Transport for NSW

Appendix A
SEARs compliance table

NSW GOVERNMENT

A-1 General SEARs

Table A.1 General SEARs

Reference		Requirement	Where addressed
1. Environmental Impact Assessment Process	1.1	The Environmental Impact Statement must be prepared in accordance with Part 3 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation).	Certification page, section 1.4 and Appendix C (Statutory compliance)
	1.2	The EIS must be prepared having regard to the Department's *State Significant Infrastructure Guidelines* and other State Significant Technical Guidelines (the Guidelines), as relevant.	Section 1.4
	1.3	The proposal will impact matters of national environmental significance (MNES) protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and will be assessed in accordance with the bilateral assessment agreement between the Australian and NSW governments *(Amending Agreement No.1 2020)*. The Proponent must assess impacts to MNES protected under the EPBC Act. The assessment must be in accordance with the requirements listed in Attachment A.	Matters of national environmental significance (threatened species and communities) are identified in section 16.2.5. Potential impacts during construction are assessed in section 16.3, operational impacts are assessed in section 16.4. Technical Paper 9 (Biodiversity Development Assessment Report) details the assessment, which was undertaken in accordance with the requirements of Attachment A. The assessment of significance found that the project was not likely to have a significant impact with the exception of the Green and Golden Bell Frog. Offsetting under the bilateral assessment agreement for this species would be undertaken as summarised in section 16.6.3.
	1.4	The onus is on the Proponent to ensure legislative requirements relevant to the proposal are met.	Chapter 4
2. Environmental Impact Statement	2.1	The EIS must include, but not necessarily be limited to, the following: (a) a summary of the proposal as a whole that has regards to the economic, environmental and social impacts of the proposal and the principles of ecologically sustainable development	Executive summary
		(b) an introduction	Chapter 1
		(c) the strategic and project context including: • relevant Government strategies, policies or plans which provide strategic support for the proposal	Chapter 3 and Appendix B (Strategic planning review)
		• regional and local land use planning context	Chapter 3 and Appendix B

Reference	Requirement	Where addressed
	• key features of the project corridor including land uses, land ownership, important features in the natural and built environment	Chapter 2
	• an analysis of any feasible alternatives to the proposal and options within the proposal, including: – details of the short-listed route and bridge options considered, and the criteria that were considered in the selection of the preferred route and bridge design,	Strategic alternatives are described in section 5.2, project corridor (route) options including the criteria considered are described in section 5.3, design and alignment refinements including bridge options and criteria considered are described in section 5.4.
	– a concise description of different construction methods for high risk activities (such as those which pass through environmentally sensitive areas or are significant constructions) including their environmental benefits, that were analysed and preferred methods;	Construction methods for key high-risk activities are considered in section 5.5.
	(d) a project description, including but not limited to:	Chapter 6 describes the proposed design features and how the project would operate. Chapter 7 provides an indicative description of how the project would be constructed.
	• project area,	Section 2.2 and Figures 2.2 to Figure 2.7
	• physical layout and design, including an overview of the proposal in a table that captures the main elements of the proposal and all construction and operational mitigation measures,	Chapter 6 and Table 6.1 provide the overview table.
	• uses and activities, including a description of any related development or infrastructure that is required for the proposal or may be developed as a result of the proposal, but would be subject to a separate approval process,	Not applicable
	• timing and sequencing;	Sections 7.1.2 and 7.5
	(e) the statutory context of the proposal,	Chapter 4 and Appendix C (Statutory compliance)
	(f) the community and agency engagement undertaken and to be undertaken for the proposal, and how this has been addressed in the design of the proposal or the assessment of the impacts of the proposal;	A summary of the engagement undertaken is provided in chapter 8. Further information is provided in Appendix F (Community and Stakeholder Engagement Report).
	(g) the project justification and evaluation having regard to: • the design of the proposal and what action has been taken to avoid or minimise the impacts of the proposal (e.g. objectives of the proposal, alternatives considered, project area, physical layout and design, uses and activities, timing, proposed mitigation measures),	Chapter 24 Section 24.1

Reference		Requirement	Where addressed
		• the consistency of the proposal with the strategic context (e.g. supported by Government policy, consistent with regional plans, avoids impacts on key natural and built features with significant conservation value, provides economic benefits to regional community, the corridor is suitable for the proposal),	Sections 24.1.2 and 24.1.3
		• compliance with any relevant statutory requirements,	Section 24.1.4
		• community views about the proposal and how they have been addressed in the design of the proposal or the assessment of the impacts of the proposal,	Section 24.1.1
		• the scale and nature of the economic, social and environmental impacts of the proposal, including any cumulative impacts, and	Section 24.1.1
		• any key uncertainties associated with the impact assessment and actions proposed to address these.	Section 23.3.1
3. Detailed assessment and mitigation of key impacts	3.1	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.	Chapters in Part C and Technical Papers
	3.2	For each key issue, the EIS must include a summary of the results of the assessment of the potential impacts of the proposal undertaken in detailed studies, including:	Chapters in Part C provide a summary of the results of the assessment undertaken in the technical papers.
		(a) a summary of the condition of the existing environment;	Chapters in Part C
		(b) a summary of the key findings of the detailed technical studies in the appendices of the EIS, using suitable cross-referencing (including hypertext links) to enhance readability and reduce repetition between the two parts of the EIS;	Chapters in Part C
		(c) description of the scale and nature of the predicted impacts, including any cumulative impacts, and whether these impacts will comply with the relevant statutory requirements, standards or performance measures;	Chapters in Part C
		(d) demonstrated ability to avoid, mitigate or offset the impacts of the proposal having regards to: • mitigation measures incorporated into the design of the proposal (e.g. changes to the project area, project layout and design, key uses and activities carried out on site, timing), • other mitigation measures that will be implemented, and • any negotiated agreements or offsets proposed to address residual impacts of the proposal following mitigation;	Chapters in Part C
		(e) detailed reasons justifying any predicted exceedances of relevant standards or performance measures;	Chapters in Part C
		(f) identification of key uncertainties associated with the assessment and what action will be taken to address these uncertainties; and	Chapters in Part C and Table 23.1
		(g) highlight any key linkages between the assessment of different matters or likely cumulative impacts of the proposal.	Chapters in Part C

