



Artist's Impression

## Environmental Impact Statement – Appendix A: Secretary's Environmental Assessment Requirements

# Warragamba Dam Raising

Reference No. 30012078  
Prepared for WaterNSW  
10 September 2021





Environmental Impact Statement – Appendix A: Secretary’s  
Environmental Assessment Requirements

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# Contents

1	INTRODUCTION .....	1
2	GENERAL STANDARD SEARS.....	2
3	KEY ISSUE STANDARD SEARS.....	5
4	COMMONWEALTH REQUIREMENTS (ATTACHMENT A TO SEARS).....	20

# 1 Introduction

This appendix identifies where the Secretary's Environmental Assessment Requirements (SEARs) including Commonwealth Assessment Requirements (Attachment 1 to the SEARs) have been addressed in the EIS. A list of the EIS chapters and appendices is provided below for reference.

## EIS chapters

- |   |   |
|---|---|
| 1. Introduction   | 16. Health and safety                                   |
| 2. Statutory and planning framework                               | 17. Heritage (non-Aboriginal)                           |
| 3. Strategic justification and Project need                       | 18. Aboriginal cultural heritage                        |
| 4. Project development and alternatives                           | 19. Noise and vibration                                 |
| 5. Project description  | 20. Protected and sensitive land                        |
| 6. Consultation   | 21. Socio-economic, land use and property               |
| 7. Air quality  | 22. Soils   |
| 8. Biodiversity upstream  | 23. Sustainability                                      |
| 9. Downstream ecological assessment                               | 24. Transport and traffic                               |
| 10. Biodiversity construction area                                | 25. Visual amenity                                      |
| 11. Aquatic ecology   | 26. Waste   |
| 12. Matters of national environmental significance - biodiversity | 27. Water quality                                       |
| 13. Biodiversity offset strategy                                  | 28. Cumulative impacts and interactions                 |
| 14. Climate change risk   | 29. EIS synthesis, Project justification and conclusion |
| 15. Flooding and hydrology  | 30. Certification                                       |
|   | 31. References  |

## Appendices

- |             |   |
|-------------|---|
| Appendix A  | Secretary's environmental assessment requirements (SEARs), including Commonwealth assessment requirements and checklist |
| Appendix B  | Environmental Planning and Assessment Regulation 2000 checklist   |
| Appendix C  | Risk assessment procedure   |
| Appendix D  | Community consultation report   |
| Appendix E  | Air quality assessment report   |
| Appendix F1 | Biodiversity assessment report – upstream   |
| Appendix F2 | Downstream ecological assessment  |
| Appendix F3 | Biodiversity assessment report - construction area  |
| Appendix F4 | Aquatic ecology assessment report   |
| Appendix F5 | Matters of national environmental significance – biodiversity   |
| Appendix F6 | Biodiversity Offset Strategy  |
| Appendix G  | Climate change assessment report  |
| Appendix H1 | Flooding and hydrology assessment report  |
| Appendix H2 | Flood risk analysis   |
| Appendix H3 | Warragamba Dam environmental flows scenario assessment  |
| Appendix I  | Non-Aboriginal heritage assessment report   |
| Appendix J  | World Heritage assessment report  |
| Appendix K  | Aboriginal cultural heritage assessment report  |
| Appendix L  | Noise and vibration assessment report   |
| Appendix M  | Socio-economic, land use, and property assessment report  |
| Appendix N1 | Soils and contamination assessment report   |
| Appendix N2 | Geomorphology assessment report   |
| Appendix O  | Traffic and transport assessment report   |
| Appendix P  | Landscape character and visual impact assessment report   |
| Appendix Q  | Water quality statistical analysis  |
| Appendix R  | Proponent's environmental record  |

## 2 General Standard SEARs

Desired Performance Outcome	Requirement	Where addressed
<b>1. Environmental Impact Assessment Process</b> The process for assessment of the proposal is transparent, balanced, well focussed and legal.	1. The Environmental Impact Statement must be prepared in accordance with Part 3 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> (the Regulation).	Throughout EIS
	2. The project requires approval under the EPBC Act and is being assessed under the Bilateral Agreement. The EIS should address the requirements of Attachment A.	Chapter 12. Appendix F5
	3. The onus is on the Proponent to ensure legislative requirements relevant to the project are met.	Throughout EIS
<b>2. Environmental Impact Statement</b> The project is described in sufficient detail to enable clear understanding that the project has been developed through an iterative process of impact identification and assessment and project refinement to avoid, minimise or offset impacts so that the project, on balance, has the least adverse environmental, social and economic impact, including its cumulative impacts.	1. The EIS must include, but not necessarily be limited to, the following:	
	(a) executive summary;	Executive Summary
	(b) a description of the project, including all components and activities (including ancillary components and activities) required to construct and operate it;	Chapter 5
	(c) a statement of the objective(s) of the project;	Chapter 3, Section 3.3
	(d) a summary of the strategic need for the project with regard to its critical State significance and relevant State Government policy;	Chapter 3
	(e) an analysis of any feasible alternatives to the project. <sup>1</sup> ;	Chapter 4, Sections 4.3, 4.4, 4.5
	(f) a description of feasible options within the project. <sup>2</sup> ;	Chapter 4, Sections 4.3, 4.4
	(g) a description of how alternatives to and options within the project were analysed to inform the selection of the preferred alternative / option. The description must contain sufficient detail to enable an understanding of why the preferred alternative to and options(s) within the project were selected;	Chapter 4, Section 4.2
	(h) a concise description of the general biophysical and socio-economic environment that is likely to be impacted by the project (including offsite impacts). Elements of the environment that are not likely to be affected by the project do not need to be described;	Chapters 7 to 27
(i) a demonstration of how the project design has been developed to avoid or minimise likely adverse impacts both upstream and downstream of the dam wall;	Chapter 4. Chapter 5	

<sup>1</sup> Alternatives to a project are different projects which would achieve the same project objective(s) including the consequences of not carrying out the project. For example, alternatives to a road project may be a rail project in the same area and alternate routes for the road.

<sup>2</sup> Options within the project are variations of the same project. For example, options within a road project could be design of an intersection; the location or design of a bridge; locations for a vent stack.

