity to support the Western Sydney Aerotropolis, South West Growth Centre and other planned employment precincts would be a function delivered by a combination of the motorway, arterial road, and the local road network. Future road network plans are also being developed by WSPP. TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network.

## 4.20.6 Flooding

### 4.20.6.1 Issue description

The EIS correctly identifies the cumulative effect major infrastructure projects and other development in the area can have on water flows during flood events (Section 7.8 of the EIS). In general it is anticipated that major developments in the area will increase catchment runoffs during flood events. Projects identified that will contribute to the cumulative flood impacts in the area include the Western Sydney International Airport, Sydney Metro – Western Sydney Airport, The Northern Road upgrade, Elizabeth Drive upgrade, Mamre Road upgrade and Outer Sydney Orbital along with major land releases including the Western Sydney Aerotropolis, South West Growth Area and WSEA.

As planning for the Western Sydney Aerotropolis progresses, there will be a need for the WSP and partners including Councils, Sydney Water and INSW, to consider how the cumulative effect that development in the area has on flood levels.

At a minimum, the assessment of flood impacts for the project should take into account any other work carried out for transport cluster projects.

### 4.20.6.2 Response

Section 7.8.5 of the EIS has taken into account the cumulative flooding impacts based on available data. The current design of the project exceeds the minimum 1 in 100 year ARI flood immunity requirement (due to the design having been governed by road geometry and other design requirements) and therefore provides some excess capacity to accommodate larger flows as a result of future development within the catchment.

Further flood investigations and hydrological and hydraulic modelling would be carried out during detailed design and would include any recent data that is available from regional studies or nearby development.

TfNSW would continue to work with nearby projects to minimise cumulative impacts on nearby communities.

## 4.21 Liverpool City Council

### 4.21.1 General support

#### 4.21.1.1 Issue description

Council appreciates that TfNSW representatives have provided briefings to Council and Western Sydney Parklands on the scope, design investigations, key features and benefits of the project.

Council supports the project as part of the Western Sydney International Airport ground transport infrastructure.

#### 4.21.1.2 Response

TfNSW acknowledges the support of Liverpool City Council.

## 4.21.2 Project design

### ***Intersections and entry/exit ramps***

#### ***4.21.2.1 Issue description***

##### **Elizabeth Drive connection**

An interchange with Elizabeth Drive is essential as are entry ramps and exit ramps at Elizabeth Drive. If these entry/exit ramps are not provided, the forecast growth in these areas will have an unacceptable impact on Elizabeth Drive (which will require road widening in the medium term). In this regard, Council has made separate representations to the Minister for Transport and Roads on the need for an interchange along the M12 Motorway connecting to Elizabeth Drive.

##### **M12 Motorway / M7 Motorway interchange**

Council is concerned that the southern exit-ramp from the proposed M12 Motorway onto the M7 Motorway within Western Sydney Parklands will be close to the Cecil Hills residential area. This is likely to have visual and noise impacts on the residential area. It is recommended that the exit-ramp is moved as far as possible away from the residential area and must include appropriate noise and landscaping management measures to limit these impacts.

##### **Access to growth areas**

Concern that the proposed motorway does not include a direct connection to Elizabeth Drive. The current design indicates that the proposed motorway would have limited access to the surrounding areas, including:

- Planned employment precincts along Elizabeth Drive
- Future business parks in the Western Sydney International Airport
- Western Sydney Aerotropolis
- South West Growth Area.

Part of Kemps Creek have the potential for new industrial developments, given the proximity to the project. Significant economic activity is expected to occur not only in Kemps Creek, but also the Western Sydney Aerotropolis and WSEA in the near future. The project must be designed to improve access to the future industrial and freight hubs and other planned developments in the Western Sydney Aerotropolis, WSEA and the South West Growth Area.

##### **Mamre Road / Devonshire Road**

Council recommends that the project include entry/exit ramps in the vicinity of Elizabeth Drive/Mamre Road/Devonshire Road to support economic and population growth in the surrounding areas and minimise impacts on the surrounding road network.

#### ***4.21.2.2 Response***

##### **Elizabeth Drive connection**

The project is being designed to include interchanges at appropriate intervals in order to maintain optimal traffic operation. Motorists can access the M12 Motorway from the M7 Motorway interchange to the east or from The Northern Road to the west.

Two design options for the motorway-to-motorway interchange at the M7 Motorway are being considered as part of the amended project. The options are as follows:

- Option 1 – Without Elizabeth Drive connection
  - Interchange provides entry and exit ramps between the M12 Motorway and the M7 Motorway; in addition, it would maintain the existing connection of the M7 Motorway to Elizabeth Drive with new entry and exit ramp
- Option 2 – With Elizabeth Drive connection
  - Interchange as per option 1 and also provides entry and exit ramps between the M12 Motorway and Elizabeth Drive, Cecil Road and Wallgrove Road.

The key features of each option are discussed in Section 2.2 and Section 3.1.2 of the amendment report. A key benefit of option 2 is the provision of a toll-free connection between Liverpool and the Western Sydney International Airport.

The decision on which option would be built is dependent on funding being available to include the Elizabeth Drive connection. This would be defined during the detailed design phase of the project and prior to the award of the construction contract. If option 1 is progressed due to funding limitations, the M12 Motorway may be accessed via The Northern Road to the west and the M7 Motorway to the east.

### **M12 Motorway / M7 Motorway interchange**

The location of the M12 southbound exit ramp onto the M7 Motorway has been an iterative process, and is outlined in Chapter 4 of the EIS. The route selection through Western Sydney Parklands and current location of the M12 Motorway southern exit ramp was driven by a number of factors, with the current option providing the best overall performance against the selection criteria.

In addition, as discussed in Section 7.1.3 and shown on Figure 7-5 of the EIS, an existing Biobank site (ID number 119) is located within the Western Sydney Parklands, south-west of the M7 Motorway and Elizabeth Drive intersection. A Biobank site is an area that is conserved and managed to enhance and protect biodiversity values and is subject to a Biobanking agreement under Part 7A Division 2 of the *Threatened Species Conservation Act 1995* and continues in force under the BC Act. The location of M12 Motorway / M7 Motorway interchange has been designed to avoid the existing site as much as possible.

Several options for the M12 Motorway / M7 Motorway interchange with the project were investigated. The following design aspects were considered:

- Ramp lengths and configuration
- Tie-in locations
- Merging and safety
- Tie-ins to the toll road of the M7 Motorway
- Connection to Wallgrove Road.

A grade separated interchange was selected as it was the best operational design and would provide a free-flowing connection for all movements between the project and the M7 Motorway. The inclusion of a tunnel as part of the project would have considerable construction, operation and maintenance costs, and is not considered a feasible option as part of the project design.

The M12 Motorway / M7 Motorway interchange geometry is constrained due to significant vertical clearances requirement from various existing and resultant design elements, such as the Eastern Gas Pipeline, vertical clearance of the ramps, Elizabeth Drive and the M7 Motorway, as well as the

M7 Motorway existing geometry. Where possible, the design of the ramp would be refined during detailed design.

Potential visual and operational noise impacts associated with the exit ramp is discussed in **Section 4.21.5.2** and **Section 4.21.9.2**.

### **Access to growth areas**

The integration of the project into Western Sydney Aerotropolis and surrounding growth areas was based on the available information at the time. TfNSW has participated in regular consultation with Greater Sydney Commission to discuss district plans and how best to integrate the development of transport projects with the Greater Sydney Commission's strategic planning for the Western Parkland City.

The two new signalised intersections (subject to funding from WSA Co and adjoining developers) would improve access to the Western Sydney International Airport and land to the north, and include provisions for future connection to potential developments north of Elizabeth Drive, such as Northern Gateway. As discussed above, the project has provided access to all land parcels, including Northern Gateway land holdings, either via an underpass (based on existing land use) or changed access agreement.

Road connectivity to support the Western Sydney Aerotropolis, South West Growth Centre and other planned employment precincts would be a function delivered by a combination of the motorway, arterial road, and the local road network. Future road network plans are also being developed by WSPP. TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network.

### **Mamre Road / Devonshire Road**

As described in the draft Western Sydney Aerotropolis Plan (WSPP 2019), the Mamre Road Precinct is part of the Western Sydney Employment Area (WSEA) and would be connected to the potential Western Sydney Freight Line. Future road upgrades would seek to promote connectivity between the WSEA and other precincts in the Aerotropolis.

A Mamre Road and Devonshire Road north–south connection is outside the current scope of the project. Funding is not currently available to deliver these connections, however TfNSW has started to plan for the future by investigating the delivery of exit and entry ramps at these locations. The project has been designed to allow for a potential connection between Mamre Road and Devonshire Road. The existing design of the project would enable an interchange to be constructed without significantly impacting motorway traffic.

Road connectivity to support the Western Sydney Aerotropolis, South West Growth Centre and other planned employment precincts would be a function delivered by a combination of the motorway, arterial road, and the local road network. Future road network plans are also being developed by WSPP. TfNSW would work with WSPP and strategic planning divisions within DPIE to integrate the M12 Motorway and the arterial roads with the future local road network.

## **Shared user path**

### **4.21.2.3 Issue description**

It is noted that the concept design of the motorway includes a shared user path. Council supports the construction of high quality grade-separated active transport links proposed with this project. Consistent with international best practice and NSW Centre for Road Safety research.

The proposed active transport network must integrate with the existing and planned pedestrian and bicycle networks within the local area, particularly in proximity to the Western Sydney Parklands.

The design features should, at a minimum, be of the same standards as those provided along the M7 Motorway. Where possible these paths should physically segregate walkers from other forms of active transport (ie cyclists and micro-mobility).

### **4.21.2.4 Response**

The project would provide an off-road shared user path alongside the proposed motorway corridor from The Northern Road to Range Road. TfNSW is currently working with the Western Sydney Parklands Trust to determine the appropriate alignment of the shared user path through the Parklands. This section of the shared user path that would be delivered by WSPT and funded by TfNSW.

The vision of the project is to have the shared user path linked to open recreation spaces. TfNSW would continue to work with WSPP to integrate the project into the broader active transport network and investigate opportunities to support the Blue Green Grid as it continues to be developed.

A fully separated shared user path for cyclists and pedestrians would not be provided for the project. The design of the shared user path would be refined during detailed design.

## **4.21.3 Biodiversity**

### **Assessment methodology**

#### **4.21.3.1 Issue description**

Concerns in relation to biodiversity assessment methodology include:

- Within the Western Sydney Parklands, fauna surveys are predominantly restricted to land that is in close proximity to the M7 Motorway (as shown in Figure 4-1 of the BAR). Relatively little survey effort is evident within the Western Sydney Parklands portion of the study area that is located directly to the south of Elizabeth Drive. It is recommended that additional fauna surveys are carried out within the area south of Elizabeth Drive, or justification provided to demonstrate that the current survey adequately represents portions of the study area that appear to have relatively little survey effort expended on them
- The report assumes that potential habitat for the threatened Cumberland Plain Land Snail is restricted to six hectares of riparian forest along Badgerys Creek. Section 4.2.5 (threatened fauna species results) of the BAR states that 'Habitat assessments determined that all potential habitat for this species within the remainder of the study area is in poor condition and heavily impacted by historical and current disturbance, fragmentation and

isolation'. Annexure B (Habitat assessment table) does not include robust justification for this assumption. It is recommended that further justification is provided to support this assumption, or additional areas are assumed to be potential habitat for this species

- The BAR assumes that suitable habitat for threatened woodland birds, owls and diurnal raptors (as listed in Section 4.2.5 (threatened fauna species results) of the BAR) is not present within the study area based upon targeted surveys and habitat assessments. Annexure B (Habitat assessment table) does not include robust justification for this assumption. It is recommended that this assumption is further justified, or further consideration be given to these species, particularly given the apparent limited extent of terrestrial habitat assessments
- Requests clarification if Southern Myotis breeding habitat' records are also 'hollow bearing tree' records (see Figure 4-2 of the BAR).

#### 4.21.3.2 Response

Both fauna habitat and vegetation plots have been carried out in the Western Sydney Parklands representative areas of woodland habitat. Field surveys and survey effort as part of the biodiversity assessment meets the requirements of the FBA and the majority of the construction footprint was able to be surveyed.

Information from both vegetation plots and fauna habitat assessment locations were used to determine potential occurrence of threatened species. Much of the vegetation within Western Sydney Parklands was regrowth, with few hollow-bearing trees. In addition, field surveys were concentrated in areas that are now contained in the construction footprint, as opposed to the wider study area.

A biodiversity supplementary technical report has been prepared for the amended project, which included additional field surveys. The field surveys comprised of three additional vegetation plots, two Cumberland Plain Land Snail (*Meridolum corneovirens*) surveys and one terrestrial fauna habitat assessment. During field surveys for the amended project, one live individual Cumberland Plain Land Snail was recorded. As a result, the fauna habitat for the Cumberland Plain Land Snail has been amended. Further details are provided in Section 6.1 of the amendment report.

Pre-clearance surveys would be carried out immediately before clearing work by a qualified ecologist in all vegetated areas to be disturbed that were identified as known or potential habitat for Cumberland Plain Land Snail. As identified in the CFFMP, all individual Cumberland Plain Land Snails found during pre-clearance surveys would be translocated to adjacent areas of suitable habitat.

A number of threatened species including owls, woodland birds, diurnal raptors and microbats were identified as potential candidate species during the desktop assessment for the biodiversity assessment. As part of field surveys for the project, industry recognised survey guidelines for these species were followed however only grey-headed flying fox (*Pteropus poliocephalus*) was detected for the EIS. The additional field surveys carried out as part of the supplementary technical report recorded one live Cumberland Plain Land Snail, however this species had already been assumed to be present for the EIS. Additional field surveys did not record any additional threatened species.

Based on the results of the field surveys, the presence of minimal/marginal habitat and the scarcity of hollow-bearing trees and other suitable microhabitat features, the biodiversity assessment assumed a low likelihood of occurrence several for threatened woodland birds, owls and diurnal raptors. Despite this, the project would offset over 80 hectares of habitat that could be utilised by threatened fauna species including owls, woodland birds and diurnal raptors.

In Figure 4-2 of the BAR, there was an issue with Southern Myotis breeding habitat and Hollow-Bearing Tree (HBT) layers, where Southern Myotis breeding habitat overlapped HBT icons in several locations. To clarify, all areas of Southern Myotis breeding habitat are also HBT, but not all HBT are Southern Myotis breeding habitat. This is because only HBT within a reasonable flight distance of water are considered suitable.

## ***Impacts to habitat connectivity***

### ***4.21.3.3 Issue description***

Limited details are included regarding the extent of the impacts to the corridor near the M7 Motorway, and proposed management measures. Section 8.5.4 (fragmentation of identified biodiversity links and habitat corridors) is ambiguous regarding which text is intended to apply to the riparian corridors and which text is applicable to the corridor near the M7 Motorway. It appears that most details are only intended to be applicable to the riparian corridors. Further, management measures noted in other sections of the BAR (eg Section 8.5.6 and chapter 10) for corridors are focused on the major creek crossings.

It is recommended that further details are provided for the likely impacts to the corridor near the M7 Motorway (in terms of flora species and ecological communities, as well as fauna), and proposed measures to minimise vehicle strikes and maintain or improve connectivity.

It is also recommended that the corridor near the M7 Motorway, as recognised in Section 8.5.4 (fragmentation of identified biodiversity links and habitat corridors) of the BAR and other resources such as BIO Map and the Western Sydney Parklands Plan of Management, is also shown in Figure 8-4 (local and regional fauna connectivity).

### ***4.21.3.4 Response***

Existing local and regional fauna connectivity is demonstrated in Figure 7-3 of the EIS. The BIO Map and Western Sydney Parklands Plan of Management 2030 (WSPT 2018a) was used to inform this figure.

Woodland habitat is present along the east and west sides of the M7 Motorway and provides some limited north–south habitat connectivity however the existing M7 Motorway creates a significant barrier between the east and west portions of the corridor. Similarly, the existing Elizabeth Drive currently provides a significant barrier and gap to north–south habitat connectivity in this portion of the regional corridor. Therefore, this location is not considered a habitat corridor of local or regional fauna connectivity.

Connectivity measures would be implemented in accordance with Wildlife Connectivity Guidelines for Road Projects (TfNSW, under preparation). Fencing would be located to reduce roadkill of fauna species and funnel animals to creek crossings where safe passage would be available.

In relation to vehicle strike, fauna would be managed in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) (Guide 9: Fauna handling).

## **Consultation**

### **4.21.3.5 Issue description**

The project will affect a portion of the Western Sydney Parklands including a bushland corridor identified (within the Western Sydney Parklands Plan of Management) as containing threatened flora and fauna species, and an established biobank site.

In order to appropriately manage and avoid any remaining impacts Council encourages the development of the project to proceed in close partnership with WSPT and guided by expert advice from Western Sydney Parklands. It is recommended that project development proceed in partnership with the Western Parkland Trust to ensure that any adverse effects on the Western Sydney Parklands are appropriately avoided, remedied or mitigated.

### **4.21.3.6 Response**

TfNSW would continue to consult both WSPT and Council during detailed design in relation to offsetting and the Western Sydney Parklands Plan of Management 2030 (WSPT 2018a) to appropriately avoid, remedy or mitigate any adverse effects on the Western Sydney Parklands.

## **4.21.4 Transport and traffic**

### **Assessment methodology**

#### **4.21.4.1 Issue description**

The land use forecast in the travel demand analysis does not include future employment and population growth from the Western Sydney Aerotropolis.

The standard land use scenarios (LU14) used in WSAGA mesoscopic models are not the latest land use forecast from TfNSW STM models. In addition, modelling should recognise that Fifteenth Avenue is now planned as a rapid transit corridor with a predominantly public transport and active transport function.

The transport models need to be updated to include the latest land use and transport infrastructure assumptions to ensure that the project provides transport, economic and social benefits to a wide area (ie the Western Sydney Parkland City).

#### **4.21.4.2 Response**

The transport modelling used an adjusted LU14 forecast scenario for the wider area model for the South Western Growth Area, and included the population and employment forecasts for the new airport transport corridor. Land use data for the Western Sydney Aerotropolis was not available at the time, however traffic demand from the airport and business parks have been factored into the transport modelling for the project.

An updated traffic model has been prepared for the amended project based on a revised SMPM version 1.1 (traffic modelling for the EIS used SMPM version 1.0) and updated land use and demographics scenario (LU16). Traffic demand from the airport and business parks provided by WSA Co been factored into the transport modelling for the project (see Section 6.2 of the amendment report).

A number of planned network upgrades, including the Fifteenth Avenue upgrades, have been included in the 2036 do minimum scenario that were at the time uncommitted to reflect the business-as-usual road network conditions that would occur if the Western Sydney International Airport was opened and the project was not built. Future changes in the rail and bus network that were expected to be implemented prior to 2036 were accommodated in the Transport Model, and based on forecast patronage a reduction in light vehicles was factored.

## **Management measures**

### **4.21.4.3 Issue description**

Requests the following in relation to transport and traffic management measures:

- Council notes that the construction haulage routes are along the M7 Motorway, Elizabeth Drive, The Northern Road and the M4 Motorway. The Elizabeth Drive/M7 Motorway southbound ramps will be operating at Level of Service (LoS) F and a section of The Northern Road will also be congested. Hence, to minimise construction impact, delivery of construction materials should be restricted to outside of peak traffic hours
- Council has been receiving representations regarding increasing traffic delay at Elizabeth Drive and Devonshire intersection. Construction traffic will worsen this condition. Due to the forecast significant construction traffic along Elizabeth Drive, its intersection with Western Road and Devonshire Rd will experience increasing delay. Interim intersection treatments such as roundabouts or traffic control signals are to be provided
- A detailed construction traffic management plan is to be developed in consultation with the Transport Management Centre (TMC), Fairfield, Liverpool and Penrith Councils before commencing the construction work
- New traffic survey data is to be collected as part of preparation of the construction traffic management plan
- Council requests that where local roads are to be affected during construction, Council and the local community are to be appropriately informed
- Appropriate road occupancy permits are to be obtained before commencement of construction work. Copies of construction traffic management plans and associated traffic control plans during different construction stages are to be submitted to Council.