Reference	Requirement	Where addressed
4. Key Appendices	4.1 The EIS must include the following appendices:	
	(a) a SEARs table, identifying the sections and subsections where individual SEARs have been addressed in the EIS and in the specialist assessment reports;	Appendix A (SEARs compliance table)
	(b) a statutory compliance table, identifying where the relevant statutory requirements have been addressed in the EIS;	Appendix C (Statutory compliance)
	(c) a community engagement table, identifying where the issues raised by the community during engagement have been addressed in the EIS;	Section 8.3.3
	(d) a table of the proposed mitigation measures for the proposal (excluding any mitigation measures that are built into the physical layout and design of the proposal and captured in the project description); and	Appendix K (Consolidated mitigation measures)
	(e) any supporting information, including any detailed technical reports prepared by specialists.	Appendices D to I and Technical Papers

A-2 Key issue SEARS

Table A.2 Key issue requirements

Key issue	Requirement	Where addressed
1. Transport and traffic	1.1 Construction transport and traffic (vehicle, pedestrian and cyclists) impacts, including, but not necessarily limited to:	Sections 9.3 and 9.5.1
	(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 including cumulative impacts;	Sections 9.3.1 and 9.5.1
	(b) the indicative number, frequency and size of construction related vehicles (passenger, commercial and heavy vehicles, including spoil management movements);	Section 9.3.1
	(c) construction worker parking;	Section 9.3.6
	(d) the nature of existing traffic (types and number of movements) on construction access routes (including consideration of peak traffic times, special event periods, pedestrian and cyclists, and parking arrangements);	Section 9.2
	(e) access constraints and impacts on public transport (infrastructure and services), pedestrians and cyclists;	Sections 9.3.3, 9.3.4, 9.3.6 9.3.7 and 9.3.8
	(f) the need to close, divert or otherwise reconfigure elements of the road, pedestrian and cycle network associated with construction of the proposal and the duration of these changes;	Sections 9.3.2, 9.3.3, 9.3.4 9.3.7 and 9.3.8
	(g) impacts to on-street parking, including to residents and businesses.	Sections 9.3.6 and 9.3.7
	1.2 Operational transport impacts, including:	Sections 9.4 and 9.5.2
	(a) performance of key interchanges and intersections by undertaking a level of service analysis at key locations;	Section 9.4.1
	(b) the legibility and useability of the traffic and transport network;	Sections 9.4 and 9.5.2

Key issue	Requirement		Where addressed
		(c) wider transport interactions (local and regional roads, walking and cycling, public and freight transport) including during special event periods;	Section 9.4
		(d) property and business access and on-street parking;	Sections 9.4.5 and 9.4.7
		(e) the accessibility of each stop and the general vicinity of walking and cycling catchments;	Chapters 4 and 14 of Technical Paper 1 (Design, Place and Movement)
		(f) the provision of infrastructure to support accessible paths of travel and interchange; and	Sections 9.4.2 and 9.4.3
		(g) an explanation of the scope of the modelled area, including justification of the nominated boundaries	Section 9.1.1
2. Design, place and movement	2.1	A design led process that is informed, collaborative and iterative, which:	Sections 2.1, and 2.3 to 2.5 of Technical Paper 1), summarised in sections 5.1 and 5.6 of the EIS
		(a) utilises good design processes (such as Design Excellence and Design Review);	Sections 2.1.2, 2.3, 2.4 and 2.5 of Technical Paper 1
		(b) provides connectivity – active and public transport (at and to stops);	Sections 3.5.2, 4.8 and 4.10 of Technical Paper 1 Chapters 5 to 13 of Technical Paper 1
		(c) retains and enhances existing and new views and vistas;	Chapters 5 to 12 and Appendix A of Technical Paper 1
		(d) is designed with and connected to Country;	Sections 2.3, 3.3.2, 5.2, 6.2, 7.2, 8.2, 9.2, 10.2, 11.2 and 12.2 of Technical Paper 1
		(e) is designed with integration of cultural heritage, heritage interpretation and public art;	Sections 2.3, 9.3.1, 11.3.3 of Technical Paper 1
		(f) utilises design experts and multidisciplinary teams;	Section 2.4 of Technical Paper 1
		(g) demonstrates how design integrity will be maintained in subsequent stages of the assessment process; and	Sections 2.4, 2.5 and 2.6 of Technical Paper 1 Chapter 15 of Technical Paper 1
		(h) involves the community, user groups and other stakeholders.	Section 2.5 of Technical Paper 1
	2.2	Identify place principles that reflect the design objectives in Better Placed, including a focus on: (a) fit – contextually, culturally, local and of its place; (b) performance – sustainable, adaptable and durable; (c) community – inclusive, welcoming, connected, accessible and diverse; (d) people – safe, comfortable and liveable and healthy (such as crime prevention through environmental design); (e) working– functional, efficient and fit for purpose; (f) value – creating and adding value; and (g) look and feel – engaging, inviting and attractive.	Section 3.2 of Technical Paper 1

