APPENDIX B

Terms of Reference Compliance Table

HELIDON TO CALVERT ENVIRONMENTAL IMPACT STATEMENT

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC), in partnership with the private sector.

TABLE B.1: HELIDON TO CALVERT EIS TERMS OF REFERENCE COMPLIANCE TABLE

Reference	Requirement	Where addressed
Part A. About these terms of reference		
1. Statutory basis		
1.1	The Coordinator-General has declared the Inland Rail – Helidon to Calvert project (the project) to be a 'coordinated project for which an environmental impact statement (EIS) is required' under section 26(1)(a) of the *State Development and Public Works Organisation Act 1971* (SDPWO Act). This declaration initiates the statutory environmental impact assessment procedure of Part 4 of the SDPWO Act, which requires a proponent to prepare an EIS for the project.	Chapter 1: Introduction, Section 1.4 Chapter 3: Project approvals, Section 3.2.1
1.2	These terms of reference (TOR) set out the matters the proponent must address in an EIS for the project and are approved by the Coordinator-General under section 30 of the SDPWO Act.	No response required
2. Accredited process for controlled actions under Commonwealth legislation		
2.1	On 17 March 2017, the Commonwealth Minister for the Environment and Energy determined the Inland Rail – Helidon to Calvert project is a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act), due to the likely potential impacts on matters of national environmental significance (MNES) (reference number EPBC 2017/7883).	Chapter 1: Introduction, Section 1.4 Chapter 3: Project approvals, Section 3.2.2
2.2	The EIS process has been accredited under the Bilateral Agreement for the assessment of the project under the EPBC Act, hence the EIS must state the controlling provision for the project and describe the particular aspects of the environment that led to the controlled action decision.	Chapter 1: Introduction, Section 1.4 Chapter 3: Project approvals, Sections 3.1.1, 3.2.1 and 3.2.2
2.3	The assessment of the controlling provisions, mitigation measures and any offsets for residual impacts must be described and illustrated in a stand-alone report in the EIS that fully addresses the matters relevant to the controlling provision. Requirements for MNES are set out in section 11 of this TOR.	Appendix J: Matters of National Environmental Significance Technical Report
3. EIS guidelines		
3.1	This TOR should be read in conjunction with *Preparing an environmental impact statement: Guideline for proponents*, which explains the following:	No response required
	(a) participants in the EIS process	
	(b) consultation requirements	
	(c) EIS format and copy requirements.	
3.2	In addition, subject-specific guidelines are referenced throughout this TOR.	No response required
4. More information		
4.1	For information about the project or the EIS process conducted under the SDPWO Act, visit **statedevelopment.qld.gov.au/cg**.	No response required

Reference	Requirement	Where addressed
Part B. Content of the EIS		
5. General approach		
5.1	The objectives of the EIS are to ensure that all relevant environmental, social and economic impacts of the project are identified and assessed, and to recommend mitigation measures to avoid or minimise adverse impacts. The EIS should demonstrate that the project is based on sound environmental principles and practices.	Addressed throughout the EIS Chapter 1: Introduction, Section 1.5 Social impacts are discussed in Chapter 16: Social, Section 16.12, and Appendix Q: Social Impact Assessment Technical Report, Section 7 and 9. Mitigation measures are discussed In Chapter 16: Social, Section 16.11, and Appendix Q: Social Impact Assessment Technical Report, Section 8 Economic impacts are discussed in Chapter 17: Economics, Sections 17.8 and 17.9 and Appendix R: Economic Technical Report, Section 5. Mitigation measures are discussed in Chapter 17: Economics, Section 17.13, and Appendix R: Economics Technical Report, Section 7 Chapter 23: Draft Outline Environment Management Plan lists the mitigation measures for the Project
5.2	For the purposes of the EIS process, 'environment' is defined in Schedule 2 of the SDPWO Act and includes social and economic matters.	No response required
5.3	The detail at which the EIS deals with matters relevant to the project should be proportional to the scale of the impacts on environmental values. When determining the scale of an impact, consider its intensity, duration, cumulative effect, irreversibility, the risk of environmental harm, management strategies and offsets provisions.	Addressed throughout the EIS Chapter 4: Assessment methodology
5.4	The EIS is to be generally in accordance with relevant policies, standards and guidelines. Application of such guidelines, standards and policies will be confirmed throughout the development of the EIS in consultation between the Coordinator-General and the proponent and advisory agencies.	Addressed throughout the EIS in Chapter 8 to Chapter 21
6. Mandatory requirements of an EIS		
6.1	For all relevant matters, the EIS must identify and describe the environmental values that must be protected. Environmental values are specified in section 9 of the *Environmental Protection Act 1994* (EP Act), the Environmental Protection Regulation 2008 (EP Regulation), environmental protection policies (EPPs), Water Resource Plans, State Planning Policy (SPP) and relevant guidelines.	Addressed throughout the EIS in Chapter 8 to Chapter 21
6.2	The assessment should cover both the short term and long term and state whether any relevant impacts are likely to be irreversible. The assessment should also discuss scenarios of unknown and unpredictable impacts.	Chapter 4: Assessment methodology Addressed throughout the EIS in Chapter 8 to Chapter 21

Reference	Requirement	Where addressed
6.3	Provide all available baseline information relevant to the environmental values of the project, including seasonal variations. Provide details about the quality of the information provided, in particular: the source of the information; how recent the information is; how the reliability of the information was tested; and any uncertainties in the information.	Addressed throughout the EIS in Chapter 8 to Chapter 21
6.4	Provide detailed strategies in regard to all project specific matters (as described in section 11 of this TOR) for the protection, or enhancement as desirable, of all relevant environmental values in terms of outcomes and possible conditions that can be measured and audited. In general, the preferred hierarchy for managing likely impacts is: (a) to avoid; (b) to minimise/mitigate; and (c) to offset once (a) and (b) have been applied. Management of impacts should be tailored to the management of hierarchy relevant to the particular EPP for the value or matter. Where relevant, strategies should be described in the context of Department of Environment and Heritage Protection (DEHP) 'model conditions'.	Chapter 23: Draft Outline Environmental Management Plan (consolidated summary) Appendix E: Proponent Commitments Addressed throughout the EIS in Chapter 8 to Chapter 21
6.5	Impact minimisation measures should include ongoing monitoring and proposals for an adaptive management approach, as relevant, based on monitoring. The proposed measures should give confidence that, based on current technologies, the impacts can be effectively minimised over the long-term.	Chapter 23: Draft Outline Environmental Management Plan (consolidated summary) Appendix E: Proponent Commitments Addressed throughout the EIS in Chapter 8 to Chapter 21
6.6	Each matter assessed in the EIS (as described in section 11 of the TOR) should include a concise summary and suitable assessment of the nature, magnitude and duration of the potential direct and indirect and cumulative impacts of the project and the measures proposed by the proponent to avoid, minimise, mitigate, manage and/or offset those impacts.	Addressed throughout the EIS in Chapter 8 to Chapter 21 The assessment methodology is provided in Chapter 4: Assessment methodology The cumulative impact assessment is provided in Chapter 22: Cumulative impacts, Section 22.6 Mitigation measures are consolidated in Chapter 23: Draft Outline Environmental Management Plan
6.7	Present feasible alternatives of the project's configuration (including individual elements) that may improve environmental outcomes. Discuss the consequences of not proceeding with the project.	Chapter 2: Project rationale, Sections 2.5, 2.6, 2.7 and 2.9
6.8	Assess the extent to which the construction and operation of the project meets all statutory and regulatory requirements of the State and that the intended outcomes are consistent with current state policies and guidelines. If there is conflict, provide comment on the planning merit that supports the project.	Addressed throughout the EIS Chapter 3: Project approvals Assessment of the Project against land use and planning instruments is provided in Chapter 8: Land Use and Tenure, Section 8.9

Reference	Requirement	Where addressed
7. Further requirements of an EIS		
7.1	The proponent must identify in the EIS the scope of government approvals sought through the EIS process.	Chapter 3: Project approvals, Section 3.1.1
7.2	The assessment and supporting information should be sufficient for the Coordinator-General and administering authorities to decide whether an approval sought through the EIS process should be granted. Where applicable, sufficient information should be included to enable approval conditions to be developed in relation to later approvals under relevant legislation, including but not limited to the *Planning Act 2016* (PA), the *Water Act 2000* (Water Act), *Nature Conservation Act 1992*, *Vegetation Management Act 1999* (VMA), *Fisheries Act 1994*, *Land Act 1994*, *Forestry Act 1959*, *Stock Route Management Act 2002*, *Queensland Heritage Act 1992*, *Transport Infrastructure Act 1994*, *Mineral Resources Act 1989*, EP Act, *Regional Planning Interests Act 2014*, *Environmental Offsets Act 2014* and the EPBC Act.	Chapter 3: Project approvals Addressed throughout the EIS
7.3	Cumulative impacts should be assessed over time and in combination with impacts created by the activities of other local, upstream and downstream land uses, major projects under construction, and proposed significant development progressing through the statutory assessment processes for which information is publicly available. The EIS should also propose means to suitably address predicted cumulative impacts. Outline ways in which the cumulative impact assessment and management could be subsequently be progressed further on a collective basis.	A summary of cumulative impacts is provided in each technical chapter (Chapter 8 to Chapter 21), with the full assessment in Chapter 22: Cumulative impacts, Sections 22.4 to 22.6
7.4	Include a consolidated description of all the proponent's commitments to implement management measures (including monitoring programs). Should the project proceed, these should be able to be carried over into the approval conditions as relevant.	Mitigation measures are consolidated in Chapter 23: Draft Outline Environmental Management Plan Appendix E: Proponent Commitments
7.5	Provide all geographical coordinates throughout the EIS in latitude and longitude against the Geocentric Datum of Australia 1994 (GDA94). It is preferred that all spatial data presented in the EIS is made available to the Coordinator-General in the appropriate electronic form such as shapefiles.	Throughout the EIS geographical coordinates are provided in Geocentric Datum of Australia 1994 (GDA94) Spatial data presented in the EIS can be made available to the Coordinator-General in an appropriate electronic form.
7.6	An EIS should also describe the expected benefits and opportunities associated with the project.	Chapter 2: Project rationale, Section 2.4
7.7	An appropriate public consultation program is essential to the impact assessment process. The proponent should consult with Local, State and Commonwealth government agencies, and potentially affected local communities.	Chapter 5: Stakeholder engagement, Sections 5.4, 5.5 and 5.6 Appendix C: Consultation Report, Sections 2.5 and 4
7.8	The EIS should describe the consultation that has taken place and how the responses from the community and agencies have been incorporated into the design and outcomes of the project.	Chapter 5: Stakeholder engagement, Sections 5.6, 5.7 and 5.8 Chapter 16: Social, Section 16.9 Appendix C: Consultation Report, Sections 4 and 6
7.9	Include, as an appendix, a public consultation report detailing how the public consultation plan was implemented, and the results of the implementation.	Appendix C: Consultation Report

Reference	Requirement	Where addressed
8. Executive summary		
8.1	The executive summary should describe the project and convey the most important and preferred aspects and environmental management options relating to the project in a concise and readable form. It should use plain English, avoid jargon, be written as a stand-alone document and be structured to follow the EIS. It should be easy to reproduce and distribute on request to those who may not wish to read or purchase the whole EIS.	The Executive Summary has been developed in accordance with this ToR
9. Introduction		
9.1	Clearly explain the function of the EIS, why it has been prepared and what it sets out to achieve. Include an overview of the structure of the document.	Chapter 1: Introduction, Sections 1.1, 1.4 and 1.6
Project proponent		
9.2	Describe the following:	Refer sub-sections below
	(a) the proponent's full name, postal address and ABN	Chapter 1: Introduction, Section 1.2
	(b) the nature and extent of business activities	Chapter 1: Introduction, Section 1.2
	(c) proponent's experience	Chapter 1: Introduction, Section 1.2
	(d) proponent's (including directors) environmental record in Australia, including a list of any breach of relevant environmental laws during the previous ten years	Chapter 1: Introduction, Section 1.2
	(e) proponent's environmental, health, safety and community policies	Appendix F: Corporate Policies Chapter 23: Draft Outline Environmental Management Plan, Section 23.4.1 describes ARTC policies relevant to the environmental management of the Project
	(f) experience and qualifications of consultant and sub-consultants engaged by the proponent to complete the EIS.	Appendix D: Study Team
The environmental impact assessment process		
9.3	Provide an outline of the environmental impact assessment process, including the role of the EIS in the Coordinator-General's decision-making process. The information in this section is required to ensure readers are informed of the process to be followed and are aware of any opportunities for input and participation.	Chapter 1: Introduction, Section 1.4 Chapter 3: Project approvals, Sections 3.2.1 and Figure 3.2
9.4	Inform the reader how and when properly made public submissions on the EIS will be addressed and taken into account in the decision-making process.	Chapter 1: Introduction, Section 1.7 Chapter 3: Project approvals, Sections 3.2.1, Figure 3.1 and Figure 3.2