### **4.21.4.4 Response**

Where possible, the delivery of construction materials would occur during standard hours however due to construction programming ancillary facilities would need to be accessible 24 hours a day. This change in access requirements is reflected in the updated assessments including the transport and traffic updated technical report and noise and vibration updated technical report (Section 6.2 and Section 6.7 of the amendment report), including additional management measures.

The updated noise model for the amended project identified a number of residential receivers that are predicted to experience 'moderate' impacts associated with night-time stockpiling activities at each ancillary facility. The impacts are based on all equipment working in each assessed scenario. There would frequently be periods when construction noise levels are much lower than worst-case levels and there would be times when no equipment is in use and there are no impacts. Additionally, as works are confined to within the facility, site hoarding can be used effectively to mitigate noise impacts.

A CTTMP would be prepared as part of the CEMP in consultation with the TMC and relevant local councils, and in accordance with relevant guidelines. The CTTMP would include the requirements for traffic control plans to be prepared for each work area which would include details of site access and specific traffic control measures (including signage) to manage traffic movements. Development of these plans would include a review of the Devonshire Road / Elizabeth Drive / Salisbury Avenue intersection to determine if feasible additional traffic control measures are to be implemented to assist with safely managing construction movements.

Traffic survey data collected in the study area informed the transport and traffic assessment report. A transport and traffic updated technical report has been prepared as part of the amended project and is discussed in Section 6.2 of the amendment report. The CTTMP would be informed by the findings in the report. Additional traffic counts would be collected to inform traffic control plans.

A Community Communication Strategy would be prepared for the project to facilitate communication with the local community including relevant Government agencies, Councils, adjoining affected landowners and businesses, and other relevant stakeholders that may be affected by the project

Road occupancy licences would be obtained prior to construction in consultation with TMC and Council.

## 4.21.5 Urban design, landscape character and visual impact

### 4.21.5.1 Issue description

Concerns regarding impacts to visual amenity and the use of landscape management measures include:

- Council is concerned that the southern exit-ramp from the proposed M12 Motorway onto the M7 Motorway within Western Sydney Parklands will be close to the Cecil Hills residential area and have visual impacts on the residential area. It is recommended that the exit-ramp is moved as far as possible away from the residential area and must include appropriate landscaping management measures to limit these impacts.
- In summer months, urban heat is evident in western Sydney. Large paved areas are known contributors to urban heat and increasing tree canopy cover is considered as one of the preferred solutions to tackle this urban heat.
- The shared user path is to have generous landscaping and canopy trees to improve amenity and ensure that paths are climatically comfortable to be used throughout the year.
- Consideration should be given to providing barriers at the sides and median of the motorway, rather than providing clear zones, to ensure that canopy cover is maximised. Incorporation of passive irrigation, swales and other water sensitive urban design (WSUD) approaches must be considered to maximise vegetation health, reduce water pollutant discharge and to maximise a closed loop water management cycle.
- A landscaping plan should be prepared for the full length of the motorway, with an aim to provide broad canopied trees which maximises the extent of shading on the carriageway. Increasing tree canopy cover and planting of shading trees along the motorway corridor should be incorporated in the landscaping plan. The landscaping plan should be consistent with the Greater Sydney Commission's aspirations for this to become the 'Western Parkland City'.

#### 4.21.5.2 Response

The development and justification for the location of the M7 Motorway entry/exit ramps is discussed in **Section 4.21.2.1**. During operation, it is expected that illuminance and light spill would be mostly confined within the operational footprint. Impacts associated with light spill are considered to be minor in the context of the project as a whole. Temporary and permanent lighting would be designed and implemented with consideration of the need to orientate lighting to minimise light spill and glare impacts on nearby receivers.

Opportunities to provide vegetative screening to soften the appearance of structural elements of the project and provide screening of sensitive views would be investigated as part of the UDLP prepared under the project approval (if approved).

TfNSW acknowledges Councils desire to manage urban heat plan however the project is unable to provide canopy cover over the road pavement on the operational motorway footprint or in clear zones due to the creation safety hazards of maintenance costs. Where possible, the project would provide canopy cover over the shared user path. This would be investigated and refined during the development of the UDLP. The use of waste sensitive urban design (WSUD) measures would also be considered during detailed design to meet water quality objectives. This revised environmental management measure is provided in **Table 6-1** (see SWH10).

The project landscaping plan would be prepared for the entire length of the project. The plan would draw upon existing vegetation patterns and characteristics of vegetation communities to implement new tree planting along the project footprint, where space permits. The revegetation strategy provides an opportunity to strengthen remnant vegetation along creeks and floodplains, such as the interface at South Creek, and at major interchanges along the project which would contribute to the Greater Sydney Commission's sustainability aspirations for the Western Parkland City.

### 4.21.6 Socio-economic, land use and property

#### **Economic impacts**

##### **4.21.6.1 Issue description**

Concern that the Employment and Economic Study has not fully addressed the possible impacts of the project, particularly on small businesses in the immediate area.

It is recommended that an economic impact strategy be developed to assist and/or support those different types of businesses that may be affected during construction and/or operation. The current document does not address this effectively.

##### **4.21.6.2 Response**

As discussed in Chapter 6 of the EIS, TfNSW has been in regular consultation with owners to understand both the direct and indirect impact the project businesses. Table 6-4 in the EIS outlines the consultation with business stakeholders that has been carried out prior to public exhibition of the EIS.

Economic impacts associated with employment impacts, business and industry impacts and potential for economic opportunities is detailed in Section 7.4.4 of the EIS. Specifically, the EIS discusses the following:

- Direct impacts on businesses as a result of acquisition or temporary leases
- Changes in local access to businesses, and traffic disruptions and delays due to construction activities

- Increased noise, dust and construction traffic, impacting on business amenity.
- Positive impacts such as Increased expenditure by construction workers on local goods and services
- For agribusiness, changes to farm infrastructure near the construction footprint, such as fencing and internal roads.

A business impact risk register would be established and maintained for the duration of construction to identify and manage specific impacts on individual businesses.

On-going consultation would be carried out with local business owners that may be impacted during construction (including owners of agricultural businesses) in accordance with the Community Communication Strategy for the project.

## ***Employment targets***

### ***4.21.6.3 Issue description***

The cost of this project is \$1.5 billion and is projected to create between 600 and 800 direct jobs (along with a significant number of indirect jobs). Contracts for the construction and operation of the project should require contractors to employ at least the same per centage of local people and apprentices as Western Sydney International Airport has committed to under airport construction contracts (<https://westernsydney.com.au/index.php/media-releases/major-earthworks-contract-means-jobs-locals-apprentices-and-trainees>). There is a recognised jobs deficit in this area and such actions would help alleviate this challenge.

Western Sydney International Airport has committed to a Skills Exchange model, in conjunction with NSW TAFE. <https://www.tafensw.edu.au/wsa>. This model is proving successful in delivering outcomes for locals to access training in an area of recognised skills shortages. The project should also replicate this model, leveraging existing TAFE educational assets in the Liverpool local government area.

Council recommends that the project should replicate Western Sydney International Airport's employment target and skills training obligations. The Government should also conduct local information sessions in partnership with the ICN Gateway <https://gateway.icn.org.au/> and list work projects on the Gateway.

### ***4.21.6.4 Response***

Employment opportunities as a result of the project would align with the commitments outlined in the Western Sydney City Deal, including targets for Indigenous, social and local employment and procurement. Further details are provided at <https://www.infrastructure.gov.au/cities/city-deals/western-sydney/files/western-sydney-jobs.pdf>. This revised environmental management measure is provided in **Table 6-1** (see SLP14).

## ***Impacts to Western Sydney Parklands***

### ***4.21.6.5 Issue description***

The Western Sydney Parklands (WSP) are a nationally significant environmental and recreational resource. The Western Sydney Parklands are a centrepiece of the future Western Parkland City and there are significant plans to further enhance and develop the opportunities associated with

this asset. It is critical that infrastructure projects do not diminish the experience or facilities available to Western Sydney residents and visitors at Western Sydney Parklands.

Council acknowledges that changes have been made to the project design, to date, to reduce the impact of the project on Western Sydney Parklands. In order to appropriately manage and avoid any remaining impacts Council encourages the development of the project to proceed in close partnership and guided by expert advice from WSPT

Project development proceed in partnership with the WSPT to ensure that any adverse effects on the Western Sydney Parklands are appropriately avoided, remedied or mitigated.

#### **4.21.6.6 Response**

TfNSW recognises the environmental significance of the Western Sydney Parklands and has commenced a seed collection programme within the Parklands.

TfNSW is currently working with WSPT to support the delivery of the shared user path through the Parklands and the relocation of the Wylde Mountain Bike Trail. TfNSW would continue to work in close partnership with WSPT throughout the entire duration of project.

### **4.21.7 Aboriginal heritage**

#### **4.21.7.1 Issue description**

Concerns regarding Aboriginal heritage include:

##### **Sensitive maps**

- The Aboriginal cultural heritage assessment report does not show the area surveyed, nor does it show where testing was carried out. Details of the testing locations are to be provided. The Aboriginal cultural heritage assessment report does not include any sensitivity mapping. Confirmation is required whether additional areas of high sensitivity were identified beyond the Potential Archaeological Deposits (PADs).

##### **Post-approval plans**

- The Aboriginal cultural heritage assessment report has indicated a number of assessments to be carried out post EIS, which is inappropriate and should be included as part of the EIS.

#### **4.21.7.2 Response**

##### **Sensitive maps**

Survey effort for the assessment of Aboriginal cultural heritage was confined to the detailed investigation area shown in Figure 7-55 of the EIS. Test locations and survey effort is provided in the non-redacted ACHAR, which was provided to DPIE.

Predictive modelling was used to determine the archaeological sensitivity of particular landforms, and ultimately the location, extent and sampling strategy for the test excavation methodology and program. The predictive model is based on a 'land system' or 'archaeological landscape' model of site location. This type of modelling enables the prediction of site location based on known patterns of site distribution in similar landscape regions or archaeological landscapes. The landscape patterns associated with the project are demonstrated in Appendix I of the EIS.

The sensitivity of areas within the study area was then determined based on the outcomes of the test excavations and survey. As discussed in Section 7.5.4 of the EIS, the large sub-surface extent of PADs, as revealed through the testing program, suggests that most PADs are likely to extend beyond the construction footprint.

### **Post-approval plans**

Section 7.5.6 of the EIS has outlines a number of management plans to be developed for the protection of Aboriginal cultural heritage in consultation with the project Registered Aboriginal Parties and EESG. A suitably qualified heritage specialist would be engaged to prepare a heritage interpretation framework to guide development of the detailed urban design for the project.

Aboriginal heritage management plans would be developed in accordance with conditions of approval for the project and the commitments made within the EIS, this report, amendment report and supplementary submissions report. These plans would be prepared in consultation with government agencies based on the conditions of approval for the project.

## **4.21.8 Non-Aboriginal heritage**

### ***Assessment methodology***

#### ***4.21.8.1 Issue description***

The information provided does not include a landscape heritage assessment. Such assessment should be carried out.

#### ***4.21.8.2 Response***

Heritage landscapes were identified through previous assessments (Aurecon, Roberts, Morris and Britton) and these were identified as part of the non-Aboriginal heritage assessment report (Table 4-2 and Table 4-3 of Appendix J of the EIS). Impacts on landscapes and vistas were assessed where relevant to the heritage item and its significance.

An assessment of the values and impacts on landscape as a more general concept are included in the Landscape character, visual impact assessment and urban design report (Appendix G) of the EIS.

### ***Management measures***

#### ***4.21.8.3 Issue description***

Concerns in relation to non-Aboriginal heritage include:

- Archival recordings are not appropriate management measures. Further consultation is required with Council to discuss the measures to mitigate the impacts on the heritage asset
- The project has the potential to impact the Upper Canal in Cecil Hills. The Upper Canal is tunnelled in this location. It is recommended that a detailed archaeology investigation is carried out to assess potential impacts on the Upper Canal.

#### **4.21.8.4 Response**

Where heritage impacts were unable to be avoided, site-specific management measures would be applied, which include a number of measures other than archival photographic recording such as protective fencing, exclusion zones, interpretive strategies and archaeological salvage excavation. Site specific management measures would be further described in the CCHMP that would be developed for the project under the project approval (if approved). TfNSW would consult with relevant agencies including Council during the preparation of the CCHMP.

Several management measures are proposed in Section 7.6.6 of the EIS for the protection of the Upper Canal System including a dilapidation survey prior to construction to confirm the existing condition. A dilapidation was carried out in July 2019 to catalogue the base-line condition of the tunnel and verification of the tunnel shaft locations prior to the commencement detailed design and construction work. Defects identified for remediation in the dilapidation survey were not considered to adversely affect the structural stability of the tunnel.

Further surveys would be carried out during detailed design in order to determine appropriate vibration criteria. This would also include consideration of distances from the vibration intensive activity (piling, rock-breaking and vibratory rolling), as well as ground conditions. A vibration criterion of a PPV would be determined in consultation with the relevant agencies.

In-situ monitoring would be carried out prior to and during construction would be carried out to confirm the vibration levels and assess the impact of vibration. Where the monitoring identifies exceedances in the relevant criteria, or where impacts are identified, additional management measures would be identified and implemented to appropriately manage impacts.

Based on the non-Aboriginal heritage assessment prepared for the project (Appendix J of the EIS), an archaeological investigation is not considered necessary for work near the Upper Canal System as there would be no archaeological deposits identified in this location. In addition, physical protection of the system as detailed above would protect the heritage values of the item.

### **4.21.9 Noise and vibration**

#### **4.21.9.1 Issue description**

Concern that the southern exit-ramp from the proposed M12 Motorway onto the M7 Motorway within Western Sydney Parklands will be close to the Cecil Hills residential area and have noise impacts on the residential area. The exit-ramp should be moved as far as possible away from the residential area and must include appropriate noise management measures to limit these impacts.

If night-time construction is to be carried out, noise management measures should be implemented in accordance with EPA policy.

The project is to ensure that existing properties that will be exposed to increase traffic noise (particularly within Cecil Hills) are to be assessed and if required, attenuation measures implemented.

#### **4.21.9.2 Response**

Deciding on the location of the M7 Motorway interchange has been an iterative process. A grade separated interchange was selected as it was the best operational design and would provide a free-flowing connection for all movements between the M12 Motorway and the M7 Motorway. The

inclusion of a tunnel as part of the project would have considerable construction, operation and maintenance costs, and is not considered a feasible option as part of the project design.

The amended project has lowered the M7 Motorway southbound exit to M12 Motorway westbound, and the M7 Motorway southbound entry from M12 Motorway eastbound, near Cecil Hills. This is discussed further in Section 3.1 of the amendment report. Where possible, the design of the ramp would continue to be refined during detailed design to minimise noise and visual impacts on Cecil Hills residents.

A noise and vibration assessment report was prepared for the project as part of the EIS (see Section 7.7 of the EIS). This assessment was then updated to assess the noise and vibration impacts of the amended project as part of the amended report (see Section 6.7 of the amended report).

For both assessments, the operational noise assessment compared road traffic noise levels predicted due to the project in 2026 (modelled as the year 'at opening') and 2036 (modelled as 10 years after opening) with those predicted without the project (but assuming background traffic growth based on traffic forecast for 2026 and 2036).

Generally, the change in road traffic noise exposure as a result of the amended project predicted to remain unchanged from the project as described in the EIS; less than 2 dB(a) in areas adjacent to the existing major roads such as the M7 Motorway, Elizabeth Drive and The Northern Road. This would include the Cecil Hill area to the east of the M7 Motorway. This change in road traffic noise exposure is considered by the EPA to be barely perceptible.

A total of 183 sensitive receiver buildings (262 individual floors) qualified for consideration of additional noise mitigation under the EIS assessment (see Figure 7-111 to Figure 7-113 in EIS). Specifically at Cecil Hills, two buildings (three receiver floors) near the southbound exit ramp were considered for additional noise mitigation in the EIS.

For the amended project, 212 sensitive receiver buildings (310 individual floors) for option 1 (without Elizabeth Drive connection) and 220 sensitive receiver buildings (320 individual floors) for option 2 (with Elizabeth Drive connection) have been considered for additional noise mitigation. Based on the updated noise assessment, there are no buildings or floors triggered in Cecil Hills for additional noise mitigation due to a reduction in night-time noise levels. This is discussed further in Section 6.7 of the amendment report.

Where road traffic noise levels at sensitive receivers are predicted to be above the Noise Criteria Guideline (NCG) (Roads and Maritime 2015b) criteria, the requirement for additional noise mitigation is determined using guidance from the NMG (Roads and Maritime 2015a) and based on existing land use. It is important to note that the noise exceedance levels are based on existing noise levels taken during the development of the EIS.

A CNVMP would be prepared for the project to mitigate and manage noise and vibration impacts during construction which would outline requirements for the development and implementation of management measures in accordance with the project EPL, project conditions of approval, approved out-of-hours work protocol and CNVG (Roads and Maritime 2016).

Prior to construction, an Operation Noise and Vibration Review (ONVR) would be prepared based on the existing land use which would detail the specific management measures for eligible receivers to be applied across the project.

Twelve months after opening of the project, TfNSW would undertake an "actual" measurement of noise levels (see Section 7.9.9 of the EIS). These levels would be compared to the predicted levels from the noise and vibration assessment report. If the noise levels are higher than the predicted

levels, it may lead to an increased level of treatment, in which case TfNSW would notify the property owner and arrange for the increased level of treatment.

## 4.21.10 Surface water quality and hydrology

### 4.21.10.1 Issue description

#### Management measures

The project will generate a significant amount of surface water pollution. The design of the project should include stormwater treatment in accordance with the principles and guidelines of water sensitive urban design (WSUD).

The design shall allow collection of stormwater runoff, removal of gross pollutants and nutrients as per Liverpool Council's water quality reduction target. The design should include water quality modelling using Liverpool Council's MUSIC Link.

#### Ongoing consultation

A meeting is required between Council and TfNSW to discuss measures to ensure surface water pollution is minimised in accordance with Liverpool City Council's Development Control Plan.

### 4.21.10.2 Response

#### Management measures

MUSIC modelling of the annual pollutant loads generated from the five catchments with downstream sensitive receiving environments (Badgerys, Cosgroves, South, Kemps and Hinchinbrook Creek) was carried out for key indicators TSS, TP and TN to demonstrate minimal impact with the implementation of controls (see Section 7.9 of the EIS).

Modelling of both the existing loads (ie pre-development) and post-development loads (with and without water quality controls) was carried out. Pollutant loads for all indicators reduced during operation (with water quality controls) compared to the existing (pre-development) conditions, with the greatest per centage reduction in loads for TSS and TP.

The MUSIC modelling has demonstrated that the total pollutant load for the five combined catchments is reduced with the operation of the project provided the recommended water quality controls discussed in the EIS are implemented.

Table 7-133 of the EIS has noted Liverpool City Councils pollutant load reduction requirements on stormwater quality for developed conditions however the project has adopted the EESG's total suspended design target for water quality in order to meet the project's water quality objective for the operational phase (ie no reduction to existing water quality). This pollutant load reduction target is 80 per cent, as described in Managing Urban Stormwater – Council Handbook (EPA 1997).