Key issue	Requirement		Where addressed
	2.3	Include and illustrate place designs, outcomes and actions that protect and facilitate improvements to the built environment and place, including in relation to:	Chapters 5 to 13 of Technical Paper 1 A summary of the approach to public space and residual land is provided in sections 6.8 and 6.9 of the EIS.
		(a) built form (including key project elements and amenity impacts on the surrounding environment);	Chapters 5 to 13 of Technical Paper 1
		(b) public space (including public open space, and how that space has been maximised and protected, access to and the quality of the space);	Chapters 5 to 13 of Technical Paper 1
		(c) residual land (where it is known that this will be returned as public open space and the reallocation of space);	Chapters 5 to 13 of Technical Paper 1
		(d) stops as places; and	Chapters 5 to 13 of Technical Paper 1
		(e) views and vistas (including an assessment of visual impact, and visual representations of the proposal from key locations to illustrate the proposal where visual impacts that are deemed greater than medium).	Chapters 5 to 13 of Technical Paper 1 Chapter 15 (Landscape and visual impacts) summarises the findings of the visual impact assessment. The full assessment results are provided in the Landscape and Visual Impact Assessment (Appendix A to Technical Paper 1). Visual representations are provided in section 15.4.2 of the EIS.
		This should also address maintenance of infrastructure, place, landscaping and residual land	Section 6.8 of the EIS describes public works and improvements, section 6.9.2 describes the approach to residual land. Section 14.2.12 of Technical Paper 1
	2.4	Identify movement (accessibility and connectivity) principles, outcomes and actions that facilitate improvements to movement,including in relation to:	
		(a) how the proposal considers the relationship between movement and place;	Sections 4.2 and 4.6 to 4.10 of Technical Paper 1 Chapters 5 to 13 of Technical Paper 1
		(b) how the proposal contributes to more walking, cycling and public transport use (along the alignment and to and from stop(s)), including journey time comparisons for public and active transport for general traffic journey time improvements made, and the matters set out in the Healthy Urban Development Checklist TC1 and TC2 (NSW Health, 2009) (pages 76-78);	Sections 3.2.6 and 4.10 of Technical Paper 1
		(c) how any walking, cycling or public transport provided by the proposal integrates with wider active and public transport networks.	Sections 4.8 and 4.10 of Technical Paper 1

Key issue		Requirement	Where addressed
		The EIS must demonstrate changes to:	
		(a) access to public space;	Sections 9.4.7, 14,3.1, 14.4.1 of the EIS Further information is provided in section 4.2 and Chapters 5 to 12 of Technical Paper 1.
		(b) access to community facilities or areas providing services to the community, such as local centres;	Sections 9.4.7, 14,3.1, 14.4.1 of the EIS Further information is provided in sections 4.2, 4.3 and 4.7 of Technical Paper 1.
		(c) active transport and other forms of public transport, including local walking and cycling routes maintained or made more direct, safe and comfortable;	Sections 9.3.3, 9.3.4, 9.4.2, 9.4.3, 14.3.1 and 14.4.1 of the EIS Further information is provided in sections 4.8 and 4.10 of Technical Paper 1.
	2.5	Identify green infrastructure design principles that are reflective ofthe principles in Greener Places and the Sydney Green Grid.	Sections 4.11 and 14.4 of Technical Paper 1
	2.6	Include and illustrate green infrastructure designs, actions and outcomes for the proposal including in relation to:	
		(a) green infrastructure, including enhancement of open space that supports recreation, biodiversity and waterway health;	Section 6.8 of the EIS describes public works and improvements Sections 7.3.2, 8.3.2, 9.3.1, 9.3.3 of Technical Paper 1 The tree offset strategy is described in section 15.6.1 and in Chapter 5 of the Landscape and Visual Impact Assessment (Appendix A to Technical Paper 1).
		(b) how the proposal will achieve a net increase in tree numbers and canopy within proximity of the impacted area. (This relates to the number of trees to be cleared by the proposal (a tree is defined by Australian Standard 4970) that will not be covered by a biodiversity offset strategy).	The tree offset strategy is described in section 15.6.1 and in Chapter 5 of the Landscape and Visual Impact Assessment (Appendix A to Technical Paper 1). Chapter 5 to 12 of Technical Paper 1 Further information regarding the trees with the potential to be impacted by the project is provided in the Arboricultural Report (Appendix B to Technical Paper 1).
	2.7	Identify how the proposal has been designed with and connected with Country, and reflects the findings of the Aboriginal Cultural Heritage Assessment Report (ACHAR) referenced in 6. Heritage – Aboriginal below.	A summary is provided in section 5.6 of the EIS and further information is provided in sections 2.2, 3.4.3, 3.5, 5.2, 6.2, 7.2, 8.2, 9.2, 10.2, 11.2 and 12.2, and Chapters 13 and 14 of Technical Paper 1.

Key issue		Requirement	Where addressed
	2.8	Outline the urban design response on the visual amenity and landscape impacts of construction across the alignment and for each precinct on: (a) views and vistas; (b) streetscapes, key sites and buildings (including existing landscape works, greenspace and tree canopy); (c) heritage items including Aboriginal places, environmental heritage and areas of heritage sensitivity; and (d) the local community.	The visual impacts of the project are summarised in Chapter 15 (Landscape and visual impacts) and described in full in Landscape and Visual Impact Assessment (Appendix A to Technical Paper 1). Chapters 5 to 12 of Technical Paper 1 describe the urban design response to the visual impacts in each precinct.
		Visual representations of the proposal must be provided from key receiver locations to illustrate the proposal and its visual impacts and how the proposal has responded to the visual impact through urban design and landscaping.	Visual representations are provided in section 15.4.2
3. Biodiversity	3.1	Assess biodiversity impacts (including noise and vibration impacts to fauna) in accordance with s7.9 of the *Biodiversity Conservation Act 2016* (BC Act), the Biodiversity Assessment Method 2020 (BAM),and be documented in a Biodiversity Development Assessment Report (BDAR).	Sections 16.3 to 16.5 of the EIS and section 9 of Technical Paper 9 (Biodiversity Development Assessment Report)
	3.2	The BDAR must document the application of the avoid, minimise and offset framework in accordance with the BAM.	Section 16.1.3 of the EIS and section 9.1 of Technical Paper 9
	3.3	The BDAR must include information in the form detailed in s6.12 ofthe BC Act, cl6.8 of the *Biodiversity Conservation Regulation 2017*and the BAM, with specific reference to, but not limited to: (a) Green and Golden Bell Frog; (b) White-bellied Sea-eagle; (c) various threatened microbats species; and (d) Powerful Owl.	Technical Paper 9
	3.4	The BDAR must be submitted with all digital spatial data associatedwith the survey and assessment as per Appendix K of the BAM.	Digital spatial data has been provided. Survey results and assessment are detailed in Technical Paper 9.
	3.5	The BDAR must be prepared by a person accredited in accordancewith the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2020 under s6.10 of the BC Act.	Section 3.8 of Technical Paper 9
	3.6	The BDAR must include details of the measures proposed to address offset obligations as follows: (a) the total number and classes of biodiversity credits required to be retired for the developments / proposal; (b) the number of classes of like-for-like biodiversity credits proposed to be retired; (c) the number and classes of biodiversity credits proposed to be retired in accordance with the variation rules; (d) any proposal to fund a biodiversity conservation action; and (e) any proposal to make a payment to the Biodiversity Conservation Fund; and (f) any staged retirement of credits based on when the development is carried out that would impact on biodiversity values.	The measures are provided in full in section 11 of Technical Paper 9. A summary of the proposed approach to offsetting is provided in section 16.6.3 of the EIS.