Reference	Requirement	Where addressed
Project approvals process		
9.5	Describe the approvals required to enable the project to be constructed and operated. Explain how the environmental impact assessment process (and the EIS itself) informs the issue of the leases/licences/permits required by the proponent before construction can commence. Provide a flow chart indicating the key approvals and opportunities for public comment.	Chapter 3: Project approvals Figure 3.2 provides a flow chart indicating key approvals and opportunities for public comment
9.6	Inform the reader of how the SDPWO Act, EP Act and the PA interact, with reference to the project. Describe how the EIS process informs approvals required for the project, and how a properly made submission on the EIS relates to application processes and later approvals under the PA and EP Act respectively.	Chapter 3: Project approvals, Sections 3.2.1.4, 3.2.1.5 and Figure 3.1
9.7	Identify any statutory approvals, permits, licences and authorities (including any requirement for owners consent) that will be required for the project to use the land.	Chapter 3: Project approvals, Sections 3.3.4, 3.4.2, 3.4.14 and Table 3.4
9.8	Describe the assessment process under the Bilateral Agreement between the Commonwealth and the State of Queensland under section 45 of the EPBC Act relating to Environmental Assessment.	Chapter 1: Introduction, Section 1.4 Chapter 3: Project approvals, Sections 3.2.1, 3.2.2 and 3.2.2.2
9.9	The State Development Assessment Provisions (SDAP) prescribed in the Planning Regulation 2017 set out the matters of interest to the state for development assessment where the chief executive of PA is the assessment manager or referral agency for development applications. If the proponent intends to satisfy the information requirements of future development assessment decisions under SDAP for any component of the project during this coordinated project EIS process, the material provided in accordance with sections 10-11 of this TOR should be sufficient to permit those assessments to be completed for that project component.	Chapter 3: Project approvals, Sections 3.2 and 3.4.20
9.10	The EIS will provide, where relevant, the information required under section 125 of the EP Act in support of the project's environmental authority application for Environmentally Relevant Activities (ERAs).	Not applicable—refer Chapter 3: Project approvals, Figure 3.1, Sections 3.4.10, 3.6 and Table 3.4
9.11	Any ERAs to be conducted as part of the project should be listed separately with appropriate ERA number, activity name and required threshold (see EP Regulation, Schedule 2 for a list of ERAs). The assessment and supporting information should be sufficient for the administering authority to decide whether an approval should be granted. Environmental values and approval requirements are specified in the EP Act, the EP Regulation, environmental protection policies and relevant guidelines.	Not applicable—refer Chapter 3: Project approvals, Sections 3.4.10, 3.6 and Table 3.4

Reference	Requirement	Where addressed
10. Project description		
Proposed development		
10.1	The EIS must describe and illustrate at least the following specific information about the proposed project:	Refer sub-sections below
	(a) project title	Chapter 1: Introduction, Section 1.3
	(b) project description	Chapter 6: Project description, Section 6.6
	(c) project objectives	Chapter 6: Project description, Section 6.3
	(d) expected capital expenditure	Chapter 1: Introduction, Section 1.3 Chapter 6: Project description, Section 6.2.5
	(e) rationale for the project	Chapter 2: Project rationale, Section 2.3 Chapter 6: Project description, Section 6.4
	(f) regional and local context of the project's footprint (with maps at suitable scales)	Chapter 6: Project description, Section 6.5, Figures 6.1 and 6.2
	(g) relationship to other projects for the proposed Inland Rail Programme between Melbourne and Brisbane	Chapter 2: Project rationale, Section 2.10 Chapter 6: Project description, Section 6.2.2
	(h) relationship to other coordinated projects, major projects and/or developments (which are progressing through planning and approval processes and public information is available)	Chapter 22: Cumulative impacts, Section 22.5
	(i) workforce numbers to be employed by the project during its various phases	Chapter 6: Project description, Section 6.7.6 and 6.9.1
	(j) where personnel would be accommodated and, where relevant, the likely recruitment arrangements to be adopted	Chapter 6: Project description, Section 6.10.1
	(k) proposed timing and overall duration of the project including construction staging and likely schedule of works.	Chapter 6: Project description, Section 6.7.1 and 6.8
Site description		
10.2	Provide real property descriptions of the preferred alignment.	Appendix G: Directly Impacted Properties
10.3	Describe and map at suitable scales key transport infrastructure including state-controlled roads, local roads, rail (including tunnels), air, and other infrastructure or services (including gas and water pipelines, and electricity transmission and distribution powerlines) existing, under construction or proposed which may be impacted within the study area.	Chapter 8: Land use and tenure, Section 8.6, Figure 8.1, Figure 8.4 and Figure 8.5 Chapter 6: Project description, Section 6.7.2.2 and Table 6.6 Chapter 19: Traffic, transport and access, Section 19.7 Volume 3: Drawings

Reference	Requirement	Where addressed
10.4	Describe and illustrate the topography of the preferred alignment and surrounding area, and highlight any significant features shown on the maps. Include and name all waterways, including watercourses, rivers and creeks. Maps should include a scale, and have contours at suitable increments relevant to the scale, location, potential impacts and type of project, shown with respect to Australian Height Datum (AHD) and drafted to GDA94.	Chapter 9: Land resources, Section 9.6.1.1 and Figure 9.3
10.5	Describe and illustrate specific information about the proposed project including the precise location of the preferred alignment in relation to designated areas, such as transport corridors, protected areas and areas of regional interest and agricultural land uses identified in the *Queensland Agricultural Land Audit*. Consideration should also be given to Key Resource Areas (KRAs), petroleum and gas pipelines, explosive magazines (storage and manufacturing facilities) abandoned mines and mining (exploration and production) tenures.	Chapter 8: Land use and tenure, Section 8.6, Figure 8.5 and Figure 8.6 Chapter 9: Land resources, Sections 9.6.5 and 9.6.7.2
10.6	Where relevant, describe and map in plan and cross-sections the geology and landforms, including catchments, of the project area. Show geological structures, such as aquifers, faults and economic resources (such as agricultural products and KRAs) that could have an influence on, or be influenced by, the project's activities.	Chapter 8: Land use and tenure, Sections 8.6.1, 8.6.2, 8.6.3.1, 8.7.2 and Figure 8.5 Chapter 9: Land resources, Section 9.6.1 and Figures 9.4, 9.5 and 9.14 Chapter 13: Surface water and hydrology, Section 13.6.2 and Figure 13.2 Chapter 14: Groundwater, Section 14.6.1, and Figure 14.2 Appendix N: Groundwater Technical Report, Section 5.1, 5.2, and Figure 5.1 and Figure 5.2 Appendix W: Geotechnical Factual Report, Appendix A
10.7	Where relevant, describe, map and illustrate soil types and profiles of the project area at a scale relevant to the proposed project. Identify soils that would require particular management due to wetness, erosivity, depth, acidity, salinity, contamination or other relevant features.	Chapter 9: Land resources, Sections 9.6.4, 9.6.6, and Figure 9.6–9.13 Chapter 13: Surface water and hydrology, Section 13.6.2 Appendix L: Surface Water Quality Technical Report, Sections 5.4.1, 5.4.2, 5.4.3 and 5.9
10.8	Plans and drawings provided must be detailed enough to enable the Coordinator-General and advisory agencies to adequately assess the impacts of the project.	Chapter 6: Project description, Figure 6.4 Volume 3: Drawings
10.9	Describe the ability and capacity of the proposed rail corridor to support future passenger rail services between Brisbane and Toowoomba.	Chapter 6: Project description, Section 6.2.1
Proposed construction and operations		
10.10	Describe the planning schemes, regional plans, state policies and government priorities for the preferred alignment, including those that have been publicly notified. This description should include those instruments currently under development that may be implemented within the project's planning and construction timeframes.	Chapter 3: Project approvals, Section 3.5 Chapter 8: Land use and tenure, Sections 8.4, 8.6.3.1 and 8.9

Reference	Requirement	Where addressed
Infrastructure requirements		
10.11	Describe the following information about the proposed project:	Refer sub-sections below
	(a) all pre-construction activities (e.g. vegetation clearing, site access, State land approvals and owner consent requirements, interference with watercourses and floodplain areas, including wetlands)	Chapter 5: Stakeholder engagement, Sections 4, 5.8 and 6 Chapter 6: Project description, Section 6.7
	(b) existing infrastructure and easements on the preferred alignment	Chapter 5: Stakeholder engagement, Section 5.8 Chapter 6: Project description, Section 6.7.2 and Table 6.6 Chapter 8: Land use and tenure, Sections 8.6.1.2 and 8.6.2.3, Figure 8.5 Appendix C: Consultation Report, Sections 4 and 6 Appendix G: Directly Impacted Properties
	(c) the proposed construction methods, associated equipment and techniques	Chapter 6: Project description, Section 6.7
	(d) location, design and capacity of water supply, wastewater conveyance and treatment, telecommunications, power generation, accommodation of site facilities and transmission infrastructure	Chapter 5: Stakeholder engagement, Section 5.8 Chapter 6: Project description, Sections 6.7.2, 6.10.9.3, 6.10.11, 6.10.12, 6.10.13 and 6.10.14 Chapter 13: Surface water and hydrology, Section 13.8 Appendix C: Consultation Report, Sections 4 and 6 Appendix L: Surface Water Quality Technical Report, Sections 2.1, 2.3, 2.7, 7.1.1 and 7.1.2
	(e) any infrastructure alternatives, justified in terms of ecologically sustainable development (including energy, water conservation and wastewater management)	Chapter 2: Project rationale, Sections 2.8 and 2.9 Chapter 7: Sustainability, Sections 7.5 and 7.6
	(f) hours of operation for proposed construction works, including night time works	Chapter 6: Project description, Section 6.7.6
	(g) the sequencing and staging of activities	Chapter 6: Project description, Section 6.7.1
	(h) the capacity of high-impact plant and equipment, their chemical and physical processes, and chemicals, explosives or hazardous materials to be used	Chapter 6: Project description, Sections 6.7.1, 6.7.5, 6.10.5 and Tables 6.4 and 6.9
	(i) the known locations of new or altered works and structures and infrastructure necessary to enable the construction and operation of the development	Chapter 6: Project description, Sections 6.6, 6.7, 6.9 and 6.10
	(j) any activity that is a prescribed ERA	Chapter 3: Project approvals, Section 3.4.10, and Table 3.4
	(k) an estimate of quarry materials required for the project and potential sources	Chapter 6: Project description, Section 6.10.6 Appendix T: Spoil Management Strategy

Reference	Requirement	Where addressed
	(l) the range of land uses and site layout	Chapter 6: Project description, Section 6.5 and Figures 6.3 and 6.4 Chapter 8: Land use and tenure, Section 8.6.2 and Figures 8.4 and 8.5
	(m) built form and design specifics	Chapter 6: Project description, Sections 6.6 and 6.10 Volume 3: Drawings
	(n) operation detail (e.g. hours of operation for project components)	Chapter 6: Project description, Section 6.9
	(o) the commissioning process	Chapter 6: Project description, Section 6.8
	(p) landscaping and the rehabilitation of affected areas after construction and during operation	Chapter 6: Project description, Section 6.11 Chapter 10: Landscape and visual amenity, Section 10.8.3 Appendix H: Landscape and Visual Amenity Impact Assessment Technical Report, Sections 6 and 11
	(q) proposed upgrades, realignments, relocation, deviation or restricted access to roads and other infrastructure (e.g. water, electricity, telecommunications, sewerage)	Chapter 6: Project description, Sections 6.7 and 6.10.9 Chapter 13: Surface water and hydrology, Section 13.8 Chapter 19: Traffic, transport and access, Section 19.8
	(r) location and scale of parking requirements.	Chapter 6: Project description, Section 6.10.9.1
10.12	Describe with concept and layout plans, requirements for new infrastructure, or the upgrading and/or relocating of existing infrastructure to service the project. Infrastructure to be considered should include sewerage and water supply, energy supply, telecommunications, stormwater, waste disposal and locations of any infrastructure easements. Describe the timing of requirements for this infrastructure.	Chapter 6: Project description, Section 6.10.9 Volume 3: Drawings
10.13	Describe the typical service corridors or clearances for utilities such as sewerage, potable water reticulation, recycled water mains and petroleum and gas pipelines in relation to other services.	Chapter 6: Project description, Section 6.10.9
10.14	Concept and layout plans should also include existing infrastructure relevant to the project.	Chapter 6: Project Description, Figure 6.4 Volume 3: Drawings
11. Assessment of Project-specific matters		
Matters of national environmental significance		
Background and context		
11.1	This section should provide a stand-alone description and detailed assessment of the impacts of the project on the controlling provision for the project under the EPBC Act inclusive of any avoidance, mitigation and offset measures.	Appendix J: Matters of National Environmental Significance Technical Report
11.2	The Commonwealth Minister for the Environment and Energy (the Commonwealth Minister) has determined that the project (EPBC 2017/7883) is likely to impact upon listed threatened species and communities (sections 18 and 18A of the EPBC Act).	No response required