Water quality controls developed for the design, including temporary and permanent sediment basins and the suitability of WSUD measures, would be verified as the detailed design develops for the project to achieve the water quality objectives of the project.

The results from the current monitoring program would be available during detailed design to further refine the water quality and hydrology controls for the construction of the project. This supplementary data, with particular consideration given to the potential for implementation of additional treatment measures, where reasonable and feasible, would be investigated to provide

further improvements to water quality. These may further minimise water pollution and protect human health and the environment from harm.

TfNSW acknowledges Councils request to include Liverpool Council's MUSIC Link however given the project crosses a number of LGA's it is imperative that a consistent approach to MUSIC modelling along the project is adopted.

### **Ongoing consultation**

TfNSW would continue to consult with Council during detailed design.

## **4.21.11 Safety**

### **4.21.11.1 Issue description**

Tree species within close proximity to the Western Sydney International Airport will need to be selected to minimise the potential for bird-strike and wildlife strike from planes.

In addition, due to the location of the motorway corridor with respect to Western Sydney International Airport, street lighting design should be carried out in consultation with the Airport company to ensure that there will be no impacts on the operation of Western Sydney International Airport.

### **4.21.11.2 Response**

TfNSW would continue to work with Western Sydney International Airport in relation to tree species selection and street lighting design in consideration of aviation safety.

## **4.21.12 Sustainability and resource management**

### **4.21.12.1 Issue description**

Appropriate sustainability measures should be included in the detailed design and construction phase of the project, recognising the NSW Government's commitment to net zero emissions by 2050 and the shift to a circular economy.

### **4.21.12.2 Response**

Sustainability initiatives have been considered for all stages of project delivery so the project can contribute to the desired outcomes outlined within the relevant strategies and guidelines for the project, including Infrastructure Sustainability rating tool Version 1.2 (Infrastructure Sustainability Council of Australia 2016). These initiatives would largely be implemented during future stages of the project and would broadly be governed by the sustainability strategy described in Section 8.4.2 of the EIS.

A sustainability management plan for the project would be developed and implemented during detailed design, to give effect to the sustainability strategy for the project. A construction waste and resource management plan (CWRMP) would also be prepared for the project and outline appropriate management procedures.

## 4.21.13 Climate change

### **4.21.13.1 Issue description**

A climate change monitoring and management framework should be prepared for the project. The framework will incorporate performance monitoring criteria and periodic review of the climate change risk assessment. The project should also identify, and plan for, opportunities to incorporate resource efficiency and circular economy principles into the entire project lifecycle.

### **4.21.13.2 Response**

A climate change monitoring and adaptive management framework would be prepared and implemented for the project.

## 4.21.14 Future infrastructure projects

### **4.21.14.1 Issue description**

Council's preferred location for an interchange is where the proposed motorway, Elizabeth Drive/Mamre Road/Devonshire Road meet. If this is not possible, Elizabeth Drive must be upgraded to serve the planned industrial developments and business parks in the Western Sydney International Airport and the surrounding areas.

### **4.21.14.2 Response**

A Mamre Road and Devonshire Road north–south connection is outside the current scope of the project. Funding is not currently available to deliver these connections, however TfNSW has started to plan for the future by investigating the delivery of exit and entry ramps at these locations. The project has been designed to allow for a potential connection between Mamre Road and Devonshire Road. The existing design of the project would enable an interchange to be constructed without significantly impacting motorway traffic.

The future upgrade of Elizabeth Drive is outside of the project scope however the NSW Government is planning for the future with funding allocated to investigate improvements to Elizabeth Drive between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham. An official announcement has not been made on when the project would commence.

## 4.22 NSW Rural Fire Service

### 4.22.1 General support

#### **4.22.1.1 Issue description**

Based on review of the submitted documentation, the NSW RFS raises no objection to the proposal. The recommendations to address the potential bush fire risk due to the proposed construction of the project as detailed in Section 8.3.4 of M12 Motorway EIS dated October 2019

are supported and are to be included as part of the comprehensive construction environmental management plan (CEMP) and work health safety management plan (WHSMP).

#### **4.22.1.2 Response**

TfNSW acknowledges the support for the project by NSW Rural Fire Service. The CEMP and WHSMP would include the bush fire management measures discussed in Section 8.3.4 of the EIS.

## **4.23 DPIE Water**

### **4.23.1 Surface water quality and hydrology**

#### **Assessment methodology**

##### **4.23.1.1 Issue description**

The proponent should note the rare and vulnerable river systems nearby such as the chain of ponds.

The EA has identified the potential to realign streams classified as second order and above. As a result, this proposal is not in accordance with the Guidelines for Controlled Activities on Waterfront Land (NRAR 2018).

The EA should provide additional information on streams impacted by the proposed work and management measures to manage these impacts. For example, a third order stream off Kemps Creek is to be impacted however the EA does provide clear description of the impacts in the context of the CAA Guidelines or discuss management measures. The proponent needs to provide a map identifying all streams and stream orders and describe how this work are aligned with the Guidelines for Controlled Activities on Waterfront Land (NRAR 2018).

##### **4.23.1.2 Response**

The Killarney Chain of Ponds discharges to McKenzies Creek and is part of the South Creek sub-catchment of the Hawkesbury Nepean River. The Killarney Chain of Ponds and its tributaries have been significantly altered by agricultural/industrial work.

The surface water quality and hydrology assessment prepared for the EIS and amended project considered downstream environments within 500 metres from the road alignment (see Section 7.9.2 of EIS and Section 6.9.2 of the amendment report). The proposed M12 Motorway crossing of South Creek is about 46 kilometres downstream of where Killarney Chain of Ponds (via Mckenzie's Creek) flows into South Creek. As such, the ponds are not expected to be impacted by the construction or operation of the project and were not considered further in the surface water quality and hydrology assessment.

A map of the project and stream orders is provided in Figure 2-1 of the BAR (Appendix E of the EIS).

As discussed in Section 7.1.4 of the EIS, Badgerys Creek, South Creek and Kemps Creek may be permanently adjusted over distances of 64 metres, 200 metres and 84 metres respectively. Minor creek adjustments of the fourth order streams Badgerys Creek, South Creek and Kemps Creek are required to avoid placement of bridge piers within the waterway, to minimise bridge lengths, reduce

risk of erosion and creek disturbance and to minimise shading of creeks. Where feasible, creek adjustments would be investigated and removed or minimised during detailed design.

In accordance with Table 2 in the Guidelines for Controlled Activities on Waterfront Land (NRAR 2018), stream realignment is generally not permitted for second order streams and higher. As such, the proposed readjustment has been designed to have a similar capacity to the existing creek channels and would incorporate natural features, bed control structures, bank stabilisation and revegetation to minimise impacts and rehabilitate waterways to preconstruction conditions or better. To achieve this, the creek corridors would be revegetated with locally native riparian vegetation so that water flow and water quality are both protected and enhanced. This would also minimise any impacts on the hydrologic, hydraulic, geomorphic and ecological functions of these watercourses.

**Table 5-1** discusses the impact of the creek diversion at the tributary at Kemps Creek.

## ***Management measures***

### ***4.23.1.3 Issue description***

Requests the following post-approval conditions in relation to surface water impacts:

- The construction soils and water management plan (SWH05), with included scour protections, should be developed in consultation with DPIE Water, and should take account of vulnerable receiving systems
- Post-development stream in-flows must be constrained to pre-development limits to avoid physical disturbance in vulnerable streams
- Geomorphic monitoring should be included in the post-construction monitoring program, specifically looking for erosion, bed incision and channel adjustment
- All stream diversions should be rehabilitated after realignment in accordance with A Rehabilitation Manual for Australian Streams (Rutherford, Jerie and Marsh; LWRRDC 2000) or similar
- The flow models (SWH12) predictions should be compared with actual flows after three years post-construction, the comparison should include a large rain event. Model recalibration will be necessary where the stated margin of error is exceeded.

### ***4.23.1.4 Response***

A CSWMP would be prepared for the project that would include erosion and sediment control measures such as temporary sediment basins, temporary drainage and sediment fencing, to reduce the potential for scour and erosion.

The project's design was developed to avoid diversion of drainage lines and catchments as far as practicable, to minimise hydrological impacts. Overall there is unlikely to be a significant change in hydrology and flow distribution across the broader catchment. However, there is the potential for localised changes in flow from one subcatchment to the next. All major and minor waterways and drainage lines would be impacted to some extent by the increase in impervious area of the project, leading to increased stormwater runoff, increase velocities and peak flows, and therefore increased potential for flooding or scour of creeks.

Flood modelling results indicate that there would be some very small and localised areas of velocity increase above 20 per cent where velocities are above 1.0 metre per second with the project in operation, but these would be localised at the proposed bridges and generally contained within the

project's operational footprint. Suitable scour protection measures would be provided where required to protect the geomorphology and water quality of the receiving waterway. As discussed in Section 7.9.4 of the EIS, the change in volumes and velocities are unlikely to impact on aquatic connectivity and habitat.

During the initial establishment and operation period of adjusted waterways, regular inspections would be carried out as part of an operational water quality monitoring program to review the design of the realignment. The inspections would assess the implementation and effectiveness of controls with respect to bank erosion, channel incision, bed and bank stability and evidence of sediment storage.

The realigned creek channels would be revegetated with locally native riparian vegetation, in accordance with the requirements of the Policy and guidelines for fish habitat conservation and management (DPI 2013) and guidelines for instream work on waterfront land (DPI 2012). These guidelines are considered similar to the A Rehabilitation Manual for Australian Streams (Rutherford, Jerie and Marsh; LWRRDC 2000) however the rehabilitation manual is considered more detailed. The appropriateness of the rehabilitation manual would be considered during the detailed design of creek rehabilitations.

The creek channels would be rehabilitated to preconstruction conditions or better. As discussed above where feasible, creek adjustments would be investigated and removed or minimised during detailed design.

The purpose of the flood model/assessment for the project is to quantify the flood impacts from the project and identify the potential management measures required.

The flood model developed has not been built or calibrated to any flood data hence is not suitable for comparison with actual flows. Flood frequency analysis requires long data series and only a couple of years of rainfall / creek flow information is inadequate for proper flood frequency analysis. The requirement to calibrate flood model to actual flow data is not standard industry practice, particularly at local tributaries and minor waterways.

In addition, it may not be practical to compare EIS stage predictions (2020) against the three years post construction (2029) flows because by 2029 there would be changes to flows from new developments that would make the 2020 predictions somewhat redundant for comparison purposes. As such, the requirement from DPIE Water for flood model comparison/recalibration is not considered appropriate and not applicable for the project, without consideration of the impacts of new projects and adjustments to modelling assumptions.

## 4.23.2 Groundwater

### 4.23.2.1 Issue description

Requests in relation to the assessment of groundwater impacts and water take include:

- The project has conservatively estimated a maximum take of groundwater of 2.46 ML/year (Appendix N Section 5.1.8); DPIE-Water expect all estimated take of groundwater be included in the Water Balance. Project Water Balance as presented is more an estimated water demand for the project. Develop and include an updated water balance to reflect water input to project (including projected water use, rainfall catchment / retention) plus output water from project (including rainwater runoff and groundwater discharge).

- Groundwater monitoring during the operational phase is limited to the first six months, with a final assessment of the impacts after that. DPIE-Water are of the opinion that this is an insufficient period of time to assess the operational motorway impacts on groundwater as it does not allow for seasonal variation. Groundwater monitoring during the operational phase should be for a full 24 months period to enable assessment of impacts against two full seasonal changes, followed by assessment of the monitoring data.
- Include in the construction soils and water management plan an updated assessment of the groundwater monitoring, with monitoring data attached.

#### **4.23.2.2 Response**

A revised water balance has been prepared and described in Section 6.9.3 of the amendment report. The water balance takes into consideration water inputs and outputs for the project.

TfNSW acknowledges DPIE Water's request for 24 months of groundwater monitoring during the operational phase of the project and expects that the project approval would contain a requirement for groundwater monitoring. The groundwater and hydrology assessments prepared for the EIS and amended project have both described the impact of the project on groundwater to be minor and manageable. As such, TfNSW is committed to a six month operational monitoring period (or as otherwise required by the project approval). The monitoring program would include groundwater level and quality data collection.

If observed groundwater impacts are higher than estimated, TfNSW would extend the operational monitoring period and implement additional measures to minimise potential impacts to groundwater flows in consultation with DPIE Water.

The CSWMP would include updated available information on groundwater monitoring with monitoring data included.

## 5. Clarifications

### 5.1 Minor errors or discrepancies

This section identifies minor errors, discrepancies and general clarifications identified either through the submissions received during exhibition of the EIS or through further review by TfNSW, shown in **Table 5-1**. Where relevant, the text provided in the sections that follow can be considered to replace the text from the EIS. None of these clarifications result in a significant change to the environmental impacts assessed in the EIS or risk matrix provided in Table 10-5 of the EIS. Clarifications provided in this chapter have been considered as part of the amendment report assessment process.

**Table 5-1** Minor errors or discrepancies within the EIS

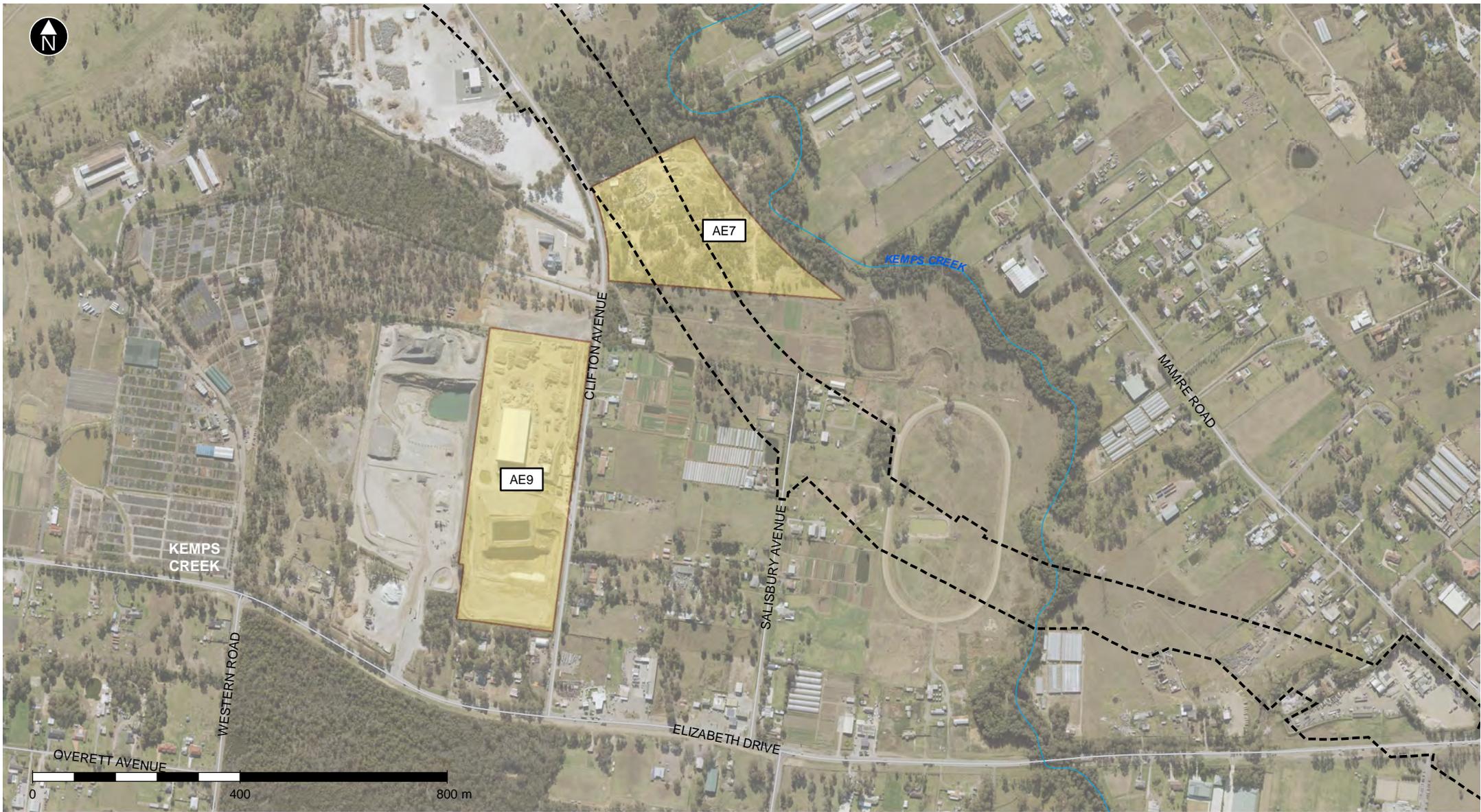
Chapter/ appendix reference in EIS	Error/discrepancy	Clarification
Table 6-7 (Feedback from the community), Table 7-98 (Environmental management measures (non-Aboriginal heritage), Table 9-1 (Summary of environmental management measures), Table 10-5 (Environmental risk analysis summary) of the EIS	These sections of the EIS state: “A safe working distance exclusion zone be established around the exposed tunnel air shaft (Tunnel Shaft 4) in the M7 Motorway median in accordance with the process outlined in noise and vibration management measures NV09 - NV10”	The reference to NV09 is incorrect. Management measures relating to the safe working distance are NV10 – NV11.
Table 10-5 (Environmental risk analysis summary) of the EIS	Reference to noise and vibration management measures (NV09 – NV15) in Table 10-5 is incorrect.	The reference errors to NV09 – NV15 in Table 10-5 of the EIS does not change the risk or residual risk as discussed in the EIS.
Section 7.8.1 (Policy and planning setting) Section 2.1.3 of Appendix L (flooding assessment report) of the EIS	These sections state: “The motorway elements within the Fairfield LGA are not located in a main-watercourse flooding zone”	These sections should read: “The motorway elements within the Fairfield Council area are not located in a main-watercourse flooding zone except Ropes Creek.” However, the proposed bridge widening of the existing M7 Motorway twin bridge over Ropes Creek adopts the same design (including bridge type, spans and piers) as the existing bridge structure, the project vertical alignment would also be similar to the existing M7 Motorway in this location. As such, no changes to current flood conditions are expected and the Ropes Creek bridge has not been considered further within the flood modelling for both the project as described in the EIS and the amended project.