Key issue		Requirement	Where addressed
		Note: If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits.	
	3.7	Impacts on biodiversity values not covered by the BAM must be assessed. This includes a threatened aquatic species assessment(Part 7A *Fisheries Management Act 1994*) to address whether thereare likely to be any significant impact on listed threatened species, populations or ecological communities listed under the *Fisheries Management Act 1994* (FM Act).	Sections 16.3.3, 16.3.4, 16.3.6, 16.3.7, 16.4.1 and 16.4.2
	3.8	Identify whether the proposal, or any component of the proposal, would be classified as a Key Threatening Process (KTP) in accordance with the listings in the BC Act, FM Act and the EPBC Act.	Section 16.3.5
	3.9	Undertake an assessment of the potential impact on the NarawangWetland habitats, and Newington Nature Reserve and Millennium Parklands.	Section 16.3.7
4. Noise and vibration	4.1	Construction and operational noise and vibration impacts in accordance with relevant NSW noise and vibration guidelines, including how measures developed to satisfy the guidelines will be implemented and their effect on reducing the level and impact of noise and vibration; and how noise and vibration management strategies will be used and be integrated into the proposal.	Chapter 10 (Noise and vibration) and Technical Paper 3 (Noise and Vibration)
	4.2	The assessment of construction noise and vibration must address:	
		(a) the nature of construction activities and related noise and vibration characteristics using typical and worst-case scenarios and highlight high-noise generating activities;	Section 10.1.2 describes the approach to the assessment and modelled construction scenarios.
		(b) the intensity and duration of noise (both air and ground borne)and vibration impacts. This must include consideration of construction impacts over an extended period associated withancillary facilities (and the like) and construction fatigue;	Section 10.4 assesses potential construction noise (both air and ground borne) and vibration impacts. Section 10.6.2 of the EIS and Technical Paper 3 consider construction fatigue.
		(c) the identification of receivers (including sensitive infrastructure in respect of vibration and major events), during construction;	Section 2.2 of Technical Paper 3 maps sensitive receivers. Section 10.3.1 of the EIS summarises sensitive receivers within the study area.
		(d) the structural integrity and significance of known or potential heritage items (including Aboriginal places and items of environmental heritage) that could be affected by vibration;	Technical Paper 3 provides details and mapping for heritage items. Section 10.3.1 of the EIS summarises sensitive receivers within the study area. Section 10.4.4 of the EIS assesses construction vibration impacts to heritage items.
		(e) the nature of the impact and the sensitivity of receivers and level of impact including for out-of-hours works;	Section 10.4.2 assesses potential construction impacts, including those that would be undertaken out of hours.

Key issue	Requirement		Where addressed
		(f) the need to balance timely conclusion of noise and vibration-generating works with periods of respite, and other factors that may influence the timing and duration of construction activities (such as traffic management);	Section 7.5 of the EIS and Technical Paper 3 provide justification for the primary project working hours.
		(g) noise impacts of out-of-hours works (including utility works and works associated with the SSI including those undertaken under another assessment pathway), possible locations where out-of-hours works would be undertaken, the activities that would be undertaken, the estimated duration of those activities and justification for these activities in terms of the *Interim Construction Noise Guideline;*	Section 10.4.2 assesses potential construction impacts, including those that would be undertaken out of hours. Section 10.2.1 identifies the construction activities, along with their anticipated duration, that would be undertaken out of hours. Technical Paper 3 describes and maps the locations of out-of-hours work.
		(h) sleep disturbance (including the number of noise-awakening events) in accordance with *Interim Construction Noise Guideline;*	Section 10.4.2 provides an assessment of potential sleep disturbance impacts.
		(i) a cumulative noise and vibration assessment inclusive of impacts from the proposal, including concurrent construction activities within the proposal and the construction of other relevant development in the vicinity of the proposal;	Technical Paper 3 provides a qualitative assessment of the cumulative noise and vibration impacts from concurrent and consecutive construction projects in the vicinity of the project. The results are summarised in section 10.6 of the EIS.
		(j) qualitative assessment of the predicted effectiveness of mitigation measures (including, where relevant, case studies from other light rail projects) to adequately manage identified impacts, including impacts as identified in (i); and	Technical Paper 3 provides a qualitative assessment of the expected effectiveness of potential mitigation measures. Section 10.7.1 of the EIS summarises the approach to mitigation.
		(k) any potential residual noise and vibration impacts following application of mitigation measures.	Technical Paper 3 provides a qualitative assessment of the residual impacts following implementation of mitigation measures.
	4.3	Construction traffic noise assessment must include:	
		(a) justification for the model used in accordance with *NSW Road Noise Policy* Appendix B4 and Appendix B5;	Technical Paper 3 provides details of the approach to the construction traffic noise assessment.
		(b) a sleep disturbance assessment (indicative maximum noise levels and number of events) and efficacy of potential mitigation.	Section 10.4.3 summarises potential sleep disturbance impacts associated with construction traffic.

