Draft terms of reference

Environmental Protection Act 1994

Approved form for submission of a draft terms of reference

This is the approved form to submit a draft terms of reference to DES for projects being assessed by environmental impact statement (EIS) process under the Environmental Protection Act 1994 (EP Act)

Draft terms of reference for an environmental impact statement under the *Environmental Protection Act 1994*

Isaac Downs Extension Project
proposed by Stanmore ID Extension Pty Ltd
August 2025

Prepared by: Stanmore ID Extension Pty Ltd

Completed in the approved form *ESR/2017/4038*, version 5.01, July 2025 prepared by the Department of the Environment, Tourism, Science and Innovation for projects undergoing assessment by environmental impact statement under chapter 3, part 1, of the EP Act.

August 2025

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1. Purpose of the draft TOR

Document introduction

1.1 This document is the draft terms of reference (TOR) for the Isaac Downs Extension Project (herein referred to as 'the project') proposed by Stanmore ID Extension Pty Ltd being assessed under the environmental impact statement (EIS) process in chapter 3, part 1, of the *Environmental Protection Act 1994* (EP Act). It describes the scope and content that the EIS must include to allow the purposes of the EIS and EIS process, as defined in the EP Act, to be achieved for the project (section 40 of the EP Act).

EIS purpose and process

1.2 The purposes of an EIS and the EIS process are:

(a) to assess the potential adverse and beneficial environmental, economic and social impacts of the project

(b) to assess management, monitoring, planning and other measures proposed to minimise any adverse environmental impacts of the project

(c) to consider feasible alternative ways to carry out the project

(d) to give enough information to the proponent, Commonwealth and State authorities and the public to assess the project and for the proponent to prepare environmental management plans for the project

(e) to help the department decide an environmental authority (EA) application for which the EIS is required

(f) to give information to other Commonwealth and State authorities to help them make informed decisions

(g) to meet any assessment requirements under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) for a controlled action.

(h) to allow the department to meet its obligations under a bilateral agreement.

Key EIS requirements of the EP Act and subordinate legislation

1.3 The EIS must address key requirements outlined in the EP Act and subordinate legislation, including:

(a) the requirements of section 40 of the EP Act, which specifies the purpose of an EIS and of the EIS process

(b) the requirements of sections 125, 126 and 126A which set out the general information requirements for applications for an EA

(c) the requirements of sections 126B, 126C and 126D which set out the information requirements for a proposed progressive rehabilitation and closure plan (PRC plan) for mining projects

(d) the requirements of chapter 2 and schedule 1 of the Environmental Protection Regulation 2019 (EP Regulation), including matters to be addressed by assessment under the bilateral agreement between the Australian Government and the State of Queensland

(e) the environmental objectives and performance outcomes specified in schedule 8 of the EP Regulation.

EIS information requirements

1.4 The EIS must provide all the information needed to enable the issuing of an EA (and PRC plan schedule for mining projects) for the project as set out in these TOR in conjunction with the latest version of the department's EIS information guidelines. This is because section 139 of the EP Act states that the information stage of the EA application and PRC plan does not apply if the EIS process is complete, unless there has been a subsequent change to the project including changes to a proposed PRC plan (where relevant).

1.5 While every attempt is made by the department to ensure the final TOR requires an assessment of all relevant matters, the final TOR may not be exhaustive. Therefore, the EIS must address other matters not covered in the final TOR in the following circumstances:

(a) Where studies reveal a matter that had not been foreseen when the TOR was finalised.

(b) An issue not identified previously is considered contentious by the public, such as a public perception of potential environmental harm or nuisance even though the perception might be mistaken.

(c) The department directs the proponent in writing to address a matter as an information request under section 62 of the EP Act.

(d) New or amended legislation or policies come into effect after the TOR has been finalised, regardless of whether the legislation or policies have been listed in the TOR. Transitional arrangements or exemptions may apply for individual projects.

(e) The proponent makes amendments to the project that would result in a change in the nature, timing or location of any impacts.

Information about the project and assessment

Project proponent

1.6 Stanmore ID Extension Pty Ltd (ID Extension), a wholly owned subsidiary of Stanmore Resources Ltd (Stanmore), proposes to develop the project. ID Extension's registered business address is Level 32, 12 Creek Street Brisbane City, QLD, 4000.

Project description

1.7 The Isaac Downs Extension Project will extend the life of mining operations at Isaac Plains Complex (IPC) through the development of an open cut coal mine pit and associated infrastructure, primarily mining metallurgical (steel making) coal. Approximately 46 million tonnes (Mt) of run of mine (ROM) coal will be mined over 15 years, with approximately 2 – 4.5 million tonnes per annum (Mtpa).

IPC comprises Isaac Downs Mine (IDM) and Isaac Plains Mine (IPM), operated by wholly owned subsidiaries of Stanmore. The project adjoins IDM and will be integrated into IPC (see Figure 1), with ROM coal washed at the IPM coal handling and preparation plant (CHPP), shared mine infrastructure area (MIA) at IDM, and connecting infrastructure such as water management infrastructure and power supply.

The project is located in the Bowen Basin of central Queensland approximately 15 km southeast of Moranbah and 150 km southwest of Mackay.

Mining of ROM coal at IDM is expected to ramp down between 2026 and 2028, with project construction commencing late 2027 / early 2028 and ROM coal extraction in 2029. The IPC workforce will transition to IDE as mining ramps down at IDM and IPM, and ramps up at IDE. The project, being an extension of mining activities at IPC, is therefore important to ensure a near steady state workforce across IPC beyond 2027 and 2028.

The proponent has applied for four mining leases (MLs) for the project (ML application (MLA) 700081, MLA 700082, MLA 700083 and MLA 700084) (see Figure 1), which adjoin IDM MLs.

The open cut mining methods for the project will be similar to those at IDM, including:

- clearing of vegetation, stripping and stockpiling of topsoil
- drilling and blasting of pre-strip overburden
- removing the pre-strip overburden using mining equipment at IDM being a dragline and / or truck and shovel fleets and / or dozers
- drilling and blasting of overburden
- drilling and blasting of pit floor for geotechnical stability to allow for in-pit dumping
- overburden removal using the existing dragline at IDM and / or truck and shovel fleets
- coal mining using excavators

- formation of out of pit and in-pit overburden dumps as mining progresses
- progressive rehabilitation of overburden dump areas.

Mining areas will be progressively rehabilitated as they become available for rehabilitation. Rehabilitation milestone criteria will be developed for each stage of rehabilitation. Post mining land uses will be developed for different rehabilitation areas.

ROM coal will be transported from the project's ROM coal pad to the CHPP at IPM for washing, utilising existing haul roads at IPC and new haul roads, including a bridge across the Isaac River, constructed in the project area. The dragline will be walked from IDM to the project via a temporary crossing of the Isaac River.

A satellite go line and crib area will be constructed at the project, with the existing MIA at IDM continuing to service project activities.

The primary access to the project for workers and deliveries will be via IDM's existing access road and new access roads connecting with the project. There is potential for a secondary access route to the project from Stanmore's Eagle Downs project.

During operations, levees will be constructed to protect the open cut pit area from flooding of the Isaac River, Cherwell Creek and Conrock Gully up to a 0.1% annual exceedance probability (AEP) (1:1,000 year) flood event. Conrock Gully will be diverted around the active mining areas into the Isaac River, with the diversion remaining post mining. Any residual void remaining post mine life will not be located within the 0.1% AEP flood event.

A mine affected water dam will store water from the pit, ROM pad, go line and crib area, with the ability to transfer mine affected water to and from IDM and IPM within IPC's integrated water management system, thereby enabling the balancing of water supply and demand. Sediment water drains and dams will be constructed to capture runoff from overburden dumps. Clean water drains and dams will be constructed to separate clean water from mine affected water and sediment water.

IPC has access to external raw water supplied from SunWater and has excess storage capacity for water within existing mined voids and dams. As the project's water management systems will be integrated with IPC, it is anticipated that water supply will be available during dry periods, and storage capacity will be able to receive any excess water during wet periods. Therefore no new sources of water supply will be required.

Topsoil stockpile areas will be used for storage of topsoil that has been stripped from mining and infrastructure areas, for future use in rehabilitation.

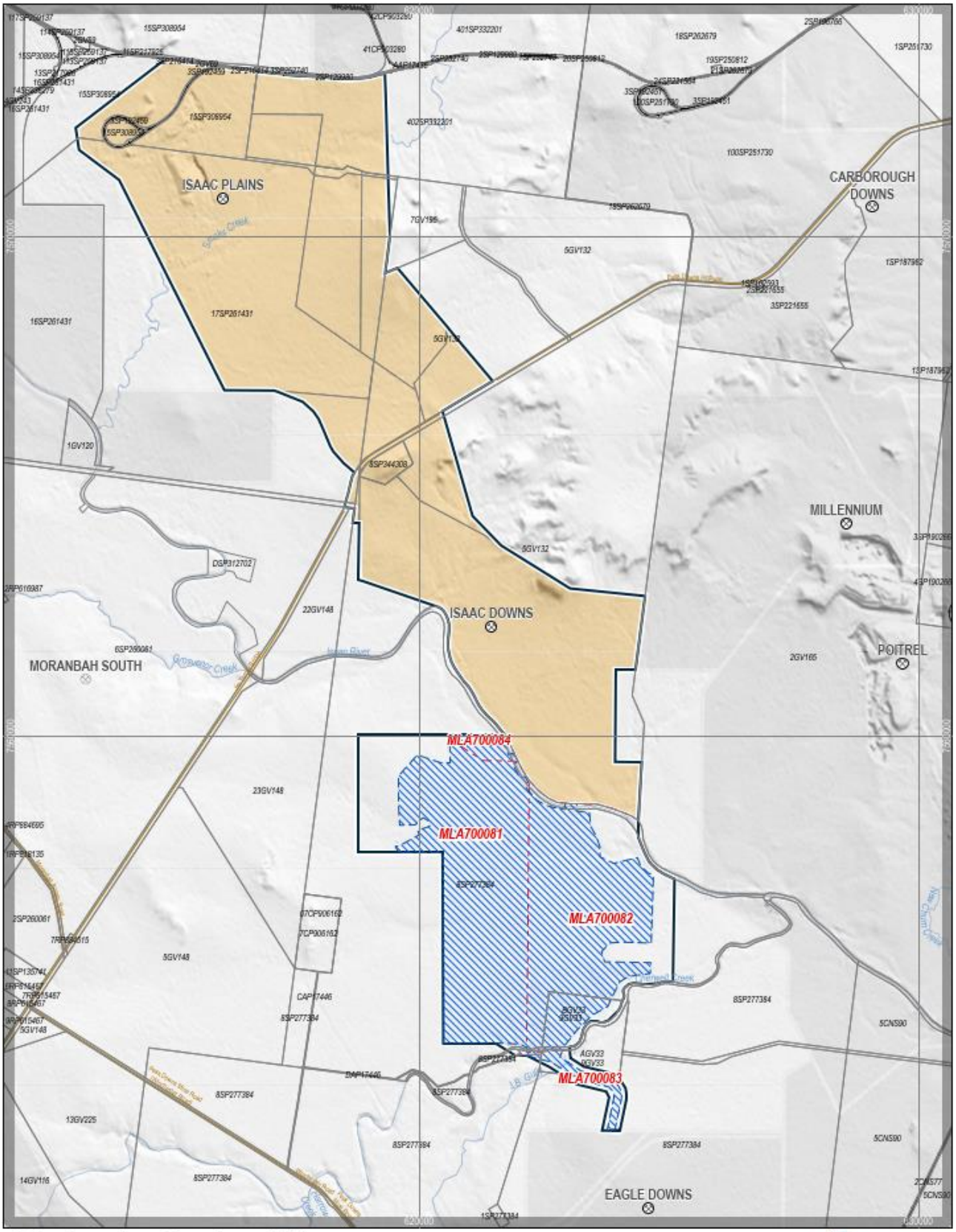
Power for the dragline will be supplied to the project via powerline connections with existing power supply at IDM.

The proposed project layout, MLA areas (2,707 ha) and proposed disturbance area (2,080 ha) are shown in Figure 2. The proposed disturbance allows for working and construction areas within and around proposed project activities and infrastructure. The disturbance area has been refined to minimise and / or avoid sensitive ecological features (e.g. habitat for listed threatened species and riparian areas). The disturbance area may be subject to further refinement for environmental or operational reasons.

The project area is largely located on Winchester Downs station (Lot 8 SP277834), but also has overlaps with a State Reserve (Lot 9 GV33) which has grazing rights for the owners of Winchester Downs, a local road used to access Winchester Downs, the Isaac River and Cherwell Creek. The proponent has tenement and land access arrangements (e.g. conduct and compensation arrangements) to enter the project area for the purpose of conducting environmental studies, including environmental surveys, groundwater bore installation and drilling access.

The project operational workforce will be similar to, but lower than that for current operations at IPC, with around 300 - 400 workers, compared to around 400 - 450 workers. Approximately 100 – 150 workers will be engaged at the project for infrastructure construction. Workforce accommodation arrangements will continue in a similar manner to those for the current IPC workforce, being a mix of residences in Moranbah and other local or regional towns, and mine accommodation villages in the region.

The project will contribute significantly to the State's economy, provide ongoing employment opportunities through the workforce transition from IDM, continue to support local and regional suppliers and contractors thereby providing additional economic benefits and employment in the region, require capital investment to bring it to full production, provide associated revenue benefits for the State and Commonwealth through coal royalties and other taxation, and capitalise on existing infrastructure and activities located at IPC.


