

Appendix A

Director-General's Requirements

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Table A-1 Director-General's Requirements

General Requirements	Section in EIS
<p>The Environmental Impact Statement (EIS) must be prepared in accordance with, and meet the minimum requirements of, Part 3 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> (the Regulation), including:</p> <ul style="list-style-type: none"> • 1. The information required under clause 6 of Schedule 2 of the Regulation. • 2. The content listed in clause 7 of Schedule 2 of the Regulation, including but not limited to: • a statement of the objectives of the project, including a description of the strategic need, justification, objectives and outcomes for the project, taking into account existing and proposed transport infrastructure and services within the adjoining subregions, and as relevant the outcomes and objectives of relevant strategic planning and transport policies, including, but not limited to, <i>NSW 2021</i>, <i>NSW Government State Infrastructure Strategy</i>, <i>NSW Long Term Transport Master Plan</i> (December 2012), <i>draft Metropolitan Plan for Sydney</i> (March 2013) and any other relevant plans; • an analysis of feasible alternatives to the carrying out of the project and project justification, including: <ul style="list-style-type: none"> – an analysis of alternatives/options considered having regard to the project objectives (including an assessment of the environmental costs and benefits of the project relative to alternatives and the consequences of not carrying out the project), and the provision of a clear discussion of the route development and selection process, the suitability of the chosen alignment and whether or not the project is in the public interest, and – justification for the preferred project taking into consideration the objects of the <i>Environmental Planning and Assessment Act 1979</i>. • an analysis of the project including an assessment, with a particular focus on the requirements of the listed key issues, in accordance with clause 7(1)(d) of Schedule 2 of the Regulation (where relevant), including an identification of how relevant planning, land use and development matters (including relevant strategic and statutory matters) have been considered in the impact assessment (direct, indirect and cumulative impacts) and/or in developing management/mitigation measures; • a detailed description of the project and its relationship and/or interaction with the existing public transport service (rail and bus), bus stops, passenger facilities, location of routes, operator amenities, cyclist facilities, the proposed removal of trees and the location and operational requirements of construction compounds; and • detail how the principles of ecologically sustainable development will be incorporated in the design, construction and ongoing operation phases of the project. 	<p>Chapter 3 – Justification and need</p> <p>Chapter 4 – Project development and alternatives</p> <p>Chapter 2 – Assessment process</p> <p>Chapter 5 – Project description</p> <p>Chapter 4 – Project development and alternatives</p>

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<p>Notwithstanding the key issues identified for consideration, the EIS must include an environmental risk analysis to identify the potential environmental impacts associated with the infrastructure.</p> <p>Where relevant, the assessment of key issues identified for consideration, and any additional significant issues identified in the risk assessment, must include:</p> <ul style="list-style-type: none"> adequate baseline data; consideration of the potential cumulative impacts due to other development in the vicinity; and measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment. 	<p>Chapter 10 – Environmental risk analysis</p> <p>Chapter 7 – Assessment of key issues</p>
Traffic and transport	
<p>An assessment (including modelling) of the operational traffic impacts of the project, impacts (volumes, speeds, intersection performance, freight volumes, tolling etc) on the M1 (F3 Freeway), M2 and M7 Motorways, Pennant Hills Road, Windsor Road and the surrounding local, regional and state road network.</p>	<p>Detailed description of the existing environment is provided in Section 7.1.2 and Appendix E.</p>
<p>An assessment of wider transport interactions (local and regional roads and public and freight transport).</p>	<p>Operational traffic impacts are addressed in Section 7.1.4 and Appendix E.</p>
<p>An assessment of the induced traffic and operational implications for public transport (particularly with respect to strategic bus corridors and bus routes) and consideration of opportunities to improve public transport. The assessment must address impacts on cyclists and pedestrian access and safety (for those ancillary works around the Motorway corridor, as relevant) and consider opportunities to integrate cycleway and pedestrian elements with surrounding networks.</p>	<p>Wider transport interactions are discussed in Section 7.1.4 and Appendix E.</p>
<p>An assessment of construction traffic impacts, including a considered approach to route identification and scheduling of transport movements, the number, frequency and size of construction related vehicles (passenger, commercial and heavy vehicles, including spoil management movements), construction worker parking, the nature of existing traffic on construction access routes (including consideration of peak traffic times and sensitive road users, including emergency vehicles and buses), and the need to close, divert or otherwise reconfigure elements of the road network associated with construction of the project.</p>	<p>Operational implications for public transport are assessed in Section 7.1.4 and Appendix E.</p>
<p>A strategy for managing construction traffic impacts, with a particular focus placed on those activities identified as having the greatest potential for adverse traffic flow, capacity or safety implications, and a broader, more generic approach developed for day-to-day traffic management.</p>	<p>Construction traffic impacts including the identification of haulage routes and construction vehicle numbers are assessed in Section 7.1.4 and Appendix E.</p>
<p>Consideration of the cumulative construction impacts on residents/businesses taking into account other infrastructure projects that have either commenced construction, are preparing for construction or have recently been completed.</p>	<p>Measures to manage and mitigate construction traffic impacts are provided in Section 7.1.5 and Appendix E.</p>
Noise and vibration	
<p>An assessment of the noise impacts of the project during operation, consistent with the <i>Road Noise Policy (EPA, 2011)</i> and <i>NSW Industrial Noise Policy (EPA, 2000)</i>. The assessment must include specific consideration of impacts to</p>	<p>Operational traffic noise assessment consistent with the Road Noise Policy is provided in Section 7.2.4.</p>

