Secretary's Environmental Assessment Requirements

Application Number	SSI 6148 (Mod 2)
Proposal	WestConnex M4 Widening – Westbound Off-ramp to Hill Road
Location	M4 Motorway and Hill Road, Lidcombe
Proponent	Roads and Maritime Services
Date of Issue	11 April 2019

General SEARs

Desired Performance Outcome	Requirement	Current Guidelines[1]
1. Modification Report The modification is described in sufficient detail to enable clear understanding that the modification has been developed through an iterative process of impact identification, assessment and refinement to avoid, minimise or offset impacts so that the modification, on balance, has the least adverse environmental, social and economic impact, including its cumulative impacts.	1. The modification report must include, but not necessarily be limited to, the following: (a) executive summary; (b) a description of the modification, including all components and activities (including ancillary components and activities) required to construct and operate it; (c) a statement of the objective(s) of the modification, including how it meets the objectives of the overall WestConnex program; (d) a summary of the strategic need for the modification with regard to its critical State significance and relevant State Government policy; (e) a description of how alternatives to and options were analysed to inform the selection of the preferred option; (f) a concise description of the general biophysical and socio-economic environment that is likely to be impacted by the modification (including offsite impacts). Elements of the environment that are not likely to be affected by the modification do not need to be described; (g) a demonstration of how the design has been developed to avoid or minimise likely adverse impacts; (h) the identification and assessment of key issues as provided in the 'Assessment of Key Issues' performance outcome; (i) a statement of the outcome(s) the Proponent will achieve for each key issue; (j) measures to avoid, minimise or offset impacts must be linked to the impact(s) they treat, so it is clear which measures will be applied to each impact; (k) consideration of the interactions between measures proposed to avoid or minimise impact(s), between impacts themselves and between measures and impacts;[2] (l) an assessment of the cumulative impacts of the modification taking into account other projects that have been approved but where construction has not commenced, projects that have commenced construction, and projects that have recently been completed; (m) statutory context of the modification as a whole, including: – how the modification meets the provisions of the EP&A Act and EP&A Regulation; and – a list of any approvals that must be obtained under any other Act or law before the modification may lawfully be carried out.	

[1] Guidelines listed are the current list of guidelines that may be applicable to a CSSI project. It is the Proponents responsibility to identify, and justify, which guidelines have been applied to a specific project.

[2] Measures proposed to avoid or minimise one impact may cause an unintended impact on another issue. Therefore, these impacts and their interactions need to be analysed and resolved where possible.

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	(n) relevant modification plans, drawings, diagrams in an electronic format that enables integration with mapping and other technical software. 2. The modification report must only include data and analysis that is reasonably needed to make a decision on the proposal. Relevant information must be succinctly summarised in the modification report and included in full in appendices. Irrelevant, conflicting or duplicated information must be avoided.	
2. Assessment of Key Issues Key issue impacts are assessed objectively and thoroughly to provide confidence that the modification will be constructed and operated within acceptable levels of impact.	1. The level of assessment of likely impacts must be proportionate to the significance of, or degree of impact on, the issue, within the context of the proposal location and the surrounding environment. The level of assessment must be commensurate to the degree of impact and sufficient to ensure that the Department and other government agencies are able to understand and assess impacts. 2. For each key issue the Proponent must: (a) describe the biophysical and socio-economic environment, as far as it is relevant to that issue; (b) describe the legislative and policy context, as far as it is relevant to the issue; (c) identify, describe and quantify (if possible) the impacts associated with the issue, including the likelihood and consequence (including worst case scenario) of the impact (comprehensive risk assessment), and the cumulative impacts; (d) demonstrate how potential impacts have been avoided (through design, or construction or operation methodologies); (e) detail how likely impacts that have not been avoided through design will be minimised, and the predicted effectiveness of these measures (against performance criteria where relevant); and (f) detail how any residual impacts will be managed or offset, and the approach and effectiveness of these measures. 3. Where multiple reasonable and feasible options to avoid or minimise impacts are available, they must be identified and considered and the proposed measure justified taking into account the public interest.	
3. Consultation The modification is developed with meaningful and effective engagement during modification design and delivery.	1. The modification must be informed by consultation, including with relevant State and local government agencies, infrastructure and service providers, special interest groups (including pedestrian and bicycle user groups), affected landowners, businesses and the community. 2. The Proponent must document the consultation process and demonstrate how the modification has responded to the inputs received.	