ISAAC PLAINS
CARBOROUGH DOWNS
MILLENNIUM
ISAAC DOWNS
POITREL
MORANBAH SOUTH
EAGLE DOWNS
MLA700084
MLA700081
MLA700082
MLA700083
0 1 2 3
Kilometres
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Scale: 1 : 300,000 (A4)
Date: 31/07/2025 8:44 AM
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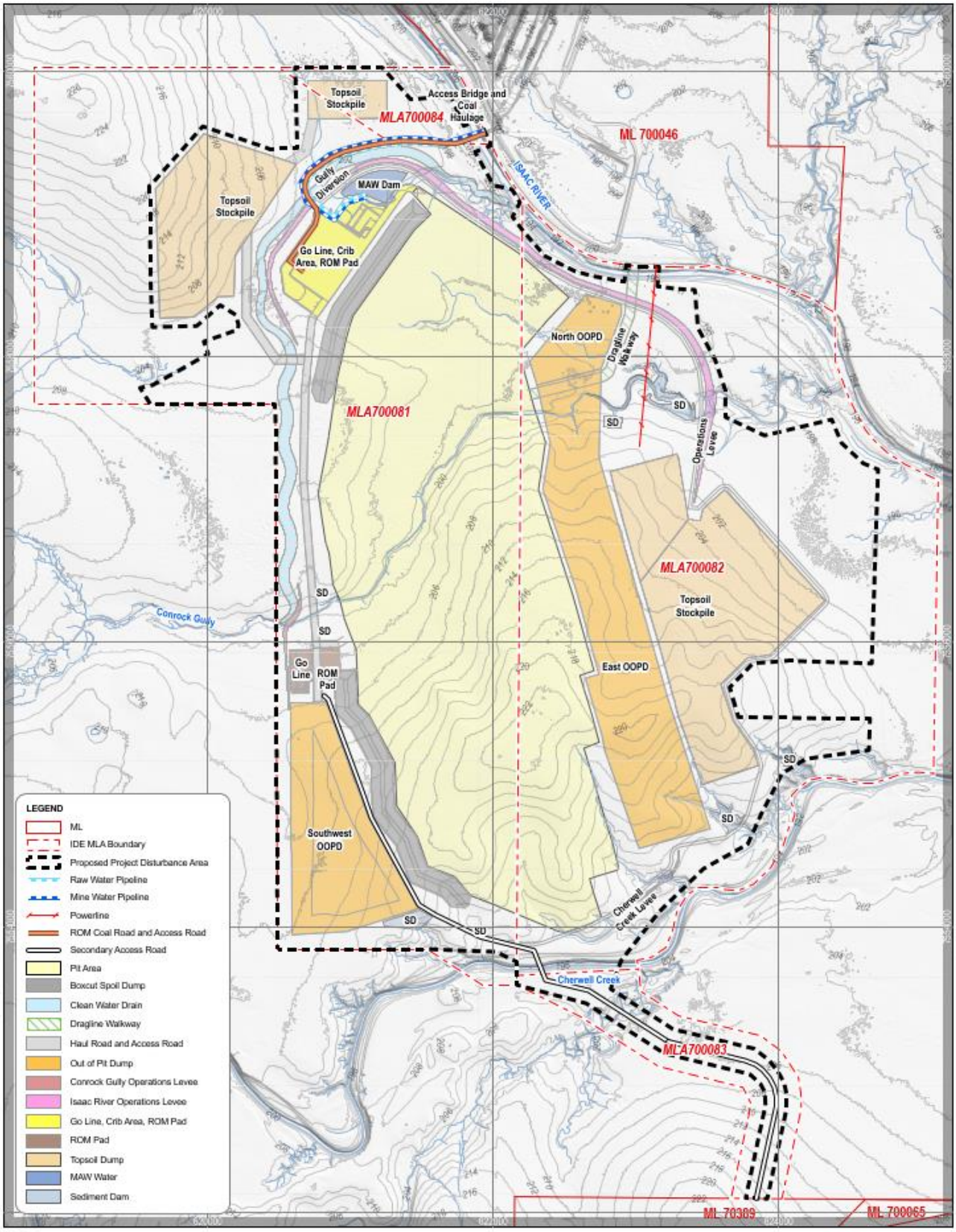
Minserve
DISCLAIMER: Third party data sources are used in this map compilation. Minserve makes no warranty regarding this data's accuracy or currency.
LEGEND
Mining Lease
Waterway
Roads
Rail
Prospect
Coal Mine
Isaac Plains Complex
Isaac Downs Extension MLA Boundary
Proposed IDE Project Area
Isaac Plains Complex Mining Lease
Cadastral Boundary
stanmore
ISAAC DOWNS EXTENSION
Isaac Downs Extension Location
Figure | 1


Topsoil Stockpile
Access Bridge and Coal Haulage
MLA700084
ML 700046
Gully Diversion
MAW Dam
ISAAC RIVER
Topsoil Stockpile
Go Line, Crib Area, ROM Pad
North OOPD
Dragline Walkway
MLA700081
SD
Operations Levee
MLA700082
Topsoil Stockpile
Conrock Gully
Go Line
ROM Pad
East OOPD
Southwest OOPD
Cherwell Creek Levee
Cherwell Creek
MLA700083
ML 70309
ML 700065
LEGEND
ML
IDE MLA Boundary
Proposed Project Disturbance Area
Raw Water Pipeline
Mine Water Pipeline
Powerline
ROM Coal Road and Access Road
Secondary Access Road
Pit Area
Boxcut Spoil Dump
Clean Water Drain
Dragline Walkway
Haul Road and Access Road
Out of Pit Dump
Conrock Gully Operations Levee
Isaac River Operations Levee
Go Line, Crib Area, ROM Pad
ROM Pad
Topsoil Dump
MAW Water
Sediment Dam
0 200 400 600 800 1000
Metres
Datum: GDA2020 Zone 55
Scale: See Scale Bar
Date: 30/07/2025 10:47 AM
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DISCLAIMER: Third party data sources are used in this map compilation. Minserve makes no warranty regarding the data's accuracy or currency.
stanmore
ISAAC DOWNS EXTENSION
Draft Project Layout and Disturbance Area
Figure | 2

EIS assessment process

1.8 On 17 June 2025, the department approved an application for Stanmore ID Extension Pty Ltd to voluntarily prepare an EIS under the EP Act for the Isaac Downs Extension Project. Under section 139 of the EP Act, the EIS will form the application documents for the requirements of chapter 3 of the EP Act.

This is provided that the environmental risks of the activity or way the activity will be carried out, including any proposed PRC plan, do not change between the EIS being completed under the EP Act and when the EA and PRC plan applications are made.

The project was determined to be a controlled action (EPBC2025/10183) under the EPBC Act. The controlling provisions are 18 and 18A (listed threatened species and communities) and 24D and 24E (A water resource, in relation to coal seam gas development and large coal mining development).

The EIS process will assess the potential impacts of the project on the controlling provisions as an accredited assessment process under part 8 of the EPBC Act.

Further information on the EIS process under the EP Act is described in the department's guideline The environmental impact statement process for resource projects under the *Environmental Protection Act 1994* (ESR/2016/2171) (DESI 2024).

2. EIS content requirements

2.1 The remaining sections outline the information requirements of an EIS under the EP Act for the proposed Isaac Downs Extension Project. It is not necessary for the EIS to follow the structure outlined below, but the relevant requirements for each section must be included in the EIS.

3. Glossary

3.1 Provide a glossary of terms and a list of acronyms and abbreviations at the start of the EIS.

4. Executive summary

4.1 The EIS must include an executive summary which describes the project and conveys the most important aspects and environmental management commitments relating to the project in a concise and readable form.

5. Introduction

5.1 The introduction of the EIS must clearly explain the function of the EIS, why it has been prepared and what it sets out to achieve. It must include an overview of the structure of the document.

Project proponent

5.2 Provide information about the proponent(s) and their business, including:

(a) the proponent's full name, street and postal address, and Australian Business Number, including details of any joint venture partners

(b) the nature and extent of the proponent's (including director's) business activities and experience in resource projects

(c) the proponent's (including director's) environmental record, including a list of any breach of, or proceedings against the proponent(s) under, a law of the Commonwealth or a State for the protection of the environment or the conservation and sustainable use of natural resources (an environmental law)

(d) the proponent's quality, environmental, health, safety and community policies

(e) experience, qualifications and certification of all appropriately qualified consultants and sub consultants engaged by the proponent to complete the EIS.

The environmental impact statement process

5.3 Outline the steps of the EIS process, noting any completed milestones, and an estimated completion date for each remaining EIS stage. Highlight the steps in which the public will have the opportunity to provide input or comment. This information is required to ensure readers are informed of the EIS process and are aware of their opportunities for input and commenting.

5.4 Inform the reader how and when properly made public submissions on the EIS can be made, and outline how the submissions are considered in the decision-making process.

Project approvals process

5.5 Describe all approvals under federal, state or local legislation that are required to enable the project to be constructed and operated. Include the following information:

(a) the legislation under which the approvals are assessed and issued, the administering authority, stages, timing considerations and associated public notification requirements

(b) how the EIS fits into the assessment and approval processes for the EA and other approvals required of the project before construction and operations can start

(c) as this project is 'an accredited process', describe the approvals process under the EPBC Act

(d) whether the project would likely contravene a law of the Commonwealth or the State

(e) if there are any relevant government policies or legislation with which the project is inconsistent.

6. Consultation process

6.1 Describe the consultation that has taken place and how responses from stakeholders, including government agencies and members of the community, have been incorporated into the design and outcomes of the project.

6.2 Describe proposed future consultation activities and outline how the results of that consultation will be used in the ongoing management of the project. Provide information on the development and outcomes of the implementation of consultation for the people, organisations and communities identified as affected or interested persons and stakeholders for the project. Describe issues of potential concern to all stakeholders at various stages of the project from project planning to commencement, project construction, operations and decommissioning. The description of the consultation must address the following matters:

(a) the objectives of the consultation process

(b) timing of consultation

(c) the number and interests of the people, organisations and communities involved in the consultation (particularly the affected and interested persons defined in sections 38 and 41 of the EP Act)

(d) methods of consultation and communication

(e) consultation process reporting and feedback methods

(f) an assessment explaining how the consultation objectives have been met

(g) an analysis of the issues and views raised and their completed or planned resolution, including any alterations to the project because of feedback received.

7. Project description and alternatives

7.1 Describe all aspects of the project that are covered by the EIS assessment. If there are any aspects of the project that would be assessed separately, describe what they are, and how they would be assessed and approved. If the project is an expansion of an existing activity, clearly state the linkages, overlap and separation between them.

7.2 The project description must include all on lease and off lease activities relevant to the project including construction, operation and decommissioning activities. If the delivery of the project is to be staged, describe the nature and timing of the stages.

Project

7.3 Describe and illustrate the following specific information about the project:

(a) project title

(b) project objectives

(c) expected capital expenditure

(d) rationale for the project

(e) background to the project's development and justification for its need

(f) project description, including the nature and scale of all project components and activities

(g) whether it is a greenfield or brownfield site

(h) power and water supply

(i) transport requirements

(j) regional and local context of the project's footprint, including maps at suitable scales

(k) proposed timing of the development, including construction staging, likely schedule of works and anticipated mine life

(l) relationship to other major projects, developments or actions of which the proponent is reasonably aware

(m) the workforce numbers for all project phases

(n) where personnel would be accommodated and the likely recruitment and rostering arrangements to be adopted

(o) proposed travel arrangements of the workforce to and from work, including use of a fly-in-fly-out (FIFO) workforce.

Site description

7.4 Provide real property descriptions of the project land and adjacent properties, any easements, any existing underlying resource tenures, and identification number of any resource activity lease for the project land that is subject to the application.

7.5 Describe and illustrate with scaled maps the key infrastructure in and around the site, including state-controlled and local roads, rail lines and loading yards, airfields, ports or jetties, electricity transmission infrastructure, pipelines, and any other infrastructure in the region relevant to the project.

7.6 Describe and illustrate the topography of the project site and surrounding area; highlight and identify any significant features shown on the maps. Map the location and boundaries of the project's footprint including all infrastructure elements and development necessary for the project. Show all key aspects including excavations, stockpiles, areas of fill, subsidence areas, services infrastructure, plant locations, water or tailings storages and infrastructure, buildings, bridges and culvert, haul and access roads, causeways, stockpile areas, barge loading facilities and any areas of dredging or bed levelling. Include discussion of any environmental design features of these facilities including bunding of storage facilities.

7.7 Describe and map the spatial distribution and cross-sections of geological and terrestrial and/or coastal landforms of the project area in a suitable electronic format. Provide detailed spatial information in a suitable electronic format, that clearly shows the boundaries of water catchments that are significant for the drainage of the project site, including the location of waterways as defined under the Fisheries Act 1994. Provide detailed spatial information in a suitable electronic format that clearly shows geological structures, such as aquifers, faults and economic resources that could have an influence on, or be influenced by, the project's activities.

7.8 Describe and illustrate the precise location of the project in relation to any designated and protected areas and waterbodies. This is to include the location of any proposed buffers surrounding the working areas and lands identified for conservation, either through retention in their current natural state or to be rehabilitated.

7.9 Describe, map and illustrate land and soil resources (types and profiles) of the project area at a scale relevant to the site and in accordance with relevant guidelines. Identify soils that would require particular

management due to wetness, erosivity, depth, acidity, salinity or other feature, including acid sulfate soils.