Reference	Requirement	Where addressed
11.3	The EIS must be prepared in accordance with the bilateral agreement between the Commonwealth of Australia and the State of Queensland relating to environmental assessment. This will enable the EIS to meet the impact assessment requirements under both Commonwealth and Queensland legislation.	No response required
11.4	The statutory obligations for conduct of the EIS process under the bilateral agreement are set out in Part 13 of the State Development and Public Works Organisation Regulation 2010.	No response required
11.5	Once the draft EIS has been prepared to the satisfaction of the Coordinator-General and MNES addressed to the satisfaction of the Australian Government Department of the Environment and Energy, the draft EIS will be made available for public comment.	No response required
11.6	The proponent may be required by the Coordinator-General or the Department of the Environment and Energy to provide additional material to address matters raised in submissions on the EIS.	No response required
11.7	At the conclusion of the environmental assessment process, the Coordinator- General will provide a copy of the report evaluating the environmental impacts of the project to the Commonwealth Minister.	No response required
11.8	After receiving the evaluation report and sufficient information about the relevant impacts of the action, the Commonwealth Minister for the Environment and Energy has 30 business days to consider whether the impacts of the proposal are acceptable, or not, and to decide whether or not to approve each controlling provision.	No response required
11.9	The Commonwealth Minister's decision under Part 9 of the EPBC Act is separate to the approval decisions made by Queensland state agencies and other agencies with jurisdiction on state matters.	No response required
Information requirements		
11.10	Consideration must be given to any relevant policy statements available from **environment.gov.au**, including:	
	(a) Matters of National Environmental Significance: Significant impact guidelines 1.1	Appendix J: Matters of National Environmental Significance Technical Report, Section 2.1
	(b) Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy	Appendix J: Matters of National Environmental Significance Technical Report, Section 2.1
	(c) any approved conservation advice, recovery plans and threat abatement plans (as relevant) for listed threatened species and ecological communities.	Appendix J: Matters of National Environmental Significance Technical Report, Sections 2.1, 3.2, 4 and Appendix B

Reference	Requirement	Where addressed
11.11	The EIS must: (a) assess all the relevant impacts that the action has, will have or is likely to have, including on receiving environments of the project (b) provide enough information about the action and its relevant impacts to allow the Commonwealth Minister to make an informed decision on whether or not to approve the action (c) address the matters set out in Schedule 4 of the Environment Protection and Biodiversity Conservation Regulations 2000 (Cwlth) (EPBC Regulations).	Chapter 11: Flora and fauna, Sections 11.4 to 11.12 Appendix J: Matters of National Environmental Significance Technical Report, Sections 1, 3, 4, 5 and 6
11.12	The MNES section of the EIS should bring together assessments of impacts from other chapters and produce a stand-alone assessment in a format suited for assessment under the EPBC Act.	Appendix J: Matters of National Environmental Significance Technical Report
11.13	The project should initially be assessed in its own right, followed by an assessment of the cumulative impacts related to existing major projects and/or development that is progressing through a publicly available planning and approval process. Cumulative impacts not solely related to the project development should also be described.	Chapter 11: Flora and fauna, Sections 11.8 and 11.13 Appendix J: Matters of National Environmental Significance Technical Report, Sections 5 and 7 Chapter 22: Cumulative impacts, Section 22.6 Each technical chapter also includes a discussion on cumulative impacts.
11.14	Predictions of the extent of threat (risk), impact and the benefits of any mitigation measures proposed, should be based on sound science and quantified where possible. All sources of information relied upon should be referenced.	Chapter 11: Flora and fauna, Section 11.8, 11.9, 11.10 and 11.11 Appendix J: Matters of National Environmental Significance Technical Report, Sections 5, 9 and Appendix B
11.15	An estimate of the reliability of any predictions should be provided.	Appendix J: Matters of National Environmental Significance Technical Report, Sections 3 and Appendix A
11.16	Any positive impacts of the project should be identified and evaluated.	Chapter 2: Project rationale, Section 2.4 Chapter 16: Social, Sections 16.10 and 16.12 Appendix J: Matters of National Environmental Significance Technical Report, Section 1.9
11.17	The extent of any new field work, modelling or testing should be commensurate with risk and should be such that when used in conjunction with existing information, provides sufficient confidence in predictions that well-informed decisions can be made.	Chapter 11: Flora and fauna, Section 11.5 Appendix J: Matters of National Environmental Significance Technical Report, Sections 3.2 and 3.3
11.18	In accordance with Schedule 4 of the EPBC Regulations, feasible project alternatives must be discussed, including: (a) if relevant, the alternative of taking no action (b) a comparative description of the impacts of each alternative on the triggered MNES protected by the controlling provision (c) sufficient detail to make clear why any alternative or option is preferred to another.	Appendix J: Matters of National Environmental Significance Technical Report, Section 1.6 Chapter 2: Project rationale, Sections 2.5, 2.6, 2.7 and 2.8.3
11.19	Short, medium and long-term advantages and disadvantages of the alternatives or options must be discussed.	Appendix J: Matters of National Environmental Significance Technical Report, Section 1.6 Chapter 2: Project rationale, Sections 2.4, 2.5, 2.6 and 2.7

Reference	Requirement	Where addressed
11.20	The information provided must include details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against: (a) the person proposing to take the action (b) for an action for which a person has applied for a permit, the person making the application. If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must also be included.	Chapter 1: Introduction, Section 1.2 Appendix F: Corporate Policies Appendix J: Matters of National Environmental Significance Technical Report, Section 1.4
11.21	The economic and social impacts of the action, both positive and negative, must be summarised. Matters of interest should include: (a) consideration at the local, regional and national levels (b) any public consultation activities undertaken, and their outcomes (c) any consultation with indigenous stakeholders (d) identification of affected parties and communities that may be affected and a description of the views of those parties and communities (e) project economic costs and benefits of the project and project alternatives, including the basis for their estimation through cost/benefit analysis or similar studies; and (f) employment and other opportunities expected to be generated by the project in each of the construction and operational phases.	Chapter 2: Project rationale, Sections 2.3, 2.4 and 2.5 Chapter 5: Stakeholder engagement, Sections 5.5, 5.6 and 5.7 Chapter 16: Social, Sections 16.9, 16.10, 16.11 and 16.12 Chapter 17: Economics, Sections 17.8 to 17.12 Chapter 18: Cultural Heritage, Section 18.7 Appendix J: Matters of National Environmental Significance Technical Report, Sections 1.9 and 1.10 re (b) Appendix C: Consultation Report, Sections 4 and 6.13 re (c) Appendix C: Consultation Report, Sections 4.2.12 and 6.7 re (d) Appendix C: Consultation Report, Section 6 Appendix Q: Social Impact Assessment Technical Report, Section 6.3 Appendix R: Economics Technical Report.
11.22	The EIS must provide background to the action and describe in detail all components of the action for example (but not limited to), the construction, operation and (if relevant) decommissioning components of the action. This must include the location of all works to be undertaken (including associated offsite works and infrastructure), structures to be built or elements of the action that may have impacts on MNES.	Chapter 6: Project description Chapter 11: Flora and fauna, Section 11.8.1 Appendix J: Matters of National Environmental Significance Technical Report, Sections 1.7 and 1.8
11.23	The description of the action must also include details on how the works are to be undertaken (including stages of development and their timing) and design parameters for those aspects of the structures or elements of the action that may have relevant impacts.	Chapter 6: Project description Appendix J: Matters of National Environmental Significance Technical Report, Sections 1.7 and 1.8
11.24	The EIS must also provide details on the current state of groundwater and surface water in the region as well as any use of these resources.	Chapter 13: Surface water and hydrology, Sections 13.6.2 to 13.6.5 Chapter 14: Groundwater, Section 14.6 Appendix J: Matters of National Environmental Significance Technical Report, Sections 4.2 and 5.1.3 Appendix L: Surface Water Quality Technical Report, Sections 5 and 6 Appendix N: Groundwater Technical Report, Sections 4, 5, 6, and 7

Reference	Requirement	Where addressed
Listed threatened species and communities		
11.25	The EIS must describe the listed threatened species and ecological communities identified below (including EPBC Act status, distribution, life history and habitat).	Chapter 11: Flora and fauna, Section 11.6.2.3 Appendix J: Matters of National Environmental Significance Technical Report, Section 4 and Appendix B
11.26	The EIS must consider and assess the impacts to the listed threatened species and ecological communities identified in TOR - 11.29 and TOR - 11.31 (including EPBC Act status, distribution, life history and habitat and any others that are found to be or may potentially be present in areas that may be impacted by the project. Impacts from each component of the project of relevance to each listed threatened species or ecological community should be identified. Impacts may result from: (a) a decrease in the size of a population or a long-term adverse effect on an ecological community (b) reduction in the area of occupancy of the species or extent of occurrence of the ecological community (c) fragmentation of an existing population or ecological community (d) disturbance or destruction of habitat critical to the survival of the species or ecological community (e) disruption of the breeding cycle of a population (f) modification, destruction, removal, isolation or reduction of the availability or quality of habitat to the extent that the species is likely to decline (g) modification or destruction of abiotic (non-living) factors (such as water, nutrients or soil) necessary for the ecological community's survival (h) the introduction of invasive species that are harmful to the species or ecological community becoming established (i) interference with the recovery of the species or ecological community.	Chapter 11: Flora and fauna, Sections 11.8, 11.11 and 11.12 Appendix J: Matters of National Environmental Significance Technical Report, Sections 5.1, 5.3.3, 5.3.4, 5.3.5 and Appendix B
11.27	The EIS should describe any mitigation measures proposed to reduce the impact on the listed threatened species and ecological communities and proposed mitigation measures. Supporting evidence should be provided to demonstrate the appropriateness of mitigation measures proposed. Where the likely success of mitigation measures cannot be supported by evidence, identify contingencies in the event the mitigation is not successful.	Chapter 11: Flora and fauna, Section 11.9 Appendix J: Matters of National Environmental Significance Technical Report, Sections 5.2 and 5.3.2
11.28	The EIS should describe any offsets proposed to compensate for residual impacts.	Chapter 11: Flora and fauna, Section 11.12 Appendix J: Matters of National Environmental Significance Technical Report, Section 5.4 and Appendix I
List of potential listed threatened species and their status		
11.29	The EIS must address impacts on, but not limited to, the following listed threatened species for the proposed action: (a) Regent honeyeater (*Anthochaera phrygia*) – critically endangered	Chapter 11: Flora and fauna, Sections 11.8, 11.10 and 11.11 Appendix J: Matters of National Environmental Significance Technical Report, Sections 4.3, 4.4, 5.1 and 5.3

Reference	Requirement		Where addressed
	(b)	Australasian bittern (*Botaurus poiciloptilus*) – endangered	
	(c)	Curlew sandpiper (*Calidris ferruginea*) – critically endangered	
	(d)	Coxen's fig-parrot (*Cyclopsitta diophthalma coxeni*) – endangered	
	(e)	Eastern bristlebird (*Dasyornis brachypterus*) – endangered	
	(f)	Red goshawk (*Erythrotriorchis radiatus*) – vulnerable	
	(g)	Squatter pigeon (southern subspecies) (*Geophaps scripta scripta*) – vulnerable	
	(h)	Painted honeyeater (*Grantiella picta*) – vulnerable	
	(i)	Swift parrot (*Lathamus discolor*) – critically endangered, marine	
	(j)	Eastern curlew, far eastern curlew (*Numenius madagascariensis*) – critically endangered, marine, migratory	
	(k)	Black-throated finch (southern) (*Poephila cincta cincta*) – endangered	
	(l)	Australian painted snipe (*Rostratula australis*) – endangered, marine	
	(m)	Black-breasted button-quail (*Turnix melanogaster*) – vulnerable	
	(n)	Mary River cod (*Maccullochella mariensis*) – endangered	
	(o)	Australian lungfish (*Neoceratodus forsteri*) – vulnerable	
	(p)	Large-eared pied bat (*Chalinolobus dwyeri*) – vulnerable	
	(q)	Northern quoll (*Dasyurus hallucatus*) – endangered	
	(r)	Spot-tailed quoll (SE mainland population) (*Dasyurus maculatus maculatus*) – endangered	
	(s)	Greater glider (*Petauroides Volans*) – vulnerable	
	(t)	Brush-tailed rock wallaby (*Petrogale penicillata*) – vulnerable	
	(u)	koala (*Phascolarctos cinereus*) (combined population of Queensland, New South Wales and the Australian Capital Territory) – vulnerable	
	(v)	long-nosed potoroo (SE mainland) (*Potorous tridactylus tridactylus*) – vulnerable	
	(w)	New Holland mouse (*Pseudomys novaehollandiae*) – vulnerable	
	(x)	grey-headed flying fox (*Pteropus poliocephalus*) – vulnerable	
	(y)	five-clawed worm-skink, long-legged worm-skink (*Anomalopus mackayi*) – vulnerable	
	(z)	Collared Delma (*Delma torquata*) – vulnerable	
	(aa)	Dunmall's Snake (*Furina dunmalli*) – vulnerable	
	(bb)	Three-toed Snake-tooth Skink (*Saiphos reticulatus*) – vulnerable	