Key issue	Requirement		Where addressed
	4.4	The assessment of operational noise and vibration must address:	
		(a) all noise producing aspects of the proposal including rail vehicles; stations / stops; the redistribution of traffic from the proposal, and ancillary plant and equipment, taking into account the characteristics of noise and vibration (for example, tonality and low frequency noise);	Section 10.1.2 summarises the approach to the assessment, including all relevant operational aspects of the project.
		(b) the identification of receivers, their sensitivity, and level of impact;	Technical Paper 3 maps sensitive receivers. Section 10.3.1 of the EIS summarises sensitive receivers within the study area. Section 10.5 of the EIS assesses potential operational impacts.
		(c) sleep disturbance (in terms of noise levels and number of noise-awakening events) in accordance with *Rail Infrastructure Noise Guideline;*	Section 10.5.1 assesses potential operational sleep disturbance impacts.
		(d) traffic crossing over light rail tracks;	Section 4.5.5 of Technical Paper 3 assesses potential operational impacts associated with vehicles crossing over the light rail tracks.
		(e) quantitative assessment of the predicted effectiveness of mitigation measures (including, where relevant, case studies from other light rail projects) to adequately manage identified impacts; and	Technical Paper 3 provides a quantitative assessment of the expected effectiveness of mitigation measures. Section 10.7.1 of the EIS summarises the approach to mitigation.
		(f) any potential residual noise and vibration impacts following application of mitigation measures.	Technical Paper 3 provides a qualitative assessment of the residual impacts following implementation of mitigation measures.
	4.5	Description of how receiver feedback received during the preparation of the EIS has been taken into account (and would be taken into account post exhibition of the EIS) in the design of mitigation measures, including any tailored mitigation, management and communication strategies for sensitive receivers.	Section 3.7.7 of Technical Paper 3 describes how receiver feedback has and will be taken into account. Chapter 8 (Community and stakeholder engagement) and Appendix F (Community and Stakeholder Engagement Report) describe the consultation that has been undertaken and will continue to be undertaken for the project.

Key issue		Requirement	Where addressed
	4.6	The process for community engagement should be included or referenced in the noise and vibration assessment as part of the mitigation strategy and assessment.	Section 3.7.7 of Technical Paper 3 summarises the process for community engagement. Chapter 8 (Community and stakeholder engagement) describes the consultation that has been and will continue to be undertaken for the project.
5. Flooding	5.1	Changes to flood behaviour during construction and operation for a full range of flood events up to the probable maximum flood (taking into account sea level rise and storm intensity due to climate change) including:	
		(a) any detrimental increases in the potential flood affectation of other properties, assets and infrastructure;	Sections 17.3.3 and 17.4.3 describe potential flooding impacts during construction and operation respectively.
		(b) consistency (or inconsistency) with applicable Council floodplain risk management plans;	Sections 17.3.3 and 17.4.3 describe consistency with relevant management plans during construction and operation.
		(c) compatibility with the flood hazard of the land;	Sections 17.3.3 and 17.4.3 describe compatibility with the flood hazard of the land under existing floodplain risk management plans during construction and operation.
		(d) compatibility with the hydraulic functions of flow conveyance in flood ways and storage areas of the land;	Sections 17.3.3 and 17.4.3 describe potential flooding impacts including flood flows and overland flows during construction and operation.
		(e) downstream velocity and scour potential;	Sections 17.3.3 and 17.4.3 describe potential flooding impacts including flood flow velocities and scour potential during construction and operation.
		(f) impacts the development may have upon existing community emergency management arrangements for flooding. These matters must be discussed with the State Emergency Services and Council; and	Sections 17.3.3 and 17.4.3 describe potential impacts to existing community emergency management arrangements for flooding during construction and operation. Consultation undertaken for the assessment is detailed in section 3.3.4 of Technical Paper 10 (Hydrology, Flooding and Water Quality).
		(g) any impacts the development may have on the social and economic costs to the community as consequence of flooding.	Sections 17.3.3 and 17.4.3 describe potential social and economic costs of flooding impacts.

Key issue	Requirement		Where addressed
	5.2	Flood management objectives and outcomes must be clearly identified and substantiated to address the characteristics of the environment and relevant legislative, management and guidance requirements.	Section 17.1.3 identifies the flood management objectives for the project.
6. Heritage – Aboriginal	6.1	Direct and/or indirect impacts (including cumulative impacts) to the heritage significance of:	
		(a) Aboriginal places, objects and cultural heritage values, as definedunder the *National Parks and Wildlife Act 1974* and in accordance with the principles and methods of assessment identified in the current guidelines; and	Listed Aboriginal Heritage Information Management System (AHIMS) sites within and close to the project site are listed in section 11.2.2. A preliminary assessment of the direct/indirect and cumulative impacts is provided in sections 11.3 to 11.5.
		(b) Aboriginal places of heritage significance, as defined in the Standard Instrument – Principal Local Environmental Plan.	Section 11.2.2 notes that there are no Aboriginal places under the Parramatta Local Environmental Plan 2011 and Ryde Local Environmental Plan 2014; however, Aboriginal heritage sensitivity mapping from the Parramatta Development Control Plan 2011 was considered in the preparation of Technical Paper 4 (Preliminary Aboriginal Cultural Heritage Assessment Report).
	6.2	Identify and describe the Aboriginal cultural values that exist across the whole area that will be affected by the proposal and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation.	Section 11.2.3 details findings of the archaeological (surface) survey. Section 11.6 details the proposed program of test excavations. Technical Paper 4 would be updated following the testing program and detailed cultural assessment.
	6.3	The identification of cultural heritage values must be conducted in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a) (the Code), and be guided by the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011).	Section 11.1 outlines the approach of the Aboriginal cultural heritage assessment.
	6.4	Consultation with Aboriginal people must be undertaken and documented in accordance with *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.	Section 11.1.2 of the EIS summarises consultation undertaken to date. Technical Paper 4 would be updated following the testing program and detailed cultural assessment.