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	3. The Proponent must describe the timing and type of community consultation proposed during the design and delivery of the modification, the mechanisms for community feedback, the mechanisms for keeping the community informed, and procedures for complaints handling and resolution.	

Key Issue Standard SEARs

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
1. Transport and Traffic Network connectivity, safety and efficiency of the transport system in the vicinity of the modification are managed to minimise impacts. The safety of transport system customers is maintained. Impacts on network capacity and the level of service are effectively managed. Works are compatible with existing infrastructure and future transport corridors.	1. The Proponent must assess construction transport and traffic (vehicle, pedestrian and cyclists) impacts, including, but not necessarily limited to: (a) a considered approach to route identification and scheduling of construction vehicle movements, with particular consideration of traffic impacts and transport movements outside standard construction hours; (b) the indicative number, frequency and size of construction related vehicles (passenger, commercial and heavy vehicles, including spoil management movements); (c) construction worker parking; (d) the nature of existing traffic (types and number of movements) on construction access routes (including consideration of peak traffic times and sensitive road users and parking arrangements); (e) access constraints and impacts on public transport, pedestrians and cyclists; (f) the need to close, divert or otherwise reconfigure elements of the road and cycle network associated with construction of the modification; and (g) impact on traffic and parking at Major Events held in the Sydney Olympic Park.	Guide to Traffic Management – Part 3 Traffic Studies and Analysis (Austroads, 2007) Guide to Traffic Generating Developments Version 2.2 (RTA, 2002) Cycling Aspects of Austroads Guides (Austroads, 2014) NSW Bicycle Guidelines v 1.2 (RTA, 2005) Planning Guidelines for Walking and Cycling (DIPNR, 2004) NSW Sustainable Design Guidelines Version 4.0 (TfNSW, May 2017)

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	2. The Proponent must assess (and model) the operational transport impacts of the modification, including: (a) how the proposal meets the traffic and transport objectives of the proposal, taking into account adjacent sensitive land uses, future growth areas (including but not limited to Priority Precincts at Wentworth Point and Carter Street, Lidcombe), approved and proposed infrastructure projects, and traffic (vehicular, cyclist and pedestrian) needs; (b) forecast travel demand and traffic volumes for the proposal and the surrounding road (local and regional), cycle and public transport networks; (c) travel time analysis; (d) performance of key interchanges and intersections by undertaking a level of service analysis at key locations; (e) operational implications for public transport and consideration of opportunities to improve public transport; (f) impacts on cyclists and pedestrian access and safety; (g) opportunities to integrate cycling and pedestrian elements with surrounding networks and in the proposal area; (h) details of how the modification meets the objectives of the overall WestConnex project; and (i) impact on traffic and parking at Major Events held in the Sydney Olympic Park.	
2. Urban Design The modification design complements the visual amenity, character and quality of the surrounding environment. The modification contributes to the accessibility and connectivity of communities.	1. The Proponent must: (a) Identify design objectives, including consistency with existing (and desired) character of the area (and, where appropriate, the Carter Street Precinct Plan and the amended Development Control Plan (2018) and WestConnex Urban Revitalisation Project); (b) assess the impact of the proposal on the urban and natural fabric; (c) identify design strategies and opportunities to enhance healthy, cohesive and inclusive communities; and	AS4282-1997 Control of the obtrusive effects of outdoor lighting Beyond the Pavement: RMS urban design policy, procedures and design principles (RMS, 2014) Bridge Aesthetics: Design guidelines to improve the appearance of bridges in NSW (RMS, 2012) NSW Sustainable Design Guidelines Version 4.0 (TfNSW, May 2017)