Reference	Requirement	Where addressed
	(cc) a grass (*Paspalidium grandispiculatum*) – vulnerable	
	(dd) Austral Cornflower, Native Thistle (*Rhaponticum australe*) – vulnerable	
	(ee) Austral Toadflax, Toadflax (*Thesium australe*) – vulnerable	
	(ff) bluegrass (*Dichanthium setosum*) – vulnerable	
	(gg) Grevillea quadricauda – vulnerable	
	(hh) Hairy-joint Grass (*Arthraxon hispidus*) – vulnerable	
	(ii) *Leionema obtusifolium* – vulnerable	
	(jj) Lloyd's Olive (*Notelaea lloydii*) – vulnerable	
	(kk) Macadamia nut (*Macadamia integrifolia*) – vulnerable	
	(ll) Miniature Moss-orchid, Hoop Pine Orchid (*Bulbophyllum globuliforme*) – vulnerable	
	(mm) Mt Berryman phebalium (*Phebalium distans*) – critically endangered	
	(nn) Quassia (*Samadera bidwillii*) – vulnerable	
	(oo) *Sophora fraseri* – vulnerable	
	(pp) Tall Velvet Sea-berry (*Haloragis exalata subsp. Velutina*) – vulnerable	
	(qq) Wandering Pepper-cress (*Lepidium peregrinum*) – endangered.	
11.30	The EIS must address how the impacts to each of the listed species is not inconsistent with relevant recovery plans, threat abatement plans and conservation advices.	Chapter 11: Flora and fauna, Sections 11.10 and 11.11 Appendix J: Matters of National Environmental Significance Technical Report, Sections 5.3.4, 5.3.5 and Appendix B
List of potential listed threatened communities		
11.31	The EIS must address impacts on the following listed threatened ecological communities for the proposed action: (a) Brigalow (Acacia harpophylla dominant and co dominant) ecological community – endangered (b) Lowland Rainforest of Subtropical Australia– critically endangered (c) Swamp Tea-tree (Melaleuca irbyana) Forest of SE Queensland – critically endangered (d) White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland– critically endangered.	Chapter 11: Flora and fauna, Sections 11.8, 11.10 and 11.11 Appendix J: Matters of National Environmental Significance Technical Report, Sections 4.3.1.2, 4.4.1.3, 5.1, 5.3.2 and 5.3.3
11.32	The EIS must address how the impacts to each of the listed communities is not inconsistent with relevant recovery plans, threat abatement plans and conservation advices.	Chapter 11: Flora and fauna, Sections 11.10 and 11.11 Appendix J: Matters of National Environmental Significance Technical Report, Sections 5.3.3 and Appendix B

Reference	Requirement	Where addressed
Offsets		
11.33	The EIS must describe any significant residual impacts of the action for each relevant matter protected by the EPBC Act, after all proposed avoidance and mitigation measures are taken into account.	Chapter 11: Flora and fauna, Section 11.11 Appendix J: Matters of National Environmental Significance Technical Report, Sections 5.3.3, 5.3.4 and 5.3.5
11.34	The EIS must propose offsets for all residual impacts to matters protected by the EPBC Act consistent with the EPBC Act Environmental Offsets Policy.	Chapter 11: Flora and fauna, Section 11.12 Appendix J: Matters of National Environmental Significance Technical Report, Section 5.4 and Appendix I
Conclusion		
11.35	The EIS must include an overall conclusion for the action describing the acceptability of the impact of undertaking the action in the manner proposed on the protected matters, in the context of: (a) the requirements of the EPBC Act; (b) the principles of ecologically sustainable development and the precautionary principle, and (c) the proposed avoidance, mitigation measures, and if relevant, offsets measures proposed to address any residual impacts.	Chapter 11: Flora and fauna, Sections 11.5.6, 11.9, 11.12 and 11.13 Appendix J: Matters of National Environmental Significance Technical Report, Sections 1.11 and 8
Water		
Existing environment		
11.36	Identify the water-related environmental values and describe the existing surface water and groundwater regime within the study area and the adjoining waterways in terms of water levels, discharges and freshwater flows.	Chapter 13: Surface water and hydrology, Sections 13.4.2, and 13.6.2 to 13.6.5 Chapter 14: Groundwater, Section 14.6 Appendix N: Groundwater Technical Report, Sections 4 to 7 Appendix L: Surface Water Quality Technical Report, Sections 3.2.4, 5.1 to 5.11, and 6.1 to 6.3
11.37	With reference to the Environmental Protection (Water) Policy 2009 and section 9 of the EP Act, identify the environmental values of surface water within the project area and immediately downstream that may be affected by the project, including any human uses of the water and any cultural values.	Chapter 13: Surface water and hydrology, Sections 13.4.2 and 13.6 Appendix L: Surface Water Quality Technical Report, Sections 3.2.4, 5, and 6
11.38	At an appropriate scale, detail the chemical, physical and biological characteristics of surface waters and groundwater within the area that may be affected by the project. Include a description of the natural water quality variability within the study area associated with climatic and seasonal factors, and flows.	Chapter 13: Surface water and hydrology, Sections 13.6.2 and 13.6.3 Chapter 14: Groundwater, Section 14.6.4 Appendix N: Groundwater Technical Report, Sections 4, 6 and 7 Appendix L: Surface Water Quality Technical Report, Sections 5 and 6 Appendix W: Geotechnical Factual Report, Appendix A

Reference	Requirement	Where addressed
11.39	Describe any existing and/or constructed waterbodies adjacent to the preferred alignment.	Chapter 13: Surface water and hydrology, Section 13.6.2.2 Appendix L: Surface Water Quality Technical Report, Section 5.5.4
11.40	Undertake a landholder bore survey to identify the location and source aquifer of licensed groundwater extraction in areas potentially impacted by the project (e.g. near tunnels and cuttings).	Chapter 14: Groundwater, Section 14.6.6 Appendix N: Groundwater Technical Report, Section 6.4.1
Water quality		
Impact assessment		
11.41	The assessment of impacts on water will be in accordance with the DEHP Information guideline for an environmental impact statement – TOR Guideline – Water, where relevant, located on the DEHP website.	Chapter 13: Surface water and hydrology, Sections 13.7 and 13.9 Chapter 14: Groundwater, Sections 14.9 and 14.11 Chapter L: Surface Water Quality Technical Report, Sections 4.1 and 4.2 Appendix N: Groundwater Technical Report, Sections 3 and 13
11.42	Identify the quantity, quality and location of all potential discharges of water and wastewater by the project, whether as point sources (such as controlled discharges) or diffuse sources (such as irrigation to land of treated sewage effluent).	Chapter 6: Project description, Section 6.10.11 Chapter 13: Surface water and hydrology, Section 13.7.1 Appendix L: Surface Water Quality Technical Report, Sections 7 and 8.3.1
11.43	Assess the potential impacts of any discharges on the quality and quantity of receiving waters taking into consideration the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts.	Chapter 13: Surface water and hydrology, Sections 13.7.1, 13.8.1, and 13.9.1 Appendix L: Surface Water Quality Technical Report, Section 7
11.44	Where significant cuttings or tunnelling is proposed, identify the presence of any sulphide minerals in rocks with potential to create acidic, metalliferous and saline drainage. Should they be found present, describe the practicality of avoiding their disturbance. If avoidance is not practicable, characterise the potential of the minerals to generate contaminated drainage and describe abatement measures that will be applied to avoid adverse impacts to surface and groundwater quality.	Chapter 13: Surface water and hydrology, Sections 13.7.1 and 13.8.1 Appendix L: Surface Water Quality Technical Report, Sections 5.4.2, 5.4.3, 7.1 and 8
11.45	Describe the potential impacts of in-stream works on hydrology and water quality.	Chapter 13: Surface water and hydrology, Section 13.7 Appendix L: Surface Water Quality Technical Report, Section 7.1
11.46	Undertake a salinity risk assessment in accordance with Part B of the Salinity Management Handbook, Investigating Salinity. In particular, consider how the project will change the hydrology of the project area and provide results of the risk assessment.	Chapter 9: Land resources Sections 9.6.4.5 , 9.7.5 and Figures 9.7 to 9.13 Chapter 13: Surface water and hydrology, Sections 13.6.2.5 and 13.7 Appendix L: Surface Water Quality Technical Report, Sections 5.9 and 7.1

Reference	Requirement	Where addressed
Mitigation measures		
11.47	Describe how the water quality objectives identified above would be achieved, monitored and audited, and how environmental impacts would be avoided or minimised and corrective actions would be managed.	Chapter 13: Surface water and hydrology, Section 13.8.1 Chapter 14: Groundwater, Section 14.10.3.2 Chapter 23: Draft Outline Environmental Management Plan, Sections 23.13.6 and 23.13.7 Appendix L: Surface Water Quality Technical Report, Sections 7.1 and 8 Appendix N: Groundwater Technical Report, Section 12.3.2
11.48	Describe appropriate management and mitigation strategies and provide contingency plans for: (a) potential accidental discharges of contaminants and sediments during construction and operation (b) stormwater run-off from the project facilities and associated infrastructure during construction and operation, including the International Erosion Control Association, Best Practice Erosion & Sediment Control – November 2008, and the separation of clean stormwater run-off from disturbed and operational areas of the site (c) flooding of relevant river systems, the effects of tropical cyclones and other extreme events (d) management of acid sulfate soils and acid producing rock and associated leachate from excavations and disturbed areas.	Chapter 9: Land resources, Section 9.8.2 Chapter 13: Surface water and hydrology, Section 13.8.1 Chapter 14: Groundwater, Section 14.10.2 Chapter 23: Draft Outline Environmental Management Plan, Sections 23.13.6 and 23.13.7 Appendix L: Surface Water Quality Technical Report, Section 8 Appendix N: Groundwater Technical Report, Section 12.2
11.49	Describe treatment processes for all waste water produced as a result of the project.	Chapter 6: Project Description, Section 6.10.11 Chapter 13: Surface water and hydrology, Sections 13.8.1.2 and 13.8.1.3 Appendix L: Surface Water Quality Technical Report, Sections 8.2 and 8.3.2
11.50	Propose suitable measures to avoid or mitigate the impacts of in-stream works on water quality and the stabilisation and rehabilitation of any such works.	Chapter 13: Surface water and hydrology, Section 13.8 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.6 Appendix L: Surface Water Quality Technical Report, Section 8
11.51	Where a salinity risk is identified, detail strategies to manage salinity ensuring the development must be managed so that it does not contribute to the degradation of soil, water and ecological resources or damage infrastructure via expression of salinity. See Part C of the Salinity management handbook second edition, Department of Environment and Resource Management 2011.	Chapter 9: Land Resources Sections 9.6.4.5, 9.7.5 and 9.8.2 Chapter 13: Surface water and hydrology, Sections 13.8.1.2 and 13.8.1.3 Appendix L: Surface Water Quality Technical Report, Section 8

Reference	Requirement	Where addressed
Water resources		
Impact assessment		
11.52	Provide details of any proposed impoundment, extraction (i.e. volume and rate), discharge, use or loss of surface water or groundwater. Identify any approval or allocation that would be needed under the Water Act.	Chapter 3: Project approvals, Section 3.4.34 and Table 3.4 Chapter 6: Project description, Section 6.7.2.1 Chapter 13: Surface water and hydrology, Sections 13.4.1 and 13.8.1.3 Chapter 14: Groundwater, Sections 14.4, 14.7.4 and 14.9.2 Appendix L: Surface Water Quality Technical Report, Sections 2.7, 3.1 and 7.2 Appendix N: Groundwater Technical Report, Sections 2.2 and 11.1
11.53	Detail any significant diversion or interception of overland flow. Include maps of suitable scale showing the location of diversions and other water-related infrastructure.	Chapter 13: Surface water and hydrology, Section 13.6.2.2 and Figure 13.3 Appendix L: Surface Water Quality Technical Report, Section 2.5 and Figure 2.1
11.54	Develop hydrological models as necessary to describe the inputs, movements, exchanges and outputs of all significant quantities and resources of surface water and groundwater that may be affected by the project. The models should address the range of climatic conditions that may be experienced at the site, and adequately assess the potential impacts of the project on water resources. This should enable a description of the project's impacts at the local scale and in a regional context including proposed: (a) changes in flow regimes from structures and water take (b) alterations to riparian vegetation and bank and channel morphology (c) direct and indirect impacts arising from the project (d) impacts to aquatic ecosystems, including groundwater-dependent ecosystems and environmental flows.	Chapter 13: Surface water and hydrology, Sections 13.5.2, 13.7.1, 13.7.2 and 13.9.2 Chapter 14: Groundwater, Sections 14.7, 14.8 and 14.11 Appendix L: Surface Water Quality Technical Report, Sections 7.1 and 7.2 Appendix M: Hydrology and Flooding Technical Report, Sections 6 to 9 Appendix N: Groundwater Technical Report, Sections 8 to 11 Appendix W: Geotechnical Factual Report, Appendix A
11.55	Provide information on the proposed water usage by the project, including details about: (a) details of the estimated supply required to meet the demand for construction and full operation of the project, including timing of demands (b) details of the quality and quantity of all water supplied to the site during the construction and operational phases based on minimum yield scenarios for water re-use, rainwater re-use and any bore water volumes (c) a plan outlining actions to be taken in the event of failure of the main water supply (d) sufficient hydrogeological information to support the assessment of any temporary water permit applications.	Chapter 6: Project description, Section 6.7.2.1 Chapter 13: Surface water and hydrology, Section 13.8.1.3 Chapter 14: Groundwater, Sections 14.8 and 14.9.2 Appendix L: Surface Water Quality Technical Report, Sections 2.7 and 7.2 Appendix N: Groundwater Technical Report, Sections 8 to 10