Desired Performance Outcome	Requirement	Where addressed
	(j) the identification and assessment of key issues as provided in the 'Assessment of Key Issues' performance outcome;	Chapters 7 to 29
	(k) a statement of the outcome(s) the proponent will achieve for each key issue;	Chapters 7 to 29
	(l) measures to avoid, minimise or offset impacts must be linked to the impact(s) they treat, so it is clear which measures will be applied to each impact;	Chapters 7 to 29
	(m) consideration of the interactions between measures proposed to avoid or minimise impact(s), between impacts themselves and between measures and impacts; <sup>3</sup>	Chapters 7 to 29
	(n) an assessment of the cumulative impacts of the project taking into account other projects that have been approved but where construction has not commenced, projects that have commenced construction, and projects that have recently been completed;	Chapter 28
	(o) statutory context of the project as a whole, including: <ul style="list-style-type: none"> <li>- how the project meets the provisions of the EP&amp;A Act and EP&amp;A Regulation;</li> <li>- a list of any approvals that must be obtained under any other Act or law before the project may lawfully be carried out;</li> </ul>	Chapter 2
	(p) a chapter that synthesises the environmental impact assessment and provides: <ul style="list-style-type: none"> <li>- a succinct but full description of the project for which approval is sought;</li> <li>- a description of any uncertainties that still exist around design, construction methodologies and/or - operational methodologies and how these will be resolved in the next stages of the project;</li> <li>- a compilation of the impacts of the project that have not been avoided;</li> <li>- a compilation of the proposed measures associated with each impact to avoid or minimise (through design refinements or ongoing management during construction and operation) or offset these impacts;</li> <li>- a compilation of the outcome(s) the proponent will achieve; and</li> <li>- the reasons justifying carrying out the project as proposed, having regard to the biophysical, economic and social considerations, including ecologically sustainable development and cumulative impacts.</li> </ul>	Chapter 29, Sections 29.1, 29.4, 29.5, 29.6, 29.7 and 29.9
	(q) relevant project plans, drawings, diagrams in an electronic format that enables integration with mapping and other technical software.	As required throughout EIS and Appendices

<sup>3</sup> Measures proposed to avoid or minimise one impact may cause an unintended impact on another issue. Therefore these impacts and their interactions need to be analysed and resolved where possible.

Desired Performance Outcome	Requirement	Where addressed
	2. The EIS must only include data and analysis that is reasonably needed to make a decision on the proposal. Relevant information must be succinctly summarised in the EIS and included in full in appendices. Irrelevant, conflicting or duplicated information must be avoided	As required throughout EIS and Appendices
<b>3. Assessment of Key Issues</b> Key issue impacts are assessed objectively and thoroughly to provide confidence that the project will be constructed and operated within acceptable levels of impact.	1. The level of assessment of likely impacts must be proportionate to the significance of, or degree of impact on, the issue, within the context of the proposal location and the surrounding environment. The level of assessment must be commensurate to the degree of impact and sufficient to ensure that the Department and other government agencies are able to understand and assess impacts.	Chapters 7 to 29 and relevant Appendices
	2. For each key issue the Proponent must: <ul style="list-style-type: none"> <li>(a) describe the biophysical and socio-economic environment, as far as it is relevant to that issue;</li> <li>(b) describe the legislative and policy context, as far as it is relevant to the issue;</li> <li>(c) identify, describe and quantify (if possible) the impacts associated with the issue, including the likelihood and consequence (including worst case scenario) of the impact (comprehensive risk assessment), and the cumulative impacts;</li> <li>(d) demonstrate how potential impacts have been avoided (through design, or construction or operation methodologies);</li> <li>(e) detail how likely impacts that have not been avoided through design will be minimised, and the predicted effectiveness of these measures (against performance criteria where relevant); and</li> <li>(f) detail how any residual impacts will be managed or offset, and the approach and effectiveness of these measures.</li> </ul>	Chapters 7 to 29 and relevant Appendices
	3. Where multiple reasonable and feasible options to avoid or minimise impacts are available, they must be identified and considered and the proposed measure justified taking into account the public interest.	Chapters 7 to 29 and relevant Appendices
<b>4. Consultation</b> The project is developed with meaningful and effective engagement during project design and delivery.	1. The project must be informed by consultation, including with relevant government agencies, infrastructure and service providers, special interest groups, affected landowners, businesses and the community.	Chapter 6 Appendix D
	2. The Proponent must document the consultation process, and demonstrate how the project has responded to the inputs received.	Chapter 6, Section 6.4 and Section 6.6
	3. The Proponent must describe the timing and type of community consultation proposed during the design and delivery of the project, the mechanisms for community feedback, the mechanisms for keeping the community informed, and procedures for complaints handling and resolution.	Chapter 6, Section 6.8

### 3 Key Issue Standard SEARs

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
<b>5. Air Quality</b> The project is designed, constructed and operated in a manner that minimises air quality impacts (including nuisance dust and odour) to minimise risks to human health and the environment to the greatest extent practicable.	1. The Proponent must undertake an air quality impact assessment (AQIA) for construction and operation of the project in accordance with the current guidelines.	Chapter 7, Section 7.4 Appendix E
	2. The Proponent must ensure the AQIA includes a demonstrated ability to comply with the relevant regulatory framework, specifically the Protection of the Environment Operations Act 1997 and the Protection of the Environment Operations (Clean Air) Regulation (2010).	Chapter 7, Sections 7.1, 7.3, 7.4, 7.5, 7.6, 7.7 and 7.8 Appendix E
<b>6. Biodiversity</b> The project design considers all feasible measures to avoid and minimise impacts on terrestrial and aquatic biodiversity. Offsets and/or supplementary measures are assured which are equivalent to any remaining impacts of project construction and operation.	1. The Proponent must assess biodiversity impacts in accordance with the current guidelines including the Framework for Biodiversity Assessment (FBA), unless otherwise agreed by OEH, by a person accredited in accordance with s142B(1)(c) of the Threatened Species Conservation Act 1995.	Chapter 8, Sections 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10 and 8.11 Chapter 10, Section 10.2 Chapter 11, Sections 11.1, 11.4 and 11.5. Chapter 13 Appendix F1, Sections 3-7. Appendix F3, Section 3.7 Appendix F4
	2. The proponent must assess the downstream impacts on threatened biodiversity, native vegetation and habitats resulting from any changes to hydrology and environmental flows. This assessment should address the matters in Attachment B.	Chapter 9, Sections 9.4 to 9.6 Chapter 11, Section 11.5 Chapter 13. Appendix F2, Section 6 Appendix F4
	3. The Proponent must assess impacts on the following: endangered ecological communities (EECs), threatened species and/or populations, and provide the information specified in s9.2 of the FBA. Specific environmental requirements are provided in Attachment C.	Chapter 8, Sections 8.6 and 8.10 Chapter 10, Section 10.6 Chapter 11, Section 11.6 Chapter 13 Appendix F1, Section 7 Appendix F3, Section 7 Appendix F4
	4. The Proponent must identify whether the project as a whole, or any component of the project, would be classified as a Key Threatening Process in accordance with the listings in the Threatened Species Conservation Act 1997 (TSC Act), Fisheries Management Act 1994 (FM Act) and Environment Protection and Biodiversity Conservation Act 2000 (EPBC Act).	Chapter 8, Section 8.8.7 Chapter 9, Section 9.5.4 Chapter 10, Section 10.6.5 Chapter 11, Section 11.5 Chapter 1. Appendix F1, Section 7