7.10 Describe with concept and layout plans, in both plan and cross-section views, requirements for constructing, upgrading or relocating all infrastructure associated with the project. Show the locations of any necessary infrastructure easements on the plans, including infrastructure such as roads, rail (and the rail corridor), level crossings, conveyors, bridges, jetties, ferries, tracks and pathways, dams and weirs, bore fields, power lines and other cables, wireless technology (such as microwave telecommunications), and pipelines for any services, whether underground or above.

Proposed construction and operations

7.11 Where applicable, describe the following information about the project, including maps and concept, design and layout plans as relevant for the following:

(a) existing land uses and any previous land use that might have affected or contaminated the land

(b) existing buildings, infrastructure and easements on the potentially affected land

(c) the precise location of works to be undertaken, structures to be built or components of the project

(d) all pre-construction activities (including vegetation clearing, site access, interference with watercourses, wetlands and floodplain areas)

(e) the proposed construction methods, associated equipment and techniques

(f) road and rail infrastructure, and stock routes, including new constructions, closures and/or realignments

(g) the location, design and capacity of all other required supporting infrastructure, including water supply and storage, sewerage, electricity from the grid, generators and fuels (whether gas, liquid and/or solid), power stations, renewable energy and telecommunications

(h) proposed water management plan and changes to watercourses, flooding and overland flow on or off the site, including water diversions, crossings, flood levees, water off-takes, and locations of any proposed water discharge points

(i) any take of surface and groundwater (both direct and in-direct)

(j) proposed tailings management and storage

(k) any infrastructure alternatives, justified in terms of ecologically sustainable development (including energy and water conservation)

(l) days and hours of construction and operation

(m) proposed mine life, amount of resources to be mined and the resource base including total seam thickness and seam depths

(n) mining sequence and cross sections showing profiles and geological strata and faults

(o) the planned recovery of resources including the location of any resources not intended to be mined that may be sterilised during mining activity or from related infrastructure

(p) the proposed methods, equipment and techniques for resource separation, beneficiation and processing

(q) the sequencing and staging of activities

(r) the proposed methods and facilities to be used for the storage, processing, transfer, and loading of product

(s) the capacity of high-impact plant and equipment, their chemical and physical processes, and chemicals or hazardous materials to be used

(t) any activity that would otherwise be a prescribed environmentally relevant activity (ERA)

(u) if it were not undertaken on a mining or petroleum lease

(v) any new borrow pits, stream bed excavations, or expanded dredging, bed levelling, quarry and screening operations that may be required to service construction or operation of the project.

Feasible alternatives

7.12 Present feasible alternatives for the project. Address a range of alternatives including conceptual, technological, locality, configuration, scale and individual elements or components that may improve environmental outcomes as well as the alternative of not proceeding with the project.

7.13 Describe and evaluate the comparative environmental, social, and economic impacts of each alternative (including the option of not proceeding), with regard to the principles of ecologically sustainable development.

7.14 Discuss each alternative and its potential impacts in sufficient detail to enable an understanding of the reasons for preferring certain options and courses of action while rejecting others. Justify why the project and preferred options should proceed.

8. The environmental impact assessment process

8.1 For each project specific matter outlined in section 9, the EIS must identify and describe the relevant environmental values, assess potential adverse and beneficial environmental, economic and social impacts of the project; and outline the management, monitoring, planning and other measures proposed to avoid, minimise and/or mitigate any adverse environmental impacts of the project. This must be addressed within the scope of the following requirements.

Environmental values

8.2 For the purposes of the EIS process, 'environment' is defined in section 8 of the EP Act. Identify and describe the values that must be protected for all the relevant matters including:

(a) environmental values specified in the EP Act, the EP Regulation (e.g. environmental objectives and performance outcomes as defined in schedule 8), environmental protection policies and associated guidelines

(b) values under other State legislation, policies and guidelines including the *Vegetation Management Act 1999*, the *Nature Conservation Act 1992*, the *Regional Planning Interests Act 2014*

(c) values identified in the project specific matters in section 9 of the TOR.

8.3 Consider all available baseline information relevant to the environmental risks of the project, including seasonal and long term variations. Describe the quality of all information, in particular the source of the information, how recent the information is, how the reliability of the information was tested, and any assumptions and uncertainties in the information.

Impact assessment

8.4 Assess the impacts of the project on environmental values. This includes demonstrating that the project meets the environmental objectives and outcomes for each matter in section 9 of the TOR and the environmental objectives and performance outcomes for any matters listed in Schedule 8 of the EP Regulation. Impact assessment must address:

(a) short-, medium- and long-term scenarios

(b) the scale of an impact, including:

i. the impact's intensity and duration

ii. cumulative effects of the project in combination with other major projects or developments of which the proponent is reasonably aware

iii. the risk of environmental harm

iv. avoidance, mitigation and management strategies and if necessary, offsets (Queensland Government 2024b) provisions

v. the potential for unforeseen impacts

vi. the risks associated with unlikely but potentially major impacts

vii. direct, indirect, secondary, permanent, temporary, unknown, unpredictable and/or irreversible impacts

viii. both positive and negative impacts

ix. impact interactions.

Cumulative impacts

8.5 Assess the cumulative impacts of the project on environmental values. Every effort must be made to find information from all sources relevant to the assessment of cumulative impacts including other major projects or developments of which the proponent is reasonably aware. The EIS must outline ways in which the cumulative impact assessment and management could subsequently be progressed further on a collective basis. Impact assessment must address cumulative impacts, including:

(a) impacts to environmental values of land, air and water, public health and the health of terrestrial and aquatic ecosystems

(b) impacts to environmental values over time or in combination with other impacts in the dimensions of scale, intensity, duration or frequency of the impacts

(c) impacts created by the activities on other adjacent, upstream and downstream developments and infrastructure, and landholders

(d) impact of project on overall state and national greenhouse gas (GHG) inventories and targets.

Avoidance and mitigation

8.6 Propose and describe avoidance, mitigation and management strategies for the protection or enhancement of identified environmental values. Proposed strategies must:

(a) adhere to the department's management hierarchy: (a) to avoid; (b) to minimise and mitigate including best practice environmental management; once (a) and (b) have been applied, (c) if necessary and possible, to offset

(b) include a scientifically robust assessment of the expected or predicted effectiveness, of the mitigation measures for dealing with the project's relevant impacts

(c) the name of the entity responsible for endorsing or approving each mitigation measure or monitoring program

(d) any statutory or policy basis for the mitigation measures

(e) the cost of the mitigation measures

(f) include management plans setting out the framework for continuing management, mitigation and monitoring programs for the project's relevant impacts, including any provision for independent environmental auditing

(g) include an adaptive management approach to provide confidence that, based on current technologies, the impacts can be effectively managed over the long-term

(h) be described in context of proposed conditions including site-specific, outcome-focussed conditions that can be measured and audited.

8.7 For unproven elements of a resource extraction or processing process, technology or activity, identify and describe any global leading practice environmental management that would apply.

8.8 Demonstrate that the design of the project and its predicted outcomes:

(a) meet the environmental objectives and outcomes listed in section 9 of the TOR for each matter and the performance outcomes stated in Schedule 8 of the EP Regulation

(b) address the matters outlined in Schedule 1 of the EP Regulation (including items 2 and 4)

(c) are consistent with the state and national emissions reduction targets, including to power Queensland with 50% renewable energy by 2030, reduce emissions by 30% below 2005 levels by 2030 and achieve net zero GHG emissions by 2050

(d) are consistent with best practice environmental management during construction, operation, and decommissioning of the project

(e) meet all statutory and regulatory requirements of the federal, state and local government, including any relevant plans, strategies, policies and guidelines.

Conditions and commitments

8.9 Provide sufficient evidence and detail through studies, proposed management measures, commitments and supporting information:

(a) to demonstrate that the predicted outcomes for the project can be achieved

(b) to meet the requirements of sections 125, 126A of the EP Act and 126B–126D

(c) to meet the requirements of Schedule 1 of the EP Regulation

(d) for the administering authority to make recommendations about the suitability of the project, assess whether an approval be granted and recommend draft conditions for inclusion on relevant approvals

(e) to allow the administering authority to develop a register of commitments, and how those commitments will be achieved during the development and operation of the project.

Information sources

8.10 For information included in the EIS, provide the following: the source of the information, how recent the information is, how the reliability of the information was tested and any uncertainties in the information.

Critical matters

Definition of critical matters

8.11 The detail in which the EIS deals with all matters relevant to the project must be proportional to the potential scale of the impacts on environmental values. When determining the scale of an impact, consider the impact's intensity, duration, cumulative effect, irreversibility, the risk of environmental harm, management strategies and offset provisions. A critical matter is a project specific matter listed in section 9 of the TOR that has one or more of the following characteristics:

(a) It has a high or medium probability of causing serious or material environmental harm, or a high probability of causing an environmental nuisance

(b) It is considered important by the administering authority, and/or there is a public perception that an activity has the potential to cause serious or material environmental harm or an environmental nuisance, or the activity has been the subject of extensive media coverage

(c) It is relevant to a controlling provision under the EPBC Act

(d) It raises obligations under any other legislation applicable for the project (e.g. *Water Act 2000*).

8.12 The final scope of critical matters will be determined by the administering authority when finalising the TOR. However, if a new additional critical matter becomes apparent after the final TOR is issued, the EIS must address that new matter.

Critical environmental matters for this project

8.13 Critical environmental matters identified for this project which the EIS must give priority are:

(a) Land – rehabilitation and closure

(b) Water quality and flooding, including matters of national environmental significance and matters of state environmental significance

(c) Flora and fauna, including matters of national environmental significance and matters of state environmental significance.

9. Project specific matters

Climate

Environmental objective and outcomes
Keep global warming below 2°C, preferably 1.5°C, above pre-industrial levels through the reduction of GHG emissions by supporting Queensland's emission reduction targets. Prepare for climate change through climate resilient project development and operation.

9.1 Conduct the assessment in accordance with the latest version of the department's Climate—EIS information guideline (ESR/2020/5298) (DESI 2024). Describe the project area's climate patterns that are relevant to the environmental impact assessment, particularly the project's discharges to water and air, and propagation of noise. Provide climate data in a statistical form including long-term averages and extreme values.

9.3 Assess the project's vulnerabilities to projected climate change (e.g. changing patterns of temperature, rainfall, hydrology, and extreme weather events). In the assessment of climate hazards and risks, reference relevant climate projection data and employ appropriate risk assessment methodologies.

9.4 Describe the adaptation strategies and/or activities designed to minimise climate change impacts to the project, subsequent land uses on that site (e.g. rehabilitation projects) and surrounding land uses. Adaptation activities must be designed to avoid perverse outcomes.

Greenhouse gas emissions

9.5 Assess emissions to demonstrate that the project can meet the environmental objectives and performance outcomes in Schedule 8 of the EP Reg and meet the department's Guideline—Greenhouse gas emissions (ESR/2024/6819) (DESI 2024). Broadly this guideline requires:

(a) Details of GHG emissions likely to be generated by the activities of the project, including both direct (Scope 1) and indirect (Scope 2 and Scope 3) emissions. GHG emission information in the EIS is required to sufficiently inform:

i. the EA assessment process including the regulatory requirements that must be complied with and the standard criteria that must be considered

ii. considerations under the *Human Rights Act 2019* and

iii. EA conditioning and compliance.

(b) Details of the management practices proposed to be implemented to prevent or minimise adverse impacts identifying how they conform with the GHG abatement hierarchy and the requirements specified for a GHG abatement plan.

(c) A risk assessment that outlines the scale of expected GHG emissions from the project and how it is expected to contribute to climate change impacts on Queensland's environmental values.

9.6 Provide information regarding GHG emissions and energy production and consumption consistent with requirements of the Commonwealth *National Greenhouse and Energy Reporting Act 2007* (NGER Act) and its subordinate legislation including methodology, emissions factors, and calculations used to estimate project's GHG emissions.

9.7 Justify how the project will influence Queensland's GHG emission reduction targets and renewable energy targets, for the life of the project by:

(a) Supporting Queensland's Government's GHG emission reduction and clean energy targets as legislated in the *Clean Economy Jobs Act 2024* and *Energy (Renewable Transformation and Jobs) Act 2024.*

(b) Meeting the requirements of the NGER Act and where triggered, meet emission reduction targets and trajectory as specified by the commonwealth's Safeguard Mechanism.

Greenhouse gas abatement plan

9.8 Provide a GHG abatement plan for the project that details ongoing emission mitigation and management measures proposed to be implemented throughout the life of the project to progressively reduce emissions. The GHG emission reduction program must provide specific actions that will be implemented. Actions must be specific, measurable, achievable, realistic, and time-bound (following the SMART principals).

9.9 The GHG abatement plan must address the requirements outlined in Appendix A of the department's Guideline—Greenhouse gas emissions (ESR/2024/6819) (DESI 2024) and also address the following:

(a) As part of assessment of project alternatives, detail, compare and quantify conceptual, technological, locality, configuration, scale and individual elements or components of feasible alternatives that were considered to avoid or reduce the project's emissions.

(b) Compare and detail preferred measures for emission controls and energy consumption in consideration of best practice and leading international environmental management for the relevant industry sector including evaluation of developing technologies.

(c) Describe the assumptions and data inputs applied to develop the emissions estimates and the emissions reduction targets. The calculation of baseline should follow the methodology outlined in the National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015 (Safeguard rule). If International Best Practice (IBP) benchmarks are not available, detail how project baseline has been estimated and identify how the IBP benchmark will be integrated should values do become available.