Reference	Requirement	Where addressed
11.56	Describe proposed sources of water supply given the implication of any approvals required under the Water Act. Estimated rates of supply from each source (average and maximum rates) must be given and proposed water conservation and management measures must be described.	Chapter 3: Project approvals, Section 3.4.34 Chapter 6: Project description, Section 6.7.2.1 Chapter 13: Surface water and hydrology, Section 13.8.1.3 Appendix L: Surface Water Quality Technical Report, Sections 2.7 and 7.2
11.57	Determination of potable water demand must be made for the project, including the temporary demands during the construction period. Include details of any existing town water supply to meet such requirements. Detail should also be provided to describe any proposed on-site water storage and treatment for use by the site workforce.	Chapter 6: Project description, Section 6.7.2.1 Chapter 13: Surface water and hydrology, Section 13.8.1.3 Appendix L: Surface Water Quality Technical Report, Sections 2.7 and 7.2
11.58	Identify relevant Water Plans and Resources Operations Plans under the Water Act. Describe how the project will impact or alter these plans. The assessment should consider, in consultation with the Department of Natural Resources and Mines, any need for: (a) a resource operations licence (b) an operations manual (c) a distribution operations licence (d) a water licence (e) a water management protocol.	Chapter 3: Project approvals, Section 3.4.34 and Table 3.4 Chapter 13: Surface water and hydrology, Sections 13.6.2.3 and 13.8.1.3 Chapter 14: Groundwater, Sections 14.4 and 14.6.2 Appendix L: Surface Water Quality Technical Report, Sections 2.7, 5.10 and 7.2 Appendix N: Groundwater Technical Report, Sections 2.3.2 and 6.4.2
11.59	Identify other water users that may be affected by the proposal and assess the project's potential impacts on other water users.	Chapter 13: Surface water and hydrology, Sections 13.6.2.3 and 13.8.1.3 Chapter 14: Groundwater, Sections 14.6.6 and 14.9 Appendix L: Surface Water Quality Technical Report, Sections 2.7, 5.10 and 7 Appendix N: Groundwater Technical Report, Sections 6.4 and 11
11.60	Identify and quantify likely activities involving the excavation or placement of fill that will be undertaken in any watercourse, lake or spring.	Chapter 13: Surface water and hydrology, Section 13.7.1.1 Appendix L: Surface Water Quality Technical Report, Sections 2.3, 2.4, 2.5 and 7
Mitigation measures		
11.61	Provide designs for all infrastructure utilised in the treatment of on-site water including how any on-site water supplies are to be treated, contaminated water is to be disposed of and any decommissioning requirements and timing of temporary water supply/treatment infrastructure is to occur.	Chapter 13: Surface water and hydrology, Section 13.8.1.3 Appendix L: Surface Water Quality Technical Report, Sections 2.1 and 8

Reference	Requirement	Where addressed
11.62	Describe measures to minimise impacts on surface water and ground water resources.	Chapter 13: Surface water and hydrology, Section 13.8 Chapter 14: Groundwater, Section 14.10 Chapter 23: Draft Outline Environmental Management Plan, Sections 23.13.6 and 23.13.7 Appendix L: Surface Water Quality Technical Report, Section 8 Appendix N: Groundwater Technical Report, Section 12
11.63	Provide a policy outline of compensation, mitigation and management measures where impacts are identified.	Chapter 13: Surface water and hydrology, Section 13.8 Chapter 14: Groundwater, Section 14.10 Chapter 23: Draft Outline Environmental Management Plan, Sections 23.13.6 and 23.13.7 Appendix N: Groundwater Technical Report, Section 12 Appendix L: Surface Water Quality Technical Report, Section 8
Flood management		
Existing environment		
11.64	A desktop assessment of the rail line and surrounding catchments must be undertaken and the potential for flooding qualitatively described. The desktop assessment must also identify any high-risk watercourse crossing or floodplain locations that warrant further detailed quantitative assessment.	Chapter 13: Surface water and hydrology, Sections 13.6.4 and 13.9.2 Appendix M: Hydrology and Flooding Technical Report, Sections 3 and 5
Impact assessment		
11.65	For these locations, a flood study must be included in the EIS that includes: (a) quantification of flood impacts on properties and existing infrastructure surrounding and external to the preferred alignment from redirection or concentration of flows (b) identification of likely increased flood levels, increased flow velocities or increased time of flood inundation as a result of the project (c) details of all calculations along with descriptions of base data and any potential for loss of flood plain storage.	Chapter 13: Surface water and hydrology, Section 13.9.2 a) Appendix M: Hydrology and Flooding Technical Report, Section 10 b) Appendix M: Hydrology and Flooding Technical Report, Section 10 c) Appendix M: Hydrology and Flooding Technical Report, Sections 6 to 10
11.66	The flood study should address any requirements of local or regional planning schemes and current accepted practice and statutory requirements in relation to flood plain management. The method of modelling used in the study should be described and justified.	Chapter 13: Surface water and hydrology, Section 13.5.2 Appendix M: Hydrology and Flooding Technical Report, Sections 3 to 5, 7 to 10
11.67	Describe flood risk for a range of annual exceedance probabilities (including probable maximum flood) for the site, and assess how the project may change flooding characteristics. Include a discussion of historical events and findings of the 'Big Flood Study' (refer to Appendix 1).	Chapter 13: Surface water and hydrology, Section 13.9.2 Appendix M: Hydrology and Flooding Technical Report, Sections 6, 8 and 9
11.68	The flood study should consider all infrastructure associated with the project including levees, roads and linear infrastructure.	Chapter 13: Surface water and hydrology, Sections 13.6.4 and 13.9.2 Appendix M: Hydrology and Flooding Technical Report, Section 9

Reference	Requirement	Where addressed
11.69	The EIS should describe the consultation that has taken place with landholders along the alignment regarding modelled potential impacts of the project on flooding. It should also include a discussion of how the results of consultation have been considered by the proponent in the EIS process.	Chapter 5: Stakeholder engagement, Section 5.8 Chapter 13: Surface water and hydrology, Sections 13.5.2.4 and 13.9.2 Appendix C: Consultation Report, Section 6.8 Appendix M: Hydrology and Flooding Technical Report, Section 7.10
11.70	Reference must be made to relevant studies published by local governments.	Appendix M: Hydrology and Flooding Technical Report, Section 5.1
Mitigation measures		
11.71	Identify all proposed measures to avoid or minimise risks to life, property, infrastructure, community (including damage to other properties) and the environment as a result of project impacts during flood events—particularly flood risks on individual properties and businesses, including in and around Grantham, Gatton, Forest Hill, Laidley, Grandchester and Calvert.	Chapter 13: Surface water and hydrology, Sections 13.8.2 and 13.9.2 Appendix M: Hydrology and Flooding Technical Report, Section 9
Land		
Land use and tenure		
Existing environment		
11.72	Detail the existing land use values for all areas associated with the preferred alignment.	Chapter 8: Land use and tenure, Section 8.6.2
11.73	Discuss the compatibility of the project with land that includes the proposed alignment and surrounding land which will be impacted by the project. The discussion should include: (a) existing and proposed land uses in and around the preferred alignment, referring to regional plans and the local government planning schemes (b) State interests identified in the State Planning Policy (SPP) (e.g. KRAs) (c) any land characteristics that influenced the choice of the preferred alignment (d) a description and illustration of any tenures overlying and adjacent to the preferred alignment, and any to be applied for as part of this project and the legal implications and requirements of this tenure (e) an analysis of the agricultural land uses based on the Agricultural Land Audit in the project area (f) any petroleum and gas pipeline licence tenures and resource tenure holders within the vicinity of the proposed corridor.	Chapter 8: Land use and tenure, Sections 8.6.1, 8.6.2, 8.6.3.1 and 8.7.2
Impact assessment		
11.74	Describe the potential for impact on agricultural land uses during construction and operation of the project. The assessment should include consideration of temporary and permanent impacts on agricultural production.	Chapter 8: Land use and tenure, Section 8.7.2.1
11.75	Describe the potential for impact on existing holders of resource tenures, including consideration to safety and resource sterilisation where appropriate.	Chapter 8: Land use and tenure, Section 8.7.2.3

Reference	Requirement	Where addressed
11.76	Identify tenure required for the project to proceed, including proposed easements, leases or licences including the timing of such acquisitions or tenure changes.	Chapter 8: Land use and tenure, Sections 8.6.1, 8.7.1 and 8.8.1 Appendix Q: Social Impact Assessment Technical Report, Section 7.1.2
11.77	Provide evidence of consultation with the relevant owners/licensees of gas/petroleum pipelines in the vicinity of the rail corridors. Provide detail of agreed risk management strategies for project construction and operation with regard to the gas/petroleum pipelines. Demonstrate that the construction and operation of the project will not inhibit the safe and efficient operation of the pipelines.	Chapter 5: Stakeholder engagement, Sections 5.5, 5.6.2 and 5.9.1 Chapter 8: Land use and tenure, Section 8.7.4 Chapter 20: Hazard and risk, Table 20.9 summarises the initial design measures, and proposed mitigation measures for future design and construction activity in the vicinity of these assets. Appendix C: Consultation Report, Sections 4.4.1, 4.4.2 and Table 6.15
11.78	Describe impacts on existing uses of State land and uses either allowed by current tenures or publicly proposed by government at the time of preparation of the EIS.	Chapter 8: Land use and tenure, Sections 8.7.1 and 8.7.2 Appendix G: Directly Impacted Properties
11.79	Discuss the proposal in the context of the applicable Regional Plan and local planning schemes.	Chapter 8: Land use and tenure, Sections 8.6.3.1 and 8.9
11.80	Describe the potential impact of the construction and operation of the project on existing land uses permitted under the relevant planning scheme along the preferred alignment and adjacent areas including impacts on Council assets and KRAs. Discussion in relation to KRAs should: (a) describe the geological properties that may influence ground stability (including seismic activity), and how this might compromise rail infrastructure and operation over short and long-term time horizons (b) describe the location, volume, tonnage and quality of natural resources present which will be potentially impacted by the project.	Chapter 8: Land use and tenure, Sections 8.6.3.1 and 8.7.2 Chapter 9: Land resources, Sections 9.6 and 9.7 There are no KRAs located within the land use study area
Mitigation measures		
11.81	Identify the measures that would be used to avoid or mitigate any impact on land values, including the management of existing infrastructure remaining on reconfigured land parcels.	Chapter 8: Land use and tenure, Section 8.8 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.1
11.82	Where coexistence with agriculture is not possible, provide mitigations to reduce associated impacts.	Chapter 8: Land use and tenure, Section 8.8.2.1 Chapter 23: Draft Outline Environmental Management Plan, Sections 23.13.1 and 23.13.2
11.83	Provide an outline of the land acquisition and compensation processes for properties directly impacted by the project.	Chapter 8: Land use and tenure, Section 8.7.1 Chapter 16: Social, Section 16.10.1.2 Appendix Q: Social Impact Assessment Technical Report, Section 7.1.2
11.84	Provide details of measures to be undertaken to avoid, minimise and mitigate identified impacts on KRAs.	There are no KRAs located within the EIS investigation corridor

Reference	Requirement	Where addressed
Native title		
11.85	Identify existing and potential Native Title rights and interests possibly impacted by the proposed project and describe how those impacts will be managed.	Chapter 8: Land use and tenure, Sections 8.6.1 and 8.7.1
Landscape and visual amenity		
Existing environment		
11.86	Describe and illustrate the existing landscape character and environment, including key natural landscape features, major views, view sheds and outlooks that contribute to the amenity of the area.	Chapter 10: Landscape and visual amenity, Section 10.6 Appendix H: Landscape and Visual Amenity Impact Assessment Technical Report, Sections 5.2, 5.3 and 7
Impact assessment		
11.87	Describe and illustrate the visual impact of the construction and operation of the project. Include major views, view sheds, outlooks, and features contributing to the amenity of the area. Such views should be representative of public and private viewpoints, including places of residence, work, and recreation.	Chapter 10: Landscape and visual amenity, Sections 10.7.1 and 10.7.3.1 Appendix H: Landscape and Visual Amenity Impact Assessment Technical Report, Section 8
11.88	Address the findings, requirements and recommendations of South East Queensland Regional Plan 2005-2026 Implementation Guideline No 8 – Identifying and Protecting Scenic Amenity Values (2007).	Chapter 10: Landscape and visual amenity, Sections 10.6.1.4 and 10.7.2 Appendix H: Landscape and Visual Amenity Impact Assessment Technical Report, Sections 3.2 and 7
Mitigation measures		
11.89	Describe any proposed measures to avoid, minimise or mitigate potential impacts on landscape character and visual amenity.	Chapter 10: Landscape and visual amenity, Section 10.8 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.3 Appendix H: Landscape and Visual Amenity Impact Assessment Technical Report, Section 11
Topography, geology and soils		
11.90	The assessment of impacts on topography, geology and soils will be in accordance with the DEHP Information guideline for an environmental impact statement – Land.	Chapter 9: Land resources, Sections 9.6.1, 9.6.4, 9.7 and 9.9
11.91	Discuss the project's impacts on Important Agricultural Areas as per the SPP – state interest guideline – Agriculture with reference to Agricultural Land Use Categories under the Queensland Agricultural Land Audit methodology.	Chapter 8: Land use and tenure, Section 8.7.2.1 Chapter 9: Land resources, Sections 9.6.5 and 9.7
11.92	Identify and investigate areas of salinity, acid sulfate soils, sodic, dispersive and cracking clay soils and potential and actual areas of acid sulfate soils. Where potential areas are identified, further investigations (including field surveys) should be undertaken in accordance with accepted industry guidelines and the requirements of the SPP – state interest guideline – Water quality are followed.	Chapter 9: Land resources, Section 9.6.4