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
		Appendix F2, Section 6.10 Appendix F3, Section 7 Appendix F4, Sections 3.7 and 4.2
<b>7. Climate Change Risk</b> The project is designed, constructed and operated to be resilient to the future impacts of climate change.	1. The Proponent must assess the risk and vulnerability of the project to climate change in accordance with the current guidelines.	Chapter 14, Sections 14.4 and 14.5 Appendix G, Sections 3 to 6
	2. The Proponent must quantify specific climate change risks with reference to the NSW Government's climate projections at 10km resolution (or lesser resolution if 10km projections are not available) and incorporate specific adaptation actions in the design.	Chapter 14, Sections 14.2, 14.4, 14.5, 14.6 and 14.7 Appendix G, Sections 3 to 6
<b>8. Flooding</b> The project minimises adverse impacts on existing flooding characteristics. Construction and operation of the project avoids or minimises the risk of, and adverse impacts from, infrastructure flooding, flooding hazards, or dam failure.	1. The Proponent must quantify what flood events can be mitigated by the dam.	Chapter 15, Sections 15.2, 15.6 and 15.7 Appendix H1, Section 4.2.3
	2. The Proponent must assess and model the impacts on flood behaviour during construction and operation for a full range of flood events up to the probable maximum flood (accounting for sea level rise and storm intensity due to climate change) including:	Chapter 15, Sections 15.5, 15.6, 15.7, 15.8, 15.9 and 15.10
	(a) any detrimental increases in the potential flood affectation of other developments, land, properties, assets and infrastructure. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories;	Chapter 15, Sections 15.5, 15.6, 15.7 and 15.8 Appendix H1, Sections 4.1 and 4.2
	(b) quantify the benefits of reducing flood affectation to developments, land, properties, assets and infrastructure;	Chapter 15, Section 15.7 Chapter 21, Section 21.7 Appendix M, Section 8
	(c) consistency (or inconsistency) with applicable Council floodplain risk management plans;	Chapter 15, Sections 15.4 and 15.7 Chapter 21, Section 21.6 Appendix H1, Section 4.2.3
	(d) compatibility with the flood hazard of the land;	Chapter 15, Sections 15.4 and 15.7 Appendix H1, Section 4.2.3
	(e) compatibility with the hydraulic functions of flow conveyance in flood ways and storage areas of the land;	Chapter 15, Sections 15.4 and 15.7 Appendix H1, Section 4.2.3
	(f) downstream velocity and scour potential;	Chapter 15, Section 15.7 Chapter 22, Sections 22.3, 22.4 and 22.5 Appendix H1, Section 4.2.3
(g) impacts the development may have upon existing community emergency management arrangements for flooding. These matters must be discussed with the State Emergency Services (SES) and relevant Councils; and	Chapter 15, Sections 15.4 and 15.7 Appendix H1, Section 4.2.3	

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
	<p>(h) any impacts the development may have on the social and economic costs to the community as consequence of flooding.</p> <p>Specifically, events at a minimum must be assessed for the 1 in 5 year, 1 in 10 year, 1 in 20 year, 1 in 100 year and the probable maximum flood. Modelling should include flood characteristics such as extent, level, velocity, and rate of rise at a minimum. Discussion and an assessment of the flood management zone also needs to be included.</p>	<p>Chapter 15, Section 15.7 Chapter 21, Section 21.7 Appendix M, Section 8</p>
	<p>3. The Proponent must model the effect of the proposed project on the flood behaviour of the broader catchment under the following scenarios:</p> <p>(a) Current flood behaviour for a range of design events as identified in point 2 above;</p>	<p>Chapter 15, Sections 15.2, 15.4, 15.6 and 15.7. Appendix H1, Section 4.2.3</p>
	<p>(b) The 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change or modelling of the 1 in 100 year flood with the range of climate change scenarios recommended in Australian Rainfall and Runoff 2016.</p>	<p>Chapter 15, Section 15.8. Appendix H1, Section 4.2.4</p>
	<p>4. The Proponent must identify and address any impacts the project may have upon existing emergency management arrangements for flooding. These matters are to be discussed with the SES and relevant councils downstream and upstream of the Dam.</p>	<p>Chapter 15, Sections 15.4 and 15.8. Appendix H1, Section 4.2.3</p>
	<p>5. The assessment must discuss emergency management, evacuation and access, and contingency measures for the construction and operational stages of the project considering the full range or flood risk including the probable maximum flood. These matters are required to be discussed with the SES and relevant councils.</p>	<p>Chapter 15, Sections 15.4, 15.5, 15.6, 15.7, 15.8 and 15.9 Appendix H1, Sections 4.1 and 4.2.3</p>
	<p>6. Discussion in the assessment of the consequences of flooding on social and economic costs to the community and in the broader catchment, including up to the probable maximum flood level.</p>	<p>Chapter 15, Section 15.7 Chapter 21, Section 21.7. Appendix M, Section 8.</p>
<p><b>9. Health and Safety</b></p> <p>The project avoids or minimises any adverse health impacts arising from the project.</p> <p>The project avoids, to the greatest extent possible, risk to public safety.</p>	<p>1. The Proponent should demonstrate that the proposed works shall comply with Dam Safety Committee Guidance.</p>	<p>Chapter 16, Section 16.1</p>
	<p>2. The Proponent must assess the potential health impacts of the project, in accordance with the current guidelines.</p>	<p>Chapter 16, Sections 16.3, 16.4 and 16.5.</p>
	<p>3. The assessment must:</p> <p>(a) describe the current known health status of the affected population;</p>	<p>Chapter 16, Section 16.3.</p>
	<p>(b) assess health risks associated with exposure to environmental hazards;</p>	<p>Chapter 16, Sections 16.4 and 16.5.</p>
	<p>(c) assess the effect of the project on other relevant determinants of health such as the level of physical activity and access to social infrastructure;</p>	<p>Chapter 16, Sections 16.4 and 16.5.</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
	(d) assess opportunities for health improvement;	Chapter 16, Sections 16.4 and 16.5
	(e) assess the distribution of the health risks and benefits; and	Chapter 16, Sections 16.4 and 16.5.
	(f) discuss how, in the broader social and economic context of the project, the project will minimise negative health impacts while maximising the health benefits.	Chapter 16, Sections 16.4 and 16.5
	4. The Proponent must assess the likely risks of the project to public safety, paying particular attention to flood risk, subsidence risks, bushfire risks, and the handling and use of dangerous goods.	Chapter 16, Sections 16.4 and 16.5
	5. The Proponent needs to address whether the project incorporates specific measures to manage risk to life from flood, with these matters to be discussed with the SES and relevant Councils.	Chapter 16, Sections 16.4 and 16.5
<p><b>10. Heritage</b></p> <p>The design, construction and operation of the project facilitates, to the greatest extent possible, the long term protection, conservation and management of the heritage significance of items of environmental heritage and Aboriginal objects and places.</p> <p>The design, construction and operation of the project avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage and Aboriginal objects and places.</p>	<p>1. The Proponent must identify and assess any direct and/or indirect impacts (including cumulative impacts) to the heritage significance of:</p> <p>(a) Aboriginal places and objects, as defined under the <i>National Parks and Wildlife Act 1974</i> and in accordance with the principles and methods of assessment identified in the current guidelines;</p>	Chapter 18, Sections 18.5 to 18.8 Appendix K, Section 8
	(b) Aboriginal places of heritage significance, as defined in the Standard Instrument – Principal Local Environmental Plan;	Chapter 18, Sections 18.5 to 18.8 Appendix K, Section 8
	(c) environmental heritage, as defined under the Heritage Act 1977; and	Chapter 17, Sections 17.2.3, 17.3 and 17.4. Appendix 1, Section 7 Appendix K, Section 8
	(d) items listed on the National and World Heritage lists. Investigations including surveys and identification of cultural heritage values should be conducted in consultation with OEH regional officers.	Chapter 17, Sections 17.2.3, 17.4 and 17.5 Appendix I, Sections 4 and 7 Appendix J, Sections 6.1 and 6.2, 6.3 Appendix K, Section 8.
	2. Where impacts to State or locally significant heritage items are identified, the assessment must:	Chapter 17, Sections 17.4 and 17.5. Appendix I, Sections 4 and 7
	(a) include a statement of heritage impact for all heritage items (including significance assessment);	Chapter 17, Sections 17.4 and 17.5 Chapter 19, Sections 19.5 and 19.6 Appendix I, Section 7
	(b) consider impacts to the item of significance caused by, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, visual amenity, landscape and vistas, curtilage, subsidence and architectural noise treatment (as relevant)	Chapter 17, Section 17.6 Appendix I, Section 8
	(c) outline measures to avoid and minimise those impacts in accordance with the current guidelines; and	Chapter 17, Section 17.1 Appendix I, Section 1.7 Appendix J, Sections 5.1.7.1, 5.2.1.1 and 5.3
	(d) be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed, the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria).	