Key issue		Requirement	Where addressed
	6.5	Impacts on Aboriginal cultural heritage values must be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts.	Section 11.1.3 of the EIS provides a summary of how potential impacts have been avoided. Sections 11.3 and 11.4 of the EIS and Technical Paper 4 detail impacts of the project. Mitigation measures provided in section 11.6.2 of the EIS and Technical Paper 4 would mitigate impacts.
	6.6	In situations where the test excavation methodology stipulated in Requirement 16 of the Code is not appropriate (e.g. in areas detailed in Requirement 14 of the Code; in areas of deep sand deposits; or in areas where historical archaeological excavations area also taking place), a site-specific test excavation methodology should be developed.	Section 11.1.2 lists keys tasks for the assessment, including the preparation of a site-specific test excavation methodology (Appendix C of Technical Paper 4).
	6.7	Where archaeological investigations of Aboriginal objects are proposed these must be conducted by a suitably qualified archaeologist, in accordance with section 1.6 of the Code.	Section 1.6 of Technical Paper 4
	6.8	Any Aboriginal objects recorded as part of the assessment must be documented and notified to Heritage NSW by recording on the Aboriginal Heritage Information Management System.	This requirement is included as a mitigation measure in section 11.6.2.
	6.9	The ACHAR must outline procedures to be followed if unexpected Aboriginal objects, burials or skeletal material are uncovered atany stage during the life of the proposal.	This requirement is included as a mitigation measure in section 11.6.2.
7. Heritage – Non-Aboriginal	7.1	Direct and/or indirect impacts (including cumulative impacts) to the heritage significance of:	
		(a) environmental heritage, as defined under the *Heritage Act 1977*; and	Sections 12.3 to 12.5
		(b) items listed on the State, National and World Heritage lists;	Sections 12.3 to 12.5 No items listed on National or World heritage lists have been identified within or in the vicinity of the project site.
		(c) heritage items and conservation areas identified in environmentalplanning instruments applicable to the project area.	Sections 12.2.2 to 12.2.4
	7.2	Where impacts (including cumulative impacts) to State, locally or potentially significant heritage items are identified, the assessment must:	
		(a) identify the heritage significance of and provide statements of heritage impact for all heritage and potential heritage items;	The statement of heritage impact for built and potential heritage items is summarised in sections 12.3.1 and 12.4. Cumulative impacts are summarised in section 12.5. Full statements are provided in Technical Paper 5 (Statement of Heritage Impact – Built Heritage).

Key issue	Requirement	Where addressed
	(b) include historical and maritime archaeological assessments (where relevant);	The historical archaeological assessment is summarised in section 12.3.2. The maritime archaeological assessment is summarised in section 12.3.3. Technical Paper 6 (Historical Archaeological Assessment) includes a Maritime Archaeological Assessment in Appendix. A.
	(c) consider the conservation policies of any relevant conservation management plan;	The policies within these conservation management plans have been considered in the impact assessment discussion in sections 12.3.1 and 12.4.
	(d) consider impacts to the item of significance caused by, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, visual amenity, landscape and vistas, curtilage, subsidence and architectural noise treatment, drainage infrastructure, contamination remediation and site compounds (as relevant);	Sections 12.3 and 12.4. Further information in Technical Paper 5 and Technical Paper 6.
	(e) outline measures to avoid and minimise those impacts during construction and operation;	Section 12.6
	(f) be undertaken by a suitably qualified heritage consultant(s) and/or historical archaeologist. *Note: Where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria.*	Section 1.6 of Technical Paper 5 and section 1.5 of Technical Paper 6.
7.3	An historical archaeological assessment must:	
	(a) identify relics likely to be present;	Section 12.2.4
	(b) assess their significance;	Section 12.2.4
	(c) consider the impacts from the proposal on this resource; and	Section 12.3.2 Cumulative impacts are addressed in section 12.5.
	(d) include an appropriate mitigation strategy and Research Design and Excavation Methodology where harm cannot be avoided.	An Archaeological Research and Excavation Framework is provided in Appendix B to Technical Paper 6. Where harm cannot be avoided, a Research Design and Excavation Methodology would be prepared following public exhibition of the EIS and the completion of test excavations.
	Test excavation may be required to clarify significance, extent and integrity of deposits, particularly where sites of State significance areanticipated. *Note: An historical archaeological assessment must be prepared by asuitably qualified and experienced historical archaeologist.*	Test excavations are planned to commence in late 2022 to further clarify significance, extent and integrity of potential deposits.