(d) Detail a process to ensure continuous improvement such that current industry emission reduction strategies are applied over the life of the project. Include identification of new technologies, management practices and personnel training consistent with strategies developed for best practice environmental management.

(e) Demonstrate that measures have been factored into the economic feasibility of the project.

(f) Identify any voluntary initiatives, or research into reducing the lifecycle and embodied energy carbon intensity of the project's processes or products.

(g) Identify opportunities to reduce scope 3 emissions and detail measurable commitments where appropriate.

(h) Provide a comparison of expected cumulative project GHG emissions with the remaining global, national and state emission budgets. Consider all Scope 3 emissions identified in the project estimate when comparing with the remaining global emission budget, and respective scope 3 emissions generated nationally or in Queensland for comparison with the remaining national and state emission budgets.

(i) Where offsets have been identified as the only remaining option for abatement, develop a comprehensive carbon offsets management plan. Detail expected market availability limitations of offset credits and show how the project will secure the required supply of offsets. Identify how opportunities and commitments for offsetting GHG emissions represent genuine emissions reductions within Australia that meet the principles of the *Carbon Credits (Carbon Farming Initiative) Act 2011.*

(j) For projects proposing to offset more than 30% of their emissions or offset outside of Queensland, provide as part of the EIS an independent review by an appropriately qualified person. This review will assess and confirm findings of the EIS that GHG emission avoidance, reduction and substitution measures have been expended and why suitable offsets are not available within Queensland.

(k) When multi-year emissions reduction targets are proposed to take into account emerging technologies over that period, ensure the same emissions result will be delivered at the end of the multi-year period such that the trajectory of the Queensland emissions targets are met.

Land

Critical

Environmental objective and outcomes
The activity is operated in a way that protects the environmental values of land including soils, subsoils, landforms and associated flora and fauna.

Environmental objective and outcomes
The choice of the site, at which the activity is to be carried out, avoids or minimises serious environmental harm on areas of high conservation value and special significance and sensitive land uses at adjacent places. The location for the activity on a site protects all environmental values relevant to adjacent sensitive use. The design of the facility permits the operation of the site, at which the activity is to be carried out, in accordance with best practice environmental management.

9.10 Conduct the impact assessment in accordance with the latest version of the department's Land—EIS information guideline (ESR/2020/5303) (DESI 2024), Contaminated land—EIS information guideline(ESR/2020/5300) (DESI 2024), Applications for activities with impacts to land (ESR/2015/1839) (DESI 2024), DAF Environmental impact assessment companion guide (DAF 2024), RPI Act statutory guideline 11/16 companion guide (DSDMIP 2019b) and, if any quarry material is needed for construction, the department's Quarry material—EIS information guideline (ESR/2020/5306) (DESI 2024).

9.11 Demonstrate that the project can meet the environmental objectives and performance outcomes in Schedule 8 of the EP Regulation.

9.12 Describe the existing features and environmental values of the land that may be affected by the project. Address topography, cadastral data, land use, infrastructure, areas of regional interest, native title and Indigenous Land Use Agreements, geology and geomorphology, mineral resources, ore reserves, petroleum and energy resources, and GHG storage resources, soils, land evaluations, contaminated land, landscape character, visual amenity and lightning.

9.13 Describe potential impacts of the proposed land uses, taking into consideration the proposed measures that would be used to avoid or minimise impacts. The impact prediction must address the following matters:

(a) Any changes to the landscape and its associated visual amenity in and around the project area.

(b) Any existing or proposed mining tenement under the *Mineral Resources Act 1989*, petroleum authority under the *Petroleum and Gas (Production and Safety) Act 2004*, petroleum tenure under the *Petroleum Act 1923*, geothermal tenure under the *Geothermal Energy Act 2010* and GHG tenure under the *Greenhouse Gas Storage Act 2009* overlying or adjacent to the project site.

(c) Temporary and permanent changes to land uses of the project site and adjacent areas, considering:

i. actual and potential agricultural uses

ii. regional plans and local government planning schemes

iii. any Key Resource Areas that were identified as containing important extractive resources of state or regional significance which the State considers worthy of protection

iv. strategic cropping land, priority agricultural areas, priority living area and strategic environmental areas under the *Regional Planning Interests Act 2014* and the trigger map for strategic cropping land

v. findings of the Agricultural land audit (including land of agriculture state interest under State Planning Policy)

vi. impacts on Property and Project Plans approved under the *Soil Conservation Act 1986*

vii. constraints to the expansion of existing and potential agricultural land uses.

(d) Identify any existing or proposed incompatible land uses within and adjacent to the site, including the impacts on economic resources and the future availability and viability of the resource including extraction, processing and transport location to markets.

(e) Identify any infrastructure proposed to be located within, or which may have impacts on, the stock route network associated with the *Stock Route Management Act 2002*.

9.14 Assess the project against the requirements of the *Regional Planning Interests Act 2014*.

9.15 Propose suitable measures to avoid or minimise impacts related to land use.

9.16 Show how landforms, during and after disturbance, will meet any requirements of project or property plans approved under the *Soil Conservation Act 1986*.

9.17 Detail any known or potential sources of contaminated land that could be impacted by the project. Describe how any proposed land use may result in land becoming contaminated.

9.18 Identify existing or potential native title rights and interests possibly impacted by the project and the potential for managing those impacts by an Indigenous Land Use Agreement or other measure in accordance with the *Native Title (Queensland) Act 1993* and consistent with the Queensland Government's Native title work procedures (Queensland Government 2024e).

9.19 Detail (including with the use of maps) the following native title considerations:

(a) current tenure of all land or waters within the project area (which may include creeks)

(b) land or waters where native title has been determined to exist by the Federal Court

(c) land or waters that are covered by a native title determination application

(d) land or waters that are covered by a registered Indigenous Land Use Agreement.

9.20 Describe pathways for resolving any native title considerations that comply with the Queensland Government's Native title work procedures (Queensland Government 2024e) (such as the negotiation and registration of an Indigenous Land Use Agreement).

Rehabilitation and closure

Environmental objective and outcomes
Land disturbed by mining activities will be rehabilitated progressively as it becomes available, to minimise the risks of environmental impacts and reduce cumulative areas of disturbed land.
The activity is operated in a way that protects the environmental values of land including soils, subsoils, landforms and associated flora and fauna.
The activity is operated in a way that disturbed land will be rehabilitated or restored to a stable condition; the land is safe and structurally stable, there is no environmental harm being caused by anything on or in the land, and the land can sustain a post-mining land use.
The progress and outcomes of progressive rehabilitation activities will be monitored and reported on to demonstrate how successful they have been in achieving progress towards the agreed final land use, and to inform corrective action where required.

Mining projects

9.21 Address the rehabilitation requirements of the EP Act including the provisions requiring a proposed PRC plan. Demonstrate that the proposed rehabilitation is consistent with the department's guideline Progressive rehabilitation and closure plans (ESR/2019/4964) (DES 2023a) and best practice approaches about the strategies and methods for progressive and final rehabilitation.

9.22 Demonstrate that the rehabilitation of the environment disturbed by construction, operation, and decommissioning of the project can meet the environmental objectives and performance outcomes in Schedule 8A of the EP Regulation.

Proposed PRC plan

9.23 Provide a proposed PRC plan for the project. The plan must show how and where activities will be carried out on land in a way that maximises the progressive rehabilitation of the land to a stable condition and provide for the condition to which the holder must rehabilitate the land before the EA may be surrendered.

The proposed PRC plan must consist of two components:

(a) rehabilitation planning part

(b) progressive rehabilitation and closure plan schedule (PRCP schedule).

9.24 The proposed PRC plan must be consistent with the information requirements in the department's Submission of a progressive rehabilitation and closure plan (ESR/2019/4957) (DESI 2024).

Rehabilitation planning part

9.25 Provide the rehabilitation planning part of the proposed PRC plan, by addressing the following:

(a) Describe each resource tenure, including the area of each tenure

(b) Describe the relevant activities and the likely duration of the relevant activities

(c) Include a detailed description, including maps, of how and where the relevant activities are to be carried out

(d) Include details of the consultation undertaken by the applicant in developing the proposed PRC plan

(e) Include details of how the applicant will undertake ongoing consultation in relation to the rehabilitation to be carried out under the plan

(f) State the extent to which each proposed post-mining land use or non-use management area is consistent with the outcome of consultation with the community in developing the plan and any strategies or plans for the land of a local government, the State or the Commonwealth

(g) For each proposed post-mining land use, state the applicant's proposed methods or techniques for rehabilitating the land to a stable condition in a way that supports the rehabilitation milestones under the proposed PRCP schedule

(h) Identify the risks of a stable condition for land identified as a proposed post-mining land use not being achieved, and how the applicant intends to manage or minimise the risks

(i) For each proposed non-use management area, state the reasons the applicant considers the area cannot be rehabilitated to a stable condition because of either of the below:

i. carrying out rehabilitation of the land would cause a greater risk of environmental harm than not carrying out the rehabilitation or

ii. the risk of environmental harm as a result of not carrying out rehabilitation of the land is confined to the area of the relevant resource tenure and the applicant considers, having regard to each public interest consideration, that it is in the public interest for the land not to be rehabilitated to a stable condition.

(j) Include copies of reports or other evidence relied on by the applicant for each proposed non-use management area

(k) For each proposed non-use management area, state the applicant's proposed methodology for achieving best practice management of the area to support the management milestones under the proposed PRCP schedule for the area

(l) Include other information requirements outlined in the department's statutory guideline Progressive rehabilitation and closure plans (ESR/2019/4957) (DESI 2024).

PRCP schedule

9.26 Provide a proposed PRCP schedule which describes time-based milestones for achieving each post-mining land use or non-use management area for the project. Present the proposed PRCP schedule in the table template included in the department's Submission of a progressive rehabilitation and closure plan (ESR/2019/4957) (DESI 2024).

The proposed PRCP schedule, must identify:

(a) all land within the resource tenure as either a post-mining land use or non-use management area

(b) when land becomes available for rehabilitation or improvement

(c) rehabilitation milestones to achieve a post-mining land use

(d) management milestones to achieve a non-use management area

(e) milestone criteria that demonstrate when each milestone has been completed

(f) completion dates for each milestone to be achieved

(g) a final site design.

9.27 All milestone criteria must be consistent with the SMART principles described in the Progressive rehabilitation and closure plans (ESR/2019/4957) (DESI 2024).

Water

Critical

Water quality

Environmental objective and outcomes
The activity will be operated in a way that protects environmental values of waters.
The activity will be operated in a way that protects the environmental values of groundwater and any associated surface ecological systems.
The activity will be managed in a way that prevents or minimises adverse effects on wetlands.

9.28 Conduct the impact assessment in accordance with the following guidelines: Water—EIS information guideline (ESR/2020/5312) (DESI 2024), Applications for activities with impacts to water (ESR/2015/1837) (DESI 2024), Water quality guidelines (DESI 2024a), Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ 2000); (ANZG 2018); 2023), Queensland Water Quality Guidelines (DEHP 2009), Wastewater release to Queensland waters (ESR/2015/1654) (DESI 2024), Monitoring and sampling manual (DES 2018), Information guidelines on deriving site-specific guideline values for physico-chemical parameters and toxicants (IESC 2019) and Using monitoring data to assess groundwater quality and potential environmental impacts (DES 2021).

9.29 Demonstrate that the project can meet the environmental objectives and performance outcomes in Schedule 8 of the EP Regulation.

9.30 With reference to the Environmental Protection (Water and Wetland Biodiversity) Policy 2019 and section 9 the EP Act, identify the environmental values of surface- and ground- waters within the project area and immediately downstream or downgradient that may be affected by the project, including wetlands, semi-permanent and permanent pools, seagrass beds, corals, any human uses and cultural values of water.

9.31 Define the relevant water and sediment quality guidelines applicable to the environmental values and demonstrate how these will be met by the project during construction, operation, decommissioning and following project completion. Locally derived trigger values must be derived in accordance with best practice environmental management including the guidelines listed in Water—EIS information guideline (ESR/2020/5312) (DESI 2024).

9.32 Detail the hydrological, hydrogeological, chemical, physical and biological characteristics of surface waters and groundwater within the area that may be affected by the project and at suitable reference locations using sufficient data to define natural variation, including for various water types, and seasonal and spatial variation.

9.33 Describe the quantity, quality, location, duration and timing of all potential and/or proposed releases of contaminants. Releases may include controlled water discharges to surface water streams, uncontrolled discharges when the design capacity of storages is exceeded, spills of products during loading or transportation, contaminated run-off from operational areas of the site (including seepage from waste rock dumps), or run-off from disturbed acid sulfate soils. Refer to section 9.1 (Waste management) for further information requirements applicable to releases.

9.34 Assess the potential impact of any releases from point or diffuse sources on all relevant environmental values and water quality objectives of the receiving environment. The impact assessment must consider the resultant quality and hydrology of receiving waters, cumulative impacts, and the assimilative capacity of the receiving environment.

9.35 Describe how water quality guidelines and objectives would be achieved and environmental impacts would be avoided or minimised through the implementation of management strategies that comply with the management hierarchy and management intent of the Environmental Protection (Water and Wetland Biodiversity) Policy 2019. Appropriate management strategies may include the use of erosion and sediment

control practices, and the separation of clean storm water run-off from the run-off from disturbed and operational areas of the site.