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
	3. Where archaeological investigations of Aboriginal objects are proposed, these must be conducted by a suitably qualified archaeologist, in accordance with section 1.6 of the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010). Consultation with Aboriginal people must be undertaken prior to investigations. Significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS.	Chapter 18, Sections 18.2, 18.3 and 18. Appendix K, Section 1 and Sections 3 to 17
	4. Where impacts to Aboriginal objects and/or places are proposed, consultation must be undertaken with Aboriginal people in accordance with the current guidelines.	Chapter 18, Section 18.3 Appendix K, Section 5.1 to 5.3 and Appendices 1 and 2
	5. Any objects recorded as part of the assessment must be documented and notified to OEH.	Chapter 17, Sections 17.1 and 17.6 Chapter 18, Section 18.7 Appendix I, Section 1.4.1
	6. Where land is declared wilderness under the Wilderness Act 1987 or on the World Heritage List as part of the Greater Blue Mountains World Heritage Area (GBMWH) and lands declared as Wild Rivers under the NPW Act the Proponent:	Appendix J, Sections 3.4.5 and 6.1.7 (Note: at the time of preparation of the EIS, there were no NHL nominations relevant to the Project)
	(a) must define the area and extent of impact on such lands;	Chapter 12, Section 12.1, Sections 12.5 to 12.12 Chapter 17, Section 17.4. Chapter 20 Appendix K, Section 8.4 Appendix J, Sections 3.4.5 and 6.1.7
	(b) provide evidence that the proposal is consistent with the <i>Wilderness Act 1987</i> and the management principles for wilderness areas;	Chapter 20 Appendix J, Sections 6.1.7, 9.4 and 10
(c) assess impacts on land to be included on the National Heritage List.	Chapter 17, Sections 17.3.3.2 and 17.5.2.1 Appendix K, Section 8.1.	
<b>11. Noise and Vibration - Amenity</b> Construction noise and vibration (including airborne noise, ground-borne noise and blasting) are effectively managed to minimise adverse impacts on acoustic amenity. Increases in noise emissions and vibration affecting nearby properties and other sensitive receivers during	1. The Proponent must assess construction and operational noise and vibration impacts in accordance with relevant NSW noise and vibration guidelines. The assessment must include consideration of impacts to sensitive receivers including small businesses, and include consideration of sleep disturbance and, as relevant, the characteristics of noise and vibration (for example, low frequency noise).	Chapter 19, Sections 19.4 and 19.5 Appendix L, Section 5
	2. The Proponent must demonstrate that blast impacts are capable of complying with the current guidelines, if blasting is required.	Chapter 19, Section 19.5. Appendix L, Section 5.5

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
operation of the project are effectively managed to protect the amenity and well-being of the community.		
<p><b>12. Noise and Vibration - Structural</b></p> <p>Construction noise and vibration (including airborne noise, ground-borne noise and blasting) are effectively managed to minimise adverse impacts on the structural integrity of buildings and items including Aboriginal places and environmental heritage.</p> <p>Increases in noise emissions and vibration affecting environmental heritage as defined in the <i>Heritage Act 1977</i> during operation of the project are effectively managed.</p>	<p>1. The Proponent must assess construction and operation noise and vibration impacts in accordance with relevant NSW noise and vibration guidelines. The assessment must include consideration of impacts to the structural integrity and heritage significance of items (including Aboriginal places and items of environmental heritage).</p>	Chapter 19, Sections 19.4 and 19.5 Appendix L, Section 5.3
	<p>2. The Proponent must demonstrate that blast impacts are capable of complying with the current guidelines, if blasting is required.</p>	Chapter 19, Section 19.5 Appendix L, Section 5.5.
<p><b>13. Protected and Sensitive Lands</b></p> <p>The project is designed, constructed and operated to avoid or minimise impacts on protected and sensitive lands.</p>	<p>1. The Proponent must assess the impacts of the project on the water catchment and processes (and the impact of processes on the project) including, but not limited to:</p> <p>(a) protected areas (including land and water) managed by OEH and/or DPI Fisheries under the National Parks and Wildlife Act 1974 and the Marine Estate Management Act 2014;</p>	Chapter 20, Sections 20.3 to 20.5
	<p>(b) Key Fish Habitat as mapped and defined in accordance with the Fisheries Management Act 1994 (FM Act);</p>	Chapter 20, Sections 20.3.8 and 20.5.9 Appendix F4
	<p>(c) waterfront land as defined in the Water Management Act 2000;</p>	Chapter 20, Section 20.1.7
	<p>(d) land or waters identified as Critical Habitat under the TSC Act, FM Act or EPBC Act; and</p>	Chapters 8. Chapter 9. Chapter 1 Chapter 11. Chapter 12 Chapter 20, Section 20.5.9 Appendices F1 to F5
	<p>(e) biobank sites, private conservation lands and other lands identified as offsets.</p>	Chapter 20, Section 20.5.10
	<p>2. Maps should be included that clearly indicate the proposed high water mark line and current high water mark line, as well as protected area boundaries.</p>	Chapter 20