Chapter/ appendix reference in EIS	Error/discrepancy	Clarification
<p>Table 7-19 (Summary of threatened flora species impacts) of EIS</p> <p>Table 8-8 of Appendix E (biodiversity assessment report) of the EIS</p>	<p>Text in Section 7.1.4 of the EIS and Section 8.2.3 of the biodiversity assessment report (BAR) notes that 90 individuals of the threatened <i>Pultenaea parviflora</i> would be cleared near Clifton Avenue, and that a population of 18 individuals within Western Sydney Parklands (WSP) is likely to be lost due to habitat fragmentation and degradation. Table 7-19 (summary of threatened flora species impacts) of the EIS and Table 8-8 (summary of threatened flora species impacts) of Appendix E note a direct impact to 90 individuals and no individuals being indirectly impacted, which is not consistent with the preceding text.</p>	<p>The number of <i>Pultenaea parviflora</i> indirectly impacted should be 18 instead of zero in Table 7-19 of the EIS and Table 8-8 of Appendix E.</p> <p>A biodiversity supplementary technical report has been prepared for the amended project and discussed in Section 6.1 of the amendment report. This correction has been carried over into this biodiversity assessment.</p>
<p>Table 8-4 of Appendix E (biodiversity assessment report) of the EIS</p>	<p>The area of the polygons in these [edge effects] adds up to 22.75 ha (3.58 and 19.17 hectares, respectively).</p> <p>Table 8-4 only shows a total of 19.49 hectares of vegetation within 30 metres of the footprint, with 12.73 hectares subject to edge effects (which is also the data in the calculator).</p>	<p>There is an error in the information provided in Table 8-4 of Appendix E of the EIS, the GIS data is correct. Table 8-4 does not include the values around Clifton Avenue except for the 0.52 hectares of PCT 724 vegetation in the 'new edge' category. Table 8-8 in the EIS should have either included further information reflecting the Clifton Avenue edge effect analysis, or been more clearly titled to specify that it is limited to the areas within Western Sydney Parklands.</p> <p>The GIS data for Clifton Avenue edge effects of PCT 724 totals 0.45 hectares instead of the 0.52 hectares noted in the Table 8-5 in Appendix E in the EIS.</p> <p>Correcting this results in a total of 12.66 ha of indirect impacts, compared with the 12.73 ha in the BAR results in a difference of one less biodiversity offset credit.</p>

Chapter/ appendix reference in EIS	Error/discrepancy	Clarification
Table 1-1 (EIS volumes), Section 3.5 (Water quality criteria) and Section 6.2.1 (Operational water quality treatment) in Appendix M (Surface water quality and hydrology assessment report) of the EIS	Broken cross-references, 'Section 0', in Appendix M	Section 0 references refer to 'Spills' under Section 5.2.1 (Surface water quality) following on from Table 5-5 in Appendix M of the EIS.
Table 5-3 (M12 Motorway design criteria) of the EIS	Pavement design criteria in table reads 20 years	Pavement design criteria should read '40 years'.
Table 5-5 (Bridge design criteria) of the EIS	Value adopted in the design for drainage currently reads: "Flow must not extend into the traffic lane for rainfall events up to a one in five year ARI event"	Value adopted in the design for drainage should read: "Flow must not extend into the traffic lane for rainfall events up to a one in 'ten' year ARI event"
Location of former Kari & Ghossayn Pty Ltd (AEI 7) as described in Section 8.1.3 and Appendix O of the EIS	The EIS and the soils and contamination assessment report (Appendix O of the EIS) identified the former Kari & Ghossayn Pty Ltd (AEI 7) as Lot 4 and 5 of DP 812284. A review of additional information indicates that the correct location is AEI 9 (Lots 17-23 of Section A of DP 2556).	Based on the new location, the following changes have been made to the AEIs as described in the EIS: <ul style="list-style-type: none"> <li>• AEI 7 is renamed 'AEI 7 – Area of waste and imported fill'</li> <li>• AEI 9 is renamed to 'AEI 9 – Sydney Recycling Park / Wanless Recycling and Former Kari &amp; Ghossayn Pty Ltd (Solid Waste Landfill)'.</li> </ul> The revised location of AEI 7 and AEI 9 are shown in <b>Figure 5-1</b> . A review of the risk exposure rating was prepared in relation to the amended project, and is discussed in Section 6.11 of the amendment report.

Chapter/ appendix reference in EIS	Error/discrepancy	Clarification
<p>Section 7.9.4 of the EIS: Minor drainage lines</p>	<p>The EIS includes an assessment of all minor drainage lines intersected by the project to understand the impacts the project would have on the hydrology and flooding behaviour downstream of the project. The locations of proposed cross drainage infrastructure considered as part of the assessment is shown in Figure 7-130 of the EIS.</p> <p>The EIS did not discuss the environmental impacts associated with a minor drainage line diversion along an unnamed tributary of Kemps Creek.</p>	<p>At one location along an unnamed tributary of Kemps Creek, the proposed drainage design is to divert the flow from Mamre Road west towards Kemps Creek via a clean water channel to minimise flooding impacts at Elizabeth Drive (see <b>Figure 5-2</b>). As a result of the proposed drainage at this location, flows within a small section of the tributary would be removed.</p> <p>The unnamed tributary of Kemps Creek is an ephemeral third order watercourse. The creek has limited aquatic habitat and is unlikely to be key fish habitat (see Section 5.5 of biodiversity supplementary technical report). Consequently, the impacts of removing flow through this section of the creek would be minor for fish. There are no threatened fish likely to be present or be impacted.</p> <p>As a result of the minor drainage line diversion, flow volumes would be similar at this location however there would be an increase in flow velocities entering Kemps Creek.</p> <p>The design of scour protection measures would be investigated further in detailed design and would be designed to minimise potential erosion and scour impacts.</p> <p>Creek corridors would be revegetated with locally native riparian vegetation, in accordance with the relevant requirements of the and in consideration of the Guidelines for instream work on waterfront land (DPI, 2012b). The creek channels would be rehabilitated to preconstruction conditions or better.</p> <p>Detailed design would investigate creating a fish friendly passage at this open culvert through the consideration of planting native aquatic vegetation and incorporating fish friendly design principles from Policy and guidelines for fish habitat conservation and management (DPI, 2013) and Guidelines for instream work on waterfront land (DPI, 2012b).</p> <p>In addition, the operational water quality monitoring program (environmental management measure SWH06) would observe any changes in surface water at this location following construction and inform appropriate management responses.</p>

Chapter/ appendix reference in EIS	Error/discrepancy	Clarification
Figure 4-5 and Table 5-5 (Contaminated soils investigation strategy) in Appendix O (Soils and contamination assessment report)	The EIS does not identify two poultry shed located at Lot 2 DP587135 within the construction footprint.	<p>The location of the sheds (see <b>Figure 5-3</b>) are currently within the 'historical and current agricultural land use' AEI which covers the entire project construction footprint. The listed contaminants of concern for this AEI are all relevant (eg pesticides, herbicides, heavy metals, hydrocarbons etc) and the AEI mentions point source contamination which would cover the poultry shed.</p> <p>The operational nature of these sheds have not been verified due to limited site access. From a desktop analysis, the site appears to be a regulated, licensed chicken farm and it is very unlikely that uncontrolled (or any) disposal of chicken carcasses is carried out on site. Therefore the risk of encountering a chicken burial area on the site during construction is low. In the event that agricultural burial sites are encountered during construction, this would be managed by the contaminated land management plan which would include procedures for managing unexpected contamination.</p>
Appendix Q of the EIS (Environmental Record of Proponent)	<p>The EIS provided the environmental record for Roads and Maritime Services, as required by the SEARs and in Schedule 4 of the Environment Protection and Biodiversity Conservation Regulations 2000 (Cth).</p> <p>Since submission of the EIS, the former Roads and Maritime Services has merged with TfNSW.</p>	An updated environmental record for TfNSW is included in <b>Appendix A</b> .
Section 7.10.1 of the EIS and Appendix N of the EIS (Groundwater quality and hydrology assessment report)	Prior to the EIS being exhibited, DPIE - Water provided feedback on the EIS groundwater quality and hydrology assessment and raised a number of issues relating to the assessment methodology, potential construction impacts and management measures.	Clarifications in response to issues raised by DPIE Water in relation to the assessment methodology, potential construction impacts and management measures are provided in Section 6.10 of the amendment report.



--- The project construction footprint as per the EIS

~ Waterways

— Main roads

■ Areas of environmental interest:

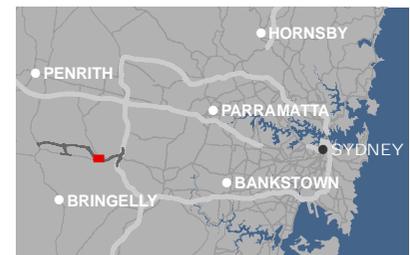
Site Id	Site name
7	Area of waste and imported fill
9	Sydney Recycling Park/ Wanless Recycling & Former Kari & Ghossayn Pty Ltd (Solid Waste Landfill)



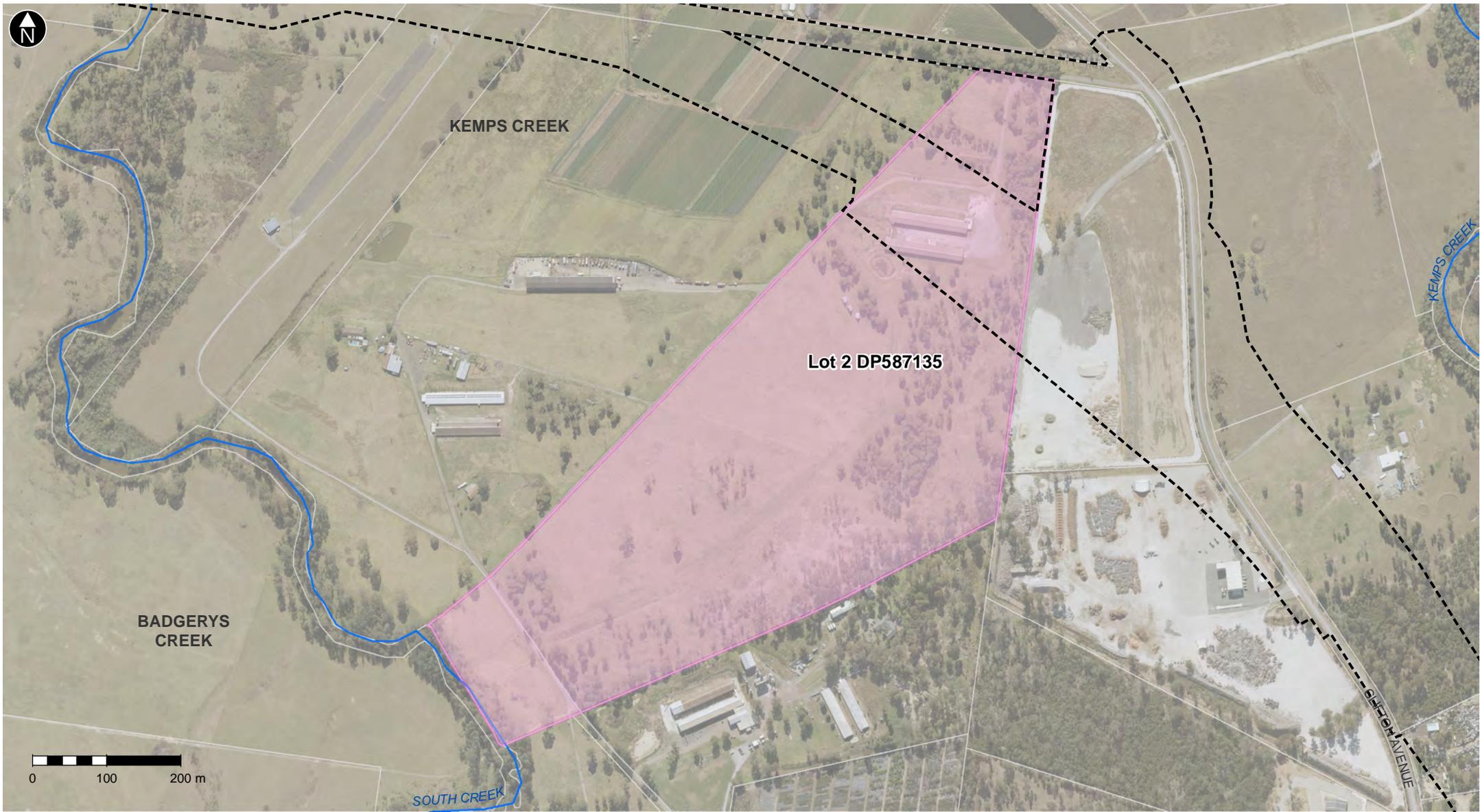
**Figure 5-1** Corrected location of AEI 7 and AEI 9



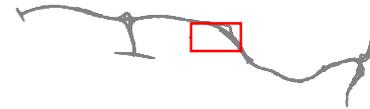
- The project as per EIS
  - Bridges as per EIS
- Strahler Stream Order**
- 2
  - 3
  - 4
- Proposed clean water channel



**Figure 5-2** Proposed minor drainage line diversion to Kemps Creek



- The project construction footprint as per the EIS
- Lot 2 DP587135 (Location of potential poultry sheds)
- Existing roads
- Waterways



**Figure 5-3** Location of potential poultry shed

## 6. Revised environmental management measures

### 6.1 Overview

The EIS for the project identified a range of environmental outcomes and management measures that would be required to avoid or reduce the environmental impacts (see Chapter 9 of the EIS). After consideration of the issues raised in the public submissions and the impact assessment carried out for the amended project, the environmental management measures for the project have been revised.

Should the project be approved, the revised environmental management measures in **Table 6-1** would guide the subsequent phases of development. **Bold text** has been used to identify measures, or parts of measures, that were additional and/or modified from those provided in the EIS. Strikethrough text has been used to identify measures, or parts of measures, that are no longer required. Environmental management measures have been renumbered (when compared to those presented in Chapter 9 of the EIS) to reflect the revised environmental management measures provided below.

Where additional and/or modified environmental management measures have been included in response to the submissions report for the project, they are highlighted in orange. Where they have been included in response to the design changes and construction updates as part of the amended project, they are highlighted in blue.

**Table 6-1** Summary of revised environmental management measures

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
General				
Community consultation	G01	<p>A Community Communication Strategy will be prepared for the project to facilitate communication with the local community including relevant Government agencies, Councils, adjoining affected landowners and businesses, and other relevant stakeholders that may be affected by the project. The strategy will:</p> <p>Identify people or organisations to be consulted during the delivery of the project</p> <ul style="list-style-type: none"> <li>• Set out procedures and mechanisms for the regular distribution of information about the project</li> <li>• Outline mechanisms to keep relevant stakeholders updated on site construction activities, schedules and milestones</li> <li>• Outline avenues for the community to provide feedback (including a 24-hour, toll free project information and complaints line) or to register complaints and through which TfNSW will respond to community feedback</li> <li>• Outline a process to resolve complaints and issues raised</li> </ul> <p>The Community Communication Strategy will include a Construction Fatigue Protocol to minimise impacts associated with construction fatigue. The Protocol will include consideration of noise attenuation and restriction of out-of-hours work or use of noise intensive equipment where reasonable and feasible.</p>	TfNSW/ Contractor	Prior to construction
General construction management	G02	<p>A CEMP will be prepared and implemented for the project in accordance with the Department of Infrastructure, Planning and Natural Resources Guideline for the Preparation of Environmental Management Plans (DIPNR 2004), for the ongoing management of environmental issues during construction of the project.</p>	Contractor	Prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Biodiversity				
All biodiversity impacts	B01	<p>A CFFMP will be prepared. The measures in the CFFMP will include:</p> <ul style="list-style-type: none"> <li>• A site specific induction</li> <li>• Identification of clearing limits and exclusion fencing</li> <li>• Pre-clearance surveys</li> <li>• Vegetation clearing procedures</li> <li>• An unexpected finds procedure</li> <li>• Procedures for weed management and monitoring</li> <li>• A process for de-watering farm dams and the relocation of aquatic fauna</li> <li>• Provision of supplementary fauna habitat (eg nest boxes).</li> </ul>	Contractor	Prior to construction
	B02	<p>A Habitat Compensation Plan (HCP) will be prepared and implemented as part of the CFFMP for the project. The HCP will target those species that will be impacted by the loss of hollows. Measures will include: nest boxes, reuse of salvaged hollows and/or new technologies eg chainsaw hollows), as well as replacement of woody debris and bushrock with consideration to Guide 5 and Guide 8 of Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).</p>	Contractor	Prior to construction
Removal of native vegetation, threatened species, and threatened species habitat	B03	<p>Native vegetation, threatened species and threatened species habitat removal will be minimised where practicable through detailed design. This will include avoiding the nest and surrounds of the White-bellied Sea-Eagle, where practicable.</p>	Contractor	Detailed design
	B04	<p>Biodiversity offsets for the project will be purchased and managed in accordance with the Biodiversity Offset Strategy prepared for the project.</p>	TfNSW	Prior to operation

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Removal of native vegetation, threatened species, and threatened species habitat	B05	<p>Pre-clearing surveys will be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 1: Pre-clearing process). The following species identified on or near the study area will require particular attention:</p> <ul style="list-style-type: none"> <li>• White-bellied Sea-Eagle</li> </ul> <p>If design cannot avoid the White-bellied Sea-Eagle nest, then pre-clearing measures to avoid impact on the nest will be implemented. This will include pre-clearing survey to establish if it is currently being used and removal of the nest by an ecologist experienced in similar procedures. The potential impacts of habitat removal will be minimised by removing the nest outside of the nesting period (typically lays between June and September, with young remaining in the nest for 70 days). <del>Time will be allowed on either side of the nesting period to allow individuals to select and construct a new nest site before clearing.</del></p> <p><b>An initial pre-clearing inspection will be carried out at least 21 days prior to commencement of clearing, to give the ecologist time to check the nest and then relocate if needed.</b></p> <ul style="list-style-type: none"> <li>• Cumberland Plain Land Snail</li> </ul> <p>Pre-clearance surveys will be carried out immediately before clearing works by a qualified ecologist in all vegetated areas to be disturbed that were identified as known or potential habitat for Cumberland Plain Land Snail (see Figure 6-6 in amendment report). As identified in the CFFMP, all individual Cumberland Plain Land Snails found during pre-clearance surveys will be translocated to adjacent areas of suitable habitat.</p>	Contractor	Prior to construction
Removal of native vegetation and threatened species habitat	B06	<p>An unexpected threatened species finds procedure will be developed as part of the CFFMP and based on Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 1: Pre-clearing process).</p> <p>The procedure will include requirements for workers to be made aware of the potential flora and fauna species that may be encountered during construction (including training staff on species identification) and outline the process for the identification and management of unexpected flora and fauna.</p> <p>In the event that any threatened species are identified during construction, the following steps would be carried out:</p>	Contractor	During construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<ol style="list-style-type: none"> <li>1. Stop work immediately in the location of the unexpected find to avoid any potential impacts.</li> <li>2. Notify the environmental manager.</li> <li>3. Environmental manager will arrange for an ecologist to conduct an assessment of significance of the likely impact, develop management options, and notify DPIE, EESG, and <del>DoEE</del> <b>DAWE</b> as appropriate.</li> <li>4. If a significant impact is unlikely to occur, re-begin work and maintain regular site inspections.</li> <li>5. If a significant impact is likely to occur: <ol style="list-style-type: none"> <li>a. Consult with DPIE, EESG and <del>DoEE</del> <b>DAWE</b> as appropriate.</li> <li>b. Obtain approvals, licenses or permits as required.</li> <li>c. Re-begin work once advice is sought and necessary approvals, licenses and permits are obtained.</li> </ol> </li> <li>6. Include species in subsequent inductions, toolbox talks and update the CEMP.</li> </ol>		
	B07	Vegetation and habitat removal will be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 4: Clearing of vegetation and removal of bushrock).	Contractor	During construction
	B08	Revegetation will be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 3: Re-establishment of native vegetation) and the Landscape Plan prepared for the project.	TfNSW / Contractor	During construction
	B09	Habitat will be replaced or re-instated in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 5: Re-use of woody debris and bushrock and Guide 8: Nest boxes). A Habitat Compensation Plan, as described in B02 will include this measure.	Contractor	During construction
	B10	Removal of riparian vegetation at creek crossings will be minimised and vegetation connectivity across the riparian zone will be maintained where possible.	Contractor	During construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Riparian vegetation and aquatic impacts	B11	Measures to protect aquatic and riparian habitat will be outlined in the CFFMP and protected in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) ( <i>Guide 10: Aquatic habitats and riparian zones</i> ) and Section 3.3.2 <i>Standard precautions and mitigation measures</i> of the Policy and guidelines for fish habitat conservation and management (DPI, 2013).	Contractor	Prior to construction
Aquatic impacts	<b>B12</b>	<p><b>A snag management plan would be prepared as part of the CFFMP for the project for snag removal and relocation at Badgerys Creek, Kemps Creek and South Creek in accordance with the Policy and guidelines for fish habitat conservation and management (DPI, 2013). The management plan will be informed by additional field work which will provide details of the snags to be relocated (such as numbers and locations) and relocation methods.</b></p> <p><b>In accordance with Section 3.2.5.2 of the Policy and guidelines for fish habitat conservation and management (DPI, 2013), the snag management plan will:</b></p> <ul style="list-style-type: none"> <li>• <b>Clearly outline the objectives to be achieved</b></li> <li>• <b>Document the actions to be taken for each individual snag</b></li> <li>• <b>Detail the methods and machinery to be use</b></li> <li>• <b>Specify the season or time period over which the works will be carried out.</b></li> </ul>	<b>Contractor</b>	<b>Prior to construction</b>
	B13	Creek adjustments will be investigated and removed or minimised during detailed design where feasible. Proposed creek adjustments will be designed such that they result in minimal changes to flow velocities.	Contractor	Detailed design
	B14	Creek corridors will be revegetated with locally native riparian vegetation, in accordance with the requirements of the Policy and guidelines for fish habitat conservation and management (DPI, 2013) and in consideration of the Guidelines for instream works on waterfront land (DPI, 2012). The creek channels will be rehabilitated to preconstruction conditions or better.	TfNSW/ Contractor	During construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	B15	Bridge pier locations within instream (main waterway channel) or on creek banks will be avoided during detailed design at the South Creek, Cosgroves Creek, Badgerys Creek and Kemps Creek crossings. Where avoidance is not possible, further biodiversity assessment will be required.	Contractor	Detailed design
	B16	Large woody debris will be retained for creek crossing works where practicable. Any large woody debris placed in the realigned waterways will be relocated in consultation with an ecologist.	Contractor	During construction
	B17	Permanent and temporary waterway crossings will be designed and constructed to maintain fish passage in accordance with Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge, 2003). Crossing types should be matched to waterway type as per Table 1 in Fairfull and Witheridge (2003).	Contractor	During construction
	B18	The temporary application of mulch during construction will be managed to avoid the potential for material and tannin run-off into waterways. This will include limiting the application of mulch near waterways where practicable. The application of mulch for permanent landscaping must be designed and planned to avoid material and tannin runoff.	TfNSW/ Contractor	During construction
	B19	Emergency response protocols and procedures will be included in the Project CEMP and implemented in the event of a contaminant spill or leak.	Contractor	During construction
	B20	Spill kits will be located to allow for timely response to uncontained spills. Site inductions will include a briefing on the use of spill kits.	Contractor	During construction
Groundwater Dependent Ecosystems	B21	Interruptions to water flows associated with groundwater dependent ecosystems will be minimised through detailed design.	Contractor	Detailed design