9.36 Describe how monitoring would be used to demonstrate that objectives were being assessed, audited and met. For example, provide measurable criteria, standards and/or indicators that will be used to assess the condition of the ecological values, environmental values and health of surface- and ground- water environments. Propose detailed corrective actions to be used if objectives are not likely to be met.

Water resources

Environmental objective and outcomes
Equitable, sustainable and efficient use of water resources.
Maintenance of environmental flows and water quality to support the long term condition and viability of terrestrial, riverine, wetland and lacustrine ecosystems.
Maintenance of the stability of beds and banks of watercourses.
Maintenance of supply to existing users of surface and groundwater resources.

9.37 Conduct the impact assessment in accordance with the department's Water—EIS information guideline, ESR/2020/5312 (ESR/2020/5312) (DESI 2024) and DAF Environmental impact assessment companion guide (DAF 2024). Address the requirements of section 126A of the EP Act.

9.38 Describe present and potential users and uses of water in areas potentially affected by the project, including municipal, agricultural, industrial, recreational and environmental uses of water.

9.39 Describe the quality, quantity and significance of groundwater in the project area and any surrounding area potentially affected by the project's activities. Include the following:

(a) characterise: the nature, type, geology/stratigraphy and depth to and thickness of the aquifers; their hydraulic properties; and value as water supply sources

(b) analyse the movement of underground water to and from the aquifer(s), including how the aquifer(s) interacts with other aquifers and surface water, and the effect of geological structures on this movement

(c) characterise the quality and volume of the groundwater including seasonal variations of groundwater levels

(d) provide surveys of existing groundwater supply facilities (e.g. bores, wells, or excavations).

9.40 Model and describe the inputs, movements, exchanges and outputs of surface water and groundwater that would or may be affected by the project. The models used to estimate associated water take must take into account the climatic conditions at the site, assess the potential impacts on water resources and include a site water balance. The model should be peer-reviewed by an independent appropriately qualified person(s) consistent with the *Australian groundwater modelling guidelines* (Barnett et al. 2024).

9.41 Provide a description of the project's impacts at the local scale and in a regional context including:

(a) changes in flow regimes from diversions, water take and discharges

(b) groundwater draw-down and recharge

(c) management of mine affected water

(d) alterations to riparian vegetation and bank and channel morphology

(e) direct and indirect impacts arising from the development.

9.42 Provide an ecohydrological conceptual model that identifies the potential pathways and mechanisms of the effects of altered surface flows on groundwater connectivity, in-stream water quality, and surface and groundwater ecosystems in consideration of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development's (IESC) Information Guidelines Explanatory Note – Using impact pathway diagrams based on ecohydrological conceptualisation in environmental impact assessment. This conceptual model would help to identify and justify strategies proposed to mitigate and manage potential impacts. The findings should be considered in relation to the potential GDEs identified in the project area.

9.43 Provide a water management plan, for the life of the project, which details management strategies of mine-affected water, sediment-affected water and drainage from areas not disturbed by mining activities. Any water taken off site for further use must also be accounted for and must be consistent with the General Use Approval for associated water (including CSG water).

9.44 Identify any approvals or entitlements that would be needed under the *Water Act 2000*. Specifically address whether or not the project would take water from, or affect recharge to, aquifers of the Great Artesian Basin. Describe the practices and procedures that would be used to avoid or minimise impacts on water resources.

9.45 Describe how 'make good' provisions would apply to any water users that may be adversely affected by the project. Propose a network of groundwater monitoring bores before and after the commencement of the project that would be suitable for the purposes of monitoring groundwater quality and hydrology impacts that may occur as a result of the resource activity. Include details on investigation timeframes and actions if exceedances are detected.

9.46 Include maps of suitable scale showing the location of diversions and other water-related infrastructure in relation to resource infrastructure. Detail any significant diversion or interception of overland flow, including the effects of subsidence.

9.47 Describe watercourse diversion design, operation and monitoring based on current engineering practice and relevant guidelines. For watercourse diversions authorised by the conditions of the EA under the EP Act, use the guideline Works that interfere with water in a watercourse for a resource activity—watercourse diversions (DNRME 2019).

9.48 Describe the various options for supplying water to the project and assess any potential consequential impacts in relation to the objectives and strategies of any water plan and associated planning documents that may apply. The construction of in-stream water storages to collect water supply for the project should not be the only option presented. Alternative water supply options must be fully detailed.

9.49 Describe the proposed supply of potable water for the project, including temporary demands during the construction period. Also describe on-site storage and treatment requirements for wastewater from accommodation and/or offices and workshops.

Water-related cultural values

9.50 Discuss traditional owners' cultural values and water-related cultural use as relevant to the project, including information regarding economic development opportunities and methods proposed to protect these values, including but not limited to Aboriginal peoples and Torres Strait Islander peoples distinct cultural rights under the *Human Rights Act 2019*.

9.51 Describe the project's potential impacts on water-related cultural values, uses and aspirations of water resources for Aboriginal and Torres Strait Islander peoples.

9.52 Describe how water-related cultural values, uses and aspirations of water resources for Aboriginal and Torres Strait Islander peoples will be protected and/or promoted through water allocation and management strategies, relevant to the project.

Flooding

Critical

Environmental objective and outcomes
The construction and operation of the project aims to ensure that the risk and potential adverse impacts from flooding are avoided, minimised or mitigated to protect people, property and the environment.

9.53 Describe the history of flooding onsite and in proximity to the project site. Describe current flood risk for a range of annual exceedance probabilities up to the 0.1% annual exceedance probability (AEP) and probable maximum flood levels for the project site. Use flood modelling to assess how the project may potentially change flooding and run-off characteristics on-site and both upstream and downstream of the site. The assessment must consider all infrastructure associated with the project including levees, roads, and linear infrastructure, and all proposed measures to avoid or minimise impacts.

9.54 Evidence must be provided to demonstrate that the securing of storage containers of hazardous contaminants during flood events meets the requirements of schedule 8 of the EP Regulation.

9.55 Describe, illustrate and assess where any proposed infrastructure, including tailing storage facilities, dams, voids and waste rock dumps, disturbed and rehabilitated areas, would lie in relation to modelled flood levels, including the 0.1% AEP and probable maximum flood levels. Describe management actions to minimise impacts of flooding to mine infrastructure and manage in mine pit water post-flooding.

9.56 Assess the project's vulnerabilities to climate change as they relate to flooding (e.g. changing patterns of rainfall, hydrology, temperature and extreme weather events). Describe possible adaptation strategies (preferred and alternative) based on climate change projections for the project site.

The Independent Expert Scientific Committee (IESC)

9.57 The EIS must provide the information requirements contained in the IESC's Information guidelines (IESC 2024) including relevant information guidelines explanatory notes (e.g. uncertainty analysis, assessing groundwater-dependent ecosystems).

Regulated structures

Critical

Environmental objective and outcomes
The design of the facility permits the operation of the site, at which the activity is to be carried out, in accordance with best practice environmental management. The potential consequences of the failure of a regulated structure on human life and the environment require that the highest standards are used for their design, construction, operation, modification and decommissioning. The industry, government and the Australian National Committee on Large Dams Inc. have published several guidelines, which are to be used to further develop objectives and outcomes for individual projects and the regulated structures they involve.

9.58 Conduct the impact assessments on in accordance with the latest version of the department's guidelines on Regulated structures—EIS information guideline (ESR/2020/5307) (DESI 2024), Structures which are dams or levees constructed as part of environmentally relevant activities (ESR/2016/1934) (DESI 2024) and Manual for assessing hazard consequence categories and hydraulic performance of structures (ESR/2016/1933) (DESI 2024).

9.59 Describe the purpose of all dams or levees proposed on the project site. Show their locations on appropriately scaled maps, and provide plans and cross-sections, illustrating embankment lengths, heights and widths, spillways, discharge points, design storage allowances, and maximum volumes.

9.60 Describe and illustrate how dams and levees would be:

(a) sited to avoid or minimise risks from flooding using flood mapping showing the 0.1% AEP and probable maximum flood

(b) located, constructed and operated to avoid, minimise and mitigate impacts on environmental values

(c) located and designed to maximise progressive rehabilitation and closure.

9.61 Undertake a consequence category assessment for each dam or levee, according to the criteria outlined in department's Manual for assessing hazard consequence categories and hydraulic performance of structures (ESR/2016/1933) (DESI 2024). The assessment must be undertaken for the three different failure event scenarios described in the department's manual, i.e. for seepage, overtopping and dam break. Regulated structures must comply with the Manual for assessing hazard consequence categories and hydraulic performance of structures (ESR/2016/1933) (DESI 2024) in accordance with schedule 8, division 2 of the EP Regulation.

9.62 Following the consequence category assessment, determine the consequence category ('low, significant, or high') according to table 1 of department's Manual for assessing hazard consequence categories and hydraulic performance of structures (ESR/2016/1933) (DESI 2024) and provide certified copies of the consequence category determination for each of the proposed dams or levees assessed.

9.63 Describe how risks associated with dam or levee failure, seepage through the floor, or embankments, and/or with overtopping of the structures will be avoided, minimised or mitigated to protect people, property and the environment.

Flora and fauna

Critical

Environmental objective and outcomes
The activity will be operated in a way that protects the environmental values of land including soils, subsoils, landforms and associated flora and fauna.
There will be no potential or actual adverse effect on a wetland as part of carrying out the activity.
The project minimises serious environmental harm on areas of high conservation value and special significance and sensitive land uses at adjacent places.
The location for the activity on a site protects all environmental values relevant to adjacent sensitive use.
The project manages the impacts on the environment by seeking to achieve ecological sustainability, including protected wildlife and habitat.
Critical habitat receives special management considerations and protection through a management plan for the project.
The project avoids significant residual impacts to matters of national environmental significance (MNES) and matters of state environmental significance (MSES), mitigates impacts where they cannot be avoided, and offsets any residual impacts.
The construction, operation and decommissioning of the project must be consistent with all statutory and regulatory requirements of the federal, state and local government and be consistent with their relevant plans, strategies, policies and guidelines that relate to the terrestrial and aquatic ecological environment.

9.64 Conduct the impact assessment in accordance with relevant guidelines, including the latest version of the department's EIS information guidelines that cover terrestrial ecology (ESR/2020/5309) (DESI 2024), aquatic ecology (ESR/2020/5295) (DESI 2024), groundwater dependent ecosystems (ESR/2020/5301) (DESI 2024), water (ESR/2020/5312) (DESI 2024), matters of national environmental significance (ESR/2020/5304) (DESI 2024), and biosecurity (ESR/2020/5297) (DESI 2024).

9.65 Demonstrate that the project can meet the environmental objectives and performance outcomes in Schedule 8 of the EP Regulation.

Biodiversity

Existing environment

9.66 Identify, describe and map all terrestrial, and/ or aquatic (including groundwater dependent ecosystems) and/ or marine ecological values present or likely to be present within an area potentially affected either directly or indirectly by the project. Base the description on the desktop assessment, vegetation surveys, plant and animal species surveys, and the assessment of the condition of the vegetation communities and species habitats.

9.67 Describe all significant species and ecological communities, prescribed environmental matters listed as MNES and MSES, and all listed flora and fauna species, and regional ecosystems, on the project site and in its vicinity.

9.68 Describe the potential for significant species (e.g. listed threatened, near threatened or special least-concern species) to occur, or potentially occur, within the area potentially affected either directly or indirectly by the project. Show the location of significant species found during field surveys on suitable maps and figures and describe their habitat.

9.69 Include any other environmental value(s) that the desktop studies identified as occurring or potentially occurring in, and adjacent to, the project area (e.g. wildlife corridors, environmentally sensitive areas) and display them on maps and figures.

9.70 Describe the connectivity of habitats and the integrity of ecosystems.

9.71 Describe, with photographs and detailed mapping at suitable scales, the current extent of regional ecosystems, species habitat, threatened ecological communities, groundwater dependent ecosystems, wetlands and springs at the project area(s).

Impact assessment

9.72 Assess, describe, quantify and illustrate all potential direct and indirect significant impacts on terrestrial/ aquatic and/or marine ecological values. Assess the impacts on all potentially affected areas, whether on or off the project site. Include all stages of the project from initial development through to rehabilitation.

9.73 Address in the assessment:

(a) all significant species and ecological communities (MNES, MSES, MLES, listed threatened flora and fauna species and regional ecosystems)

(b) the conservation status of each identified ecological value under the *Nature Conservation Act 1992, Vegetation Management Act 1999* and the EP Act

(c) the integrity of ecological processes, including habitats of listed threatened, near threatened or special least-concern species

(d) interactions between terrestrial and aquatic ecosystems (including groundwater dependent ecosystems and stygofauna)

(e) connectivity of habitats and ecosystems

(f) the integrity of landscapes and places, including wilderness and similar natural places

(g) biological diversity

(h) chronic, low-level exposure to contaminants or the bio-accumulation of contaminants

(i) direct and indirect impacts on terrestrial, aquatic or marine species and ecosystems whether acting individually or in combination. Relevant matters include vegetation clearing, hydrological changes, discharges of contaminants to water, air or land, noise, and the influence of climate change

(j) impacts of waterway barriers on fish passage in all waterways mapped on the Queensland Waterways for Waterway Barrier Works spatial data layer

9.74 Describe any actions of the project that require an authority under the *Nature Conservation Act 1992,* and/or would be assessable development for the purposes of the *Vegetation Management Act 1999*, the *Regional Planning Interests Act 2014*, the *Fisheries Act 1994* and the *Planning Act 2016*. Features to consider include regional ecosystems, environmentally sensitive areas, wetlands, nature refuges, protected areas and strategic environmental areas.

