

Division 5.2 and EPBC Act Approval

Appendix B: Secretary's environmental assessment requirements

Proposed changes between Eaton Road, Luddenham
and Littlefields Road, Luddenham

**The Northern Road Upgrade – Mersey Road,
Bringelly to Glenmore Parkway, Glenmore Park**

December 2018



Transport
Roads & Maritime
Services

Appendix B: Secretary's Environmental Assessment Requirements

Requirement	Where addressed
<p>The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 the <i>Environmental Planning and Assessment Regulation 2000</i>.</p> <p>Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include:</p> <ul style="list-style-type: none"> adequate baseline data; consideration of potential cumulative impact due to other development in the vicinity; and measures to avoid, minimise and if necessary, offset the predicted impact, including detailed contingency plans for managing any significant risks to the environment. 	<p>The environmental assessment Sections (sections 5.2 to 5.7) provide a brief summary of the baseline data in the EIS and any supplementary information if appropriate.</p> <p>Cumulative impact is addressed in Table 5-1.</p> <p>Mitigation measures are included in Section 5 and a summary of new mitigation measures proposed included in Section 6.2.</p>
Statutory and Strategic Context	
<p>A statement of the objectives of the proposal, including a description of the strategic need, justification, objectives and outcomes for the proposal, 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>A Plan for Growing Sydney</i> (December 2014) and any other relevant plans.</p>	<p>The relevant objectives of The Northern Road Upgrade project are set out in Section 1.3.</p> <p>The strategic need and justification for the modification and potential options considered are included in Sections 2.3 and 2.4 respectively.</p> <p>The legislative and planning framework is considered in Section 3.</p>
<p>An analysis of feasible alternatives to the carrying out of the proposal and proposal justification, including:</p> <ul style="list-style-type: none"> an analysis of alternatives/options considered having regard to the proposal's objectives (including an assessment of the beneficial and detrimental environmental impact of the proposal relative to alternatives and the consequences of not carrying out the proposal), 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 proposal is in the public interest, and justification for the preferred proposal taking into consideration the objects of the <i>Environmental Planning and Assessment Act 1979</i>. 	<p>Alternatives for the proposed modification are set out in Section 2.4.</p>

Requirement	Where addressed
<p>A detailed description of the proposal, including:</p> <ul style="list-style-type: none"> the proposed route, design of the alignment (vertical and horizontal), associated structures (such as bridges, arches and culverts), interchanges, and road user, pedestrian and cyclist facilities (including street furniture, lighting and intersection crossing treatments), land use changes, including resumption of residential, commercial, industrial and recreational lands, and impact to Crown land, interactions with key utilities and services, location and operational requirements of construction ancillary facilities and access tracks, and relationship and/or interaction with existing public and freight transport services (including air, rail, and bus services). 	<p>A detailed description of the proposed modification is provided in Section 2.2.</p>
<p>An analysis of the proposal, 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 impact) and/or in developing management/ mitigation measures.</p>	<p>Land use matters relating to socio-economic effects and cumulative effects have been addressed in Table 5-1.</p>
<p>Details of how the proposal integrates with approved and proposed infrastructure projects, including consideration of the proposed Western Sydney Airport at Badgerys Creek and future (M9) Outer Sydney Orbital.</p>	<p>Section 1.1 states that proposed modification comprises part of The Northern Road Upgrade. The approved project's integration with other proposed and approved infrastructure was assessed in the EIS and SPIR and Final EIS. The proposed modification would not alter the approved project's integration with such other infrastructure and, thus, the information presented in the EIS and SPIR and Final EIS remains unchanged and has not been considered further within this report.</p>
<p>Details of how the principles of ecologically sustainable development will be incorporated in the design, construction and ongoing operation phases of the proposal.</p>	<p>The principles of ecologically sustainable development (ESD) were incorporated into the approved project construction methods and design detailed in the EIS. The proposed project modifications do not significantly alter construction methods or design aspects related to ESD.</p>