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Changes to hydrology	B22	Changes to existing surface water flows will be minimised through detailed design.	Contractor	Detailed design
Fragmentation of identified biodiversity links and habitat corridors	B23	Connectivity measures will be implemented in accordance with Wildlife Connectivity Guidelines for Road Projects (TfNSW, under preparation). Fencing will be located to reduce roadkill of fauna species and funnel animals to creek crossings where safe passage will be available. Detailed design is to retain fauna passage at all four main creek lines (Cosgroves, South, Kemps and Badgerys Creeks).	Contractor	Detailed design and during construction
Edge effects on adjacent native vegetation and habitat	B24	Exclusion zones will be set up at the limit of clearing in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 2: Exclusion zones). <b>Exclusion zones will be set up to protect potential indirect impacts to threatened flora in accordance with the areas identified in the EIS and the amendment report (including Figure 1-2 of Appendix A of the amendment report).</b>	Contractor	During construction
Injury and mortality of fauna	B25	Fauna will be managed in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 9: Fauna handling).	Contractor	During construction
Invasion and spread of pest species	B26	Weed species will be managed in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 6: Weed management).	Contractor	During construction
Invasion and spread of pathogens and disease	B27	Pathogens will be managed in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 2: Exclusion zones).	Contractor	During construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Noise, light and vibration	B28	Shading impacts will be minimised through detailed design of bridge and culvert structures. The need for artificial lighting during construction and operation will be minimised through detailed design where feasible, including directing lighting away from vegetated areas where practicable.	Contractor	Detailed design, during construction
Transport and traffic				
Construction transport and traffic	TT01	<p>A construction transport and traffic management plan (CTTMP) will be prepared as part of the CEMP in consultation with relevant local Councils, and in accordance with relevant guidelines. The CTTMP will outline:</p> <ul style="list-style-type: none"> <li>• Staging and planning of works to minimise the need to occupy roads where practicable, including identification of haulage routes</li> <li>• Safe alternative routes for pedestrians and cyclists in accordance with relevant safety and accessibility standards</li> <li>• The requirements for traffic control plans to be prepared for each work area which will include details of site access and specific traffic control measures (including signage) to manage traffic movements</li> <li>• Road safety audit requirements</li> <li>• Parking arrangements for construction staff</li> <li>• Identification of access arrangements at construction sites detailing vehicle access movements</li> <li>• Measures to minimise changes to the existing road network, property access, bus stops and pedestrian/cyclist facilities where feasible</li> <li>• Measures to communicate and notify of any changes in traffic conditions on roads or paths to road users, emergency services, public transport operators, and other relevant stakeholders</li> </ul>	Contractor	Prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<ul style="list-style-type: none"> <li>Measures to manage construction traffic interfaces and access arrangements with Western Sydney International Airport and Sydney Metro – Western Sydney Airport</li> <li>Requirements for appropriate warning and signage for traffic and other road users such as cyclists and pedestrians in the vicinity of work areas and work site access, and road diversions.</li> </ul>		
	TT02	Changes to bus stops will be implemented in consultation with TfNSW, relevant councils, and relevant bus operators. Alternate temporary bus stops will be provided with appropriate signage to direct commuters. Safe access will be provided in accordance with relevant safety and accessibility standards.	Contractor	Prior to construction, during construction and after construction
	TT03	Movements of haulage vehicles will be planned to minimise movements on the road network during the AM and PM peak periods where practicable.	Contractor	Prior to construction and during construction
Impacts on M7 Motorway traffic and shared user path users	TT04	Consultation will be carried out with the operators of the M7 Motorway to develop measures to manage the potential impacts of construction within the operating M7 Motorway corridor.	TfNSW / Contractor	Detailed design, prior to construction, and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	TT05	<p>TfNSW will continue to work with Western Sydney Parklands Trust to support the delivery of a shared user path within Western Sydney Parklands to connect from Range Road to the existing M7 Motorway shared user path.</p> <p>If it is determined during consultation that the shared user path connection through the Western Sydney Parklands will not be delivered, TfNSW will provide an alternative alignment for the shared user path in this section via either Elizabeth Drive, or alongside the M12 Motorway from Range Road to the M7 Motorway shared user path network.</p>	TfNSW	Detailed design, during construction
Damage or impacts on local road infrastructure	TT06	A road dilapidation report will be prepared before impacts on local roads in consultation with relevant councils and other relevant stakeholders. The report will document the existing conditions of local roads and outline measures to repair damage to roads from heavy vehicle movements associated with the project.	Contractor	Prior to construction
Impacts on property access	TT07	<p>Existing property access would be maintained at all times.</p> <p>Any changes to access arrangements or alternative access that are necessary during construction will be done with consultation with the landowner. Any changes to access will provide the same equivalent pre-existing level of access unless agreed to by the landowner.</p> <p>Property access that is physically affected by the project will be reinstated to at least an equivalent standard, in consultation with the landowner.</p>	TfNSW / Contractor	Detailed design, prior to construction, and during construction
Impacts on businesses	TT08	A signage strategy will be prepared as part of the CTTMP to provide for appropriate signage for businesses where existing signage is obscured/no longer visible or where customers are required to use alternative access to reach the businesses during construction.	Contractor	Prior to construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Urban design, landscape character				
Impacts on views and landscape character from construction and operation of the project	LVIA01	An Urban Design and Landscape Plan (UDLP) will be prepared to minimise landscape character and visual impacts, and detail and guide the implementation of landscape features to be installed as part of the project, including re-vegetation requirements. This will include requirements for the provision of vegetative screening to soften the appearance of structural elements of the project such as noise walls and provide screening of sensitive views. The UDLP will also consider the requirements of the heritage interpretation framework that will be prepared for the project (NAH02). The UDLP will be prepared in accordance with applicable guidelines, be consistent with the concept project identity in the EIS and relevant urban design objectives and principles for the project including consideration of implementation of Crime Prevention Through Environmental Design (CPTED) principles, and in consultation with relevant councils.	Contractor / TfNSW	Detailed design
	LVIA02	A detailed Landscape Plan will be prepared for the project and implemented throughout construction. The plan will guide the implementation of measures to minimise landscape character and visual impacts, including revegetation requirements.	Contractor	Detailed design, prior to construction and during construction
	LVIA03	Existing vegetation within the construction footprint will be retained and protected where possible. This includes densely vegetated areas such as remnant riparian forests and Cumberland Woodlands in Western Sydney Parkland.	Contractor	Detailed design and during construction
	LVIA04	Site levels and grades for the project will integrate with the surrounding terrain to help the visual assimilation of the project into the surrounding landscape where practicable. Engineered slopes will have gradients no steeper than 3H:1V where possible to maximise the establishment of vegetation on these batters and allow for appropriate maintenance.	Contractor	Detailed design

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	LVIA05	Project elements such as ancillary facility hoardings will be designed and maintained to minimise impacts on landscape character and visual amenity. This will include selecting colours and materials that are visually recessive and blend into the surrounding landscape where practicable, and the prompt removal of graffiti.	Contractor	Detailed design, prior to construction and during construction
	LVIA06	Where noise mitigation such as noise barriers are required, they will be designed with the aim of minimising visual impacts.	Contractor	Detailed design
	LVIA07	Temporary and permanent lighting will be designed and implemented with consideration of: <ul style="list-style-type: none"> <li>• The need to orientate lighting to minimise light spill and glare impacts on nearby receivers</li> <li>• The need to minimise vandalism and maintenance requirements</li> <li>• Requirements of the National Airports Safeguarding Framework (NASF) (National Airports Safeguarding Advisory Group, n.d.) for operational lighting</li> <li>• Opportunities to implement sustainability initiatives in design such as energy efficient or solar lighting.</li> </ul>	Contractor	Detailed design, prior to construction and during construction
	<b>LVIA08</b>	<b>TfNSW will investigate opportunities to undertake early tree planting in consultation with landowners to soften impact of structural elements and screen sensitive views.</b>	<b>TfNSW</b>	<b>Prior to and during construction</b>
Urban design elements	LVIA09	The findings and recommendation of the Aboriginal cultural heritage design process managed by Balarinji will be incorporated into the urban design and implemented as part of the project, including interpretive initiatives.	TfNSW / Contractor	Detailed design, prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	LVIA10	Shared user paths to be delivered as part of the project will not preclude connections to future open space corridors and land use as identified in the Western Sydney Land Use and Infrastructure Implementation Plan (LUIIP) (DPE 2018). Where further design of adjacent open space corridors is undertaken, shared user paths will be provided to connect at an appropriate location. Shared user paths will be designed to be located away from road-side edges to provide an immersive landscape experience for pedestrians and cyclists, where possible.	TfNSW / Contractor	Detailed design
	LVIA11	Establish an Urban Design Review Panel to provide advice and input into the development of the UDLP.	TfNSW	Detailed design
	LVIA12	Highly visible elements of the project including potential noise barriers, retaining walls, bridge structures and urban design material selection will be designed to satisfy functional requirements and adopt the design principles detailed in the M12 Motorway EIS Landscape Character, Visual Impact Assessment and Urban Design Report. The proposed designs will be documented in the relevant UDLP for the project.	Contractor	Detailed design
	LVIA13	Consider a standard design for retaining walls and major structures across the project, to present a coordinated 'suite of elements'.	Contractor	Detailed design
Safety in design	LVIA14	The project must consider CPTED principles during detailed design to minimise safety risks to all users. The project must carry out periodic CPTED reviews by a qualified professional and implement any additional recommendations where reasonable and feasible.	Contractor	Detailed design

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Revegetation and landscaping	LVIA15	<p>A tree management strategy will be prepared for the project, outlining:</p> <ul style="list-style-type: none"> <li>• Measures to minimise tree removal to retain and protect as many trees within the construction footprint as reasonable and feasible</li> <li>• Measures to avoid damage to trees that are to be retained within the construction footprint to ensure the maintenance of health and stability of the trees in accordance with AS4970-2009 Protection of trees on development sites</li> <li>• Requirements for the pruning of trees to be carried out by a suitably qualified person in accordance with AS 4373-2007 Pruning of amenity trees</li> <li>• Consideration of maintenance requirements and safety standards</li> <li>• Requirements for the replacement trees where removal cannot be avoided including: <ul style="list-style-type: none"> <li>– Net increase in the number of trees (not identified as within an EEC)</li> <li>– Where it is not practicable to plant trees in the operational footprint an alternative location will be identified in consultation with relevant councils and in consideration of future development in the local area</li> <li>– Minimum pot size in accordance with part 3.2.1 (Rural road reserves) in the TfNSW Landscape Guideline (Roads and Maritime, 2018b) subject to long-term viability of the plant.</li> </ul> </li> </ul>	Contractor	Detailed design and prior to construction
	LVIA16	Revegetation for the project will consider the land use requirements of the National Airports Safeguarding Framework (NASF) (National Airports Safeguarding Advisory Group, n.d.) to minimise the risk of wildlife strikes at the Western Sydney Airport.	Contractor	Detailed design
	LVIA17	Carry out appropriate soil analysis and identify soil preparation requirements for landscaping treatments to inform the Urban Design and Landscaping Plan and vegetation management in accordance with TfNSW Batter Surface Stabilisation Guideline (Roads and Maritime 2015).	Contractor	Detailed design and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Socio-economic, land use and property				
Property acquisition and lease	SLP01	Areas of land leased for the purposes of construction will be reinstated at the end of the lease to at least equivalent standard in consultation with the landowner.	Contractor	During construction
	SLP02	All partial and full acquisitions and associated property adjustments will be carried out in accordance with the requirements of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> and the Land acquisition reform 2016 in consultation with landowners.	TfNSW	Prior to construction
	SLP03	A Personal Manager - Acquisition (PMA) will be appointed to assist landowners and residents who may be affected by acquisition requirements for the project. The PMA will provide ongoing support for relocated persons, including dispute resolution and counselling, and provision of contact information for relevant services.	TfNSW	Detailed design
	SLP04	Property adjustments, including replacement of farm infrastructure (such as fencing) and relocation of property access, prior to work that impact the property will be carried out in consultation with property owners/ business managers.	Contractor / TfNSW	Prior to construction, during construction
Utility impacts	SLP05	The project will be designed with the aim of minimising impacts on existing utilities and services, in consultation with utility owners and/or providers of services where feasible and reasonable.	Contractor / TfNSW	Detailed design
	SLP06	Utility owners and/or providers of services will be identified and consulted with before works start, to determine the requirements for access to, protection of, or relocation of services. Disruption to existing services will be minimised where feasible and local residents and businesses will be notified before any planned disruption.	Contractor	Prior to construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Agricultural land use	SLP07	Construction activities will be planned to minimise disruption to existing agricultural operations/activities in surrounding properties where feasible and reasonable (eg stock access, access to farm dams, etc) unless otherwise agreed by the landowner.	Contractor	Prior to construction
Social infrastructure	SLP08	Adjustments to facilities in Western Sydney Parklands (eg walking and cycling trails and Sydney International Shooting Centre access) will be carried out in consultation with the Western Sydney Parklands Trust.	TfNSW / Contractor	Prior to construction and during construction
	SLP09	TfNSW will continue to work with Western Sydney Parklands Trust to support their delivery of a replacement for the Wylde Mountain Bike Trail by Western Sydney Parklands Trust.	TfNSW	Prior to construction
Impacts on community facilities	SLP10	Ongoing consultation regarding management of potential impacts will be carried out in accordance with the Community Communication Strategy with the following community facilities: <ul style="list-style-type: none"> <li>• Kemps Creek Sporting and Bowling Club</li> <li>• Kemps Creek Cougars Baseball Club</li> <li>• Science of the Soul Study Centre</li> <li>• Muhammadi Welfare Association of Australia</li> <li>• Schools such as Kemps Creek Public School and Christadelphian Heritage College, and Irfan College</li> <li>• Western Sydney Parklands</li> <li>• Sydney International Shooting Centre.</li> </ul>	TfNSW / Contractor	Prior to construction and during construction
Construction fatigue	SLP11	Construction fatigue will be managed in accordance with the Community Communication Strategy.	TfNSW / Contractor	Prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Impacts on businesses	SLP12	On-going consultation will be carried out with local business owners that may be impacted during construction (including owners of agricultural businesses) in accordance with the Community Communication Strategy for the project.	TfNSW / Contractor	Prior to construction and during construction
	SLP13	A business impact risk register will be established and maintained for the duration of construction to identify and manage specific impacts on individual businesses.	Contractor	Prior to construction and during construction
<b>Employment opportunities</b>	<b>SLP14</b>	<b>Employment opportunities for the project will align with the commitments outlined in the Western Sydney City Deal (2018), including targets for Indigenous, social and local employment and procurement.</b>	<b>TfNSW / Contractor</b>	<b>Prior to construction and during construction</b>
Aboriginal heritage				
General	AH01	<p>A construction cultural heritage management plan (CCHMP) will be developed for the project in consultation with the project RAPs and EESG. The CCHMP will include:</p> <ul style="list-style-type: none"> <li>• An unexpected finds procedure for the discovery of Aboriginal ancestral remains, Aboriginal objects or new Aboriginal sites consistent with TfNSW Standard Management Procedure Unexpected Heritage Items (Roads and Maritime, 2015c). This procedure will also outline requirements to manage unexpected human remains finds in accordance with NSW statutory requirements, and relevant guidelines and standards prepared by EESG. The Procedure will outline the process for consulting with the RAPs in the event that previously unidentified Aboriginal heritage is discovered.</li> <li>• Procedures for the management and curation of salvaged Aboriginal objects</li> <li>• Detailed locations and installation procedures for fencing and protective coverings</li> <li>• Details of permissible activities inside protected Aboriginal areas</li> </ul>	Contractor	Prior to construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<ul style="list-style-type: none"> <li>• Details of permissible activities inside protected Aboriginal areas</li> <li>• Procedures for consideration of heritage aspects within site inductions and toolbox talks for construction workers and supervisors.</li> </ul>		
	AH02	<p>A detailed Aboriginal Cultural Salvage Strategy will be prepared for the project in consultation with project RAPs and EESG to guide the salvage excavation process for Aboriginal sites that will be salvaged. The strategy will address specific questions about each site and will be based on the salvage excavation methodology outlined in the ACHAR and prepared in consultation with EESG and project RAPs.</p> <p>All salvage collections and excavations will be carried out by a suitably qualified and experienced archaeologist. The method and extent of excavation required, and management of artefacts finds will be determined in consultation with project RAPs and EESG.</p> <p>Following completion of all salvage works associated with Aboriginal heritage sites, an Aboriginal Cultural Heritage Report will be prepared in accordance with relevant guidelines and in consultation with project RAPs and EESG. The Aboriginal Cultural Heritage Report will document all results of the salvage activities including analysis of artefacts from collections and excavations and management of all artefact finds.</p>	TfNSW / Contractor	Detailed design
Impacts on Aboriginal heritage during construction	AH03	<p>A work method statement will be prepared for the works within identified Aboriginal sites in consultation with a suitably qualified and experienced archaeologist. The method statement will be prepared to minimise impacts on Aboriginal sites where feasible, including input into detailed design. Measures will include (but not be limited to):</p> <ul style="list-style-type: none"> <li>• Designing and locating bridges (including bridge pylons), haulage routes and other access roads to minimise potential disturbance of soils where feasible</li> <li>• Focusing protection measures on the zone within 100 metres of creeks including consideration of opportunities to cover the original cultural deposits in temporary protective barriers such as geotextile fabric and a layer of clean fill.</li> </ul>	Contractor	Detailed design, prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Impacts on identified cultural deposits	AH04	An investigation will be carried out during detailed design to minimise impacts on the CHRP site where feasible.	Contractor	Detailed design
	AH05	Investigations will be carried out during detailed design to determine the feasibility of retaining cultural deposits between the pylons of bridges or elevated structures at the following sites: <ul style="list-style-type: none"> <li>• BCW</li> <li>• BCE</li> <li>• SCW T1</li> <li>• SCW T2</li> <li>• SCE.</li> </ul> This will include covering the original cultural deposits beneath temporary protective barriers such as geotextile fabric and a layer of clean fill material.	Contractor	Detailed design
	AH06	Salvage collection of surface artefacts will be carried out at the following sites: <ul style="list-style-type: none"> <li>• BCE</li> <li>• SCW T2</li> <li>• KCW</li> <li>• PCP8</li> <li>• CHRP</li> <li>• RR</li> <li>• M12A1</li> <li>• Isolated artefact 4</li> <li>• TNR-AFT-14.</li> </ul>	Contractor / TfNSW	Prior to construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	AH07	<p>Salvage excavation will be carried out at the following sites:</p> <ul style="list-style-type: none"> <li>• CCW</li> <li>• BWB</li> <li>• BCW</li> <li>• SCW T1</li> <li>• SCW T2</li> <li>• SCE</li> <li>• KCW</li> <li>• CHRP.</li> </ul> <p>The methodology and extent of excavations required for the above sites will be in accordance with site specific requirements outlined in the ACHAR prepared for the project.</p>	Contractor / TfNSW	Prior to construction
	AH08	<b>Exclusion zones will be set up in the form of an appropriate barrier / fencing along the portion of AHIMS site 45-5-2721 (PAD-OS-7) that extends into the amended construction footprint, with visible signage notifying construction personnel to avoid ground impacts</b>	<b>Contractor / TfNSW</b>	<b>Prior to construction and during construction</b>
	AH09	<b>Archaeological text excavation will be carried out at PAD-OS-7 in the instance that construction restrictions result in impacts to that site. Test excavations would be conducted in accordance with Requirement 16a of the Code of Practice (DECCW 2010), Stage 2 PACHCI (Roads and Maritime 2011) and in consultation with RAPs</b>	<b>Contractor / TfNSW</b>	<b>Prior to construction</b>