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	(d) describe the rationale for the overall design (length, height, width and appearance) and an assessment of the built form (materials and finishes) and urban design (bulk and scale) of the modification.	Crime prevention and the assessment of development applications (DUAC, 2001) Crime Prevention through Environmental Design (CPTED) (Queensland Government, 2007) Disability (Access to Premises – Buildings) Standards 2010 Technical guideline for Urban Green Cover in NSW Healthy Urban Development *Checklist* (NSW Health, 2009)
3. Visual Amenity The modification minimises adverse impacts on the visual amenity of the built and natural environment (including public open space) and capitalises on opportunities to improve visual amenity).	1. The Proponent must assess the visual impact of the modification and any ancillary infrastructure on: (a) views and vistas; (b) existing and future residential properties adjacent to the modification alignment, adjoining commercial, industrial, cultural and recreational land uses, and significant vantage points in the public domain. The assessment must consider the Carter Street Precinct Plan and Development Control Plan (2018); (c) over-shadowing impacts of the off ramp on existing and proposed public domain, open space, and any commercial uses; (d) heritage items including environmental heritage; and (e) the local community. 2. The Proponent must provide artist impressions and perspective drawings of the modification to illustrate how the modification has responded to the visual impact through urban design and landscaping.	AS4282-1997 Control of the obtrusive effects of outdoor lighting Beyond the Pavement: urban design policy, procedures and design principles (RMS, 2014) Bridge Aesthetics: Design guidelines to improve the appearance of bridges in NSW (RMS, 2012) Technical guideline for Urban Green Cover in NSW (OEH, 2015)
4. Water - Hydrology Impacts on surface water and groundwater hydrology are minimised.	1. The Proponent must describe (and map) the existing hydrological regime for any surface and groundwater resources (including reliance by users and for ecological purposes) likely to be impacted by the modification including rivers and streams (and stream orders), estuaries and wetlands.	Framework for Biodiversity Assessment – Appendix 2 (OEH, 2014)

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The environmental values of affected water sources, groundwater and dependent ecological systems including estuarine and marine water (if applicable) are maintained (where values are achieved) or improved and maintained (where values are not achieved).	2. The Proponent must assess (and model if appropriate) the impact of the construction and operation of the modification and any ancillary facilities (both built elements and discharges) on surface and groundwater hydrology in accordance with the current guidelines, including minimising the effects of proposed stormwater and wastewater management during construction and operation on natural hydrological attributes (such as volumes, flow rates, management methods and re-use options) and on the conveyance capacity of existing stormwater systems where discharges are proposed through such systems.	Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004). NSW Aquifer Interference Policy (DPI, 2012) NSW Sustainable Design Guidelines Version 4.0 (TfNSW, May 2017) Risk assessment Guidelines for Groundwater Dependent Ecosystems (Office of Water, 2012)
5. Water - Quality The modification is designed, constructed and operated to protect the NSW Water Quality Objectives where they are currently being achieved, and contribute towards achievement of the Water Quality Objectives over time where they are currently not being achieved, including downstream of the modification to the extent of the modification impact including estuarine and marine waters (if applicable).	1. The Proponent must: (a) state the ambient NSW Water Quality Objectives (NSW WQO) and environmental values for the receiving waters relevant to the modification, including the indicators and associated trigger values or criteria for the identified environmental values; (b) identify and estimate the quality and quantity of all pollutants that may be introduced into the water cycle by source and discharge point and 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) identify the rainfall event that the water quality protection measures will be designed to cope with; (d) assess the significance of any identified impacts including consideration of the relevant ambient water quality outcomes and impacts on salinity and acid sulfate soils; (e) demonstrate how construction and operation of the modification will, to the extent that the modification can influence, ensure that: – where the NSW WQOs for receiving, waters are currently being met they will continue to be protected, and – where the NSW WQOs are not currently being met, activities will work toward their achievement over time;	NSW Water Quality and River Flow Objectives at http://www.environment.nsw.gov.au/ieo/ Using the ANZECC Guidelines and Water Quality Objectives in NSW (DEC, 2006) Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ ARMCANZ, 2000) Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DECC, 2008) Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) and Volume 2 (D. Main Roads) (DECC, 2008)