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
<p><b>14. Socio-economic, Land Use and Property</b></p> <p>The project minimises adverse social and economic impacts and capitalises on opportunities potentially available to affected communities.</p> <p>The project minimises impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land use activities, dwellings and infrastructure.</p>	<p>1. The Proponent will undertake a comprehensive Social Impact Assessment, prepared by a suitably qualified and experienced expert, supported and informed by a comprehensive, inclusive, and participatory program of community engagement, actively seeking input from the affected community and other stakeholders, paying particular attention to engaging vulnerable groups.</p>	<p>Chapter 21 Appendix M</p>
	<p>2. The Social Impact Assessment will be informed by work conducted to inform the Hawkesbury-Nepean Flood Risk Management Strategy, comprising the following components:</p> <ul style="list-style-type: none"> <li>▪ identification of the affected community and other interested stakeholders, specifying in what way each might be affected or interested, and paying particular attention to vulnerable groups and potential impacts on them;</li> <li>▪ assistance for these people and communities in understanding the proposal;</li> <li>▪ a quantitative and qualitative community profile, including values and aspirations;</li> <li>▪ identification of any diversity of views/concerns that might exist in the community/ies;</li> </ul> <p>relevance of any previous, current, and anticipated relevant developments and resultant cumulative impacts.</p>	<p>Chapter 21, Sections 21.4, 21.5 and 21.6 Appendix M, Sections 5 to 7</p>
	<p>3. Underpinned by the work at point 2 above, the Social Impact Assessment will identify potential impacts (positive and negative), considering the following matters:</p> <ul style="list-style-type: none"> <li>▪ way of life (how people live, work, play, and interact)</li> <li>▪ culture (including values, heritage, and customs)</li> <li>▪ community (including cohesion and sense of place)</li> <li>▪ decision-making systems (people's capacity and power to influence decisions that affect them)</li> <li>▪ environment (including amenity, aesthetics, and access)</li> <li>▪ wellbeing and health (physical and mental)</li> <li>▪ personal and property rights</li> <li>▪ justified fears and aspirations about any of the above matters.</li> </ul>	<p>Chapter 21, Section 21.7 Appendix M, Section 8.</p>
	<p>4. The Social Impact Assessment will assess significance of each impact based on duration, extent, sensitivity (vulnerability to change and capacity to adapt), severity, and level of community concern.</p>	<p>Chapter 21, Section 21.7 Appendix M, Section 8</p>
	<p>5. The Social Impact Assessment will propose mitigation actions for significant negative social impacts that cannot be avoided, and strategies to secure and maximise beneficial impacts, and monitoring, management, and reporting arrangements, including discussion of how the applicant will respond to unanticipated social impacts as part of operational community consultation procedures.</p>	<p>Chapter 21, Section 21.8 Appendix M, Section 9</p>
	<p>6. Where land is reserved or acquired under the National Parks and Wildlife Act 1974 (NPW Act), the EIS must detail:</p>	<p>Chapter 8 Chapter 9</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
	(a) effects of accurately predicted intermittent inundation regime, and predictions of habitat, biodiversity and cultural heritage loss or change within the OEH estate;	Chapter 10 Chapter 17 Chapter 20
	(b) expanded consideration of indirect effects of inundation, especially in the context of land reserved under the NPW Act;	Chapter 1 Chapters 8 Chapter 9 Chapter 10 Chapter 20, Section 20.5.3
	(c) consider impacts of the project on visual amenity and visitor experience in land reserved under the NPW Act;	Chapter 21, Section 21.7 Chapter 20, Section 20.5.4 Chapter 25. Appendix M, Section 8
	(d) identification of any proposed infrastructure (including roads) proposed within the OEH estate. Additional access and recreational opportunities that may be provided by proposed roads must be considered and discussed with NPWS;	Chapter 20, Section 20.5.4 Chapter 21, Section 21.7 Chapter 24. Appendix M, Section 8
	(e) predictions of the time and degree of disruption to recreational and management access during construction and the mitigation measures that will be undertaken. Changes to management and visitor access and infrastructure should be identified including walking track easements and access to heritage;	Chapters 8, Section 8.8, 8.9, 8.11 and 8.12 Chapter 9, Sections 9.4, 9.5, 9.6 and 9.7 Chapter 10, Sections 10.6, 10.7 and 10.8 Chapter 17, Sections 17.4, 17.5, 17.6 and 17.7 Chapter 20 Chapter 21, Sections 21.7 and 21.8. Appendix M, Sections 8 and 9
	(f) consideration of alternative options to avoid reserved lands and justification;	Chapter 4 Chapter 20
	(g) if on-park impacts are considered unavoidable and revocation/de-listing is required, consideration of the issues identified in Revocation, Re- categorisation and Road Adjustment Policy (OEH, 2012) is required, along with justification	Chapter 18 Chapter 20 (Note: revocation/ delisting not identified as likely to be required).

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
<p><b>15. Soils</b></p> <p>The environmental values of land, including soils, subsoils and landforms, are protected.</p> <p>Risks arising from the disturbance and excavation of land and disposal of soil are minimised, including disturbance to acid sulphate soils and site contamination.</p>	1. The Proponent must verify the risk of acid sulphate soils (Class 1, 2, 3 or 4 on the Acid Sulphate Soil Risk Map) within, and in the area likely to be impacted by the project.	Chapter 22, Section 22.3.1. Appendix N1, Section 4.1
	2. The Proponent must assess the impact of the project on acid sulphate soils (including impacts of acidic runoff offsite) in accordance with the current guidelines.	Chapter 22, Section 22.5.2 Appendix N1, Section 4.2
	3. The Proponent must assess whether the land is likely to be contaminated and identify if remediation of the land is required, having regard to the ecological and human health risks posed by the contamination in the context of past, existing and future land uses. Where assessment and/or remediation is required, the Proponent must document how the assessment and/or remediation would be undertaken in accordance with current guidelines.	Chapter 22, Sections 22.3.12, 22.4.4, 22.6 Appendix N2, Section 6
	4. The Proponent must assess whether salinity is likely to be an issue and if so, determine the presence, extent and severity of soil salinity within the project area.	Chapter 22, Section 22.4.3 Appendix N1, Sections 5.2 and 5.3
	5. The Proponent must assess the impacts of the project on soil salinity and how it may affect groundwater resources and hydrology.	Chapter 22, Section 22.4.3 Appendix N1, Section 5.4
	6. The Proponent must assess the impacts on soil and land resources (including erosion risk or hazard). Particular attention must be given to soil erosion and sediment transport consistent with the practices and principles in the current guidelines.	Chapter 22, Sections 22.3.1 to 22.3.9 and 22.5.1 Appendix N2, Sections 2.2 to 2.5, 5.1.1 to 5.1.3, 5.2.1 to 5.2.4, 5.3.1 and 5.3.2
	7. Attention must also be given to direct and indirect increase in erosion, siltation, impact on riparian vegetation of increased sediment loads and reduction in stability or river banks or water courses both upstream and downstream in the event of a flood. Consideration must be given to the amount of time areas are inundated and the impact of soil during and after these events.	Chapter 22, Section 22.5.1 Chapter 8, Section 8.8 Chapter 9, Section 9.4 Appendix N2, Sections 5.2.3 and 5.3.3
	8. Consideration should also be given to areas inundated by probable maximum flood levels and the potential for the project to impact how siltation remains deposited in these areas, as well as the potential impact on existing vegetation and changes in soil characteristics. The Proponent should detail, in the event that a probable maximum flood level event occurs, how soil and areas affected by changed hydrological regimes as a result of the project will be managed and/or remediated.	Chapter 22, Section 22.5.1 Chapters 8, Section 8.8 Chapter 9, Sections 9.4 and 9.5 Appendix N2, Sections 5.2.3 and 5.3.3
	9. The Proponent must detail the capacity of the site to support the increased size of the structure.	Chapter 5