Requirement	Where addressed
Traffic and Transport	
<p>Details of how:</p> <ul style="list-style-type: none"> the preferred alignment, design and staging, the proposed intersections, interchanges and connections to the surrounding road network, and associated road infrastructure facilities, meet the traffic and transport objectives of the proposal, taking into account the after local and regional issues: nearby sensitive land uses, the proposed Western Sydney Airport, transport connectivity to and from existing communities and centres (such as South West Growth Centre), future growth areas, the Broader Western Sydney Employment Area, approved and proposed infrastructure projects (including other proposed upgrades of The Northern Road, Bringelly Road Upgrade Stages 1 and 2, and the proposed M12 Motorway between M7 and The Northern Road), traffic (vehicular, cyclist and pedestrian) needs. 	<p>The traffic impact for the construction and operations of the proposed modification is assessed in Section 5.2.3.</p>
Impact on the local and regional road network, and M4 Western Motorway, including an assessment of road user safety, and discussion of the currency of baseline traffic and transport data.	Traffic impacts during construction and operation have been identified in Section 5.2.3.
A detailed assessment of public transport impact and opportunities, including a summary of bus routes that would utilise the proposed bus lanes.	As identified in Section 5.2.3, there are limited impact to public transport.
An assessment of potential impact the proposal may have on aviation associated with the proposed Western Sydney Airport.	The approved project design has been undertaken based on requirements to conform to restrictions associated with height and visibility in close proximity to the Western Sydney Airport. The proposed project modifications do not significantly alter these design aspects and as such this has not been considered further.
An assessment of impact on cyclist and pedestrian access and safety, and description of proposed cyclist and pedestrian routes, having consideration of opportunities to integrate cycleway and pedestrian elements with surrounding networks and facilitate connectivity between existing communities and with proposed future land uses.	Cyclist and pedestrian access routes are addressed in Table 5-1 (relating to socio-economic impact) and Table 5-2 (relating to active transport) for both construction and operation.

Requirement	Where addressed
<p>Construction traffic and transport impact of the proposal (including ancillary facilities) and associated management measures, in particular:</p> <ul style="list-style-type: none"> • impact to the road network (including safety and level of service, pedestrian and cyclist access, and disruption to public transport services and access to properties), • access and route identification and scheduling of transport movements, • the number, frequency and size of construction related vehicles (passenger, commercial, heavy and oversized vehicles), • effects on commercial and industrial access, including staff and customer parking, • the nature of existing traffic on construction access routes (including consideration of peak traffic times), and • the need to close, divert or otherwise reconfigure elements of the road network associated with construction of the proposal, having reference to the cumulative construction impact of other major projects preparing for or commencing construction. 	<p>There would be no substantial change to the construction methodology and therefore traffic impact. This has been stated in Section 5.2.3.</p>
Noise and vibration	
<p>An assessment of the noise impact of the proposal during operation, consistent with the <i>Road Noise Policy</i> (EPA 2011), <i>NSW Industrial Noise Policy</i> (EPA 2000) and relevant guidelines. The assessment must include specific consideration of impact to receivers (such as, but not limited to, dwellings, child and aged care centres, educational establishments, hospitals, motels, nursing homes, places of worship, or recreation), including specific consideration of sleep disturbance and, as relevant, the characteristics of noise (e.g. low frequency noise), and identify reasonable and feasible mitigation measures.</p>	<p>An operational noise assessment is provided in full in Appendix B and summarised in Section 5.3.</p>
<p>An assessment of construction noise and vibration impact, 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 work and the removal of operational noise barriers, as relevant), the intensity and duration of noise and vibration impact, cumulative effects of construction work undertaken concurrently, the nature, sensitivity and impact to potentially affected receivers, the need to balance timely conclusion of noise and vibration-generating work 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;</p>	<p>A construction noise assessment is provided in full in Appendix B and summarised in Section 5.3.</p>

Requirement	Where addressed
If blasting is required, addressing the relevant requirements of Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZECC 1990).	As per the approved project, no blasting is required; therefore, this is not considered applicable to the proposed modification.
If relevant, an indication of potential for works outside standard working hours, including predicted levels and exceedances, justification for the activity and discussion of available mitigation and management measures.	No work are expected outside standard working hours. Therefore, this is not applicable to the proposed modification.
Hydrology, Soils and Water	
Impacts on watercourses, surface water flows (including stormwater drainage systems), quality, quantity, availability and users (commercial and recreational), with particular reference to any likely impacts on surrounding water bodies and their catchments, wetlands and their habitats, including how these are to be monitored.	An assessment of impact on watercourses and flows during construction and operation is provided in Section 5.5. Wetland habitat has been identified and assessed in Section 5.4.
An assessment of construction 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 spoil and waste management. 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), any applicable regional, local or site-specific guidelines, water quality objectives, and any licensing requirements.	An assessment of construction impact on water quality is provided in Section 5.6.
Assessment of waterways to be modified as a result of the proposal, including ecological, hydrological and geomorphic impacts (as relevant), including temporary crossings, and measures to rehabilitate the waterways to preconstruction conditions or better, including fish passage requirements consistent with <i>Policy and Guidelines for Fish Friendly Waterway Crossings</i> (DPI 2004).	Ecological impact is considered in Section 5.4. Hydrological and geomorphic impact is considered in Section 5.5.
Groundwater impact taking into consideration impact associated with geotechnical ground treatments, dewatering, deep cuttings and fill locations, and cumulative impact on regional hydrology. The assessment shall consider, where relevant, the extent of drawdown, impacts to groundwater characteristics, quality, quantity, and connectivity, groundwater flow direction and levels, discharge and recharge rates, and implications for water courses, groundwater users, groundwater dependent ecosystems, riparian areas and wetlands. The assessment should be prepared having consideration to the NSW Aquifer Interference Policy.	Consideration of groundwater impact during construction and operation is provided in Table 5-1 .