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	(f) justify, if required, why the WQOs cannot be maintained or achieved over time; (g) demonstrate that all practical measures to avoid or minimise water pollution and protect human health and the environment from harm are investigated and implemented; (h) identify sensitive receiving environments (which may include estuarine and marine waters downstream) and develop a strategy to avoid or minimise impacts on these environments; and (i) identify proposed monitoring locations, monitoring frequency and indicators of surface and groundwater quality.	
6. Soils The environmental values of land, including soils, subsoils and landforms, are protected. Risks arising from the disturbance and excavation of land and disposal of soil are minimised, including disturbance to acid sulfate soils and site contamination.	1. The Proponent must verify the risk of acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Risk Map) within, and in the area likely to be impacted by, the modification, and assess the impact on acid sulfate soils (including impacts of acidic runoff offsite) in accordance with the current guidelines. 2. The Proponent must assess whether the land is likely to be contaminated and identify if remediation of the land is required, having regard to the ecological and human health risks posed by the contamination in the context of past, existing and future land uses. Where assessment and/or remediation is required, the Proponent must document how the assessment and/or remediation would be undertaken in accordance with current guidelines. 3. The Proponent must assess the impacts of the modification on soil salinity and how it may affect groundwater resources and hydrology. 4. The Proponent must assess the impacts on soil and land resources (including erosion risk or hazard). Particular attention must be given to soil erosion and sediment transport consistent with the practices and principles in the current guidelines.	Acid Sulfate Soils Assessment Guidelines (DoP, 2008) Acid Sulfate Soils Manual (Acid Sulfate Soils Management Advisory Committee, 1998) Managing Land Contamination: Planning Guidelines SEPP 55 –Remediation of Land, (DUAP & EPA, 1998) Guidelines for Consultants Reporting on Contaminated Sites (OEH, reprinted 2011) Guidelines for the NSW Site Auditor Scheme (DEC, 2006) Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015) Urban and regional salinity – guidance given in the Local Government Salinity Initiative booklets (http://www.environment.nsw.gov.au/salinity/solutions/urban.htm) which includes *Site Investigations for Urban* Salinity (DLWC, 2002) Landslide risk management guidelines presented in Australian Geomechanics Society (2007)

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		Soil and Landscape Issues in Environmental Impact Assessment (DLWC, 2000) Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) Other guidelines made or approved under section 105 of the *Contaminated Land Management Act 1997*
7. Biodiversity The modification design considers all feasible measures to avoid and minimise impacts on terrestrial and aquatic biodiversity. Offsets and/or supplementary measures are assured which are equivalent to any remaining impacts of modification construction and operation.	1. The Proponent must assess biodiversity impacts in accordance with the *Biodiversity Conservation Act 2016* (BC Act), the Biodiversity Assessment Method (BAM) and be documented in a Biodiversity Assessment Report (BDAR) unless a BDAR waiver had been sought, where applicable. 2. The BDAR must include information in the form detailed in section 6.12 of the BC Act, clause 6.8 of the *Biodiversity Conservation Regulation 2017*, and the BAM. 3. The BDAR must be submitted with all digital spatial data associated with the survey and assessment as per Appendix 10 of the BAM. 4. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the *Biodiversity Assessment Method Order 2017* under section 6.10 of the BC Act. 5. The BDAR must include details of the measures proposed to address offset obligations. 6. The Proponent must assess any impacts on biodiversity values not covered by the BAM. This includes a threatened aquatic species assessment (Part 7A *Fisheries Management Act 1994* – FM Act) to address whether there are likely to be any significant impacts on listed threatened species, populations or ecological communities listed under the FM Act.	Biodiversity Assessment Method (BAM) (OEH, 2017) Policy and Guidelines for Fish Habitat Conservation and Management – Update 2013 (DPI, 2013) Threatened Species Survey and Assessment Guidelines Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries, 2003) Aquatic Ecology in Environmental Impact Assessment – EIA Guideline (Marcus Lincoln Smith, 2003)