Reference	Requirement	Where addressed
11.93	Provide details, including maps, of the location of project works/infrastructure with respect to soil conservation works (contour banks, waterway discharge points, etc.).	Chapter 9: Land resources, Section 9.6.6.1 Chapter 13: Surface water and hydrology, Section 13.7.1 Appendix L: Surface Water Quality Technical Report, Section 2 There are no soil conservation property plans within the EIS investigation corridor
11.94	Identify activities or operations likely to impact soil conservation property plans approved under the *Soil Conservation Act 1986*.	There are no soil conservation property plans within the EIS investigation corridor
11.95	Measures to avoid or mitigate potential impacts of the project on soil values must be described.	Chapter 9: Land resources, Section 9.8.2 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.2
Flora and fauna		
Existing environment		
11.96	Identify and describe matters of State environmental significance (MSES), State and regionally significant biodiversity and natural environmental values of the terrestrial and aquatic ecology, including their seasonal variations, likely to be impacted by the project which have not been addressed in the section on MNES.	Chapter 11: Flora and fauna, Section 11.6 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 4
Impact assessment		
11.97	Describe the likely impacts on the biodiversity and natural environmental values of affected areas arising from the construction and operation of the project. The assessment should include, but not be limited to, the following key elements:	
	(a) MSES, matters of local environmental significance (MLES), and designated State and regional biodiversity values and conservation corridors of conservation significance. Reference should be made to the Biodiversity Planning Assessment and BioCondition assessment tools where appropriate	Chapter 11: Flora and fauna, Sections 11.8, 11.10 and 11.11.3 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Sections 5.1, 5.3.1, 5.3.2 and 5.3.4
	(b) terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems) and their interaction and areas surrounding watercourses and wetlands	Chapter 11: Flora and fauna, Sections 11.8 and 11.10 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5
	(c) biological diversity including listed flora and fauna species and regional ecosystems, connectivity and essential habitat	Chapter 11: Flora and fauna, Sections 11.8 and 11.10 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.1.2 and 5.3
	(d) the existing integrity of ecological processes, including habitats of threatened, near threatened or special least-concern species	Chapter 11: Flora and fauna, Sections 11.8, 11.10 and 11.11 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.1.2 and 5.3

Reference	Requirement	Where addressed
	(e) the integrity of landscapes and places, including wilderness and similar natural places	Chapter 11: Flora and fauna, Sections 11.8 and 11.10 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.1.2 and 5.3
	(f) actions of the project that require an authority under the *Nature Conservation Act 1992* and Water Act (for example, riverine protection permits) and/or could be assessable development for the purposes of the VMA, *Fisheries Act 1994* and PA	Chapter 3: Project approvals, Sections 3.4.13, 3.4.18, 3.4.20, 3.4.32 and 3.4.34 Chapter 11: Flora and fauna, Section 11.8 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5
	(g) any exposure to contaminants or the bio-accumulation of contaminants	Chapter 11: Flora and fauna, Section 11.8.2.11 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.1.2.11
	(h) impacts on native fauna due to proximity to the site and site impacts (e.g. lighting, noise, waste and fencing)	Chapter 11: Flora and fauna, Sections 11.8.2.9 and 11.8.2.10 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Sections 5.1.2.9 and 5.1.2.10
	(i) impacts to movement of native fauna due to barrier effect of linear infrastructure	Chapter 11: Flora and fauna, Section 11.8.2.8 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.1.2.8
	(j) impacts on vegetation category areas identified on the regulated vegetation management maps under Queensland's vegetation management framework.	Chapter 11: Flora and fauna, Sections 11.8, 11.10 and 11.11.3 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Sections 5.1, 5.3.1, 5.3.2 and 5.3.4
Mitigation measures		
11.98	Describe any proposed measures to avoid, minimise or mitigate potential impacts on natural values, and enhance these values. Assess how the nominated quantitative indicators and standards may be achieved for nature conservation management. In particular, address measures to protect or preserve any threatened or near-threatened species.	Chapter 11: Flora and fauna, Section 11.9 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.4 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.2
11.99	Assess the need for buffer zones and the retention, rehabilitation planting or construction of movement corridors across the railway and propose measures that would avoid the need for waterway barriers, or propose measures to mitigate the impacts of their construction and operation.	Chapter 11: Flora and fauna, Section 11.9 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.2
11.100	Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.	Chapter 11: Flora and fauna, Section 11.9 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.2

Reference	Requirement	Where addressed
11.101	Where a significant residual impact will occur on a prescribed environmental matter as outlined in the Environmental Offsets Regulation 2014, the offset proposal(s) must be consistent with the requirements of Queensland's *Environmental Offsets Act 2014* and the latest version of the Queensland Environmental Offsets Policy.	Chapter 11: Flora and fauna, Section 11.12 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.4
11.102	Assess the need and suitability and provide objective commitments to the provision of fauna passage between habitat fragmented by the rail corridor, of suitable design and location for affected species and their habitat.	Chapter 11: Flora and fauna, Section 11.9 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Sections 4.4.7 and 5.2
11.103	Demonstrate that actions of the project avoid and minimise impacts of clearing of vegetation regulated through the VMA/PA and how any clearing maintains connectivity of the remaining mapped category B area in the landscape. Provide details on the exemptions/assessment pathway for any clearing of vegetation regulated through the VMA/PA.	Chapter 3: Project approvals, Sections 3.4.20, 3.4.32, and Table 3.4 Chapter 11: Flora and fauna, Section 11.9 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Sections 2.1 and 5.2 to 5.4
Biosecurity		
Existing environment		
11.104	Provide information on the current distribution of animal pests and weeds on the preferred alignment.	Chapter 11: Flora and fauna, Sections 11.6.2.4 and 11.6.3.2 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 4.4.4
11.105	Surveys of animal pests and weeds should be undertaken in those areas identified during the desktop assessment as containing listed flora, fauna or ecological communities of national or state environmental significance (MNES or MSES defined by the EPBC and NC Acts respectively).	Chapter 11: Flora and fauna, Sections 11.6.2.4 and 11.6.3.2 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Sections 4.5.1.3 and 4.5.2.3
Impact assessment		
11.106	Describe the impact the project's construction and operation may have on the spread of pest animals and weed species along the preferred alignment and into adjoining properties.	Chapter 11: Flora and fauna, Sections 11.8.2.4 and 11.10 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Sections 5.1.2.4, 5.3.2 and 5.3.4.1
Mitigation measures		
11.107	Propose detailed measures to control and limit the spread of pests and weeds on the preferred alignment and adjacent areas and any relevant local government area Biosecurity Plans. This includes restricted matters listed in the *Biosecurity Act 2014* and Biosecurity Regulation 2016 and designated pests under the *Public Health Act 2005*.	Chapter 11: Flora and fauna, Section 11.9 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.4 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.2
11.108	All proposed measures must be in accordance with any relevant biosecurity surveillance or prevention program authorised under the *Biosecurity Act 2014* and any requirements of the VMA/PA. Mitigation measures may be developed in consultation with relevant agencies and local government (e.g. baiting programs).	Chapter 11: Flora and fauna, Section 11.9 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.4 Appendix I: Terrestrial and Aquatic Ecology Technical Report, Section 5.2

Reference	Requirement	Where addressed
Transport		
Existing environment		
11.109	Describe and map the existing transport infrastructure and corridors. Provide data on existing road, active transport and rail traffic in the project area.	Chapter 19: Traffic, transport and access, Section 19.7 Appendix U: Traffic Impact Assessment, Section 2
11.110	Describe and map where the project's preferred alignment differs from the State's strategic rail corridors, and the reasons for any such deviation.	Chapter 2: Project rationale, Section 2.7, and Figures 2.3 to 2.7 Chapter 19: Traffic, transport and access, Section 19.5 and Figure 19.1
11.111	Describe how the project complies with the Queensland Level Crossing Safety Strategy 2012–2021 for new road/rail interfaces and the impacts on existing road/rail interfaces.	Chapter 19: Traffic, transport and access, Sections 19.4, 19.6.3 and 19.7 Appendix U: Traffic Impact Assessment, Sections 1.3, 1.5.2.2 and 9.5
Impact assessment		
11.112	Assess the impacts of the project on individual road/rail crossings and any cumulative impacts on the wider transport network in the context of the Queensland level crossing safety strategy.	Chapter 19: Traffic, transport and access, Sections 19.8, 19.9 and 19.11 Appendix U: Traffic Impact Assessment, Sections 6 and 11 Chapter 22: Cumulative impacts, Section 22.6.12
11.113	The EIS should include a clear summary of the total transport task for the project, including workforce, haulage routes, inputs and outputs during the construction and operational phases.	Chapter 19: Traffic, transport and access, Sections 19.5, 19.8 and 19.9 Appendix U: Traffic Impact Assessment, Sections 3, 5, 6 and 12 and Appendix G to O
11.114	Present the transport assessment in separate sections for each project-affected mode (road, active transport and rail) as appropriate for each phase of the project.	Chapter 19: Traffic, transport and access, Sections 19.8 and 19.9 Appendix U: Traffic Impact Assessment, Section 6
11.115	Provide sufficient information to allow an independent assessment of how existing and proposed transport infrastructure will be affected by project transport at the local and regional level (for example, local roads and state-controlled roads). Discussion should also refer to emergency service access.	Chapter 19: Traffic, transport and access, Sections 19.7, 19.8 and 19.9 Appendix U: Traffic Impact Assessment, Section 6
11.116	Include details of the adopted assessment methodology for impacts on roads within the road impact assessment report in accordance with the Department of Transport and Main Roads' Guide to Traffic Impact Assessment.	Chapter 19: Traffic, transport and access, Section 19.6 Appendix U: Traffic Impact Assessment, Section 1.5

Reference	Requirement	Where addressed
Mitigation measures		
11.117	Discuss and recommend how identified impacts will be mitigated. Mitigation strategies are to be prepared in close consultation with relevant transport authorities (including local government).	Chapter 5: Stakeholder engagement, Sections 5.7, 5.8.2, 5.8.3 Chapter 19: Traffic, transport and access, Section 19.10 Chapter 16: Social, Section 16.11 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.10 Appendix C: Consultation Report, Sections 4.2.4, 4.2.5, 4.3 and 6 Appendix U: Traffic Impact Assessment, Section 9
Noise and vibration		
Existing environment		
11.118	Describe the existing noise and vibration environment that may be affected by the project in the context of the environmental values.	Chapter 15: Noise and vibration, Section 15.6 Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report, Section 3 Appendix P: Operational Railway Noise and Vibration Technical Report, Sections 6 and 8
11.119	Describe and illustrate on maps at a suitable scale, the location of all sensitive noise and vibration receptors adjacent to all project components and estimate typical background noise and vibration levels based on surveys at representative sites.	Chapter 15: Noise and vibration, Section 15.6.1 Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report, Section 3.2 and Appendix A Appendix P: Operational Railway Noise and Vibration Technical Report, Sections 6.1, 6.2 and Appendix A
11.120	If the proposed project could adversely impact on the noise and vibration environment, undertake baseline monitoring at a selection of sensitive receptors potentially affected by the project. Describe the results of any baseline monitoring.	Chapter 15: Noise and vibration, Section 15.6.2 Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report, Section 3.3 Appendix P: Operational Railway Noise and Vibration Technical Report, Section 6.4
Impact assessment		
11.121	Describe the characteristics of the noise and vibration sources that would be emitted when carrying out the activity (point source and general emissions). Describe noise and vibration emissions (including fugitive sources) that may occur during construction, commissioning and operation.	Chapter 15: Noise and vibration, Sections 15.7 and 15.8 Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report, Sections 5 and 6 Appendix P: Operational Railway Noise and Vibration Technical Report, Sections 7, 12.6 and Appendix C

Reference	Requirement	Where addressed
11.122	Predict and map the impacts of the noise and vibration emissions from the construction and operation of the project on the environmental values of the receiving environment, including sensitive receptors. Noise and vibration objectives and goals should be sourced from the following: (a) EPP (Noise) 2008, using recognised quality assured methods (b) Environmentally Relevant Activities - DEHP Application Requirements for ERAs with noise impacts (Guideline ESR/2015/1838) (c) Construction – The Department of Transport and Main Roads Transport Noise Management Code of Practice: Volume 2 - Construction Noise and Vibration dated March 2016 and gazetted on 29 July 2016 (d) Operational Noise – The Department of Transport and Main Roads Policy for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure Version 2, 10 May 2013 (Rail noise external criteria contained in Table 3 of the document) (e) Operational vibration – British Standard BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings – Vibration sources other than blasting. British Standards Institution, London (f) The Department of Transport and Main Roads Policy for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure Version 2, 10 May 2013 (criteria contained in Table 6 of the document).	Chapter 15: Noise and vibration, Sections 15.4, 15.7 and 15.8 Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report, Sections 2, 5 and 6 Appendix P: Operational Railway Noise and Vibration Technical Report, Sections 4, 9 to 14 re b) No Environmentally Relevant Activities (ERAs) are being sought as part of this approval process (i.e. EIS). Where an ERA is required to be sourced for the Project during detailed design, the required approval process will consider this guideline
11.123	Discuss separately the key project components likely to present an impact on noise and vibration for the construction and operation phases of the project.	Chapter 15: Noise and vibration, Sections 15.7 and 15.8 Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report, Sections 1.2, 5 and 6 Appendix P: Operational Railway Noise and Vibration Technical Report, Sections 2 and 7
11.124	Taking into account the practices and procedures that would be used to avoid or minimise impacts, the impact prediction must address the: (a) activity's consistency with the objectives of documentation referenced in TOR - 11.121 (b) cumulative impact of the noise and vibration with other known emissions of noise associated with existing major projects and/or developments and those which are progressing through planning and approval processes publicly available (c) potential impacts of any low-frequency (<200 Hz) noise emissions.	Chapter 15: Noise and vibration, Sections 15.8, 15.9 and 15.10 Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report, Sections 5 to 7 Appendix P: Operational Railway Noise and Vibration Technical Report, Sections 8 to 15