Requirement	Where addressed
Measures to manage, monitor and/or mitigate impact.	Mitigation measures have been identified in Sections 5.5.4 and 5.6.4
Identification of potential impact and benefits of the proposal on existing flood regimes, consistent with the <i>Floodplain Development Manual</i> (Department of Natural Resources 2005), with an assessment of the potential changes to flooding behaviour (levels, velocities and direction) and impact on bed and bank stability, through flood modelling, and proposed management and mitigation measures.	An assessment on flood regimes and flooding behaviour is provided in Section 5.5.3.
Identifying potential impact of the development on acid sulfate soils in accordance with the relevant guidelines and a description of the mitigation measures proposed to minimise potential impact.	As per the EIS, Section 5.6.2 states that acid sulfate soils are not considered to be a risk to the project.
An overview of spoil management processes for the proposal, including consideration of the indicative cut/fill balance and reuse options for spoil generated by the proposal.	Management measures are considered in Section 5.6.4.
A contaminated lands assessment in accordance with relevant guidelines.	An assessment of contaminated land is provided in Section 5.6.3.
Social and economic	
Impact on directly affected properties and land uses, including impact related to access and severance, existing and proposed land uses, property acquisition and amenity related changes;	The impact on directly affected properties is set out in Table 5-1 in Section 5.1.
Social and economic impact to the community and businesses in the vicinity of the proposal (including agricultural businesses), associated with traffic, access, property, public domain and amenity related changes.	Social and economic impact are considered in Table 5-1 of Section 5.1.
<p>A draft Community Involvement Plan for the work, 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 Plan should include (but not necessarily be limited to):</p> <ul style="list-style-type: none"> • traffic management (including property access and pedestrian access), and • noise and vibration mitigation and management, including work outside standard construction hours. 	The Community Consultation Strategy is described in Section 4.

Requirement	Where addressed
Urban design and visual amenity	
<p>Including:</p> <ul style="list-style-type: none"> • a consideration of the urban design and visual amenity implications of the proposal, including supporting infrastructure, during construction and operation; • a consideration of impact on views and vistas (including impact on extant views to the eastern escarpment of the Blue Mountains), streetscapes, existing significant vegetation, key sites and buildings; • measures to ameliorate visual impact during construction and operation; and • measures to manage lighting impact during construction and operation. 	<p>The full Urban Design and Landscape Character and Visual Impact Assessment report is provided in Appendix D and summarised in Section 5.7. It addresses impact during both construction and operation.</p>
Heritage	
<p>Including:</p> <ul style="list-style-type: none"> • impact to <i>State and local historic heritage</i> (including conservation areas, built heritage, landscapes and archaeology) should be assessed. Where impact to State or locally significant historic heritage are identified, the assessment shall: <ul style="list-style-type: none"> • be undertaken by a suitably qualified heritage consultant(s) with relevant heritage expertise (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria), • include a statement of heritage impact for all heritage items/conservation areas to be impacted (including significance assessment). This should include detailed mapping of all heritage items and how they are affected by the proposal, • include details of any proposed mitigation measures (architectural and landscape), • consider impact from, including but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, landscape and vistas, and architectural noise treatment (as relevant), • detail proposed mitigation and management measures (including measures to avoid significant impact and an evaluation of the effectiveness of the mitigation measures), which are developed consistent with the guidelines in the <i>NSW Heritage Manual</i> (Heritage Office and DUAP 1996), • include provision of future mitigation strategies for all identified archaeological impact that would arise from the proposal, and • where physical archaeological test excavations are proposed, develop an appropriate archaeological assessment methodology, including research design, in 	<p>As described in Table 5-1, there would be no additional potential impact to heritage than those described in the SPIR and Final EIS during construction and operation.</p>