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
<p><b>16. Sustainability</b></p> <p>The project reduces the NSW Government's operating costs and ensures the effective and efficient use of resources.</p> <p>Conservation of natural resources is maximised.</p>	<p>1. The Proponent must assess the sustainability of the project in accordance with the Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability Rating Tool and recommend an appropriate target rating for the project.</p>	Chapter 23, Section 23.3.1
	<p>2. The Proponent must assess the project against the current guidelines including targets and strategies to improve Government efficiency in use of water, energy and transport.</p>	Chapter 23
<p><b>17. Transport and Traffic</b></p> <p>Network connectivity, safety and efficiency of the transport system in the vicinity of the project are managed to minimise impacts.</p> <p>The safety of transport system customers is maintained.</p> <p>Impacts on network capacity and the level of service are effectively managed.</p> <p>Works are compatible with existing infrastructure and future transport corridors.</p>	<p>1. The Proponent must assess construction transport and traffic (vehicle, pedestrian and cyclists) impacts. The assessment should consider existing and planned developments, as well as upgrades around the Wollondilly Shire area. Consideration should be made to the structure and suitability of proposed access routes.</p>	Chapter 24, Sections 24.2 and 24.3 Appendix O, Section 4
	<p>2. The Proponent must assess the operational transport impacts of the project.</p>	Chapter 24, Sections 24.2 and 24.4.4 Appendix O, Section 5.1
	<p>3. The Proponent must provide consideration of the effects of extended inundation of downstream transport infrastructure, and of the effects on the road network of any alternate routes required where that transport infrastructure is inundated for prolonged periods. This should include assets such as Yarramundi, Richmond and Windsor road bridges and vehicular ferries at Lower Portland, Sackville and Wisemans Ferry.</p>	Chapter 24, Section 24.4 Appendix O, Section 5.2
	<p>4. The Proponent must consider contingency plans for management of traffic during construction in the event of:</p> <p>(a) emergency closures due to flood, fire and road accidents;</p> <p>(b) significant pavement failures due to some roads needing repair within the Wollondilly Shire area; and</p> <p>(c) load limits of bridges in the area.</p>	Chapter 24, Sections 24.4 and 24.5 Appendix O, Section 7.2
<p><b>18. Visual Amenity</b></p> <p>The project minimises adverse impacts on the visual amenity of the built and natural environment (including public open space) and capitalises on opportunities to improve visual amenity.</p>	<p>1. The Proponent must assess the visual impact of the project and any ancillary infrastructure on:</p> <p>(a) views and vistas;</p>	Chapter 25, Section 25.5 Appendix P, Section 5
	<p>(b) streetscapes, key sites and buildings;</p>	Chapter 25, Section 25.5 Appendix P, Section 5
	<p>(c) heritage items including Aboriginal places and environmental heritage; and</p>	Chapter 25, Section 25.5.4 Chapter 17, Sections 17.3 and 17.4 Chapter 18 Appendix P, Section 4

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
	(d) the local community.	Chapter 25, Section 25.5 Appendix P, Section 2.2
	2. The Proponent must assess the visual impact associated with the proposed maximum flood level both upstream and downstream within the catchment area.	Chapter 25, Section 25.5 Appendix P, Section 5
	3. The Proponent must provide artist impressions and perspective drawings of the project to illustrate how the project has responded to the visual impact through design and landscaping.	Chapter 25, Section 25.5 Appendix P, Section 5
<b>19. Waste</b> All wastes generated during the construction and operation of the project are effectively stored, handled, treated, reused, recycled and/or disposed of lawfully and in a manner that protects environmental values.	1. The Proponent must assess predicted waste generated from the project during construction and operation, including:	Chapter 26, Sections 26.3 and 26.4
	(a) classification of the waste in accordance with the current guidelines;	Chapter 26, Sections 26.2 and 26.3
	(b) estimates / details of the quantity of each classification of waste to be generated during the construction of the project, including bulk earthworks and spoil balance;	Chapter 26, Section 26.3
	(c) handling of waste including measures to facilitate segregation and prevent cross contamination;	Chapter 26, Sections 26.3 and 26.5
	(d) management of waste including estimated location and volume of stockpiles;	Chapter 26, Section 26.3
	(e) waste minimisation and reuse;	Chapter 26, Section 26.3
	(f) lawful disposal or recycling locations for each type of waste; and	Chapter 26, Section 26.3
	(g) contingencies for the above, including managing unexpected waste volumes.	Chapter 26, Section 26.3
	2. The Proponent must assess potential environmental impacts from the excavation, handling, storage on site and transport of the waste particularly with relation to sediment/leachate control, noise and dust. This extends to the removal and replacement of concrete and associated dust during construction works of the wall, and an assessment of potential for concrete dust to run off into water and potentially enter downstream areas.	Chapter 26, Sections 26.3 and 26.4 Chapters 7, Section 7.6 Chapter 19, Section 19.5 Chapter 22, Section 22.4 Chapter 27, Section 27.4
<b>20. Water - Hydrology</b> Long term impacts on surface water and groundwater hydrology (including drawdown, flow rates and volumes) are minimised. The environmental values of nearby, connected and affected water sources, groundwater and dependent ecological systems including estuarine and marine water (if applicable) are maintained	1. The Proponent must consider potential alternatives for managing flood waters and justify the selection having regard to the relative environmental impacts.	Chapters 3 Chapter 4
	2. The Proponent must describe (and map) the existing hydrological regime for any surface and groundwater resource (including reliance by users and for ecological purposes) likely to be impacted by the project, including stream orders, as per the FBA. Mapping must include upstream and downstream tributaries that may potentially be impacted, including:	Chapter 15, Section 15.4 Chapter 8, Sections 8.3 and 8.8 Chapter 9, Sections 9.3 and 9.4 Chapter 10, Sections 10.6 Chapter 11, Sections 11.4 and 11.5 Chapter 22, Sections 22.4 and 22.5 Chapter 26, Sections 26.3 and 26.4 Chapter 27, Sections 27.4 and 27.5

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
(where values are achieved) or improved and maintained (where values are not achieved). Sustainable use of water resources.	(a) the extent of regional flood up to the probable maximum flood;	Chapter 15, Section 15.4 Appendix H1, Sections 3.1 and 3.2
	(b) flood planning area, the area below the flood planning level (area below the 100 year ARI plus freeboard);	Chapter 15, Section 15.4 Appendix H1, Section 3.2
	(c) hydraulic categorisation (floodways and flood storage areas); and	Chapter 15, Sections 15.4 and 15.7 Appendix H1, Section 3.2
	(d) hazard categorisation. The extent of mapping/modelling used needs to be identified and rationalised.	Chapter 15, Sections 15.4 and 15.7 Appendix H1, Section 3.2
	3. The Proponent must prepare a detailed water balance for ground and surface water including the intake and discharge locations, where relevant, volume, frequency and duration of flooding events (1 in 5 year, 1 in 10 year, 1 in 20 year, 1 in 100 year, and probable maximum flood) and at times of non-flood.	Chapter 15, Sections 15.3.1.5 and 15.3.2.6 Appendix H1, Section 4
	4. The Proponent must assess (and model if appropriate) the impact of the construction and operation of the project and any ancillary facilities (both built elements and discharges) on surface and groundwater hydrology in accordance with the current guidelines, including:	Chapter 15, Sections 15.5, 15.6 and 15.7 Appendix N2, Sections 4, 5, 5.1.3 and 5.3.2.
	(a) natural processes within rivers, wetlands, estuaries, marine waters and floodplains that affect the health of the fluvial, riparian, estuarine or marine system and landscape health (such as modified discharge volumes, durations and velocities), aquatic connectivity and access to habitat for spawning and refuge;	Chapter 15, Sections 15.4, 15.5, 15.6 and 15.7 Chapter 8, Sections 8.3 to 8.10 Chapter 9, Section 9.4 Chapter 10, Sections 10.3 and 10.6 Chapter 11, Sections 11.3 to 11.6 Appendix F4. Appendix H1, Section 4.3
	(b) impacts from any permanent and temporary interruption of groundwater flow, including the extent of drawdown, barriers to flows, implications for groundwater dependent surface flows, ecosystems and species, groundwater users and the potential for settlement;	Chapters 8, Section 8.8 Chapter 9, Section 9.4 Chapter 11, Sections 11.4 and 11.5 Chapter 22, Section 22.4. Appendix F4 Appendix H1, Section 4.2
	(c) changes to environmental water availability and flows, both regulated/licensed and unregulated/rules-based sources;	Chapter 15, Section 15.7 Chapter 11, Sections 11.4 and 11.5 Appendix H1, Section 4.3 Appendix H3