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<p>receivers (dwellings, child care centres, educational establishments, hospitals, motels, nursing homes, or places of worship), including specific consideration of sleep disturbance and, as relevant, the characteristics of noise (eg. low frequency noise), and identify reasonable and feasible mitigation measures.</p>	<p>Operational noise assessment from surface ancillary facilities consistent with the NSW Industrial Noise Policy is provided in Section 7.2.4.</p> <p>Feasible and reasonable mitigation measures are identified in Section 7.2.5.</p>
<p>An assessment of construction noise and vibration impacts, consistent with the <i>Interim Construction Noise Guideline</i> (DECCW, 2009) and <i>Assessing Vibration: a technical guideline</i> (DEC, 2006). The assessment must have regard to the nature of construction activities (including transport, tonal or impulsive noise-generating works and the removal of operational noise barriers, as relevant), the intensity and duration of noise and vibration impacts, the nature, sensitivity and impact to potentially affected receivers, the need to balance timely conclusion of noise and vibration-generating works with periods of receiver respite, and other factors that may influence the timing and duration of construction activities (such as traffic management), and mitigation and management measures. The assessment should present, as relevant, an indication of potential for works outside standard working hours, including predicted levels and exceedences, justification for the activity and discussion of available mitigation and management measures.</p>	<p>Construction noise and vibration impact assessment consistent with the Interim Construction Noise Guideline and Assessing Vibration: a technical guideline is provided in Section 7.2.4.</p> <p>The assessment considers the potential for works outside of standard construction hours, including tunnelling and associated support work, and spoil haulage.</p> <p>Feasible and reasonable mitigation measures are identified in Section 7.2.5.</p>
<p>Consideration of the nature and duration of construction noise and vibration impacts of the project, in terms of a continuance of these impacts from the recently completed M2 Upgrade project, on residents located adjacent to the Hills M2 Motorway between Windsor Road and Pennant Hills Road.</p>	<p>Consideration of the continuance of noise and vibration impacts of the project and the recently completed Hills M2 Motorway Upgrade project is provided in Section 7.2.4.</p>
Air quality	
<p>An assessment of construction and operation activities that have the potential to impact on local and regional air quality. The assessment should provide an assessment of the risk associated with potential discharges of fugitive and point source emissions, and include:</p>	<p>Operational and construction air quality impacts, including construction activities with the potential to impact on air quality, are identified and addressed in Section 7.3.4 and Appendix G.</p>
<ul style="list-style-type: none"> • details of the proposed methods to minimise adverse impacts on air quality during construction, particularly in relation to mobile plant, 	<p>Measures to manage and mitigate construction air quality impacts are provided in Section 7.3.5 and Appendix G.</p>
<ul style="list-style-type: none"> • air quality impact assessment and air dispersion modelling conducted in accordance with the <i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW</i> (EPA, 2005) where there is a risk of adverse air quality impacts, or where there is sufficient uncertainty as to the potential level of risk, including a particle assessment addressing PM10 and PM2.5 values, consideration of impacts from dispersal of TSP, CO, NO₂ and other nitrogen oxides, volatile organic compounds (eg BTEX), details of the proposed mitigation measures to address air quality in tunnels and in the vicinity of portals and any mechanical ventilation systems (ie ventilation stacks), including details of proposed monitoring, 	<p>Detailed description of the methodology of the air quality assessment, including description of modelling is provided in Section 7.3.2 and Appendix G.</p> <p>Measures to manage and mitigate air quality during operation are provided in Section 7.3.5 and Appendix G.</p>