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	7. The Proponent must access impacts on ecological systems such as wetlands, mangrove forests, groundwater dependent ecosystems and riparian vegetation along Haslams Creek and downstream watercourses and waterways. 8. The Proponent must identify whether the modification as a whole, or any component of the modification, would be classified as a Key Threatening Process (KTP) in accordance with the listings in the BC Act, FM Act and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).	
8. Heritage The design, construction and operation of the modification facilitates, to the greatest extent possible, the long-term protection, conservation and management of the heritage significance of items of environmental heritage. The design, construction and operation of the modification avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage.	1. The Proponent must identify and assess any direct and/or indirect impacts (including cumulative impacts) to the heritage significance of: (a) environmental heritage, as defined under the *Heritage Act 1977*; and (b) items listed on the State, National and World Heritage lists. 2. Where impacts to State or locally significant heritage items are identified, the assessment must: (a) include a statement of heritage impact for all heritage items (including significance assessment); (b) consider impacts to the item of significance; (c) outline measures to avoid and minimise those impacts in accordance with the current guidelines; and (d) be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed, the relevant consultant must meet the NSW Heritage Council's Excavation Director Criteria).	NSW Heritage Manual (Heritage Office and Department of Urban Affairs and Planning, 1994) Assessing Heritage Significance (NSW Heritage Office, 2001) The Australia ICOMOS Burra Charter Criteria for the assessment of excavation directors (NSW Heritage Council, 2011) Historical Archaeology Code of Practice (Heritage Council, 2006) Assessing Significance for Historical Archaeological Sites and 'Relics' (Heritage Council, 2009)
9. Noise and Vibration - Amenity Construction noise and vibration (including airborne noise and ground-borne noise) are effectively managed to minimise adverse impacts on acoustic amenity.	1. The Proponent must assess construction and operational noise and vibration impacts in accordance with relevant NSW noise and vibration guidelines. The assessment must include consideration of impacts to sensitive receivers including small businesses, and include consideration of sleep disturbance and, as relevant, the characteristics of noise and vibration (for example, low frequency noise).	Assessing Vibration: a technical guideline (DEC, 2006) Interim Construction Noise Guideline (DECCW, 2009) Noise Policy for Industry (EPA, 2017) Construction Noise Strategy (TfNSW, 2012)

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Increases in noise emissions and vibration affecting nearby properties and other sensitive receivers during operation of the modification are effectively managed to protect the amenity and well-being of the community.		NSW Road Noise Policy (DECCW, 2011) Environmental Noise Management Manual (RMS 2001) Development Near Rail Corridors and Busy Roads – Interim guideline (DoP, 2008) Noise Mitigation Guideline (RMS, 2015) Noise Criteria Guideline (RMS, 2015)
10. Noise and Vibration - Structural Construction noise and vibration (including airborne noise and ground-borne noise) are effectively managed to minimise adverse impacts on the structural integrity of buildings and environmental heritage. Increases in noise emissions and vibration affecting environmental heritage as defined in the *Heritage Act 1977* during operation of the modification are effectively managed.	1. The Proponent must assess construction and operation noise and vibration impacts in accordance with relevant NSW noise and vibration guidelines. The assessment must include consideration of impacts to the structural integrity and heritage significance of items of environmental heritage.	German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures Assessing vibration: a technical guideline (DEC, 2006) BS 7385 Part 2-1993 Evaluation and measurement for vibration in buildings" Part 2
11. Socio-economic, Land Use and Property The modification minimises adverse social and economic impacts and capitalises on opportunities potentially available to affected communities. The modification minimises impacts to	1. The Proponent must assess social and economic impacts. 2. The Proponent must assess impacts from construction and operation on potentially affected properties, businesses, infrastructure, utility services recreational users and land and water users, including property acquisitions/adjustments, access, amenity and relevant statutory rights. 3. The Proponent must assess the impacts on the future urban structure of the Carter Street precinct.	

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property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land use activities, dwellings and infrastructure.	4. The Proponent must provide a Community Consultation and Stakeholder Engagement Plan (consistent with the M4 Widening Community Consultation Framework) identifying relevant stakeholders, procedures for distributing information and receiving/responding to feedback and procedures for resolving community complaints. Key issues that should be addressed in the Plan should include: (a) traffic management (including property access, pedestrian and cyclist access); (b) landscaping/urban design matters; (c) construction activities including out of hours work; and (d) noise and vibration mitigation and management.	
12. Waste All wastes generated during the construction and operation of the modification are effectively stored, handled, treated, reused, recycled and/or disposed of lawfully and in a manner that protects environmental values.	1. The Proponent must assess predicted waste generated from the modification during construction and operation, including: (a) classification of the waste in accordance with the current guidelines; (b) estimates / details of the quantity of each classification of waste to be generated during the construction of the modification, including bulk earthworks and spoil balance; (c) handling of waste including measures to facilitate segregation and prevent cross contamination; (d) management of waste including estimated location and volume of stockpiles; (e) waste minimisation and reuse; (f) lawful disposal or recycling locations for each type of waste; and (g) contingencies for the above, including managing unexpected waste volumes. 2. The Proponent must assess potential environmental impacts from the excavation, handling, storage on site and transport of the waste particularly with relation to sediment/leachate control, noise and dust.	EPA's Waste Classification Guidelines (as in force from time to time) NSW Sustainable Design Guidelines Version 4.0 (TfNSW, May 2017) Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004).