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Non-Aboriginal heritage				
General	NAH01	<p>A construction cultural heritage management plan (CCHMP) will be prepared for the project as part of the CEMP in consultation with DPC (Heritage). The CCHMP will include as a minimum:</p> <ul style="list-style-type: none"> <li>• A list, plan and maps with GIS layers showing the location of identified heritage items both within, and near, the construction footprint</li> <li>• A significance assessment and statement of significance for each item</li> <li>• Protocols and procedures including inductions and toolbox talks for all contractors and subcontractors working in the area to be informed of all exclusion zones, the elements and their significance, to prevent accidental damage or encroachment</li> <li>• Protocols and procedures to be implemented during construction to avoid or minimise impacts on items of heritage significance including protective fencing</li> <li>• The TfNSW Unexpected Heritage Items Procedure (Roads and Maritime, 2015c) which would be followed in the event that unexpected heritage finds are uncovered during construction.</li> </ul>	Contractor	Prior to construction
	NAH02	<p>A suitably qualified heritage specialist will be engaged to prepare a heritage interpretation framework to guide development of the detailed urban design for the project. This framework will be prepared in accordance with the Interpreting Heritage Places and Items Guidelines (NSW Heritage Office, 2005) and will include:</p> <ul style="list-style-type: none"> <li>• Integration of heritage themes and values to be incorporated</li> <li>• Collaboration with other design elements and themes for the project, including those associated with Western Sydney Airport and Sydney Metro – Western Sydney Airport, to develop an integrative design approach with surrounding development</li> <li>• Opportunities for design responses for Aboriginal and non-Aboriginal heritage</li> </ul>	Contractor / TfNSW	Detailed design

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	NAH03	Impacts on Non-Aboriginal heritage items will be avoided or minimised where reasonable and feasible. Where impacts are unavoidable, works will be carried out in accordance with the measures for individual Non-Aboriginal heritage items outlined in measures NAH04 to NAH1042.	TfNSW / Contractor	Detailed design, prior to construction and during construction
McGarvie Smith Farm (Item 1, Penrith LEP 857)	NAH04	<p>A suitably qualified heritage consultant will be engaged to prepare an archival photographic recording of the site in accordance with the Heritage Information Series How to prepare archival records of heritage items (NSW Heritage Office, 1998). This will include both buildings and landscape features such as dams, and earthworks. The recording will include a detailed map showing the location of the features.</p> <p>Options will be investigated to provide funding support to the property's current owner to prepare a thematic heritage study of CSIRO and other agricultural research stations, including both McGarvie Smith Farm and McMaster Field Station, and other relevant agricultural research stations and similar facilities located in NSW. The thematic study will include a review of the role of such properties in veterinary research, association with agricultural, pastoral and animal husbandry groups, use of pioneering methods and practices and contribution to the development of farming in Australia. In the event that landowners do not prepare this study, TfNSW will engage a heritage specialist to do so.</p>	TfNSW / Contractor	Detailed design and prior to construction
The Fleurs Radio Telescope Site (Item 2, Penrith LEP 832)	NAH05	<ul style="list-style-type: none"> <li>• All extant elements of the radio telescopes and associated infrastructure, including rubbish mounds situated outside the construction footprint will be left intact</li> <li>• Ground penetrating radar, or other remote sensing survey techniques, will be carried out under the supervision of a suitably qualified and experienced archaeologist before any ground disturbance within the heritage curtilage of the Fleurs Radio Telescope Site contained within the construction footprint to identify any sub-surface cables</li> <li>• Measures will be included in the CHMP to describe how the heritage values of the site will be conserved and managed during construction</li> </ul>	TfNSW / Contractor	Detailed design and prior to construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<ul style="list-style-type: none"> <li>TfNSW will engage a suitably qualified heritage consultant to prepare an archival photographic recording of the impacted areas of the property, in accordance with DPC (Heritage) guidelines (Heritage Council of NSW 2006)</li> <li>The heritage interpretation framework for the project (NAH02) will include interpretation measures that will improve community awareness of the history of the Fleurs Radio Telescope as well as determine suitable locations for the presentation of information that are publicly accessible.</li> </ul>		
Upper Canal System (Pheasants Nest Weir to Prospect Reservoir (Item 4, SHR 01373))	NAH06	<ul style="list-style-type: none"> <li>Relevant conservation policies outlined in the Upper Canal CMP (NSW PublicWorks Government Architect's Office, 2016) will be <b>considered during detailed design and</b> incorporated into CCHMP to ensure heritage fabric is not impacted by the project.</li> <li>The CCHMP will be consistent with and require implementation of relevant measures outlined in the Guidelines for development adjacent to the Upper Canal and Warragamba Pipelines (<del>Sydney Catchment Authority 2012</del>) (<b>WaterNSW 2020</b>) which sets out guidelines for designing, planning or assessing development on land adjacent to the canal at this location. <b>Additional structures identified in the construction footprint will be investigated and measures implemented to avoid or minimise impact.</b></li> <li>Guidelines and associated safe working distances to be adhered to for heritage structures as outlined in Appendix K of the EIS</li> <li>A safe working distance exclusion zone will be established around the exposed tunnel air shaft in the M7 Motorway median in accordance with the process outlined in noise and vibration management measures NV09 - NV10.</li> </ul>	TfNSW / Contractor	Detailed design, prior to construction and during construction
McMaster Field Station (Item 6)	NAH07	<ul style="list-style-type: none"> <li>A suitably qualified heritage consultant will be engaged to prepare an archival photographic recording of the impacted area, in accordance with DPC (Heritage) guidelines (Heritage Council of NSW 2006). This will include both buildings and landscape features such as dams, and earthworks. The recording will include a detailed map showing the location of the features.</li> <li>Options will be investigated to provide funding support to property's current owner to prepare a thematic heritage study of CSIRO and other agricultural research stations,</li> </ul>	TfNSW / Contractor	Detailed design, prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<p>including both McMaster Field Station and McGarvie Smith Farm, and other relevant agricultural research stations and similar facilities located in NSW. The thematic study will include a review of the role of such properties in veterinary research, association with agricultural, pastoral and animal husbandry groups, use of pioneering methods and practices and contribution to development of farming in NSW and Australia. In the event that landowners do not prepare this study, TfNSW will engage a heritage specialist to do so.</p> <ul style="list-style-type: none"> <li>• A potential use zone will be established around the McMaster Farm group of buildings, including a suitable buffer zone, and no construction activities will take place within this zone. This zone will be incorporated into the construction heritage management plan (CHMP). The potential use zone will include safe working distances to be adhered to for heritage structures as outlined in Appendix K of the EIS. Before occupying or utilising the buildings, a dilapidation survey will be carried out and a heritage architect will be engaged to advise on proposed modifications and management measures to avoid and minimise impact on the buildings.</li> </ul>		
Fleurs Aerodrome (Item 7)	NAH08	<ul style="list-style-type: none"> <li>• A suitably qualified heritage consultant will be engaged to prepare an archival photographic recording of the impacted area before its disturbance and/or removal, in accordance with DPC (Heritage) guidelines (Heritage Council of NSW 2006). The recording will include a detailed map showing the location of the features.</li> <li>• An interpretive framework developed for the project will include consideration of elements to enable the continued interpretation and understanding of the airstrip at Fleurs Aerodrome as a linear and continuous element. This will be carried out in consultation with Department of Defence and consider opportunities for involvement of veterans groups.</li> <li>• Relevant guidelines and associated safe working distances will be adhered to for remaining heritage structures as outlined in the Appendix K of the EIS</li> </ul>	Contractor / TfNSW	Detailed design, prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Cecil Park School, Post Office and Church Site (Item 8)	NAH09	<ul style="list-style-type: none"> <li>TfNSW will liaise with local museums and/or historical societies to arrange a long-term secure artefact repository for the artefact assemblage. Once that arrangement has been made, DPC (Heritage) will be notified for their records. In the short term, TfNSW will provide secure short-term secure storage for the assemblage.</li> <li><b>Archaeological salvage excavations will be carried out for the Cecil Park School, Post Office and Church Site (Item 8) in accordance with the research design and methodology outlined in the <i>M12 Motorway: Former Cecil Park Historical Complex Historical Archaeological Salvage Research Design and Methodology</i> (Jacobs, 2020).</b></li> <li><del>An Archaeological Research Design (ARD) for archaeological salvage of the former historical complex will be prepared and implemented prior to construction commencing by a suitably qualified historical archaeologist who fulfils the Heritage Council's Excavation Director Criteria to conduct open area excavation of a locally significant archaeological site. The ARD will include a revised impact assessment, revised research questions and a methodology to ensure archaeological relics within the project construction footprint are adequately investigated in accordance with standard NSW archaeological practice.</del></li> </ul>	Contractor / TfNSW	Detailed design
South, Kemps and Badgerys Creek Confluence Weirs Scenic Landscape (Item 12)	NAH10	<ul style="list-style-type: none"> <li>Management measures identified in the project UDLP (LVIA01) will be implemented during detailed design to minimise impacts on landscape and vistas</li> <li>Flooding management measures (F01 to F08) and surface water quality and hydrology management measures (SWH01 to SWH314) will be implemented to reduce broader impacts on the surrounding scenic landscape.</li> </ul>	Contractor / TfNSW	Detailed design, prior to construction and during construction
Noise and vibration				
General construction noise and vibration	NV01	A construction noise and vibration management plan (CNVMP) will be prepared for the project to mitigate and manage noise and vibration impacts during construction.	Contractor	Prior to construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<p>The CNVMP will be implemented for the duration of construction of the project and will:</p> <ul style="list-style-type: none"> <li>• Identify nearby sensitive receivers</li> <li>• Include a description of the construction activities equipment and working hours</li> <li>• Identify relevant noise and vibration performance criteria for the project and license and approval conditions.</li> <li>• Include modelling results showing construction noise impacts based on detailed design information</li> <li>• Outline standard and additional mitigation measures from the Construction Noise and Vibration Guideline (CNVG) (Roads and Maritime 2016) and information about when each will be applied</li> <li>• Outline requirements for the development and implementation of an Out-of-hours Work Protocol</li> <li>• Outline requirements for noise and vibration monitoring that will be carried out to monitor project performance associated with the noise and vibration criteria</li> <li>• Describe community consultation and complaints handling procedures in accordance with the Community Communication Strategy to be developed for the project</li> <li>• Outline measures to manage noise impacts associated with heavy vehicle movements both on and offsite</li> <li>• Outline measures to minimise cumulative construction impacts and the likelihood for 'construction fatigue' from concurrent and consecutive projects in the area</li> <li>• Outline requirements to minimise and manage construction fatigue, in consultation with the community.</li> </ul>		and during construction
	NV02	Measures to minimise and manage construction fatigue are to be investigated through the planning of construction staging.	Contractor	Detailed design, prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	NV03	<p>Detailed noise assessments will be carried out for ancillary facilities with the potential to involve high noise generating activities (including batching plant operations). The assessments will consider the proposed site layouts and noise generating activities that will occur at the facilities and assess predicted noise levels against the relevant noise management criteria.</p> <p>The assessments will also consider the requirement for appropriate noise mitigation within ancillary facilities and adjacent to construction works, depending on the predicted noise levels. Any mitigation measures required will be implemented before the start of activities that generate noise and vibration impacts.</p>	Contractor	Prior to construction
	NV04	<p>Monitoring will be carried out at the start of high noise and vibration activities to confirm that actual noise and vibration levels are consistent with the noise and vibration impact predictions. Where mitigation measures were included, measurements will be carried out to confirm the effectiveness.</p> <p>Where the monitoring identifies higher levels of noise and vibration compared to predicted levels, or where mitigation is shown to be ineffective against measured noise and vibration levels, additional mitigation measures will be identified and implemented to appropriately manage impacts where feasible and reasonable.</p>	Contractor	Construction
	NV05	Where reasonable and feasible, receivers identified as requiring at-property treatment for operational noise mitigation will be identified and offered treatment before construction activities begin that are likely to impact them.	TfNSW / Contractor	Prior to construction
Vibration impacts	NV06	Activities that generate vibration will be managed to avoid impacts on structures and sensitive receivers. This includes implementing appropriate safe working distances where practicable.	Contractor	Prior to construction and during construction
	NV07	The use of alternatives to vibration generating equipment will be considered where vibration impacts are predicted.	Contractor	During construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	NV08	<p>Where works are within the minimum working distances and considered likely to exceed the cosmetic damage objectives (as shown in Figure 7-3 of Appendix K of the <del>EIS</del> <b>EIS G of the amendment report</b>), construction works will not proceed unless:</p> <ul style="list-style-type: none"> <li>• A different construction method with lower source vibration levels is used, where feasible</li> <li>• Attended vibration measurements are carried out at the start of the works to determine the risk of exceeding the vibration objectives.</li> </ul>	Contractor	During construction
	NV09	<p>Building Condition Surveys will be offered in writing to property owners before construction where there is a potential for construction activities to cause structural or cosmetic damage. A comprehensive report will be prepared by a suitably qualified professional before the relevant works begin and will comprise a written and photographic condition.</p>	Contractor	Prior to construction
Vibrations impacts on the Upper Canal System and Gas Pipelines	NV10	<p>Surveys will be carried out to confirm the existing condition of the WaterNSW Upper Canal System and Jemena high pressure gas pipelines to determine appropriate vibration criteria. This will also include consideration of distances from the vibration intensive activity (piling, rock-breaking and vibratory rolling), as well as ground conditions.</p> <p>A vibration criterion of a peak particle velocity (PPV) will be determined in consultation with the relevant utility/service providers, <b>including WaterNSW</b>.</p> <p>In-situ monitoring will be carried out to confirm the vibration levels and assess the impact of vibration. Where the monitoring identifies exceedances in the relevant criteria, or where impacts are identified, additional mitigation measures will be identified and implemented to appropriately manage impacts.</p>	TfNSW / Contractor	Detailed design and during construction
Vibration impacts on heritage structures	NV11	<p>The following structures have the potential to be within the safe working distances for sensitive structures (Group 3 from DIN 4150):</p> <ul style="list-style-type: none"> <li>• Item 1: McGarvie Smith Farm</li> <li>• Item 2: Fleurs Radio Telescope Site</li> <li>• Item 4: Upper Canal System</li> </ul>	Contractor	Prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<ul style="list-style-type: none"> <li>Item 6: McMaster Field Station</li> <li>Item 7: Fleurs Aerodrome</li> </ul> <p>A detailed survey will be completed to determine the potential for vibration impacts and to define appropriate criteria for each heritage item. Vibration monitoring will be carried out when vibration intensive tasks are occurring within the minimum working distances to heritage structures. Where the monitoring identifies exceedances in the relevant criteria, or where impacts are identified, additional mitigation measures will be identified and implemented to appropriately manage impacts.</p>		
Construction traffic noise	NV12	<p>Construction vehicle movements (both on and offsite) will be managed to minimise noise impacts. Where feasible, this will include (but not be limited to):</p> <ul style="list-style-type: none"> <li>Establishment and use of internal haul routes, or existing major roads where this is not feasible</li> <li>Restriction of heavy vehicle movements to standard construction hours</li> <li>Locating traffic marshalling areas away from residences to minimise noise impacts from idling vehicles</li> <li>Instructing workers on the operation of heavy vehicles entering and exiting the site to minimise noise</li> </ul>	Contractor	During construction
Cumulative construction impacts	NV13	<p>The likelihood of cumulative construction noise impacts will be considered during detailed design when detailed construction schedules of other projects are available. Construction works will be scheduled with the aim of minimising concurrent works near sensitive receivers where possible in consultation with managers of other nearby projects that are likely to result in a cumulative impact. This will include the coordination of respite between the various construction projects where receivers are likely to experience concurrent construction impacts where feasible. Coordination between project teams would be carried out throughout construction.</p>	Contractor	Prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Operational noise and vibration	NV14	Operational noise and vibration mitigation measures will be identified in an Operational Noise and Vibration Review (ONVR). Requirements for mitigation measures, including quieter noise pavements, noise barriers, and at-property treatments, will be reviewed as part of the ONVR and as the detailed design progresses. The implementation of treatments will be carried out in accordance with TfNSW Noise Mitigation guidelines (2015).	Contractor / TfNSW	Detailed design, during construction and prior to operation
	NV15	Within 12 months of start of operation of the project, actual operational noise performance will be compared to predicted operational noise performance. The need for additional mitigation or management measures to address identified operational performance issues and meet relevant operational noise criteria will be assessed and implemented where feasible and reasonable.	TfNSW	During operation
Flooding				
Potential changes to flood impacts resulting from detailed design	F01	Further flood investigations and hydrological and hydraulic modelling will be carried out during detailed design to ensure the flood immunity objectives and design criteria for the project are met. The modelling will be used to define the nature of both main stream flooding and major overland flow along the full length of the project corridor under pre- and post- project conditions and to define the full extent of any impact that the project will have on patterns of both main stream flooding and major overland flow. The hydraulic model(s) will be based on two-dimensional hydraulic modelling software. The modelling will take into account any updated regional flood modelling and information available at the time.	Contractor	Detailed design
Flooding impacts on property	F02	Should the updated flood modelling show the project will result in an adverse flooding impact, TfNSW will consult with landowners regarding appropriate mitigation measures to be implemented by the contractor in relation to each individual property.	TfNSW / Contractor	Detailed design