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
	(d) direct or indirect increases in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses;	Chapter 15, Section 15.7 Chapter 8, Section 8.8 Chapter 9, Sections 9.4 and 9.5 Chapter 22, Section 22.4. Appendix N2
	(e) minimising the effects of proposed stormwater and wastewater management during construction and operation on natural hydrological attributes (such as volumes, flow rates, management methods and re-use options) and on the conveyance capacity of existing stormwater systems where discharges are proposed through such systems; and	Chapter 15, Sections 15.5 to 15.7 Chapters 22, Sections 22.4 to 22.6 Chapter 26, Sections 26.3 to 26.5 Appendix H1, Sections 4.2 and 4.3
	(f) water take (direct or passive) from all surface and groundwater sources with estimates of annual volumes during construction and operation.	Chapter 15, Sections 15.5, 15.6 and 15.7 Appendix H1, Sections 4.1 and 4.4
	5. The Proponent must identify any requirements for baseline monitoring of hydrological attributes.	Chapter 15, Sections 15.12 Appendix H1, Sections 4.2 and 5
	6. The Proponent must detail a framework for managing water releases from the dam that are capable of meeting the objectives of the project (in terms of flood mitigation), ensures impacts to upstream and downstream areas and ecosystems are minimised. The framework shall include consideration of the potential rates of rise and fall in the river, timing of water releases. These shall include consideration of antecedent, conditions within the river, flooding impacts, and transparent and translucent flows.	Chapter 15, Section 15.8 Appendix H1, Section 1.3.3
	7. The Proponent must assess the potential impact on groundwater and surface water users, details of how existing water rights will be protected, including with respect to availability, quantity and quality of the water, noting the interjurisdictional users within the potentially impacted area. This would include an assessment of environmental availability, both regulated and unregulated use, licenced and rules-based sources of such water.	Chapter 15, Sections 15.5, 15.6, 15.7 Chapter 21, Section 21.7 Appendix H1, Section 4.3
	8. The Proponent must consider and discuss the rate at which flood waters would potentially recede following a probable maximum flood event, the impact on vegetation both upstream and downstream from the flood and the impact on water quality over time as flood waters are released from the dam throughout the catchment. Geomorphology and river management should be taken into account.	Chapter 15, Section 15.6 and 15.7 Chapters 8, Section 8.8 Chapter 9, Sections 9.4 and 9.5 Chapter 27, Section 27.5 Appendix H1, Section 4.2.3 Appendix N2, Section 5.4 (river management).

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
<p><b>21. Water - Quality</b></p> <p>The project is designed, constructed and operated to protect the NSW Water Quality Objectives where they are currently being achieved, and contribute towards achievement of the Water Quality Objectives over time where they are currently not being achieved, including downstream of the project to the extent of the project impact including estuarine and marine waters (if applicable).</p> <p>The project should not adversely affect drinking water quality.</p>	<p>1. The Proponent must:</p> <p>(a) state the ambient NSW Water Quality Objectives (NSW WQO) and environmental values for the receiving waters relevant to the project, including the indicators and associated trigger values or criteria for the identified environmental values;</p>	Chapter 27, Section 27.2
	<p>(b) identify and estimate the quality and quantity of all pollutants that may be introduced into the water cycle by source and discharge point and describe the nature and degree of impact that any discharge(s) may have on the receiving environment, including consideration of all pollutants that pose a risk of non-trivial harm to human health and the environment;</p>	Chapter 27, Sections 27.3, 27.4 and 27.5
	<p>(c) identify the rainfall event that the water quality protection measures will be designed to cope with;</p>	Chapter 27, Section 27.4
	<p>(d) assess the significance of any identified impacts including consideration of the relevant ambient water quality outcomes;</p>	Chapter 27, Sections 27.4, 27.5
	<p>(e) assess cumulative water quality and connective flow impacts on upstream and downstream areas and provide mitigation measures;</p>	Chapter 27, Sections 27.5 and 27.6
	<p>(f) demonstrate how construction and operation of the project will, to the extent that the project</p>	Chapter 27, Sections 27.5 and 27.4

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Where addressed
	can influence, ensure that: <ul style="list-style-type: none"> <li>- where the NSW WQOs for receiving waters are currently being met they will continue to be protected; and</li> <li>- where the NSW WQOs are not currently being met, activities will work toward their achievement over time;</li> <li>- identify how potential concrete, dust and other by products of the construction phase will be managed during construction activities, to ensure that water quality is maintained throughout the works. Mitigation measures should be discussed for stormwater and wastewater management during and after construction;</li> </ul>	
	(g) justify, if required, why the WQOs cannot be maintained or achieved over time;	Chapter 27, Sections 27.4 and 27.5
	(h) demonstrate that all practical measures to avoid or minimise water pollution and protect human health and the environment from harm are investigated and implemented;	Chapter 27, Sections 27.4 and 27.6
	(i) identify sensitive receiving environments (which may include estuarine and marine waters downstream) and develop a strategy to avoid or minimise impacts on these environments; and	Appendices F1, F2 and F4
	(j) identify sensitive upstream environments that become 'receivers' during times of flood and may become inundated. Develop a strategy to avoid or minimise impacts on these environments.	Appendices F1 and F4