Key issue	Requirement		Where addressed
	7.4	A maritime archaeological assessment must be prepared to identify and assess significant archaeological relics, shipwrecks and marine heritage sites. The assessment must:	
		(a) include a search of the maritime heritage online;	Section 12.2.2
		(b) identify the extent, nature and significance of any features or relics;	Section 12.2.4
		(c) consider the potential impacts of the proposal both above and below the water;	Sections 12.3.2 and 12.3.3
		(d) consider the effects of the proposal on the riverbed and riverbank and geomorphological effects to heritage items; and	Section 12.3.3
		(e) include an appropriate mitigation strategy and Research Design and Excavation Methodology where harm cannot be avoided.	Section 12.6 describes the mitigation strategy. Where harm cannot be avoided, a Research Design and Excavation Methodology would be prepared following public exhibition of the EIS.
		Note: A maritime archaeological assessment must be prepared by asuitably qualified and experienced maritime archaeologist.	Section 1.5 of Technical Paper 6.
8. Social	8.1	Potential social impacts, in accordance with the DPIE Social Impact Assessment Guideline (the Guideline), including but not limited to:	
		(a) consideration of the principles of section 1.2 of the Guideline;	Appendix A of Technical Paper 7 (Social Impact Assessment)
		(b) consideration of Satisfying the Review Questions in Appendix C of the Guideline;	Appendix B of Technical Paper 7
		(c) considering the social impacts that the proposal may have on people's way of life, community, access to and use of infrastructure, services, and facilities, culture, health and wellbeing, surroundings, livelihoods, decision-making systems;	Sections 14.3.1 and 14.4.1
		(d) the distributive equity of impacts and benefits (i.e., the ways in which different social groups may experience the proposal, paying particular attention to vulnerable groups); and	Sections 14.3.1 and 14.4.1
		(e) assessing positive, negative, and cumulative social impacts.	Sections 14.3.1, 14.4.1 and 14.5
	8.2	Management measures must be informed by learnings and successful actions from other projects, including Parramatta Light Rail Stage 1.	Section 14.6

Key issue	Requirement		Where addressed
9. Business and property	9.1	Potential impacts on affected properties, businesses, utility services and infrastructure, recreational users, and land and water users (for example, recreational and commercial fishers, oyster farmers), including property acquisitions/adjustments, access, amenity and relevant statutory rights. Identify management measures to minimise impacts to business, utilities and property as a result of the proposal.	Sections 9.3.8 and 9.4.8 describes potential impacts on water users (for example, recreational fishers). Sections 13.4.2 and 13.5.2 describe impacts on properties. Sections 14.3.1, 14.4.1 and 14.5 describe potential impacts on affected businesses. Section 14.6 identifies management measures to minimise impacts to business as a result of the project.
	9.2	Management measures must be informed by learnings and successful actions from other projects including Parramatta Light Rail Stage 1.	Sections 13.7 and 14.6
10. Water – Hydrology	10.1	Describe (and map) the existing hydrological regime for any surface and ground water resource (including reliance by users and for ecological purposes) likely to be impacted by the proposal, including stream orders.	Section 17.2 describes the existing hydrological regime near the project site.
	10.2	Impacts of the construction and operation of the proposal and any ancillary facilities (both built elements and discharges) on surface and ground water hydrology in accordance with the current guidelines, including: (a) natural processes within watercourses, rivers, wetlands, estuaries, marine waters and floodplains that affect the health of the fluvial, riparian, estuarine or marine system and landscape health (such as modified discharge volumes, durations and velocities), nutrient flow, aquatic connectivity and access to habitat for spawning and refuge;	Sections 17.3.1 and 17.3.3 describe potential water quality, hydrological and flooding impacts to natural processes during construction. Sections 17.4.1 and 17.4.3 describe potential water quality, hydrological and flooding impacts to natural processes during operation. Sections 17.3.4 and 17.4.4 describe potential coastal hazard and process impacts during construction and operation.
		(b) impacts from any permanent and temporary interruption of groundwater flow;	Sections 17.3.2 and 17.4.2 describe potential groundwater flow impacts during construction and operation.
		(c) direct or indirect increases in erosion, siltation and sedimentation, impact on riparian land including destruction of riparian vegetation or a reduction in the stability of river banks or watercourses;	Sections 17.3.1 and 17.4.1 describe potential water quality impacts, including erosion, siltation and sedimentation, during construction and operation. Chapter 16 describes potential biodiversity impacts (including riparian vegetation). Sections 17.3.4 and 17.4.4 describe the potential reduction in stability during construction and operation.

Key issue	Requirement		Where addressed
		(d) changes to environmental water availability, both regulated / licensed and unrelated / rules-based sources of such water; and	Sections 17.3.2 and 17.4.2 describe potential impacts to groundwater, including environmental water availability during construction and operation. Sections 17.3.3 and 17.4.3 describe potential impacts to surface water during construction and operation.
		(e) 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.	Sections 17.3.3 and 17.4.3 describe potential hydrological impacts during construction and operation.
	10.3	Identify any requirements for baseline monitoring of hydrological attributes.	Section 8.3 of Technical Paper 10 (Hydrology, Flooding and Water Quality)
11. Water quality	11.1	Water quality impacts, including:	
		(a) stating the ambient NSW WQO and environmental values for the receiving waters relevant to the proposal, including the indicators and associated trigger values or criteria for the identified environmental values;	Section 17.1.3 describes the NSW water quality objectives relevant to the project.
		(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;	Sections 17.3.1 and 17.4.1 describe potential water quality impacts during construction and operation.
		(c) identify the rainfall event that the water quality protection measures will be designed to cope with;	Section 17.4.1 identifies the rainfall event that was considered when determining water quality treatment measures.
		(d) assess the significance of any identified impacts including consideration of the relevant environmental values and ambient water quality outcomes;	Sections 17.3.1 and 17.4.1 describe potential water quality impacts during construction and operation.
		(e) demonstrate how construction and operation of the proposal will, to the extent that the proposal 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;	Sections 17.3.1 and 17.4.1 describe potential water quality impacts during construction and operation. Section 17.4.1 describes the potential water quality treatment measures that would be implemented to work toward achievement of the NSW water quality objectives.