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Flooding impacts during construction	F03	<p>A flood management plan will be prepared as part of the CEMP for the project and will detail the processes for flood preparedness, materials management, weather monitoring, site management and flood incident management. The flood management plan will be developed in accordance with:</p> <ul style="list-style-type: none"> <li>Managing Urban Stormwater, Soils and Construction, Volume 1 4th Edition, March 2004 (Landcom 2004) and Managing Urban Stormwater, Volume 2D – Main Road Construction (DECC 2008)</li> <li>TfNSW Erosion and Sedimentation Management Procedure (Roads and Traffic Authority 2009)</li> <li>TfNSW Technical Guideline: Temporary Stormwater Drainage for Road Construction (Roads and Maritime 2011)</li> <li>TfNSW Stockpile Management Guideline (Roads and Maritime 2011).</li> </ul>	Contractor	Prior to construction
Flooding and creek adjustment impacts	F04	Creek adjustments would be re-considered and/or further refined to minimise the impact on the creeks during detailed design.	TfNSW / Contractor	Detailed design
Flooding impacts of bridges and culverts	F05	Detailed construction staging plans will be developed during detailed design so that bridges and culverts are constructed in a way that minimises flood risk.	Contractor	Detailed design
	F06	Measures to address potential impacts of culvert blockage on afflux will be further investigated during detailed design and may include the installation of debris deflectors, trash racks or similar on drainage inlets where reasonable and feasible.	Contractor	Detailed design
	<b>F07</b>	<b>During the detailed design phase, TfNSW will seek to refine the design of the works at Elizabeth Drive near Badgerys Creek to minimise flood affectation. Mitigation measures may include adjustment of road levels and/or flood relief culverts through the road.</b>	<b>TfNSW / Contractor</b>	<b>Prior to and during construction</b>

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Impacts on existing drainage systems	F08	Activities that may affect existing drainage systems during construction will be carried out so that existing hydraulic capacity of these systems is maintained where practicable.	Contractor	During construction
Flooding impacts during operation	F09	The proposed bridges, culverts and changes to watercourses will be further refined during the detailed design to minimise potential flooding impacts.	TfNSW / Contractor	Detailed design
<b>Consultation regarding flooding impacts</b>	<b>F10</b>	<b>Ongoing consultation will be carried out with Western Sydney International Airport and as further details of their flood management and earthworks are developed, these will be incorporated into an updated M12 Motorway flood model for the detailed design phase of the project.</b>	<b>TfNSW / Contractor</b>	<b>Prior to and during construction</b>
Surface water quality and hydrology				
General	SWH01	<p>A construction soil and water management plan (CSWMP) will be prepared for the project. The plan will outline measures to manage soil and water impacts associated with the construction works, including contaminated land.</p> <p>The CSWMP will provide:</p> <ul style="list-style-type: none"> <li>• Measures to minimise/manage erosion and sediment transport both within the construction footprint and offsite including requirements for the preparation of erosion and sediment control plans (ESCP) for all progressive stages of construction</li> <li>• Measures to manage waste including the classification and handling of spoil</li> <li>• Procedures to manage unexpected contaminated finds including asbestos which would be outlined in the contaminated land management plan and asbestos management plan to be prepared for the project</li> <li>• Measures to manage stockpiles including locations, separation of waste types, sediment controls and stabilisation</li> <li>• Measures to manage groundwater de-watering and impacts including mitigation required</li> </ul>	Contractor	Prior to construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<ul style="list-style-type: none"> <li>• Processes for de-watering of water that has accumulated on site and from sediment basins, including relevant discharge criteria</li> <li>• Measures to manage potential tannin leachate</li> <li>• Measures to manage accidental spills including the requirement to maintain materials such as spill kits</li> <li>• Measures to manage potential saline soils</li> <li>• Details of surface water and groundwater quality monitoring to be carried out before, throughout, and following construction</li> <li>• Controls for sensitive receiving environments including SEPP Coastal Wetlands which may include but not be limited to: <ul style="list-style-type: none"> <li>– Designation of ‘no go’ zones for construction plant and equipment</li> <li>– Creation of catch/diversion drains and sediment fences at the downstream boundary of construction activities where practicable to ensure containment of sediment-laden runoff and diversion toward sediment sump treatment areas (not sediment basins) to prevent flow of runoff to the SEPP Coastal Wetland.</li> </ul> </li> <li>• Erosion and sediment control measures will be implemented and maintained at all work sites in accordance with the principles and requirements in Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom 2004) and Volume 2D (NSW Department of Environment, Climate Change and Water 2008), commonly referred to as the “Blue Book”, as well as relevant TfNSW Guidelines.</li> </ul>		
	SWH02	A soil conservation specialist will be engaged by both TfNSW and the Contractor for the duration of construction of the project to provide advice on the planning and implementation of erosion and sediment control including review of ESCPs.	TfNSW / Contractor	Prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	SWH03	A water reuse strategy will be developed for both construction and operational phases of the project to reduce reliance on potable water. This strategy will be prepared during the detailed design stage and implemented throughout the project and will outline the construction and operational water requirements and potential water sources to supply the water demand in consultation with Sydney Water. Alternative water supply options to potable water will be investigated, with the aim of reusing water using recycled water where feasible.	Contractor	Detailed design, prior to construction, and throughout construction and operation
Impacts of stockpiles	SWH04	<p>Stockpiles will be managed to minimise the potential for mobilisation and transport of dust and sediment in runoff in accordance with TfNSW Stockpile Sites Management Guideline (Roads and Maritime, 2015). This will include:</p> <ul style="list-style-type: none"> <li>• Minimising the number of stockpiles, area used for stockpiles, and time that they are left exposed</li> <li>• Locating stockpiles away from drainage lines, waterways and areas where they may be susceptible to wind erosion</li> <li>• Stabilising stockpiles, establishing appropriate sediment controls and suppressing dust as required.</li> </ul>	Contractor	Construction
Surface water quality impacts	SWH05	<p>A construction water quality monitoring program will be developed and included in the CSWMP for the project to establish baseline conditions, observe any changes in surface water and groundwater during construction, and inform appropriate management responses.</p> <p>The program will be based on the water quality monitoring methodology water quality indicators and the monitoring locations identified in the Surface water and hydrology assessment report (Appendix M of the EIS) and <b>supplementary memo (Appendix I of the amendment report)</b>, and Groundwater quality and hydrology assessment report (Appendix N of the EIS) and <b>supplementary memo (Appendix J of the amendment report)</b>.</p> <p>Baseline monitoring will be carried out monthly for a minimum of 12 months before the start of construction. As a minimum this will include three wet weather sampling events over six months where feasible.</p>	TfNSW / Contractor	Prior to construction, and during construction and operation

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<p>Sampling locations and monitoring methodology to be carried out during construction will be further developed in detailed design in accordance with the Guideline for Construction Water Quality Monitoring (RTA 2003) and the <b>Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)</b> <del>'ANZECC water quality guidelines' (ANZECC/ARMCANZ 2000)</del>. It will include collection of samples for analysis from sedimentation basin discharge points, visual monitoring of other points of release of construction waters and monitoring of downstream waterways.</p>		
Surface water quality impacts	SWH06	<p>An operational water quality monitoring program will be developed and implemented following the completion of construction to observe any changes in surface water and groundwater following construction, and inform appropriate management responses. The program will be based on the water quality monitoring methodology, water quality indicators, and the monitoring locations presented in the Surface water and hydrology assessment report (Appendix M of the EIS), and Groundwater quality and hydrology assessment report (Appendix N of the EIS).</p> <p>The monitoring program will be carried out monthly and will preferentially monitor following wet weather events when rainfall results in discharge from control sites or is greater than a nominated rainfall threshold which will be identified in detailed design. Monitoring will be carried out for a minimum of 12 months following the completion of construction, or until the affected waterways are certified by a suitably qualified and experienced independent expert as being rehabilitated to an acceptable condition and/or the permanent water quality structures are deemed to be operating satisfactorily.</p> <p>Should the results of monitoring identify that the water quality management measures are not effective in adequately mitigating water quality impacts, additional mitigation measures will be identified and implemented as required.</p>	TfNSW / Contractor	Prior to operation and during operation

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	SWH07	<p>The performance water quality controls developed for the design as set out in <b>the EIS and the amended water quality and hydrology controls outlined in the amendment report document</b> (including but not limited to temporary and permanent sediment basins) will be verified as the detailed design develops for the project to ensure the objectives of the project are achieved.</p> <p>In the instance that <b>water quality (MUSIC) modelling carried out</b> during detailed design it can not be demonstrated that the water quality controls would be effective in mitigation potential impacts, potential additional mitigation measures would be identified and implemented <b>where possible</b>.</p>	Contractor	Detailed design
	SWH08	<p>Further water quality assessment will be undertaken during detailed design to establish site specific discharge criteria for construction sediment basins.</p> <p>Based on this, the number, location and size of the basins will be further refined during the detailed design with consideration to the relevant NSW EPA Environment Protection Licence application requirements and the environmental values of the downstream receiving waterway.</p>	TfNSW / Contractor	Detailed design
	SWH09	<p>Practical measures to prevent water pollution and control, abate or mitigate impacts to the environment will be investigated at the detailed design stages of the project with the aim to make improvements to the currently proposed water quality controls. Such measures may include:</p> <ul style="list-style-type: none"> <li>• Larger or high efficiency temporary basins</li> <li>• Alternative dry bioretention operational basins.</li> </ul>	TfNSW / Contractor	Detailed design
	SWH10	<b>The use of water sensitive urban design measures will be considered during detailed design to meet water quality objectives.</b>	Contractor	<b>Detailed design</b>
Impacts of dewatering	SWH11	A de-watering management plan will be prepared as part of the CSWMP which will outline the de-watering methodology, supervision requirements, staff responsibilities and training, and approvals required before any de-watering activity begins.	Contractor	During construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Impacts on water bodies	SWH12	<p>The following measures will be carried out to manage activities within watercourses or on waterfront land:</p> <ul style="list-style-type: none"> <li>• Implementing practices to minimise disturbance of banks</li> <li>• Undertaking bank stabilisation and installing instream structures</li> <li>• Maintaining minimum flows to assist in maintaining the viability of aquatic communities and preventing barriers to fish passage</li> <li>• Constructing instream crossings during low flows and design so that drainage off crossing doesn't contribute sediment load to the stream</li> <li>• All drainage feature crossings (permanent and temporary watercourse crossings and stream diversions), drainage swales and depressions will be designed by a suitably qualified and experienced professional and will be designed and constructed in accordance with relevant guidelines.</li> </ul>	Contractor	Prior to construction and during construction
	SWH13	<p>A set of hydrologic and hydraulic models will be developed, which are to be used to define the nature of both main stream flooding and major overland flow along the full length of the project operational footprint under pre- and post-project conditions. The hydraulic model is to extend a sufficient distance upstream and downstream of the project operational footprint, to negate any boundary effects and to define the full extent of any impact that the project will have on patterns of both main stream flooding and major overland flow. The hydraulic model(s) is to be based on the TUFLOW (or equivalent) two-dimensional (in plan) hydraulic modelling software.</p> <p>The models will be used to verify the nature and extent of impacts and to confirm the type of mitigation measures required, <b>including potential mitigation measures identified throughout the EIS (see Table 5-9 in Appendix M of the EIS) and the amendment report and supplementary memo (see Table 5-6 in Appendix I of the amendment report).</b></p> <p>The models will also be used during detailed design to describe the interaction between the project and flows particularly with respect to culverts and to assist in refining the design for flows arriving at and travelling through culverts.</p>	Contractor	Detailed design

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Impacts on SEPP Coastal Wetlands	SWH14	Consideration will be given to the design of operational water quality, erosion and sediment controls incorporated into the design of the construction access track being left in place upstream from the SEPP wetland, and within the proximity area of the SEPP Coastal Wetland ID117.	Contractor	Detailed design
Groundwater quality and hydrology				
Impacts on groundwater quality and flows	GW01	<p>Groundwater monitoring will be carried out as part of the construction water quality monitoring program for the project. The groundwater monitoring will be based on the water quality monitoring methodology, water quality indicators and the monitoring locations shown in Appendix N <b>of the EIS and Table 7-1 in the groundwater supplementary technical memorandum (Appendix J of amendment report)</b>.</p> <p>Baseline groundwater monitoring will be carried out at least monthly for at least six months before construction. Monitoring will also be carried out at least monthly during construction and will continue for at least six months of operation to verify that there are no groundwater impacts, and that management measures are adequate.</p>	TfNSW / Contractor	Prior to construction, and during construction
Alteration of groundwater flows and levels	GW02	<p>Potential impacts on groundwater flows will be reconsidered as the detailed design for the project progresses, particularly in relation to the project's vertical alignment and extent of road cuttings. The aim of this will be to ensure that the groundwater controls proposed for the design as set out in this document would remain effective in mitigating groundwater impacts.</p> <p>In the instance that, during detailed design it cannot be demonstrated that the groundwater controls would be effective in mitigating potential impacts, or if observed groundwater inflow rates into the western cut <b>or airport interchange northern and southern cuts</b> are higher than estimated, additional measures will be implemented to minimise potential impacts to groundwater to minimise potential impacts on groundwater flows due to road cuttings or other sub-surface components of the project.</p>	Contractor	Detailed design

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	<b>GW03</b>	Installation of supplementary groundwater monitoring bores in the area of both airport interchange cuts would be carried out at detailed design stage, to better understand groundwater depths and levels (and groundwater quality) in these areas.	Contractor	Detailed design
	<b>GW04</b>	<p>Groundwater will be monitored at the airport interchange northern and southern cuts and the western cut during the construction phase and operational phase as outlined in Table 7-1 in the groundwater supplementary technical memorandum (Appendix J of amendment report). The groundwater indicators to be monitored will be as per Section 7.2.5 of Appendix N of the EIS.</p> <p>Groundwater inflows to the airport interchange northern and southern cuts and the western cut are to be observed by the groundwater monitoring contractor during the construction and operational phases at monthly intervals. As part of observing the airport interchange northern and southern cuts and the western cut groundwater inflows, the groundwater monitoring contractor is to estimate the groundwater inflow rates and note the areas where groundwater inflow is occurring.</p> <p>During construction, if groundwater inflows are observed from the airport interchange northern and southern cuts and the western cut, the groundwater quality from the cut is to be sampled.</p> <p>Operational phase groundwater quality sampling, including the quality sampling of the airport interchange northern and southern cuts and the western cut inflows, is to occur at a monthly interval for at least 6 months.</p>	Contractor	Construction and operation