Reference	Requirement	Where addressed
Mitigation measures		
11.125	Describe how the proposed project, and in particular, the key project components described above, would be managed to be consistent with best practice environmental management for the activity. Where a government plan is relevant to the activity, or the site where the activity is proposed, describe the activity's consistency with that plan.	Chapter 15: Noise and vibration, Section 15.9 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.8 Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report, Section 8 Appendix P: Operational Railway Noise and Vibration Technical Report, Section 16
11.126	Describe any expected exceedances of noise and vibration goals or criteria following the provision or application of mitigation measures and how any residual impacts would be addressed.	Chapter 15: Noise and vibration, Section 15.9.3 Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report, Section 8.3 Appendix P: Operational Railway Noise and Vibration Technical Report, Section 17
11.127	Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.	Chapter 15: Noise and vibration, Section 15.9.2 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.8 Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report, Section 8 Appendix P: Operational Railway Noise and Vibration Technical Report, Section 16.7
Air		
Existing environment		
11.128	Describe the existing air quality that may be affected by the project in the context of environmental values.	Chapter 12: Air quality, Section 12.4.3 and 12.6 Appendix K: Air Quality Technical Report, Sections 3 and 5
11.129	Discuss the existing local and regional air shed environment.	Chapter 12: Air quality, Section 12.6 Appendix K: Air Quality Technical Report, Section 5
11.130	Provide baseline data on local meteorology and ambient levels of pollutants for modelling of air quality. Parameters should include air temperature, wind speed and directions, atmospheric stability, mixing depth and other parameters necessary for input to the model.	Chapter 12: Air quality, Sections 12.6.1 and 12.6.2 Appendix K: Air Quality Technical Report, Section 5
11.131	The assessment of environmental values must describe and map at a suitable scale the location of all sensitive air receptors adjacent to all project components. An estimate of typical background air quality levels should be based on surveys at representative sites where data from existing DEHP monitoring stations cannot be reliably extrapolated.	Chapter 12: Air quality, Section 12.6 and Table 12.12 Appendix K: Air Quality Technical Report, Section 5.6

Reference	Requirement	Where addressed
Impact assessment		
11.132	Describe the characteristics of any contaminants or materials that may be released as a result of the construction or operations of the project, including point source and fugitive emissions. Emissions (point source and fugitive) during construction, commissioning and operations are to be listed.	Chapter 12: Air quality, Sections 12.4.2, 12.5.2, 12.5.3 and 12.5.4 Appendix K: Air Quality Technical Report, Section 2.4
11.133	The relevant air quality goals or objectives that will be adopted for the assessment should be clearly outlined as a basis of the assessment of impacts on air.	Chapter 12: Air quality, Section 12.4.3 Appendix K: Air Quality Technical Report, Section 3.6
11.134	The assessment of impacts on air will be in accordance with the EP Act, EP Regulation and Environmental Protection (Air) Policy 2008 (EPP (Air)) and reference to appropriate to Australian Standards.	Chapter 12: Air quality, Section 12.4 Appendix K: Air Quality Technical Report, Sections 3 and 4 The assessment has been undertaken in accordance with the EPP (Air) 2019
11.135	Predict the impacts of the releases from the activity on environmental values of the receiving environment using recognised quality assured methods. The description of impacts should take into consideration the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts. The impact prediction must: (a) address residual impacts on the environmental values (including appropriate indicators and air quality objectives) of the air receiving environment, with reference to the air environment at sensitive receptors. This should include all relevant values potentially impacted by the activity, under the EP Act, EP Regulation and EPP (Air) (b) address the cumulative impact of the release with other known releases of contaminants, materials or wastes associated with existing major projects and/or developments and those which are progressing through planning and approval processes and public information is available (c) predict the human health risk and amenity impacts associated with emissions from the project for all contaminants covered by the National Environmental Protection (Ambient Air Quality) Measure or the EPP (Air).	Chapter 12: Air quality, Sections 12.4, 12.5, 12.7 and 12.9 Appendix K: Air Quality Technical Report, Sections 5 to 10
Mitigation measures		
11.136	Describe the proposed mitigation measures to manage impacts to air quality, including potential impacts from coal trains and the predicted level of effectiveness of the mitigation measures.	Chapter 12: Air quality, Section 12.8 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.5 Appendix K: Air Quality Technical Report, Sections 4 and 9
11.137	Describe how the proposed activity will be consistent with best practice environmental management. Where a government plan is relevant to the activity or site where the activity is proposed, describe the activity's consistency with that plan.	Chapter 12: Air quality, Section 12.8 Appendix K: Air Quality Technical Report, Section 9

Reference	Requirement	Where addressed
11.138	Describe any expected exceedances of air quality goals or criteria following the provision and/or application of mitigation measures, and how any residual impacts would be addressed.	Chapter 12: Air quality, Section 12.9 Appendix K: Air Quality Technical Report, Section 10
11.139	Describe how the achievement of the objectives would be monitored, audited and reported and how corrective actions would be managed.	Chapter 12: Air quality, Section 12.8.4 Appendix K: Air Quality Technical Report, Section 9.4
Social		
Information requirements		
11.140	Conduct a Social Impact Assessment (SIA) in accordance with the Coordinator-General's Social Impact Assessment guideline (July 2013) and the Coordinator-General's Social Impact Assessment guideline (draft) (October 2016) or the guideline in place at the time of delivery of the SIA.	Chapter 16: Social, Section 16.4.1 Appendix Q: Social Impact Assessment Technical Report, Section 2.3
11.141	The SIA should be developed in consultation with the Coordinated Project Delivery Division in the Office of the Coordinator-General, Department of State Development, and describe the potential social impacts (positive and negative) on affected communities. The proposed mitigation measures are to be discussed. Matters to be considered in the SIA are detailed in the following sections.	Chapter 16: Social, Sections 16.8, 16.9, 16.10 and 16.11 Appendix Q: Social Impact Assessment Technical Report, Sections 6.2, 6.3, 7 to 9
11.142	The SIA is to include:	Refer sub-sections below
	(a) a profile of key stakeholders	Chapter 16: Social, Section 16.9 Appendix Q: Social Impact Assessment Technical Report, Section 4.3.1
	(b) a social baseline study of potentially impacted communities within the SIA study area	Chapter 16: Social, Section 16.8 Appendix Q: Social Impact Assessment Technical Report, Sections 5.1 to 5.7
	(c) an overview of state government legislation and policies and priorities which complement the mitigation measures for the project's social impacts	Chapter 16: Social, Section 16.4 Appendix Q: Social Impact Assessment Technical Report, Sections 2.1 to 2.5 and 8.1.6
	(d) an explanation of sources used to gather information and analysis methods used. Discuss rationale for both primary and secondary data	Appendix Q: Social Impact Assessment Technical Report, Sections 3.1 to 3.9
	(e) a description of how the potentially impacted communities and affected stakeholders were engaged and consulted with during the development of the SIA	Chapter 16: Social, Sections 16.5.2 and 16.9 Appendix Q: Social Impact Assessment Technical Report, Section 6.2
	(f) identification of potential social impacts and their likely significance, including duration	Chapter 16: Social, Sections 16.10 and 16.12 Appendix Q: Social Impact Assessment Technical Report, Sections 7.1 to 7.6 and 9

Reference	Requirement	Where addressed
	(g) the proponent's proposed enhancement and mitigation/management measures in relation to project impacts	Chapter 16: Social, Sections 16.11.1 to 16.11.6 Appendix Q: Social Impact Assessment Technical Report, Sections 8.1 to 8.6
	(h) details of the proponent's proposed monitoring and reporting framework.	Chapter 16: Social, Section 16.11.7 Appendix Q: Social Impact Assessment Technical Report, Section 8.7
Existing environment		
Social impact assessment study area		
11.143	Define the project's SIA study area (including the local, district, regional and state level as relevant), taking into account the:	Refer sub-sections below
	(a) potential for social impacts to occur	Chapter 16: Social, Sections 16.10 and 16.13 Appendix Q: Social Impact Assessment Technical Report, Sections 4.2, 5 and 7
	(b) location of other relevant projects (existing major projects and/or developments and those which are progressing through planning and approval processes and public information is available)	Chapter 16: Social, Sections 16.5.7 and 16.13 Chapter 22: Cumulative impacts, Section 22.5 and Figures 22.1 and 22.2 Appendix Q: Social Impact Assessment Technical Report, Sections 4.1.7, 5.1.4 and 7.6
	(c) location and types of physical and social infrastructure, settlements and land use patterns	Chapter 16: Social, Section 16.8 and Figure 16.5 Appendix Q: Social Impact Assessment Technical Report, Section 5.1 and 5.6
	(d) social values that might be affected by the project including integrity of social conditions, liveability, social harmony and wellbeing and sense of community	Chapter 16: Social, Sections 16.6 and 16.8 Appendix Q: Social Impact Assessment Technical Report, Section 5.3
	(e) indigenous social and cultural characteristics, such as native title rights and interests, and cultural heritage.	Chapter 16: Social, Sections 16.6.4 and 16.8.2 Appendix Q: Social Impact Assessment Technical Report, Sections 5.1.1, 5.2.3, 5.3.2 and 5.3.3
Social baseline study		
11.144	Undertake a targeted baseline study of the people residing within the project's SIA study area. This will provide a benchmark against which to identify the project's social issues, potential negative and positive social impacts, and the mitigation measures and management plans to address these impacts.	Chapter 16: Social, Section 16.8 Appendix Q: Social Impact Assessment Technical Report, Sections 5.1 to 5.7

Reference	Requirement	Where addressed
11.145	The social baseline study should be based on qualitative, quantitative and participatory methods. It should be supplemented by community engagement processes and primary data collection, and should reference relevant data contained in local and state government publications, reports, plans, guidelines and documentation, including regional and community plans.	Chapter 16: Social, Sections 16.8 and 16.9 Appendix Q: Social Impact Assessment Technical Report, Sections 5.1 to 5.7 and 6
Community engagement		
11.146	A consultative and inclusive community and stakeholder engagement process should inform the baseline study, assessment of potential social impacts and development of appropriate mitigation measures and management plans. The engagement should commence at an early stage of the EIS process. It should include consultation with a broad range of stakeholder groups including affected landholders, local residents, community groups, traditional owners, state and local government agencies, and non-government organisations, local businesses and traditionally under-represented stakeholders (for example vulnerable groups, women, people with a disability, indigenous people and persons from diverse ethnic or linguistic backgrounds).	Chapter 5: Stakeholder engagement, Sections 5.6.1 and 5.6.2, with project stakeholders consulted outlined in Section 5.5 Appendix C: Consultation Report, Sections 2.5, 3 and 4 Chapter 16: Social, Section 16.9 Appendix Q: Social Impact Assessment Technical Report, Sections 6.1, 6.2 and 6.3
11.147	The community and stakeholder engagement process should be adequately described and documented in the EIS. This should include details such as stakeholders consulted and how and when they were consulted, principles and processes adopted, overview of the consultation program and key events, stakeholder feedback and issues raised (including the means by which these have been or will be addressed), and a statement of agreement/s reached, or to be negotiated, for impact mitigation and management.	Chapter 5: Stakeholder engagement Appendix C: Consultation Report Chapter 16: Social, Sections 16.5.2 and 16.9 Chapter 23: Draft Outline Environmental Management Plan Appendix Q: Social Impact Assessment Technical Report, Sections 6.1 and 6.2 Appendix E: Proponent Commitments
Potential impacts and mitigation		
Impact assessment		
11.148	Assess and describe the type, level and significance of the project's social impacts (both negative and positive), based on the outcomes of the community engagement, social baseline study and impact analysis processes. This should include sufficient data to enable affected local and state authorities to make informed decisions about the project's effects. The potential social impacts will be identified by considering the potential changes to key aspects included in the social baseline study as a result of the project.	Chapter 16: Social, Sections 16.10 and 16.12 Appendix Q: Social Impact Assessment Technical Report, Sections 7.1 to 7.6 and 9