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<ul style="list-style-type: none"> consideration of the requirements of <i>Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards</i> (enHealth, 2012), and 	Requirements of these guidelines are discussed in Section 7.4 (Human health) and Appendix H .
<ul style="list-style-type: none"> take into account any applicable advice provided by the Independent Advisory Committee on Tunnel Air Quality. 	Engagement with the Independent Advisory Committee on Tunnel Air Quality is discussed in Section 7.3.2 and Appendix G .
Soil and water	
<p>An assessment of construction and operational erosion and sediment and water quality impacts, taking into account impacts from both accidents and runoff (i.e. acute and chronic impacts), having consideration to impacts to surface water runoff, soil erosion and sediment transport, mass movement, and urban and regional salinity. The assessment of water quality impacts is to have reference to relevant public health and environmental water quality criteria, including those specified in the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (ANZECC/ARMCANZ 2000), and any applicable regional, local or site-specific guidelines.</p>	<p>Construction and operational ground water quality impacts are addressed in Section 7.8.3.</p> <p>Surface water impacts, including erosion and sedimentation, are addressed in Section 7.9 (Surface water).</p>
<p>Groundwater impacts as a result of the project (including ancillary facilities such as the tunnel control centre and any deluge systems), considering local impacts along the length of the tunnels and impacts on local and regional hydrology. The assessment must consider: extent of drawdown; impacts to groundwater quality; discharge requirements; location and details of groundwater management and implications for groundwater-dependent surface flows, groundwater-dependent ecological communities, and groundwater users. The assessment should be prepared having consideration to the requirements of the NSW Aquifer Interference Policy.</p>	<p>Groundwater impacts are assessed in Section 7.8.3.</p> <p>Details regarding the treatment and discharge of tunnel groundwater, a depiction of the overall water management strategy for the project, and an assessment of the hydrological changes from the loss of surface water flows are provided in Section 7.9 (Surface water).</p> <p>The implications for groundwater dependent ecological communities are assessed in Section 7.6 (Biodiversity).</p>
<p>A Spoil Management Strategy detailing how spoil will be managed during construction, including likely volumes, likely nature and classification of excavated material, opportunities for recycling, potential disposal sites, stockpile management, and method of transportation.</p>	<p>A Spoil Management Strategy is provided in Section 8.3 (Resource management and waste minimisation).</p>
Community liaison	
<p>A Community Communication Framework for construction, identifying relevant stakeholders, procedures for distributing information and receiving/responding to feedback and procedures for resolving community complaints during construction. Key issues that should be addressed in the draft framework should include (but not necessarily be limited to):</p> <ul style="list-style-type: none"> air quality monitoring and management, traffic management (including property access, pedestrian access), landscaping/urban design matters, construction activities including out of hours work, and noise and vibration mitigation and management. 	<p>A Community Communication Framework is provided in Appendix D.</p>
Urban design and visual amenity	
<p>A consideration of the urban design and visual amenity implications of the project, including supporting infrastructure,</p>	<p>Potential impacts to visual amenity during the construction and</p>

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during construction and operation. The assessment must identify urban design and landscaping objectives and must demonstrate how the proposed urban design elements of the project would be consistent with the existing and desired future character of the area.	operation phase are provided in Section 7.5.5 . Urban design and landscaping objectives are provided in Section 7.5.4 and Appendix I . Consideration of the existing and desired future character of the area is provided in Section 7.5.2 and Section 7.5.5 .
Identification and evaluation of the visual impacts and urban design aspects of the project (and its components) on surrounding areas.	Consideration and assessment of potential visual impacts is provided in Section 7.5.5 .
A consideration of impacts on views and vistas, streetscapes, key sites and buildings.	Consideration and assessment of potential visual impacts is provided in Section 7.5.5 .
Measures to manage lighting impacts both during construction and operation.	Management and mitigation measures for lighting during construction and operation are provided in Section 7.5.6 .
Artist's impressions and perspective drawings of the proposal from a variety of locations along the route.	Artist's impressions of the project are provided in Section 7.5.5 and Appendix I .
Biodiversity	
<p>An assessment of the potential ecological impacts of the project, with specific reference to vegetation and habitat clearing, connectivity, edge effects, weed dispersal, bushfire risk, riparian and aquatic habitat impacts and soil and water quality impacts. The assessment must:</p> <ul style="list-style-type: none"> • Make specific reference to impacts on threatened species and endangered ecological communities. • Have reference to the <i>Draft Guidelines for Threatened Species Assessment</i> (DEC/DPI, 2005), <i>Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities</i> (DEC), the <i>Guidelines for Aquatic Habitat Management and Fish Conservation</i> (DPI, 1999) and any relevant draft or final recovery plans. • Include details of any off-set measures that may be required, including demonstration that the measures are consistent with the <i>NSW offset principles for major projects (state significant development and state significant infrastructure)</i> (OEH, 2013). 	<p>Identification and assessment of potential ecological impacts including impacts on threatened species and endangered ecological communities is provided in Section 7.6.3.</p> <p>Offset measures are provided in Section 7.6.4.</p> <p>Additional detail regarding ecological impacts is provided in Appendix J – Technical working paper: biodiversity.</p>
Land use, property and socio-economic	
Impacts on directly affected properties and land uses, including impacts related to access, land use, property acquisition and amenity related changes.	<p>Impacts to properties, land use, property acquisition and amenity impacts provided in Section 8.1.2.</p> <p>Further details regarding amenity related changes are provided in Section 7.1 (Traffic and transport), Section 7.2 (Noise and vibration) and Section 7.3 (Air quality).</p>