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Soils and contamination				
Salinity	SC01	<p>Construction within areas of moderate to high risk saline soils will be managed in accordance with the CSWMP. Specific measures will also include (but not be limited to):</p> <ul style="list-style-type: none"> <li>• Ongoing groundwater monitoring of salinity as part of the water quality monitoring program</li> <li>• Identification and management of saline discharge sites</li> <li>• Progressive stabilisation and revegetation of exposed areas following disturbance as soon as is practicable</li> <li>• Testing to confirm the presence of saline soils in areas of high salinity potential prior to disturbance.</li> <li>• Soil salinity management will also be carried out in accordance with the NSW Department of Primary Industries (2014) Salinity Training Handbook.</li> </ul>	Contractor	Prior to construction and during construction
	SC02	Testing will be carried out to confirm the presence of saline soils in areas of high salinity potential and to confirm the presence of ASS around creeks prior to disturbance.	Contractor	Prior to construction and during construction
Impacts of soil and groundwater contamination	SC03	<p>A contaminated land management plan (CLMP) will be prepared for the project. The CLMP will include:</p> <ul style="list-style-type: none"> <li>• Control measures to manage identified areas of contamination, including surface soils in the vicinity of TP303, TP304, TP310 and TP311 containing heavy metal and PAH concentrations</li> <li>• Procedures for unexpected contamination</li> <li>• Measures to manage potential ASS (as required based on testing results) within sediments of the creeks in the construction footprint to minimise impacts to the environment</li> </ul>	Contractor	Prior to construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<ul style="list-style-type: none"> <li>Requirements for excavation of unexpected contaminants to be carried out in consultation with project Remedial Actions Plans.</li> <li>Requirements for the disposal of contaminated waste in accordance with the POEO Act and the Protection of the Environment Operations (Waste) Regulation 2014.</li> </ul>		
	SC04	<p>An asbestos management plan (AMP) will be prepared as part of the CLMP for the project. The AMP will guide the excavation, handling, storage and disposal of management of asbestos discovered during construction, including procedures for any unexpected asbestos.</p> <p>The AMP will also outline requirements for the encapsulation of asbestos to be carried out in accordance with project Remedial Action Plans.</p>	Contractor	Prior to construction
	SC05	<p>Detailed site (contamination) investigations will be carried out in accordance with the NSW EPA (1995) Sampling Design Guidelines and other NSW EPA endorsed guidance including the NEPM (2013) guidelines within the following AEI locations to confirm the presence of contamination before the start of construction at these locations:</p> <ul style="list-style-type: none"> <li><b>AEI 17: Stockpiles within Hi-quality Quarry Group Head Office</b></li> <li>Within AEI 19: the area of miscellaneous construction activities and stockpiles of building materials along Luddenham Road (Lot 1, DP228498)</li> <li>Within AEI 7: <b>Area of waste and imported fill</b> Former Kari and Ghossayn solid waste landfill (Lot 17, Clifton Avenue)</li> <li>Within AEI 21: Area of illegally dumped material along Range Road, Cecil Park</li> <li><b>Within AEI 24: Stockpiles within the OzSource property</b></li> <li><b>Within AEI 26: TreeServe (wood processing, stockpiles of woodchips, logs and fire wood)</b></li> <li>Within the 'potential areas of existing fill' identified in the Soils and contamination assessment report (Appendix K <del>Appendix O</del>) for the <b>amended</b> project.</li> </ul>	Contractor	Prior to construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<p>Further soil investigations will be required in areas of the amended construction footprint located adjacent to the following two AEIs to confirm the presence of contamination before the start of construction at these locations:</p> <ul style="list-style-type: none"> <li>• <b>Within AEI 6: PGH Bricks and Pavers</b></li> <li>• <b>Within AEI 9: Sydney Recycling Park/ Wanless Recycling and Former Kari &amp; Ghossayn Pty Ltd (Solid Waste Landfill)</b></li> <li>• <b>AEI 10: SUEZ Kemps Creek Resource Recovery Park</b></li> </ul> <p><b>Additional soil and groundwater investigations will be required in the areas of additional cut around the airport interchange northern cut and airport interchange southern cut to further assess the potential impacts to the amended project.</b></p> <p>Depending on results of the investigations, or if remediation is deemed required at any site within the amended construction footprint, a Remedial Action Plan will be prepared before the construction.</p>		
Impacts of soil and groundwater contamination	SC06	Further intrusive asbestos investigations throughout the construction footprint will be carried out to assess asbestos risks before the start of construction. The investigations are to include visual assessments and ground truthing along the length of the project.	Contractor	Prior to construction
	SC07	<p>A hazardous building materials management plan will be prepared in accordance with relevant guidelines to manage the removal of known and unexpected hazardous building during demolition activities.</p> <p>Before demolishing structures and/or buildings, a hazardous building materials audit will also be carried out in accordance with Australian Standard (AS 2601-2001) The demolition of structures. Where hazardous building materials are present, they will be managed to reduce the potential for contamination in accordance with the POEO Act and the Protection of the Environment Operations (Waste) Regulation (2014).</p>	Contractor	Prior to construction and during construction
	SC08	All waste will be classified in accordance with the NSW EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	Contractor	Before and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	SC09	<b>A section B site audit statement will be prepared for the asbestos encapsulation and for sites where intrusive investigations confirm highly complex contamination issues.</b>	Contractor	Prior to construction and during construction
Soil gas contamination	SC10	A detailed investigation will be carried out within the area next to the SUEZ Kemps Creek Resource Recovery Park to assess the extent of high-risk soil gas. A report will be prepared to document the outcomes of the investigation and outline measures to manage risks including nuisance odours to the surrounding area during excavation, and prevent the build-up of gases in buildings, basins, and sub-surface trenches and pits, and other enclosed spaces/depressions associated with the project during construction.  These investigations will be carried out in accordance (where applicable) with the Guideline for the Assessment and Management of Sites Impacted by Hazardous Ground Gases (NSW EPA 2012) and Assessing Risks Posed by Hazardous Ground Gases to Buildings Report (C665) (Wilson et al. 2007). This will include undertaking gas monitoring.	Contractor	Prior to construction and during construction
	SC11	Should the further investigations determine that gas concentrations remain elevated near the project footprint, gas monitoring will be carried out during construction within the construction footprint next to the SUEZ Kemps Creek Resource Recovery Park. If excavations are to be carried out within enclosed structures, gas accumulation monitoring will be carried out before and during construction. On site gas monitoring will be carried out in accordance with the NSW EPA (2016) Environmental Guidelines: Solid Waste Landfills.	Contractor	During construction
Air quality				
General air quality impacts during construction	AQ01	A construction air quality management plan (CAQMP) will be developed and implemented for the project to manage potential air quality impacts associated with construction. The CAQMP will identify activities that may results in air quality impacts and associated mitigation measures to avoid or minimise these impacts.	Contractor	Prior to construction and during construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<p>The CAQMP will provide:</p> <ul style="list-style-type: none"> <li>• Measures to minimise dust generation associated with earthworks and other activities that disturb the ground surface, stockpiles, and haulage routes</li> <li>• Measures to minimise emissions from machinery and vehicles associated with the project</li> <li>• Procedures for inspection, monitoring and addressing any impacts where required. The CAQMP will be implemented for the duration of construction.</li> </ul>		
Dust impacts during construction	AQ02	<p>Dust generation will be minimised during construction where possible. Where practicable, specific measures will include (but not be limited to):</p> <ul style="list-style-type: none"> <li>• Regularly watering exposed and disturbed areas including stockpiles, especially during inclement weather conditions</li> <li>• Adjusting the intensity of activities based on measured and observed dust levels, weather forecasts and the proximity of and direction of the works in relation to the nearest surrounding receivers</li> <li>• Ensuring loads are covered, and any loose materials/debris are removed before vehicles exit the site</li> <li>• Minimising the number of stockpiles and amount of material stockpiled where practicable</li> <li>• Positioning stockpiling areas as far as possible from surrounding receivers, including potentially ecologically sensitive receivers</li> <li>• Limiting stockpiling activities during conditions where winds are blowing strongly in the direction(s) from the stockpiling location to nearby receivers</li> <li>• Consultation with nearby developers to co-ordinate and plan activities where practicable to minimise the potential for cumulative dust-related impacts</li> <li>• The planning and undertaking of demolition activities, including the removal of hazardous building materials in a manner that minimises dust generation. This will also include the removal of hazardous building materials before the start of general demolition works.</li> </ul>	Contractor	During construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Odours during construction	AQ03	Odorous materials identified on site will be excavated in a staged process and exposed areas of odorous material will be kept to a minimum to reduce the total emissions from the site where feasible.	Contractor	During construction
Health and safety				
General	HS01	<p>A work health safety management plan (WHSMP) will be prepared for the project. The WHSMP will include:</p> <ul style="list-style-type: none"> <li>• Details of the hazards and risks associated with construction activities</li> <li>• Risk management measures</li> <li>• Procedures to comply with all legislative and industry standard requirements</li> <li>• Use of appropriate personal protective equipment</li> <li>• Contingency plans, as required</li> <li>• An incident response management plan</li> <li>• Training for all personnel (including subcontractors) including site inductions, the recognition and awareness of site hazards and the locations of relevant equipment to protect themselves and manage any spills. All staff would have the relevant training and certificates.</li> </ul>	Contractor	Prior to construction
Bushfire	HS02	Measures to mitigate and manage bushfire risk will be developed and included as part of site-specific hazard and risk management measures within the WHSMP. Measures will include the maintenance of ancillary facilities in a tidy and orderly manner and the storage and management of dangerous goods and hazardous materials in a safe location.	Contractor	Prior to construction
Incident response	HS03	<p>An incident response management plan will be developed and implemented.</p> <p>The response to incidents within the road will be managed in accordance with the memorandum of understanding between TfNSW and the NSW Police Service, NSW Rural Fire Service, NSW Fire Brigade and other emergency services.</p>	Contractor	Prior to construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Storage of dangerous goods and hazardous substances	HS04	Storage, handling and use of dangerous goods and hazardous substances would be in accordance with the <i>Work Health and Safety Act 2011</i> and the <i>Storage and Handling of Dangerous Goods Code of Practice</i> (WorkCover NSW, 2005).	Contractor	During construction and operation
	HS05	Secure, bunded areas will be provided around storage areas for oils, fuels and other hazardous liquids.	Contractor	During construction
	HS06	Safety Data Sheets will be obtained for dangerous goods and hazardous substances stored onsite before their arrival.	Contractor	During construction
Contamination from transportation of hazardous good	HS07	All hazardous substances will be transported in accordance with relevant legislation and codes, including the Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998 and the 'Australian Code for the Transport of Dangerous Goods by Road and Rail' (National Transport Commission, 2008).	Contractor	During construction
Sustainability				
Project sustainability outcomes	SU1	A sustainability management plan for the project will be developed and implemented during detailed design, to give effect to the sustainability strategy for the project. The management plan will detail measures to meet the sustainability objectives and targets and Infrastructure Sustainability rating tool credit requirements.	Contractor	Throughout detailed design, construction, and operation

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
Waste				
Inappropriate handling and/or disposal of waste	W01	<p>A construction waste and resource management plan (CWRMP) will be prepared for the project and outline appropriate management procedures. It will include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• Identification of the waste types and volumes that are likely to be generated by the project</li> <li>• Adherence to the waste minimisation hierarchy principles of avoid/reduce/reuse/recycle/dispose</li> <li>• Waste management procedures to manage the handling and disposal of waste, including unsuitable material or unexpected waste volumes</li> <li>• Identification of reporting requirements and procedures for tracking of waste types and quantities</li> <li>• A resource management strategy detailing the process to identify reuse options for surplus materials</li> <li>• A procurement strategy to minimise unnecessary consumption of materials and waste generation in accordance with relevant legislation and guidelines.</li> </ul>	TfNSW / Contractor	Prior to construction
	W02	<p>A spoil management plan will be prepared for the project as part of the CWRMP and in line with the CSWMP. The spoil management plan will outline appropriate management procedures for the generation and importation of spoil. It will include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• Procedures for classification of spoil</li> <li>• Identification of spoil reuse measures</li> <li>• Spoil stockpile management procedures</li> <li>• Spoil haulage routes</li> <li>• Spoil disposal and reuse locations</li> </ul>	Contractor	During construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
		<ul style="list-style-type: none"> <li>Imported spoil sources and volumes.</li> </ul>		
	W03	Wherever feasible and reasonable, construction material will be sourced from within the Sydney region.	TfNSW / Contractor	During construction
Unexpected waste volumes and types during construction	W04	Suitable areas will be identified to allow for contingency management of unexpected waste materials, including contaminated materials. Suitable areas will be required to be hardstand or lined areas that are appropriately stabilised and bunded, with sufficient area for stockpile storage.	TfNSW / Contractor	During construction
Climate change and greenhouse gas				
Climate change risks	CC01	<p>Detailed design will incorporate appropriate adaptation measures for all climate change risks with an original risk rating of moderate or above. These will include but not be limited to:</p> <ul style="list-style-type: none"> <li>Consideration of the full range of potential temperature extremes on the project (particularly bridge structures) which may occur as a result of climate change and consider material capacity to withstand heat during material type selection to minimise the likelihood of infrastructure failures</li> <li>Consideration of energy dissipation at culvert outlets when velocities exceed existing magnitudes</li> <li>Consideration of the use of native species which are typically more fire tolerant and can more rapidly regenerate after fire events</li> <li>Maintenance of fauna passage along main creek lines under bridges.</li> </ul>	Contractor	Detailed design

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	CC02	A climate change monitoring and adaptive management framework will be prepared and implemented for the project. The framework will incorporate performance monitoring criteria and measures, and the requirement for periodic review of the climate change risk assessment and framework against updated climate data to ensure currency.	TfNSW / Contractor	Detailed design and construction
	CC03	An adaptive management approach will be applied to workplace health and safety planning during construction and operation in line with the WHSMP. This will include use of TfNSW Work Health and Safety Procedures.	TfNSW / Contractor	Prior to construction, during construction and during operation
GHG emissions	GG01	Targets to reduce GHG emissions during construction and operation will be included in the project's sustainability management plan.	TfNSW / Contractor	Detailed design and construction
	GG02	Updated GHG assessment based on the detailed design for the project and the final project when built will be carried out.	Contractor	Detailed design and construction
	GG03	Vegetation removal will be minimised where practicable.	Contractor	Detailed design and construction
	GG04	The procurement of goods and services will consider goods and services that: <ul style="list-style-type: none"> <li>• Are from local suppliers</li> <li>• Make use of recycled materials or materials with a low embodied energy content.</li> <li>• Are energy efficient or have low embodied energy</li> <li>• Minimise the generation of waste.</li> </ul>	Contractor	Detailed design and construction

Environmental issue	Reference	Environmental management measures	Responsibility	Timing
	GG05	Construction plant and equipment will be well maintained to maximise fuel efficiency.	Contractor	Construction
Cumulative impacts				
Cumulative impacts	CU01	Regular consultation will be carried out with nearby/adjoining projects and key stakeholders during the detailed design and construction phase to review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management), as far as practicable to minimise cumulative impacts.	TfNSW / Contractor	Detailed design and construction
	CU02	Communication strategies across relevant TfNSW projects will be managed to be consistent in their messaging to the community to avoid confusion.	TfNSW	Detailed design and construction

## 7. Conclusions

DPIE will, on behalf of the NSW Minister for Planning and Public Spaces, review the EIS, this submissions report, the amendment report and supplementary submissions report for the M12 Motorway (the project). Once DPIE has completed its assessment, a draft Environmental Assessment Report would be prepared for the Planning Secretary of DPIE, which may include recommended conditions of approval. The Environmental Assessment Report would then be provided to the NSW Minister for Planning and Public Spaces.

Similarly, the DAWE would, on behalf of the Commonwealth Minister for Environment, review the EIS, this submissions report, the amendment report and supplementary submissions report for the project and provide a recommendation report to the Minister.

The NSW Minister for Planning and Public Spaces and the Commonwealth Minister for Environment would then decide whether or not to approve the project and identify any conditions of approval that would apply. The determination would be published on the DPIE Major Projects and DAWE websites. TfNSW would continue to consult with community members, government agencies and other stakeholders during the construction of the project.

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# Appendix A – Proponent Details and Environmental Record

# Proponent Details and Environmental Record

**Proposed development / title of the action – M12 Motorway**

**EPBC Referral Number - 2018/8286**

**EP&A Act Assessment Number – SSI 18-9364**

**Designated proponent – Transport for NSW (TfNSW)**

**ACN / ABN – 18 804 239 602**

**Postal address – PO Box 973, Parramatta, 2124**

TfNSW (including the former Roads and Maritime Services) is a major infrastructure agency with responsibility for the delivery of a substantial transport infrastructure construction and maintenance program. Given the scale and complexity of works undertaken, TfNSW has a very good environmental record and puts significant resources into environment and conservation measures on its construction and maintenance projects. TfNSW is committed to reducing its impact on the environment through continual environmental performance improvement.

Requirement	Environmental record of the person undertaking the proposed action							
<p><b>1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.</b></p>	<p>TfNSW is the proponent and has a strong history of working to ensure that road projects first avoid impacts as the highest priority, and where impacts are likely, of taking steps to minimise, mitigate and offset such impacts.</p> <p>TfNSW projects have achieved significant environmental outcomes, especially with regard to environmental design, innovation, urban design, fauna connectivity, including fauna fencing, erosion and sediment control improvements and independent verification of the implementation of environmental management measures.</p> <p>TfNSW has engaged appropriately qualified and experienced ecologists to undertake environmental assessments for the project to minimise impacts to the environment and avoid or minimise impacts wherever possible.</p>							
<p><b>2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either</b></p> <p><b>(a) the person proposing to take the action or,</b></p> <p><b>(b) if a permit has been applied for in relation to the action – the person making the application.</b></p>	<p>TfNSW works closely with key NSW regulatory agencies including the EPA and EESG to ensure compliance with statutory requirements but has occasionally been subject to legal proceedings with respect to environmental matters.</p> <p>Where incidents have occurred the majority have been minor and as a consequence resulted in penalty infringement notices. Details of penalty infringement notices that have been issued to TfNSW (including preceding authorities) since 1998 are outlined below.</p> <table border="1"> <thead> <tr> <th>Date of Penalty Notice</th> <th>Circumstance</th> </tr> </thead> <tbody> <tr> <td>2 February 1998</td> <td>The NSW Land and Environment Court found that RTA grit blasting operations on the Wallaby Rock Bridge over the Turon River near Bathurst resulted in material containing paint, limestone and copper slag grit entering the river.</td> </tr> <tr> <td>3 June 1998</td> <td>Penalty Notice (P8669550) for inadequate sediment controls at an RTA site on the corner of Stoney Creek Road and King Georges, Beverly Hills</td> </tr> </tbody> </table>		Date of Penalty Notice	Circumstance	2 February 1998	The NSW Land and Environment Court found that RTA grit blasting operations on the Wallaby Rock Bridge over the Turon River near Bathurst resulted in material containing paint, limestone and copper slag grit entering the river.	3 June 1998	Penalty Notice (P8669550) for inadequate sediment controls at an RTA site on the corner of Stoney Creek Road and King Georges, Beverly Hills
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3 June 1998	Penalty Notice (P8669550) for inadequate sediment controls at an RTA site on the corner of Stoney Creek Road and King Georges, Beverly Hills							

Requirement	Environmental record of the person undertaking the proposed action	
	21 February 2000	Penalty Notice (Z0578326) issued to the RTA for the inappropriate cleaning of a bitumen sprayer at a roadside stockpile site near Bowenfels. The infringement was for cleaning the sprayer at a location which created the potential to pollute an onsite drain and possibly other waters.
	18 January 2002	Penalty Notice (N7899706) issued to RTA for contravention of a condition of environment protection licence number 10008 for the Pacific Highway Upgrade at Mullumbimby. Sub-contractor employed an incorrect sediment basin pump out procedure.
	28 October 2002	Penalty Notice (B5102543) issued to RTA for the Mona Vale Road upgrade project for pollution of waters. Sediment laden water escaped the site into stormwater drains during the works.
	7 August 2006	Penalty Notices (7616962760 & 7616962751) issued to RTA for failing to supply Dangerous Goods Shipping documents to two drivers of asphalt trucks near Nyngan, western NSW.
	8 November 2007	Penalty Notice (7616957069) issued to RTA for unauthorised discharge of water from a construction site to an adjacent water course at Pambula.
	11 December 2008	Penalty Notice (7616963164) issued to RTA for clearing of native vegetation (Myall Woodland) adjacent to Mitchell Highway west of Trangie.
	29 April 2008	Penalty Notice (7633250250) issued to RTA for pollution of waters as a result of inadequate sediment control measures, Great Western Highway, Marangaroo.
	29 June 2009	Penalty notice (3014073848) issued to the Transport Infrastructure Development Corporation (TIDC) for a breach of its environment protection licence in relation to works undertaken out-of-hours without the necessary approvals in place on the Cronulla Line Duplication project.
	28 September 2010	Penalty Notice (7601508934) issued to RTA for a breach of environment protection licence 13204 for failure to maintain pollution control equipment leading to the discharge of material from the Oxley Highway Upgrade construction works at Port Macquarie.
	22 October 2010	Penalty Notice (7601508961) issued to RTA for pollution of waters arising from discharges from the Central Coast Highway Upgrade project.
	31 March 2011	Three Penalty Notices (3013382406, 3013382415 & 3013382424) issued to RTA for breaches of Dangerous Goods transport legislation for a fleet vehicle on New England Highway.

Requirement	Environmental record of the person undertaking the proposed action	
	17 November 2011	Penalty Notice (3068038537) issued to RTA for pollution of waters of Byarong and America Creeks, Wollongong for failure to fully implement the sediment and erosion control measures outlined in the REF for the project.
	15 June 2012	Penalty Notice (3085764202) issued to RMS for a breach of environment protection licence 13135 for failure to operate pollution control equipment to prevent the discharge of material from the Central Coast Highway upgrade construction works at Erina Heights.
	17 January 2017	Penalty Notice issued to RMS for breaches of Dangerous Goods transport legislation for a Roads and Maritime vehicle on Cormorant Road at Kooragang.
<p><b>3 Will the action be taken in accordance with the corporation's environmental policy and planning framework?</b></p> <p><b>3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.</b></p>	<p>Yes</p> <p>TfNSW has set the environmental direction for the organisation in its Corporate Framework which seeks to minimise impacts on the natural, cultural and built environment from road use and TfNSW activities.</p> <p>TfNSW's commitment to meeting this priority is demonstrated in its Environment and Sustainability Policy 2020 and the environmental considerations incorporated into its activities. TfNSW has detailed procedures and guidelines for undertaking environmental assessment of its activities, including specific requirements for biodiversity assessment, mapping biodiversity impacts during construction and offsetting unavoidable impacts.</p> <p>In addition to environmental assessment, TfNSW has implemented an environmental framework driving continual improvement. This framework allows TfNSW to manage its obligations more effectively to move beyond compliance with legislative requirements. It also provides a basis for improving overall environmental performance by providing tools for effective planning, implementation and review of activities.</p>	
<p><b>4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?</b></p> <p><b>4.1 EPBC Act No and/or Name of Proposal.</b></p>	<p>Yes</p> <p>Most recently:</p> <ul style="list-style-type: none"> <li>• 2018/8288 M1 Motorway extension to Raymond Terrace, NSW</li> <li>• 2017/8005 Pacific Highway Upgrade, Coffs Harbour Bypass, NSW</li> <li>• 2017/7966 Parramatta Light Rail (Stage 1) Westmead to Carlingford, via Parramatta CBD, NSW (referred but decision made in 2017 that the proposal was not a controlled action)</li> <li>• 2017/7909 Albion Park Rail Bypass, NSW</li> <li>• 2016/7715 Additional crossing of the Clarence River at Grafton, NSW</li> <li>• 2016/7696 The Northern Road Upgrade between Mersey Road and Glenmore Parkway, Sydney, NSW</li> <li>• 2016/7681 New Intercity Fleet Maintenance Facility, Kangy Angy, NSW</li> <li>• 2015/7550 Newcastle inner city bypass Rankin Park to Jesmond, NSW</li> <li>• 2015/7520 Construction and operation of the Westconnex New M5, Sydney, NSW</li> <li>• 2014/7346 Safety works along the Bells Line of road between Mt Tomah and Kurrajong Heights, NSW</li> <li>• 2013/6968 Princes Highway Upgrade Termeil Creek, NSW</li> <li>• 2013/6963 Nambucca Heads to Urunga Pacific Highway Upgrade, NSW.</li> </ul>	



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**October 2020**  
TfNSW 20.310  
ISBN: 978-1-922463-19-7