9.75 Specifically address any obligations imposed by State or Commonwealth legislation or policy or international treaty obligations.

9.76 Assess the cumulative impacts on terrestrial ecological values that could potentially occur because of the impacts of the project added to the past, present and reasonably foreseeable impacts of other activities in the region. Assess cumulative impacts at a local, subregional and bioregional scale and over time.

Mitigation measures

9.77 Propose effective and proven measures to avoid, minimise, mitigate and/or offset direct or indirect impacts on environmental values. In particular, address measures to protect or preserve any listed threatened, near-threatened or special least concern species. Describe the practicality, effectiveness and risks for each avoidance and mitigation measure. Include the timeframes in which the results would be delivered.

9.78 Justify how applying all proposed avoidance and management measures would result in acceptable outcomes for terrestrial, aquatic and/ or marine ecology. Describe how achieving the measures successfully will be monitored, measured and audited. Include provisions to regularly evaluate all the mitigation measures so that improvements may be made as new technologies and best practices evolve.

9.79 Assess the need for buffer zones and the retention, rehabilitation or planting of movement corridors. The assessment must consider the role of buffer zones in maintaining and enhancing riparian vegetation and wetlands to enhance water quality, promote habitat connectivity and provide habitat.

Offsets

9.80 After demonstrating that all reasonable on-site avoidance and mitigation measures are to be applied, identify whether the project will result in a significant residual impact (SRI) on MSES, requiring an offset with reference to the current versions of the Queensland Environmental Offsets Policy (EPP/2015/1658) (DES 2023) and Significant Residual Impact Guideline 2014 (DEHP 2014) and the Queensland environmental offsets framework.

9.81 Propose offsets consistent with the applicable State and Commonwealth legislation or policies for:

(a) Where a SRI will occur on a prescribed environmental matter as outlined in the Environmental Offsets Regulation 2014, the offset proposal(s) must demonstrate how any proposed land-based offset sites and their suitability and habitat quality, or alternative offset types, are consistent with the requirements of Queensland's *Environmental Offsets Act 2014* and the latest version of the Queensland Environmental Offsets Policy (EPP/2015/1658) (DES 2023).

(b) Where a Commonwealth offset policy requires an offset for a significant impact on a MNES, the offset proposal(s) must be consistent with the requirements of the EPBC Act environmental offsets policy.

9.82 Provide an offset proposal which outlines the proposed offset delivery approach to address the project's SRI on MSES and MNES. The document should:

(a) Address both State and Commonwealth offset obligations, and clearly describe and illustrate the extent (such as in a map and table) of any SRI overlap between MNES and MSES jurisdictions.

(b) For staged offsets, consider the full extent of potential impacts on prescribed environmental matters from the entire proposal as part of the SRI test.

(c) For land-based offsets, assess the vulnerability and resilience of an offset site under climate change scenarios (e.g. reduced water availability and increased bushfire risk).

Biosecurity

Environmental objective and outcomes
The construction, operation and decommissioning of the project must ensure: • the introduction and spread of weeds, pests and disease, pathogens and contaminants are avoided or minimised • existing weeds and pests are controlled, including biosecurity threats and their management • the performance outcomes correspond to the relevant policies, legislation and guidelines, and that sufficient evidence is supplied (through studies and proposed management measures) to show these outcomes can be achieved.

9.83 Conduct the impact assessment in accordance with the latest version of the department's Biosecurity—EIS information guideline (ESR/2020/5297) (DESI 2024).

9.84 Describe the current distribution and abundance of pest animals and weeds on the project site.

9.85 Describe the impact the project's construction and operation will have on the spread of pest animals, weed species and disease.

9.86 Propose detailed measures to remove, control and limit the spread of pests, weeds, diseases, pathogens and contaminants on the project site and any areas under the proponent's control. This includes declared plants and animals and restricted areas under Queensland's *Biosecurity Act 2014*, the Commonwealth *Biosecurity Act 2015* and weeds of national significance and designated pests under the Queensland *Public Health Act 2005*. All proposed measures are to be in accordance with biosecurity surveillance or prevention measures authorised under Queensland's *Biosecurity Act 2014* and aligned with local government pest management priorities.

9.87 Detail a monitoring program that would audit the success of biosecurity measures, identify whether objectives have been met, and describe corrective actions to be used if monitoring indicates objectives are not being met.

Air

Environmental objective and outcomes
The activity will be operated in a way that protects the environmental values of air.

9.88 Describe the existing air environment at the project site and the surrounding area and the airshed, including the background/ambient levels of those air contaminants. Include all available data from any site-specific air monitoring, the National Pollutant Inventory (NPI) reporting, and/or ambient air quality monitoring undertaken by the Queensland government.

9.89 Provide an emissions inventory and description of the characteristics of contaminants or materials that would be released from point and diffuse sources and fugitive emissions when carrying out the activity (point source and fugitive emissions). The description must address the construction, commissioning, operation, upset conditions, and closure of the project.

9.90 Demonstrate that the project can meet the environmental objectives and performance outcomes in Schedule 8 of the EP Regulation.

9.91 Predict the impacts of the releases from the activity on environmental values of the receiving environment using established and accepted methods and in accordance with the EP Regulation, Environmental Protection (Air) Policy 2019 and the latest version of the department's Air—EIS information guideline (ESR/2020/5294) (DESI 2024) and Applications requirements for activities with impacts to air (ESR/2015/1840) (DESI 2024). The impact prediction must:

(a) Take into consideration the sensitivity and assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts.

(b) Address the cumulative impact of any release with other known releases of contaminants, materials or wastes associated with existing development and possible future development (as described by approved plans and existing project approvals).

(c) Quantify the human health risk and amenity impacts associated with emissions from the project for all contaminants whether or not they are covered by the National Environmental Protection (Ambient Air Quality) Measure or the Environmental Protection (Air) Policy 2019 or not.

9.92 Describe the proposed mitigation measures to limit impacts from air emissions and how the proposed activity will be consistent with best practice environmental management. Address the compatibility of the project's air emissions with existing or potential land uses in surrounding areas. Potential land uses might be gauged from the zonings of local planning schemes, State Development Areas or other relevant planning frameworks.

9.93 Describe how the project's air emission objectives would be achieved, monitored, audited and reported, and how corrective actions would be managed for the life of the project.

Noise and vibration

Environmental objective and outcomes
The activity will be operated in a way that protects the environmental values of the acoustic environment.

9.94 Describe and illustrate the locations of any sensitive receptors that are listed in Schedule 1 of the Environmental Protection (Noise) Policy 2019. Also describe any other environmental values that could be impacted by emissions from the project.

9.95 Describe the sources and characteristics of noise and vibration that would be emitted during the construction, commissioning, operation, upset conditions, and closure of the project.

9.96 Conduct a noise and vibration impact assessment in accordance with the latest version of the department's Noise and vibration—EIS information guideline (ESR/2020/5305) (DESI 2024) and Applications requirements for activities with noise impacts (ESR/2015/1838) (DESI 2024). The assessment must address low-frequency (<200 Hz) noise emissions and potential cumulative impact of the project with other emissions of noise from any existing developments and known possible future development in the area.

9.97 Demonstrate that the project can meet the environmental objectives and performance outcomes in Schedule 8 of the EP Regulation.

9.98 Describe how the proposed activity would be managed to be consistent with best practice environmental management, including the control of background creep in noise as outlined in the Environmental Protection (Noise) Policy 2019. The EIS must address the compatibility of the project's noise emissions with existing or potential land uses in surrounding areas. Potential land uses might be gauged from the zonings of local planning schemes, State Development Areas or other relevant planning frameworks.

9.99 Describe how the environmental management objectives for noise and vibrations would be achieved, monitored, audited and reported, and how corrective actions would be managed.

Waste management

Environmental objective and outcomes
Any waste generated, transported, or received as part of carrying out the activity is managed in a way that protects all environmental values.

9.100 Conduct the impact assessment in accordance with the latest version of the department's Waste—EIS information guidelines (ESR/2020/5311) (DESI 2024) and Application requirements for activities with waste impacts (ESR/2015/1836) (DESI 2024).

9.101 Demonstrate that the project can meet the environmental objectives and performance outcomes in Schedule 8 of the EP Regulation.

9.102 Describe all the expected waste streams from the project activities during the construction, operational, rehabilitation and decommissioning phases of the project. Waste streams for resource projects would typically include: waste rock, tailings and coarse rejects from mining and mineral processing; salt from petroleum and gas projects; and brackish, saline or mine affected water from all types of resource projects. Describe any potential regulated or prescribed waste streams in full detail.

9.103 Describe the quantity, and physical, chemical, and toxicological characteristics of each significant waste, any attributes that may affect its dispersal, chemical reactivity and persistence in the environment, and its associated risk of causing environmental harm.

9.104 Define and describe objectives and practical measures for protecting or enhancing environmental values from impacts from wastes.

9.105 Assess and describe the proposed management measures against the preferred waste management hierarchy, namely: avoid and reduce waste generation; cleaner production; reduce; recycle; reuse; reprocess and reclaim; waste to energy; treatment; disposal. This includes the generation and storage of waste.

9.106 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.

9.107 Detail waste management planning for the project, in particular how measures have been applied to prevent or minimise environmental impacts due to waste according to best practice criteria at each stage of the project.

9.108 Use a material/energy flow analysis to provide details of natural resource use efficiency (such as energy and water), integrated processing design, and any co-generation of power and by-product reuse.

9.109 Detail the geochemistry of all waste rock, including spoil, tailings and rejects. Assess the potential risks associated with this waste stream and describe the management of progressive placement and any disposal strategy to minimise any potential impacts on environmental values of the project area. Detail how high risk waste material will be managed in the rehabilitation plan.

9.110 Identify the quantity, quality and location of all potential discharges of water and contaminants by the project, including treated wastewater and sewage. Describe whether the discharges would be from point sources (whether uncontrolled and controlled discharges) or diffuse sources (such as irrigation to land of treated wastewater/sewage effluent) and describe the receiving environment (such as land or surface waters). Refer to the Water section of the TOR and Water—EIS information guideline (ESR/2020/5312) (DESI 2024) for

further guidance. For potential discharges to surface waters, provide detail to demonstrate consistency with the assessment approaches outlined in the guideline Wastewater release to Queensland waters (ESR/2015/1654) (DESI 2024). For potential discharges to groundwaters, provide an assessment using the appropriate approaches and guidelines listed in the Water—EIS information guideline (ESR/2020/5312) (DESI 2024). Note that the EP Act and EP regulation hold strict provisions in terms of waste discharges to groundwaters or sensitive areas.

9.111 Provide a risk assessment of the potential impacts on waters, in the near-field and far-field, resulting from controlled or uncontrolled discharges from the site. Address the following matters with regard to every potential discharge of contaminated water, contaminants or wastes:

(a) Describe the circumstances in which controlled and uncontrolled discharges might occur

(b) Provide stream flow data and information on discharge water quality, including any potential variation in discharge water quality that will be used in combination with proposed discharge rates to estimate in-stream dilution and water quality. Chemical and physical properties of any wastewater, including concentrations of constituents, at the point of entering natural surface waters must be discussed along with toxicity of effluent constituents to human health, flora and fauna.

(c) Provide an assessment of the available assimilative capacity of the receiving waters given existing water quality and other potential point source discharges in the catchment. Options for controlled discharge at times of natural stream flow must be investigated to ensure that adequate flushing of wastewater is achieved.

(d) Provide water quality limits that are appropriate to maintain background water quality and protect other water uses

(e) Describe the necessary streamflow conditions in receiving waters under which controlled discharges will be allowed.

9.112 Provide relevant information on existing and proposed sewage infrastructure relevant to ERA 63, by referring to relevant department policies and guidelines, depending on the proposed sewage collection and treatment infrastructure proposed the reuse and/or disposal of treated wastewater and sewage wastes generated.

9.113 Identify end of waste codes (Business Queensland 2024) under the *Waste Reduction and Recycling Act 2011* which may be relevant for the project. This may include associated water for irrigation.

9.114 Proponents are responsible for determining if they have obligations under the *National Environment Protection (National Pollutant Inventory) Measure 1998 (NPI NEPM)* and ensuring that data provided meets the requirements of this Act and its subordinate legislation. The EIS is to identify the types and amounts of certain substances being emitted to air, land, and water and both on-site or off-site waste transfers that will be reported.

Hazards and safety

Environmental objective and outcomes
The construction and operation of the project must ensure: • the risk of, and the adverse impacts from, natural and man-made hazards are avoided, minimised or mitigated to protect people and property • the community's resilience to natural hazards is maintained or enhanced • the storage and handling of hazardous materials are appropriately located, designed and constructed to minimise health and safety risks to communities and individuals and adverse effects on the environment • that any risk associated with explosives use, transportation, storage or manufacture is within an acceptable level, in accordance with the *Explosives Act 1999* and codes and standards including the *Australian Standard AS2187.1 Explosives - Storage, transport and use - storage* • the project prevents or minimises the production of hazardous contaminants and waste • if the production of hazardous contaminants and waste is unavoidable, the project treats and/or contains hazardous contaminants until their disposal at an approved facility.