General Requirements	Section in EIS
Social and economic impacts to businesses along Pennant Hills Road and the Pacific Highway, and the community associated with traffic, access, property, public domain and amenity related changes.	<p>Social and economic impact assessment in Section 7.7.3 including consideration of traffic, access, property, public domain and amenity related changes.</p> <p>Additional assessments are also provided as follows:</p> <ul style="list-style-type: none">• Traffic and access impacts in Section 7.1.• Property impacts in Section 8.1.• Amenity impacts in Section 7.2 (Noise and vibration), Section 7.3 (Air quality) and Section 7.5 (Urban design, landscape character and visual amenity).
Aboriginal cultural heritage	
An assessment of the potential Aboriginal cultural heritage impacts of the project, including an assessment of objects, places of significance, natural and landscape values of the corridor and surrounding area, taking into account the <i>Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation</i> (DEC, July 2005).	Assessment of Aboriginal cultural heritage impacts is provided in Section 7.11.3 .
Demonstrate effective consultation with Aboriginal communities in determining and assessing impacts and developing and selecting options and mitigation measures (including the final proposed measures).	Consultation with Aboriginal heritage stakeholders is provided in Section 7.11.1 .
	Further details are provided in Appendix M – technical working paper: Aboriginal heritage.
Historic heritage	
An assessment of direct and/or indirect impacts to state and local heritage. Where impacts to State or locally significant historic heritage is identified, the assessment shall: <ul style="list-style-type: none">• Outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the guidelines in the <i>NSW Heritage Manual</i> (Heritage Office and Department of Urban Affairs and Planning 1996).• A statement of heritage impact for all heritage items/areas to be impacted (including significance assessment).• Consider the impacts from vibration, demolition, altered historical arrangements and access, and architectural noise treatment.	Potential direct and indirect impacts to non-Aboriginal heritage items are identified in Section 7.10.3 .
	Proposed mitigation and management measures are identified in Section 7.10.4 .
	Appendix L – Technical working paper: non-Aboriginal heritage.
Consultation	
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with:	Information regarding consultation carried out during the environmental impact statement is provided in this chapter.
<ul style="list-style-type: none">• Local, State and Commonwealth government authorities, including the:<ul style="list-style-type: none">– Environment Protection Authority;– NSW Health;– Office of Environment and Heritage (including Heritage Division);	Consultation with government authorities is described in Section 6.3 and Section 6.4 .
	Issues raised by government agencies are identified in

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<ul style="list-style-type: none"> - NSW Office of Water; - Department of Primary Industries; - The Hills Shire Council; - Hornsby Shire Council; and - Ku-ring-gai Municipal Council. 	Table 6-6 and issues raised by local councils are identified in Table 6-7 .
<ul style="list-style-type: none"> • specialist interest groups, including Local Aboriginal Land Councils, Aboriginal stakeholders; 	<p>Consultation with Aboriginal stakeholders is described in Section 6.3.2 and Section 6.4.4.</p> <p>Further details are provided in Section 7.11 and the technical working paper: Aboriginal heritage (Appendix M).</p>
<ul style="list-style-type: none"> • emergency services; 	<p>Consultation with emergency services is described in Section 6.3.</p>
<ul style="list-style-type: none"> • utilities and service providers; and 	<p>Consultation with utility and service providers is described in Section 6.3.</p>
<ul style="list-style-type: none"> • the public, including community groups and adjoining and affected landowners. 	<p>Consultation with the public, including community groups and adjoining and affected landowners is described in Section 6.3.</p>
<p>The EIS must describe the consultation process and the issues raised, and identify where the design of the infrastructure has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</p>	<p>The consultation process, the issues raised, and where in the environmental impact statement these issues have been addressed is provided in Section 6.3 and Section 6.4.</p>

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