Reference	Requirement	Where addressed
11.149	Impact assessment should include an assessment of the potential scope and significance of impacts at the local and regional level, considering factors such as: (a) population and demographic changes (b) workforce (c) lifestyles and amenity (d) community values (e) housing (f) local and regional planning outcomes (g) social infrastructure (h) the health and social/cultural wellbeing of families and communities.	Chapter 16: Social, Sections 16.10 and 16.12 Appendix Q: Social Impact Assessment Technical Report, Sections 2.5, 7 to 9
11.150	The impact assessment should also evaluate and discuss the potential cumulative social impacts resulting from the proposed project in combination with other existing major projects and/or developments and those which are progressing through planning and approval processes (where public information is available) within the SIA study area. Key issues assessed should include: (a) population (b) workforce (construction and operation) (c) workforce accommodation (d) local and regional housing markets (e) use of and access to community infrastructure, services and facilities (including social and health services and facilities).	Chapter 16: Social, Section 16.13 (b) addressed in Chapter 17: Economics, Section 17.12 Appendix Q: Social Impact Assessment Technical Report, Section 7.6 Chapter 22: Cumulative impacts provides a summary of the cumulative impact assessment for the Project.
11.151	The impact assessment should include: (a) the impacts identified by the SIA process (b) impacted stakeholders (c) the timing or timeframes of impacts and the mitigation and management measures (d) description of the mitigation and management measures (e) defined outcomes, and the performance indicators and targets to achieve the outcomes (f) monitoring and reporting framework (g) residual impacts (after mitigation and management measures) and how these will be addressed.	Chapter 16: Social, Sections 16.9 to 16.12 Appendix Q: Social Impact Assessment Technical Report, Sections 6 to 10

Reference	Requirement	Where addressed
Management plans		
11.152	Management plans for the following are to be provided as part of the SIA: (a) community and stakeholder engagement (b) workforce management (c) housing and accommodation (d) local business and industry content (e) health and community wellbeing.	Chapter 16: Social, Sections 16.11.2.1, 16.11.3, 16.11.4, 16.11.5 and 16.11.6 Appendix Q: Social Impact Assessment Technical Report, Sections 8.2 to 8.6
Economic		
Information requirements		
11.153	Identify the economic impacts of the project on the local and regional area and the State. Estimate the costs and benefits and economic impacts of the proposal using both regional impact analysis and cost–benefit analysis. The analysis should be consistent with the Coordinator-General's Economic impact assessment guideline (April 2017).	Chapter 17: Economics, Sections 17.8 and 17.12, and Appendix R: Economics Technical Report, Sections 5 and 6 Benefit assessment and regional economic impact analysis is provided in Chapter 17: Economics, Sections 17.10 and 17.11 and Appendix R: Economics Technical Report, Sections 5.4 and 5.5
Hazards, health and safety		
Information requirements		
General		
11.154	Describe the potential risks to people and property that may be associated with the project in the form of a preliminary risk assessment for all components of the project and in accordance with relevant standards. The assessment should include:	Specific risks are discussed below Preliminary risk assessment is provided in Chapter 20: Hazard and risk, Table 20.12
	(a) specific consideration of: (i) respirable silica and other airborne contaminants (e.g. naturally occurring asbestos) (ii) sudden subsidence or movement of soil or rock (iii) flash flooding (iv) fatigue and heat management (v) concurrent or simultaneous operations with existing railway infrastructure	Chapter 20: Hazard and risk, Sections 20.7, 20.8.1.3, 20.8.1.5, 20.9.2, 20.10.2.1, 20.10.2.2 and 20.10.2.3
	(b) other potential hazards, accidents, spillages, fire and abnormal events that may occur during all stages of the project, including estimated probabilities of occurrence	Estimated probabilities are inherently incorporated into likelihood assessments as part of the risk assessment in Table 20.12. Chapter 20: Hazard and risk. Accidents including derailments discussed in Sections 20.7.1 and 20.10.2.2, spillages in Sections 20.10.2.3 and 20.10.3, fire in Sections 20.8.1.2 and 20.10.1.1

Reference	Requirement	Where addressed
	(c) identifying all dangerous and hazardous substances (including likely volumes) to be used, stored, processed, transported or produced and the rate of usage	Chapter 20: Hazard and risk, Sections 20.9.3 and 20.10.3
	(d) potential wildlife hazards, natural events (for example, cyclone, flooding, bushfire and landslide)	Chapter 20: Hazard and risk, Sections 20.8.1, 20.9.1 and 20.10.1
	(e) how the project may potentially affect hazards away from the preferred alignment (for example, changing flooding characteristics).	Chapter 20: Hazard and risk, Sections 20.8.1.3 and 20.10.1
11.155	Describe those measures required to ensure that the proposed project avoids the release of hazardous materials to the environment, including as a result of a natural hazard event.	Chapter 20: Hazard and risk, Section 20.11.3
11.156	Provide details on the safeguards that would reduce the likelihood and severity of hazards, consequences and risks to persons, within and adjacent to the project area(s). Identify the residual risk following application of mitigation measures including any actual or potential impacts to existing fire trails and evacuation routes. Present an assessment of the overall acceptability of the impacts of the project in light of the residual uncertainties and risk profile.	Chapter 20: Hazard and risk, Sections 20.11 and 20.12
11.157	Provide an outline of the proposed integrated emergency management planning procedures (including evacuation plans, if required) for the range of situations identified in the risk assessment developed in this section.	Chapter 20: Hazard and risk, Section 20.12.3
11.158	Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.	Chapter 5: Stakeholder engagement, Section 5.9.1 Chapter 16: Social, Section 16.9.4 Chapter 20: Hazard and risk, Section 20.12.3 Appendix C: Consultation Report, Sections 4.4 and 6.12 Appendix Q: Social Impact Assessment Technical Report, Section 7.4.3
11.159	Identify the need for appropriate explosive licences and requirements to notify of proposed blasting prior to explosives use under the *Explosives Act 1999* and relevant codes and standards including the Australian Standard AS2187 – Explosives – Storage, transport and use. Any risk associated with explosives use, manufacture or storage is within an acceptable level in accordance with the Explosives Act 1999 and codes and standards including Australian Standard AS2187 – Explosives – storage, transport and use.	Chapter 20: Hazard and risk, Section 20.9.3.3
11.160	Detail the risk of the use of explosives in connection to the rail alignment, associated infrastructure and any proposed mitigation measures to limit this risk.	Chapter 20: Hazard and risk, Sections 20.10.3.3, 20.11.3.3 and 20.12.4
Land contamination		
11.161	Detail any known or potential sources of contaminated land within or adjoining the project area, including the location of any potential contamination identified by landholders. Provide results of searches of the Environmental Management Register and/or the Contaminated Land Register under the EP Act for the preferred rail alignment and disturbance areas.	Chapter 9: Land resources, Section 9.6.7 Appendix V: EMR Search Certificates and Laboratory Certificates

Reference	Requirement	Where addressed
11.162	Describe how any proposed land use may result in land potentially becoming contaminated. Provide a description of the nature and extent of contamination at identified site(s).	Chapter 9: Land resources, Sections 9.6.7, 9.7.6 and 9.7.7
11.163	Describe the proposed management of any contaminated land either previously identified or encountered during construction activities and the potential for contamination from construction, commissioning, operation and decommissioning.	Chapter 9: Land resources, Section 9.8.2 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.2
11.164	Describe strategies and methods to be used to prevent, manage or remediate any land contamination resulting from the project, including but not limited to the management of any acid generation or management of chemicals and fuels to prevent spills or leaks.	Chapter 9: Land resources, Section 9.8.2 Appendix W: Geotechnical Factual Report, Appendix A Chapter 23: Draft Outline Environmental Management P, Section 23.13.2
11.165	Describe how the presence of any known potential unexploded ordnance will be identified on maps of an appropriate size and scale and assessed within or adjoining the project area. Describe how any known or potential unexploded ordnance will be managed.	Chapter 9: Land resources, Section 9.6.7.2
Climate		
11.166	Describe the climate patterns with particular regard to discharges to water and air and the propagation of noise related to the project.	Chapter 12: Air quality, Sections 12.6.1 and 12.6.2.5 Chapter 13: Surface water and hydrology, Section 13.6.2.1 Chapter 15: Noise and vibration, Section 15.8.8 Chapter 20: Hazard and risk, Sections 20.8.1.1 and 20.10.1.3 Appendix K: Air Quality Technical Report, Sections 4.4.2.8, 5.2 and 5.3.7 Appendix L: Surface Water Quality Technical Report, Section 5.3
11.167	Climate information should be presented in a statistical form including long-term averages and extreme values, as necessary.	Chapter 12: Air quality, Section 12.6.1 Chapter 13: Surface water and hydrology, Section 13.6.2.1 Chapter 15: Noise and vibration, Section 15.8.8 Chapter 20: Hazard and risk, Section 20.8.1 Appendix K: Air Quality Technical Report, Section 5.2 Appendix L: Surface Water Quality Technical Report, Section 5.3
11.168	Describe the climatic conditions that may affect management of the project. This includes a description of the vulnerability of the project area to seasonal conditions, extremes of climate (for example, cyclones and prolonged rain events) and natural or induced hazards (including bushfire).	Chapter 20: Hazard and risk, Sections 20.8.1 and 20.10.1

Reference	Requirement	Where addressed
Waste management		
Impact assessment		
11.169	For wastes, besides wastewater (which is addressed in the Water section of this TOR), describe and quantify all expected significant waste streams (including spoil) from the proposed project activities during the construction and operational phases of the project.	Chapter 21: Waste and resource management, Section 21.7 Appendix T: Spoil Management Strategy, Section 2
11.170	Describe potential spoil disposal sites and their ability to service the project.	Chapter 21: Waste and resource management, Section 21.7.1.5 Appendix T: Spoil Management Strategy, Sections 2 and 3
11.171	Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes. Take into account best practice waste management strategies as outlined in the National Waste Policy 2009 and the *Waste Reduction and Recycling Act 2011* and the Environmental Protection Regulation 2008.	Chapter 21: Waste and resource management, Sections 21.7.3 and 21.9 Appendix T: Spoil Management Strategy, Section 4
11.172	Describe the quantity, and physical and chemical characteristics of waste rock, any attributes that may affect its dispersal in the environment, and its associated risk of causing environmental harm.	Chapter 21: Waste and resource management, Section 21.7.1.3 Appendix T: Spoil Management Strategy, Section 2.1 The physical and chemical characteristics of geology and soils are addressed in Chapter 9: Land Resources, Section 9.6
Mitigation measures		
11.173	Assess the proposed management measures against the preferred waste management hierarchy, namely: avoid waste generation; cleaner production; reduce; recycle; reuse; reprocess and reclaim; waste to energy; treatment; disposal. This includes the generation and storage of waste.	Chapter 21: Waste and resource management, Sections 21.7.3 and 21.9 Chapter 23: Draft Outline Environmental Management Plan, Section 23.13.12 Appendix T: Spoil Management Strategy, Section 4
11.174	Describe how nominated quantitative standards and indicators may be achieved for waste management, and how the achievement of the objectives would be monitored, audited and managed.	Chapter 21: Waste and resource management, Sections 21.6.5 and 21.9 Appendix T: Spoil Management Strategy, Section 4
11.175	Detail waste management planning for the proposed project especially how these plans would be applied to prevent or minimise environmental impacts due to waste at each stage of the project.	Chapter 21: Waste and resource management, Sections 21.7.3 and 21.9 Appendix T: Spoil Management Strategy, Section 4
11.176	Provide details on natural resource-use efficiency (such as energy and water), integrated processing design, and any co-generation of power and by-product reuse as shown in a material/energy flow analysis.	Natural resource-use efficiency, including by-product reuse, is primarily addressed in Chapter 7: Sustainability, Section 7.5 Options for co-generation of energy are identified in Chapter 21: Waste and resource management, Table 21.11 Integrated processing design and co-generation of power are not applicable to the Project

Reference	Requirement	Where addressed
Cultural heritage		
Information requirements		
11.177	Unless section 86 of the *Aboriginal Cultural Heritage Act 2003* (ACH Act) applies, the proponent must develop a Cultural Heritage Management Plan (CHMP) in accordance with the requirements of Part 7 of the ACH Act. The EIS should provide details of the CHMP and any associated agreements that has been developed or reached or steps taken up to that point to develop or reach such a plan or agreement.	Chapter 18: Cultural heritage, Sections 18.6.1, 18.8.1, 18.9.1, 18.10.1, 18.11.1, 18.12.1 and 18.13.1 A CHMP has been developed and approved for the Project under agreement with ARTC
11.178	For non-Indigenous historical heritage, undertake a study of, and describe, the known and potential historical cultural and landscape heritage values of the area potentially affected by the project. Any such study should be conducted by an appropriately qualified cultural heritage practitioner. Provide strategies to mitigate and manage any negative impacts on non-Indigenous cultural heritage values and enhance any positive impacts.	Chapter 18: Cultural heritage, Sections 18.8.2, 18.9.2, 18.10.2, 18.10.3, 18.11.2, 18.12.2 and 18.13.2 Appendix D: Study Team Appendix S: Non-Indigenous Cultural Heritage Technical Report, Sections 4 to 9
12. Appendices to the EIS		
12.1	Appendices should provide the complete technical evidence used to develop assertions and findings in the main text of the EIS.	No response required
12.2	No significant issue or matter should be mentioned for the first time in an appendix—it must be addressed in the main text of the EIS.	No response required
12.3	Include a table listing the section of the EIS where each requirement of the TOR is addressed.	Appendix B: Terms of Reference Compliance Table, Table B.1 (this table)
12.4	Include a glossary of terms and a list of acronyms and abbreviations.	Chapter 25: Abbreviations and glossary