9.115 Assess the vulnerability of the area to natural and induced hazards, including floods, bushfires and cyclones. Consider the relative frequency and magnitude of these events together with the risk they pose to the construction, operation and decommissioning of the project, as well as the rehabilitation of the site. Describe measures that would be taken to minimise the risks of these events.

9.116 Describe the potential risks to people and property that may be associated with the project in the form of a risk assessment for all components of the project and in accordance with relevant standards. The assessment must address the following matters:

(a) The safety of employees during design and planning of the project.

(b) Potential hazards (including those associated with petroleum and gas pipelines, abandoned mines, explosive magazines and the storage and use of explosives as part of construction), accidents, spillages, fire and abnormal events that may occur during all stages of the project, including estimated probabilities of occurrence.

(c) Hazard analysis and risk assessment in accordance with:

i. *AS/NZS ISO 31000:2018 Risk management guidelines* (Standards Australia 2018) and with *HB203:2006 Managing environmental-related risk* (Standards Australia 2012).

ii. Consider the suite of risk assessments included in the relevant Local Disaster Management Group Plans and the Queensland State Risk Assessments available at https://www.disaster.qld.gov.au/qermf/Pages/Assessment-and-plans.aspx (State heatwave assessment, State Earthquake Risk assessment, Sever Wind Hazard Assessment)

iii. consider the Queensland Government Climate action resources (Queensland Government 2024a) including the Queensland Future Climate Dashboard (Queensland Government 2024d)

iv. the Queensland Emergency Risk Management Framework (Queensland Government 2024c) as the endorsed approach to disaster and emergency risk management in Queensland.

9.117 Consider geophysical risk management such as earthquakes. The State Earthquake Risk Assessment includes probabilities of major seismic events for all local government areas and must be used to inform risk consideration and management.

9.118 Address the potential cyclone and severe wind hazard and risk to the project and the heat and heatwave risk management refer to the State Heatwave Risk.

9.119 Demonstrate that any major hazard facility involving dangerous and hazardous materials is appropriately located in accordance with State Development Assessment Provisions, Code 21, Hazardous chemical facilities (DSDMIP 2021).

9.120 Identify all hazardous substances and any explosives to be used, transported, stored, processed or produced and the rate of usage.

9.121 Evaluate the risks associated with the secure storage, use and transportation of explosives to ensure the risks are within an acceptable standard in accordance with *Australian Standard AS2187.1 Explosives - Storage, transport and use – storage* (AS2187.1) (Standards Australia 1998).

9.122 Identify the need for appropriate explosive licences and notice of proposed blasting prior to explosives use.

9.123 Potential wildlife hazards, including a development of a mosquito management plan in accordance with Queensland Health guidelines, natural events (e.g. cyclone, storm tide inundation, flooding, bushfire) and implications related to climate change and adaptation.

9.124 Describe natural hazards that may affect the site with at least a 1% annual exceedance probability or 100 year average reoccurrence interval level, including mapping of the potential hazard areas at the site.

9.125 How siting, layout and operation of the development will avoid or mitigate the risks, particularly with regard to the release of hazardous materials during natural hazard events.

9.126 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 proposed mitigation measures. Present an assessment of the overall acceptability of the impacts of the project in light of the residual uncertainties and risk profile.

9.127 As part of the emergency response plan include:

(a) a bushfire management plan, certified by a suitably qualified person, in consultation with the Queensland Fire and Emergency Services addressing construction and operations, and including the following information at a minimum:

i. a bushfire hazard analysis

ii. mitigation strategies to achieve the relevant development outcomes in Part E of the State Planning Policy– Natural Hazards, Risk and Resilience (DSDMIP 2019a).

iii. provides details of the proposed ongoing management of fuel loads across the subject site through grazing or mechanical means including the asset protection zone proposed.

(b) A safety and emergency management plan addressing construction and operations, and including the following information at a minimum:

i. evacuation plans for the construction and operation phases of the development

ii. safety management plans and emergency response procedures in consultation with the state and regional emergency service providers (including Queensland Fire and Emergency Services) and provide an adequate level of training to staff who will be tasked with emergency management activities.

9.128 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.

9.129 Outline any consultation undertaken with the relevant emergency management authorities, including the local disaster management group.

Cultural heritage

Environmental objective and outcomes
The construction and operation of the project must achieve the purposes of the *Aboriginal Cultural Heritage Act 2003* and the *Torres Strait Islander Cultural Heritage Act 2003* with respect to the project site and ensure that the nature and scale of the project does not compromise the cultural heritage significance of a heritage place or heritage area.

9.130 Conduct the impact assessment in accordance with the latest version of the department's Aboriginal and Torres Strait Islander cultural heritages—EIS information guideline (ESR/2020/5296) (DESI 2024) and Non-Indigenous cultural heritage—EIS information guideline (ESR/2020/5302) (DESI 2024).

9.131 Unless section 86 of the *Aboriginal Cultural Heritage Act 2003* or *Torres Strait Islander Cultural Heritage Act 2003* applies, the proponent must develop a Cultural Heritage Management Plan in accordance with the requirements of Part 7 of these Acts.

9.132 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 must be conducted by an appropriately qualified cultural heritage practitioner. Provide strategies to mitigate and manage any negative impacts of the project on non-Indigenous cultural heritage values and enhance any positive impacts.

Social

Environmental objective and outcomes
The construction, operation and closure of the project must ensure that: • adverse social impacts arising from the project are avoided or mitigated • benefits for local and regional communities are enhanced.

9.133 Prepare a social impact assessment (SIA) for the project that is consistent with the requirements of the *Strong and Sustainable Resource Communities Act 2017* (SSRC Act) and the Coordinator-General's SIA guideline (DSDI 2023).

9.134 Develop the SIA in consultation with the Office of the Coordinator-General, Department of State Development, Infrastructure, Local Government and Planning.

9.135 Include in the SIA detailed assessment of the following five key matters in accordance with the SIA guideline (DSDI 2023):

(a) community and stakeholder engagement

(b) workforce management

(c) housing and accommodation

(d) local business and industry procurement

(e) health and community well-being.

Key SIA outcomes

9.136 Describe in the SIA:

(a) the existing social environment of communities that are potentially impacted by the project

(b) the potential social impacts (both positive and negative) of the project, as well as how they will be managed and monitored

(c) how the project will contribute to enhancing the sustainability of these communities.

Consultation for the SIA

9.137 The SIA is to be informed by an inclusive and collaborative community and stakeholder engagement process, consistent with the SIA guideline. Community and stakeholder engagement is to be iterative throughout preparation of the SIA. Engagement with local government must commence at an early stage.

9.138 Demonstrate evidence in the SIA of consultation outcomes from key stakeholder groups (refer to Appendix 1 in the SIA guideline). The SIA must be informed by the results of community and stakeholder engagement.

Workforce arrangements

9.139 Include in the SIA a workforce profile summary for the construction and operational phases of the project, including the estimated proportion of local and fly-in, fly-out workers. This is to be informed by an analysis of the capacity of towns within 125km radius of the project to:

(a) provide workers for the construction and operational phases of the project, and

(b) receive workers and their families who move to the towns

(c) address barriers that may impact choice for workers to live local.

9.140 The SIA will need to include a target for obtaining a local workforce and set the maximum proportion of FIFO workers for the project. This is to be supported by a rationale to ensure local benefit.

9.141 Identify in the SIA measures for prioritising the recruitment of workers from local and regional communities. This includes describing how the recruitment hierarchy for workers in section 9(3A) of the SSRC Act will be implemented.

9.142 The SIA is to consider the impact of new technologies on the operation of the project including possible impacts on the proposed workforce composition, potential new labour requirements and opportunities for local training and development (where relevant).

9.143 Where a FIFO workforce is proposed, identify measures for managing this workforce in accordance with the SIA guideline (DSDI 2023), as well as sections 6 and 8 of the SSRC Act and the relevant provisions in the *Anti-Discrimination Act 1991*.

9.144 The information provided in the EIS (including the SIA) will inform the Coordinator-General's decision under section 12 of the SSRC Act on whether personnel employed during the construction phase of the project should be protected by the SSRC Act's anti-discrimination and 100 per cent FIFO prohibition provisions.

Social impact management plan

9.145 Include in the SIA a social impact management plan (SIMP) with management measures to mitigate the impacts and enhance the potential benefits identified in the assessment of the five key matters. The SIMP must describe a practical basis for the implementation of management measures.

9.146 The SIMP is to include timeframes for implementation of management measures, key performance indicators, roles and responsibilities, stakeholders and potential partnerships. Potential partnerships include opportunities for linkages with other projects planned or operating in the area and possible alignment with existing strategies or proposed new initiatives that would benefit the management of any cumulative social impacts.

9.147 The SIMP must include a process of review throughout the project lifecycle to ensure management measures continue to be effective and, where the stated outcomes are not achieved, are amended to appropriately mitigate impacts.

Economic

Environmental objective and outcomes
The construction and operation of the project must ensure that: • avoid or mitigate adverse economic impacts arising from the project • capitalise on opportunities potentially available for capable local industries and communities • create a net economic benefit to the region and state.

9.148 Identify the potential adverse and beneficial 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. Undertake the analysis in accordance with the Coordinator-General's Economic impact assessment guideline (DSDI 2021). Separately address each stage of the project (e.g. construction, operation and decommissioning).

9.149 Identify recreational, commercial or indigenous fisheries potentially impacted by the project and undertake consultation with these stakeholders.

9.150 Provide an analysis of the economic costs to agricultural activities on land including any impacts to supply chains.

9.151 Provide an analysis of the project's contribution to climate change-related economic and financial risks and benefits to Queensland based on best practice assessment frameworks, such as the Task Force on Climate-related Financial Disclosures (TCFD) framework. This analysis must be based on a scenario consistent with achieving the goals of the Paris Agreement (of which Australia is a signatory) to limit global warming to as close to 1.5°C as possible. Additional scenarios can be included for comparison, however, the central assessment should be aligned with 1.5°C.

9.152 Consider the 'social cost of carbon' (or other form of carbon cost) in cost benefit analysis for the project. Provide an analysis of the economic costs to the project of developing and implementing GHG measures to meet the Queensland's Government's GHG emission reduction and clean energy targets as legislated in the *Clean Economy Jobs Act 2024* and *Energy (Renewable Transformation and Jobs) Act 2024.*

9.153 Discuss and quantify the economic costs of the project's scope 3 GHG emissions.

9.154 Discuss potential alternative pricing scenarios for the social cost of carbon for scope 1, 2 and 3 GHG emissions, including scenarios using the current European Union Emission Allowance Units price (or the price at the time of drafting the revised draft EIS) and futures prices by the European Union.

9.155 Discuss costs and risks for the project associated with difficulty securing debt finance, insurance or other financial services, as a result of the divestment policies of major financial institutions.

Transport

Environmental objective and outcomes
The construction and operation of the project must aim to: • maintain the safety and efficiency of all affected transport modes for the project workforce and other transport system users • avoid and mitigate impacts including those on the condition of transport infrastructure • ensure any required works are compatible with existing infrastructure and future transport corridors.

9.156 The EIS must include a clear summary of the total transport task for the project, including workforce, inputs and outputs, during the construction, operational and decommissioning phases of the project. Proponents must make appropriate choices for modes of transport to ensure efficiency and minimise impacts on the community.

9.157 Undertake the impact assessment in accordance with the department's Transport—EIS information guideline (ESR/2020/5310) (DESI 2024). The methods used must include the following matters:

(a) for impacts on roads: a traffic impact assessment report in accordance with the Guide to traffic impact assessment (TMR 2019), with traffic data in Department of Transport and Main Roads-suitable formats.

(b) for impacts on rail level crossings: the Australian Level Crossing Assessment Model (ALCAM 2024).

9.158 Present the transport assessment for each project-affected mode (road, rail, air, port and sea) as appropriate for each phase of the project. Provide sufficient information to allow an independent assessment of how existing transport infrastructure will be affected by project transport at the local and regional level (e.g. local roads and state-controlled roads).

9.159 Discuss how identified impacts will be mitigated for each transport mode. Mitigation strategies may include works, contributions or other strategies that can be documented in a road-use management plan. The strategies must be prepared in close consultation with relevant transport authorities, including local government and the Queensland Police Service. They must consider the transport authorities' works programs and forward planning, and be in accordance with the relevant methodologies, guidelines and design manuals.

Matters of National Environmental Significance under the EPBC Act

9.160 The EIS must state and address the controlling provisions and describe the particular aspects of the environment leading to the controlled action declaration under the EPBC Act. Enough information about the project and its relevant impacts must be provided to allow the Australian Government's Environment Minister to make an informed decision whether to approve the project under the EPBC Act.

9.161 The assessment of the potential impacts, mitigation measures and any offsets for residual impacts must be dealt with in a stand-alone section of the EIS that fully addresses the matters relevant to the controlling provisions. This must be consistent with the department's MNES—EIS information guideline (ESR/2020/5304) (DESI 2024) for additional guidance.

9.162 Refer to Appendix 3 for the complete TOR for MNES under the EPBC Act requirements.

9.163 When water resources for a CSG development or large coal mine are a controlling provision, the project's EIS is referred to the IESC. The IESC provides scientific advice to decision makers on potential impacts from CSG and large coal mining developments on Australia's water resources. That typically occurs in time for the IESC's views to be considered by the administering authority when deciding the suitability of the project and developing conditions for any approval.

10. Commitments

10.1 Provide a consolidated description of all the proponent's commitments to implement avoidance, mitigation, management and design measures (including monitoring programs and management plans) that would need to be applied to meet the predicted project outcomes. Should the project proceed, these commitments would

be carried over into conditions as relevant.