Requirement	Where addressed
<p>consultation with the Heritage Council of New South Wales (for items of State significance) and the Department, to guide the test excavations, and include the results of these excavations; and</p> <ul style="list-style-type: none"> Impact to <i>Aboriginal heritage</i> (including cultural and archaeological significance), in particular impact to Aboriginal objects and potential archaeological deposits (PAD), should be assessed. The assessment shall be undertaken generally consistent with the <i>Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW</i> (OEH 2011) and related guidelines and requirements (while taking into account s.115ZG of the EP&A Act). Where impact are identified, the assessment shall: <ul style="list-style-type: none"> be undertaken by a suitably qualified heritage consultant(s), demonstrate effective consultation with Aboriginal communities in determining and assessing impact and developing and selecting options and mitigation measures (including the final proposed measures) generally consistent with the <i>Aboriginal cultural heritage consultation requirements for proponents 2010</i> (DECCW 2010), undertake appropriate archaeological investigations generally in accordance with the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW 2010), to establish the full spatial extent and significance of any archaeological evidence across each site/area of PAD, and include the results of these excavations. If an alternative excavation method is proposed, it shall be developed in consultation with Office of Environment and Heritage, assess and document the archaeological and cultural significance of cultural heritage values of affected sites, and <ul style="list-style-type: none"> detail proposed mitigation and management measures (including measures to avoid significant impact and an evaluation of the effectiveness of the mitigation measures). 	
Biodiversity	
<p>An assessment of impact on biodiversity, including terrestrial and aquatic ecology, and riparian corridors, in accordance with the <i>Framework for Biodiversity Assessment</i> (unless otherwise agreed by OEH) and the <i>Policy and Guidelines for Fish Habitat Conservation and Management—Update 2013</i> (NSW Department of Primary Industries 2013). The assessment is to be conducted by a person accredited in accordance with s142B(1)(c) of the <i>Threatened Species Conservation Act 1995</i>. Note: This includes a requirement for a Biodiversity Assessment Report and a Biodiversity Offset Strategy.</p>	<p>The assessment of impact on biodiversity during construction and operation is provided in Section 5.4.</p>

Requirement	Where addressed
Air quality	
<p>Including:</p> <ul style="list-style-type: none"> • potential for impact on local and regional air quality, including sensitive receivers; and • details of the proposed mitigation measures to prevent the generation and emission of dust. 	<p>As set out in Table 5-1, there would be no additional impact to air quality during construction or operation than those described in the SPIR and Final EIS.</p>
Resources and sustainability	
<p>Including:</p> <ul style="list-style-type: none"> • outline of waste management for the proposal, including consideration of the waste hierarchy; and • discussion of how the principles of sustainability have been incorporated into the assessment of the proposal. 	<p>Resources and sustainability are considered in Table 5-1 of Section 5.1.</p>
<p>Environmental Risk Analysis — notwithstanding the above assessment requirements, the EIS must include an environmental risk analysis to identify potential environmental impact associated with the proposal (construction and operation), proposed mitigation measures and potentially significant residual environmental impact after the application of proposed mitigation measures. Where additional key environmental impact are identified through this environmental risk analysis, an appropriately detailed impact assessment of this additional key environmental impact must be included in the EIS.</p>	<p>Section 5 assesses all potential environmental impact associated with the modified proposal, as per the EIS chapters. The assessment is not limited to addressing the SEARs.</p>

Requirement	Where addressed
Consultation	
<p>During the preparation of the EIS, you must consult with the relevant local, State and Commonwealth Government authorities, service providers, community groups and affected landowners.</p> <p>In particular you must consult with:</p> <ul style="list-style-type: none"> • local, State and Commonwealth Government authorities, including the: <ul style="list-style-type: none"> • Environment Protection Authority, • Office of Environment and Heritage (including Heritage Division), • Department of Primary Industries, • NSW Office of Water, • Water NSW, • Civil Aviation Safety Authority, • Airservices Australia, where known, the operator of the proposed Western Sydney Airport, • Department of Defence, • Ministry of Health, including the South Western Sydney and Nepean Blue Mountains Local Health Districts, • Liverpool City Council, • Penrith City Council, and • emergency services. • specialist interest groups, including local sporting groups, Aboriginal stakeholders, and pedestrian and bicycle user groups; • utilities and service providers; and • the public, including community groups, businesses, and adjoining and affected landowners. <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>Consultation carried out to date is summarised in Section 4.</p>



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