Key issue	Requirement		Where addressed
		(f) justify, if required, why the WQOs cannot be maintained or achieved over time;	With the implementation of the mitigation measures provided in section 17.6 and the water quality treatments provided in section 17.4.1 it is believed the WQOs could be maintained or achieved with 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;	Section 17.4.1 describes potential water quality treatment measures. Section 17.6 describes the approach to mitigation and management of potential impacts, including mitigation measures.
		(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	Section 17.2.4 identifies sensitive receiving environments. Section 17.6 describes the approach to mitigation and management of potential impacts
		(i) identify proposed monitoring locations, monitoring frequency and indicators of surface and groundwater quality.	Section 17.6 describes the proposed water quality monitoring program.
12. Protected and sensitive lands	12.1	Impacts of the proposal on environmentally sensitive land and processes (and the impact of processes on the proposal) including,as relevant, but not limited to:	
		(a) land identified as 'Coastal wetlands and littoral rainforests area' under the State Environmental Planning Policy (Coastal Management) 2018;	Section 16.3.7
		(b) high biodiversity value land identified on the Biodiversity Values Map under the BC Act;	Section 16.3.7
		(c) coastal hazards identified in studies completed by local councils or state agencies (including risk mitigation strategies that reduce coastal hazards exposure and funding of such strategies);	Section 17.2.6 describes coastal hazards identified in relevant management plans as they relate to the Parramatta River. Coastal management issues in the study area, as mapped by State Environmental Planning Policy (Resilience and Hazards) 2021, are considered in sections 17.3.4 and 17.4.4.
		(d) coastal processes (including disruptions to wave direction, dune stability, sediment movement etc.) associated with adopted risk mitigation actions;	Section 17.2.6 describes coastal processes relevant to the study area as they relate to the Parramatta River Section 17.3.4 describe potential impacts to these processes during construction.

Key issue		Requirement	Where addressed
		(e) safe public access to coastal areas, beaches, headlands and foreshores;	Sections 17.3.4 and 17.4.4 describe potential impacts to public use of river foreshore areas
		(f) protected areas (including land and water) managed by the Department under the *National Parks and Wildlife Act 1974* and the *Marine Estate Management Act 2014*;	Section 16.3.7
		(g) Key Fish Habitat as mapped and defined in accordance with the *Fisheries Management Act 1994* (FM Act);	Section 16.3.7
		(h) waterfront land as defined in the *Water Management Act 2000*;	Section 16.3.7
		(i) land or waters identified as Critical Habitat under the FM Act or EPBC Act or areas of outstanding biodiversity value under the BC Act; and	Section 16.3.7
		(j) biodiversity stewardship sites, private conservation lands and other lands identified as offsets.	Section 16.3.7
13. Hazard and risk	13.1	Report on the consultation outcomes with all operators of high pressure dangerous goods or gas pipelines within or in the vicinity of the proposal with regards to Australian Standard AS 2885 Pipelines – Gas and liquid petroleum.	Section 19.1.4
	13.2	Demonstrate that during the construction and operation phases, the proposal would not lead to non-compliance of the existing high pressure dangerous goods or gas pipelines with the current edition of Australian Standard AS 2885 Pipelines – Gas and liquid petroleum.	Sections 19.3.2 and 19.4.2 describe the potential impacts to these pipelines. The approach to mitigate any impacts is provided in Section 19.6.
	13.3	Prepare a Preliminary Hazard Analysis (PHA) in accordance with *Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'*(Department of Planning, 2011c) and *Multi-level Risk Assessment* (Department of Planning, 2011b). The PHA must:	A Level 1 PHA was undertaken in accordance with the nominated guidelines and is provided in Appendix G (Preliminary hazard analysis).
		(a) clearly identify the class, quantity and location of all dangerous goods and hazardous materials associated with the proposal during the construction and operation phases; and	The PHA (Appendix G) identified the class, quantity and location of the high pressure dangerous goods pipelines. Sections 19.3.1 and 19.4.2 also discuss the class, quantity and location of dangerous goods and hazardous materials that would be used by the project.
		(b) demonstrate that during the construction and operation phases, the proposal would comply with the risk criteria for development in the vicinity of potentially hazardous facilities described in the Department's *Hazardous Industry Planning Advisory Paper No.10, 'Land Use Safety Planning'*.	Sections 19.3.3 and 19.4.2
	13.4	Include sufficient details on how the outcomes, findings or recommendations arising from the above will be delivered or implemented.	Appendix G and Section 19.6

Key issue		Requirement	Where addressed
14. Other	14.1	An assessment of the following issues must be undertaken in accordance with the commitments in Section 7 of *Parramatta Light Rail (Stage 2) Scoping Report* (Transport for NSW, 2019d): The *commitments in the scoping report are as follows:* (a) Air quality	
		• identify sensitive receivers	Section 20.2.3
		• identify potential sources of air emissions during construction and operation	Sections 20.3.1 and 20.4.1
		• characterise the local air quality environment	Section 20.2
		• identify and assess potential impacts on sensitive receivers	Sections 20.3 and 20.4
		• consider cumulative air quality impacts	Section 20.5.1
		• identify mitigation and management measures to address the impacts identified.	Section 20.6
		(b) Greenhouse gas, energy and climate change	
		• the EIS will include a preliminary greenhouse gas assessment based on the indicative design and construction staging	Sections 20.3.6 and 20.4.2
		• the EIS will include an assessment of climate change trends and projections to determine climate change scenarios and consequent impacts	Chapter 22 and Appendix I (Climate change assessment – additional information)
		• a climate change risk assessment will be undertaken as part of the EIS.	Appendix I
		(c) Soils, geology and contamination; and	
		• confirm areas of contamination including known contaminated sites and areas of potential contamination	Section 18.2.3
		• soil, sediment and groundwater sampling at select locations in accordance with the requirements of the EPA and relevant guidelines (listed below)	Sections 18.1.2 and 18.2.3
		• assess the potential impacts of disturbing contaminated sites, considering potential receptors and exposure pathway	Sections 18.3.1 and 18.4.1
		• identify mitigation and management measures to address potential contamination impacts consistent with relevant regulations and guidelines.	Section 18.6
		(d) Waste and resource use.	
		• The EIS will describe the construction and operational resources and materials that will be required during the construction and operation of the project, as well as the anticipated waste streams, expected waste quantities and applicable waste management strategies.	Chapter 22