## 4 Commonwealth requirements (Attachment A to SEARs)

Requirement	Where addressed
<b>General Requirements</b>	
<b>Project Description</b>	
1. The title of the action, background to the development of the action and current status.	Chapter 30 Chapter 5
2. The precise location and description 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 1 Chapter 5
3. How the action relates to any other actions that have been, or are being taken in the region affected by the action.	Chapter 28
4. How the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts on MNES.	Chapter 5
<b>Impacts</b>	
5. The EIS must include an assessment of the relevant impacts of the action on the matters protected by the controlling provisions, including: <ul style="list-style-type: none"> <li>(i) a description and detailed assessment of the nature and extent of the likely direct, indirect and consequential impacts, including short term and long term relevant impacts;</li> <li>(ii) a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;</li> <li>(iii) analysis of the significance of the relevant impacts; and</li> <li>(iv) any technical data and other information used or needed to make a detailed assessment of the relevant impacts.</li> </ul>	Appendix F1 Appendix F2 Appendix F3 Appendix F5 Appendix J Summarised in: Chapter 8 Chapter 9 Chapter 10 Chapter 12 Chapter 20
<b>Avoidance, mitigation and offsetting</b>	
6. For <u>each</u> of the relevant matters protected that are likely to be significantly impacted by the development, the EIS must provide information on proposed avoidance and mitigation measures to manage the relevant impacts of the action including: <ul style="list-style-type: none"> <li>(i) a description, and an assessment of the expected or predicted effectiveness of the mitigation measures,</li> <li>(ii) any statutory policy basis for the mitigation measures;</li> <li>(iii) the cost of the mitigation measures;</li> <li>(iv) an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;</li> <li>(v) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.</li> </ul>	Appendix F5 Appendix F6 Appendix J Summarised in: Chapter 8 Chapter 9 Chapter 10 Chapter 12 Chapter 20
7. Where a significant residual adverse impact to a relevant protected matter is considered likely, the EIS must provide information on the proposed offset strategy, including discussion of the conservation benefit associated with the proposed offset strategy.	Appendix F6 Appendix J Summarised in: Chapter 13 Chapter 20

Requirement	Where addressed
<p>8. For each of the relevant matters likely to be significantly impacted by the development the EIS must provide reference to, and consideration of, relevant Commonwealth guidelines and policy statements including any:</p> <ul style="list-style-type: none"> <li>(i) conservation advice or recovery plan for the species or community,</li> <li>(ii) relevant threat abatement plan for a process that threatens the species or community</li> <li>(iii) wildlife conservation plan for the species</li> <li>(iv) management plan for Ramsar wetland</li> <li>(v) management plan for a World Heritage property or National Heritage place;</li> <li>(vi) Marine Bioregional Plan;</li> <li>(vii) any strategic assessment.</li> </ul> <p>[Note: the relevant guidelines and policy statements for each species and community are available from the Department of the Environment Species Profiles and Threats Database. <a href="http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl">http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl</a>]</p>	<p>Appendix F5 Appendix J Summarised in: Chapter 12 Chapter 20</p>
<p>9. In addition to the general requirements described above, specific information is required with respect to each of the determined controlling provisions. These requirements are outlined in paragraphs 14-19.</p>	<p>Refer below</p>
<p><b>Key Issues</b></p>	
<p><b>Biodiversity (threatened species and communities)</b></p>	
<p>10. The EIS must identify <u>each</u> EPBC Act listed threatened species and community likely to be significantly impacted by the development. Provide evidence why other threatened species and communities likely to be located in the project area or in the vicinity will not be significantly impacted in accordance with the <i>Matters of National Environmental Significance - Significant impact guidelines 1.1</i> (2013) EPBCAct.</p>	<p>Appendix F5 Summarised in Chapter 12</p>
<p>11. For <u>each</u> of the EPBC Act listed threatened species and communities likely to be significantly impacted by the development the EIS must provide a separate:</p> <ul style="list-style-type: none"> <li>(a) description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plans;</li> <li>(b) details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements;</li> <li>(c) description of the relevant impacts of the action having regard to the full national extent of the species or community's range; and description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action;</li> <li>(d) identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account;</li> <li>(e) a description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established.</li> <li>(f) details of how the current published NSW Framework for Biodiversity Assessment (FBA) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts; and</li> <li>(g) details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the development in accordance with the FBA and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites;</li> </ul>	<p>Appendix F5 Appendix F6 Summarised in: Chapter 13 Chapter 12</p>

Requirement	Where addressed
<p>[Note: For the purposes of approval under the EPBC Act, it is a requirement that offsets directly contribute to the ongoing viability of the specific protected matter impacted by a proposed action and deliver an overall conservation outcome that improves or maintains the viability of the MNES i.e. 'like for like'. In applying the FBA, residual impacts on EPBC Act listed threatened ecological communities must be offset with Plant Community Type(s) (PCT) that are ascribed to the specific EPBC listed ecological community. PCTs from a different vegetation class will not generally be acceptable as offsets for EPBC listed communities.]</p>	
<p>12. Any significant residual impacts not addressed by the FBA may need to be addressed in accordance with the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offset Policy. <a href="http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy">http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy</a>.</p>	<p>Appendix F6 Chapter 13</p>
<p><b>Heritage (World and National Heritage)</b></p>	
<p>13. The EIS must identify and describe the characteristics and values, including Outstanding Universal values, of any World Heritage property(s), and/or any National Heritage places that are likely to be impacted by all stages of the proposed development with appropriate reference to relevant management plans.</p>	<p>Appendix J Chapter 20</p>
<p>14. The assessment of impacts should include information on:</p> <ul style="list-style-type: none"> <li>(i) the modification, destruction, fragmentation, isolation, disturbance of an important or substantial area of habitat;</li> <li>(ii) impacts on other users of the area;</li> <li>(iii) the potential impacts on important amenities, navigation, culturally or historically significant sites, threatened or migratory species or sensitive habitat;</li> <li>(iv) the potential visual impacts;</li> <li>(v) a description of any specific mitigation and management measures proposed to protect or enhance the affected values of the World Heritage property or National Heritage place.</li> </ul>	<p>Appendix J Chapter 20</p>
<p>15. Where a significant residual adverse impact to a World Heritage property and/or a National Heritage place is considered likely the EIS must provide information on the proposed offset strategy. The offset strategy must:</p> <ul style="list-style-type: none"> <li>(i) include a discussion and supporting evidence of the conservation benefit associated with the proposed offset strategy. The conservation benefit must demonstrate, at a minimum, how the</li> <li>(ii) proposed offset will improve the integrity and resilience of the heritage values of the impacted heritage place or property; and</li> <li>(iii) be consistent with the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offset Policy (2012): <a href="http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy">www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy</a> or an endorsed state policy.</li> </ul>	<p>Appendix F6 Chapter 13</p>
<p><b>Other approvals and conditions</b></p>	
<p>16. Information in relation to any other approvals or conditions required must include the information prescribed in Schedule 4 Clause 5 (a) (b) (c) and (d) of the EPBC Regulations 2000.</p>	<p>Appendix F5 Appendix J</p>
<p><b>Environmental Record of person proposing to take the action</b></p>	
<p>17. Information in relation to the environmental record of a person proposing to take the action must include details as prescribed in Schedule 4 Clause 6 of the EPBC Regulations 2000.</p>	<p>Appendix R</p>
<p><b>Information Sources</b></p>	

Requirement	Where addressed
18. For information given in an EIS, the EIS must state the source of the information, how recent the information is, how the reliability of the information was tested; and what uncertainties (if any) are in the information.	Appendix F5 Appendix J

## local people global experience

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SMEC is recognised for providing technical excellence and consultancy expertise in urban, infrastructure and management advisory. From concept to completion, our core service offering covers the life-cycle of a project and maximises value to our clients and communities. We align global expertise with local knowledge and state-of-the-art processes and systems to deliver innovative solutions to a range of industry sectors.