11. Conditions

11.1 Propose conditions that may be placed on the EA and any other required approvals or licenses. For EA conditions refer to the Queensland Government's Environmental authority conditions website (Business Queensland 2023) and/or propose site-specific conditions relevant to the project.

11.2 As part of the PRC plan (refer to Section 9.3) provide a PRCP schedule which sets out the milestones and conditions that relate to the completion of progressive rehabilitation and mine closure. The PRC plan must be consistent with the department's guideline Progressive rehabilitation and closure plans (ESR/2019/4964) (DES 2023).

12. Appendices to the EIS

12.1 Appendices to the EIS must include the technical data collected, and evidence used to develop assertions and findings in the main text of the EIS.

12.2 No significant issue or matter, including statements of uncertainty associated with assertions and findings, should be mentioned for the first time in an appendix—it must be addressed in the main text of the EIS.

12.3 Include a table listing the section and sub-sections of the EIS where each requirement of the TOR is addressed.

13. Spatial and electronic data presentation

13.1 Maps included in the EIS must 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 Geocentric Datum of Australia 2020 (GDA2020). In relatively flat locations, contours must be at one metre intervals. Present geographical coordinates as latitude and longitude against the GDA2020.

13.2 Provide spatial data presented in the EIS to the department in appropriate electronic form, such as shape files. This includes all water quality, wastewater quality data and geological structures, such as aquifers, faults and economic resources. Refer to the department's guideline Spatial information submission (ESR/2018/4337) (DESI 2024) for information on the format for spatial information.

13.3 For rehabilitation matters, provide spatial information in accordance with the department's guideline Progressive rehabilitation and closure plans (ESR/2019/4964) (DES 2023) and the department's application form Submission of a progressive rehabilitation and closure plan (ESR/2019/4957) (DESI 2024).

Appendix 1 Glossary

The following acronyms, initialisms and abbreviations have been used in this document.

Acronym/abbreviation	Definition
AHD	Australian Height Datum
Bilateral agreement	an agreement between the Australian Government and the State of Queensland under section 45 of the *Environment Protection and Biodiversity Conservation Act 1999* relating to environmental assessment
CHPP	Coal Handling and Preparation Plant*
CSG	coal seam gas
Department	the Queensland Department of the Environment, Tourism, Science and Innovation
EA	environmental authority
EIS	environmental impact statement
EP Act	*Environmental Protection Act 1994*
EP Regulation	Environmental Protection Regulation 2019
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ERA	environmentally relevant activity
Extension	Isaac Downs Extension Project*
FIFO	fly-in-fly-out
GDA2020	Geocentric Datum of Australia 2020
GHG	Greenhouse gases including carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulphur (or sulfur) hexafluoride (SF6), hydro fluorocarbons (HFCs) and perfluorocarbons (PFCs)
IBP benchmark	International Best Practice (IBP) benchmark emission limits
ID Extension	Stanmore ID Extension Pty Ltd*
IESC	Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development
IDM	Isaac Downs Mine*
IPC	Isaac Plains Complex*
IPM	Isaac Plains Mine*
MNES	matters of national environmental significance
MSES	matters of state environmental significance
MIA	Mine Industrial Area*
ML	Mining Lease
MLA	Mining Lease Application*

Acronym/abbreviation	Definition
NGER Act	National Greenhouse Energy Reporting Act 2007
NPI	National Pollutant Inventory
PRC plan	progressive rehabilitation and closure plan
PRCP schedule	progressive rehabilitation and closure plan schedule
ROM	Run of Mine*
SIA	social impact assessment
SSRC Act	Strong and Sustainable Resource Communities Act 2017
Stanmore	Stanmore Resources Ltd*
TOR	terms of reference

(* = as specifically referenced in Sections 1.6 ‘Project proponent’ and 1.7 ‘Project description’ of this document.)

Appendix 2 Policies, guidelines and references

Note: These references were correct at the time of publication. Where more recent versions are available, these must be used. For all Department of the Environment, Tourism, Science and Innovation publications, the latest version of a publication can be found by using the publication number as a search term at the Queensland Government website www.qld.gov.au.

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Appendix 3 Terms of reference for matters of national environmental significance (MNES) under the Environment Protection and Biodiversity Conservation Act 1999 requirements

The project was referred on 28 April 2025 to the Australian Government (EPBC 2025/10183). On 6 June 2025, the Australian Government determined the project to be a controlled action under the Commonwealth EPBC Act.

The controlling provisions are:

- listed threatened species and ecological communities (sections 18 and 18A)
- water resources, in relation to unconventional gas development and large coal mining development (sections 24D and 24E).

The project will be assessed under an accredited assessment between the Commonwealth and the State of Queensland (section 45 of the EPBC Act) using the EIS prepared under the EP Act. The TOR should be addressed by the proponent in a stand-alone section that primarily focuses on the MNES listed above. This section (henceforth called the 'MNES section') should contain sufficient information to be read alone with reference to technical data or supplementary reports where appropriate. Any detailed technical information to support the text in the MNES section should be included as appendices to the draft EIS.

The Matters of National Environmental Significance (MNES) chapter must address the matters outlined in Schedule 4 of the Environmental Protection and Biodiversity Conservation (EPBC) Regulations and the matters outlined below.

If it is necessary to use material that is considered to be of a confidential nature, the proponent must consult with DCCEEW on the preferred presentation of that material, before submitting it to the Minister for the Environment and Water for publication.

General content

A3.1 The MNES chapter of the EIS should be a stand-alone chapter that primarily focuses on the MNES listed above. This MNES chapter is to contain sufficient information to be read alone with reference to technical data or supplementary reports where appropriate. Any detailed technical information to support the text in the MNES chapter is to be included as appendices to the EIS.

A3.2 The MNES chapter is to take into consideration the EPBC Act Significant Impact Guidelines, other relevant statutory documentation (such as relevant recovery plans and conservation advices accessible via the Species Profile and Threats (SPRAT) database) and Commonwealth policy guidelines.

A3.3 The MNES chapter should contain sufficient information to allow the Australian Government Minister (or delegate) to make an informed decision on whether or not to approve the taking of the action (the project) under Part 9 of the EPBC Act for the purposes of each controlling provision.

A3.4 The MNES chapter should contain sufficient information to enable interested stakeholders to understand the environmental consequences of the proposed developments on MNES and how these impacts are proposed to be avoided, mitigated, and/or offset.

A3.5 All work and conclusions presented in the chapter must:

a) be presented clearly, unambiguously, succinctly and objectively

b) be evidence based, with the evidence provided

c) be supported by peer reviewed literature, with references provided, or expert opinion included

d) be in accordance with the EPBC Act guidelines and other most recent statutory documents (e.g. referral guidelines, approved listing advice(s), approved conservation advice(s), recovery plan(s), threat abatement plan(s) or comparable policy guidelines, and information contained in relevant Australian databases such as the SPRAT and Australian Wetlands databases)

e) use scientifically robust methodologies appropriate to the purpose, including a justification of why the methodology/s was selected; details of the methodology described in a manner that allows an independent suitably qualified practitioners to apply the method; and state any limitations of the chosen approach

f) be supported by maps, plans, diagrams, baseline surveys or other descriptive detail

g) where relevant, have maps that clearly identify development footprints, buffer zones, conservation areas where impacts will be avoided, and areas of adjacent habitat that would be subject to indirect impacts, including areas that are to be retained within and adjacent to the site

h) use active language and state clear commitments (e.g., 'must' and 'will') for avoidance, mitigation and management actions and outcomes

i) demonstrate the use of up-to-date policy guidelines, scientific methods, information, data and species-relevant survey methods

j) must be written so that any conclusions reached can be independently assessed. To this end, all sources must be appropriately referenced using Harvard standard. The reference list should include the address of any Internet websites that were used as data sources.

A3.6 The level of analysis and detail in the MNES chapter should reflect the level of significance of the expected impacts on the environment. Any and all unknown variables or assumptions made in the assessment must be clearly stated and discussed. The extent to which the limitations, if any, of available information may influence the conclusions of the environmental assessment should be discussed.

A3.7 The proponent must ensure that the MNES report assesses compliance of the project with principles of ecologically sustainable development (ESD) and the objects of the EPBC Act (see Chapter 1 Part 1 of the EPBC Act). The MNES Chapter must include a discussion on how the project will conform to the principles of ESD, as described under Part 1, section 3A of the EPBC Act.

Format and style

A3.8 The MNES chapter should comprise three elements:

a) the executive summary

b) the main text of the document

c) appendices containing detailed technical information and other information, including management plans, that can be made publicly available.

A3.9 The MNES chapter should include a list of abbreviations, a glossary of terms and appendices containing:

a) a copy of the MNES Chapter TOR (this document)

b) a list of persons and agencies consulted during the EIS

c) contact details for the proponent

d) the names of the persons involved in preparing the EIS and work done by each of these persons.

A3.10 Maps, diagrams, and other illustrative material should be included in the EIS. The EIS should be produced on A4 size paper capable of being photocopied, with maps and diagrams on A4 or A3 size and in colour where possible. Maps must be in line with the Guide to providing maps and boundary data for EPBC Act projects.

A3.11 The proponent should consider the format and style of the document appropriate for publication on the Internet. The capacity of the website to store data and display the material may have some bearing on how the document is constructed.

A3.12 The EIS must include an appendix of occurrence records (both sightings and evidence of presence) for all listed threatened and migratory species identified during field surveys for the proposed project. This data may be used by the department to update the relevant species distribution models that underpin the publicly available Protected Matters Search Tool (PMST).

A3.13 The species occurrence records must be provided in accordance with DCCEEW's Guidelines for biological survey and mapped data using DCCEEW's Species observation data template. Sensitive ecological data must be identified and treated in accordance with the department's Sensitive Ecological Data (2016) or subsequent revision.

A3.14 These terms of reference have been set out in a manner that may be adopted as the format for the EIS. However, information for each of the relevant protected matters should be provided in the following order, unless the information can be presented more effectively in an alternative way:

a) Description of the environment and MNES:

   i) general description of the environment

   ii) description of protected matter, including desktop analysis, survey efforts and outcomes, and habitat assessments

b) Impacts:

   i) relevant impacts

   ii) avoidance, mitigation, and management measures

   iii) rehabilitation requirements

   iv) significant impact assessment

c) Consideration of Statutory requirements

d) Details of proposed offsets.

A3.15 Please be aware that it is the department's expectation that you separately discuss the description, existing known location/s, likelihood of occurrence, demonstrated impact, avoidance, mitigation and compensatory measures (including offset) for each MNES triggered. See information requirements under the MNES, Relevant Impacts, Avoidance, mitigation and management measures, Rehabilitation requirements and Offsets sections below.

A3.16 Details of information required for each MNES are specified throughout this TOR. Please be aware that each of the elements must be addressed to meet the requirements of the EPBC Act and Regulations.

Project Description

This section must describe the proposed project in sufficient detail to allow an understanding of all components of the proposed project, and to determine potential impacts to MNES associated with the proposed project. The various components and phases of the proposed project must be described in the text and illustrated with maps, diagrams, plans (at a suitable scale) and other information as required.

General information

A3.17 Provide the background and context of the project including:

a) title of the project

b) full name and postal address of the designated proponent

c) clear outline of the objective of the project

d) location of the project including regional context

e) background to the development of the project

f) how the project relates to any, or potentially interacts with any other projects (of which the proponent should reasonably be aware) that have been, are currently, or will be, taken or that have been approved in the region

g) current status of the project

h) consequences of not proceeding with the project.

Description of the project

A3.18 All components and phases of the project are to be described in detail, including construction, commissioning, operation, maintenance, decommissioning and rehabilitation. This is to include the precise location of all works to be undertaken, structures to be built or elements of the project that may have impacts on MNES. It is suggested that each component of the project is discussed in a separate section.

A3.19 The description of the project must also include details on how the works are to be undertaken (including stages of development and their timing). At a minimum, this section is to also include, with appropriately scaled mapping[1], details of:

a) all infrastructure constructed and construction methods, including final heights of new dams and levees

b) ancillary or supporting infrastructure, associated works or safety works including new construction and upgrades (such as road widening)

c) all new and existing roads, as well as details on which roads are sealed and unsealed, and traffic volume

d) all temporary and permanent fencing used, including a description of each fencing type and location. Include schematic diagrams of fence types and maps of where fences are proposed to be located

e) realignment or replacement of services, structures, access etc. required as a result of the project

f) maximum life of the project, including construction, operation, decommissioning and rehabilitation

g) number of jobs for the life of the project, including number of jobs for First Nations peoples

h) other such projects, including, but not limited to, earthworks, services infrastructure, bunding of storage facilities and management of spills/contaminants/pollutants (e.g. prevention from entering waterways, groundwater and critical habitat), plant location, material storage, construction facilities, fines and dust control management, waste management generally, access tracks, water storages and dam/s, laydown areas, and off-lease infrastructure components.

A3.20 The description of the project is to provide the total size (in ha) of the project site and the total size (in ha) of the disturbance footprint. If the disturbance footprint is the same as the project site, the MNES section must include a statement to this effect.

A3.21 Detail the anticipated start and completion dates of all components and phases of the project.

A3.22 Describe and map any changes to the project description or project footprint that may have occurred since the original referral.

Feasible alternatives

A3.23 Outline any prudent and feasible alternatives to the project to the extent reasonably practicable, including

a) the alternative of taking no action and/or at a reduced scale

b) if relevant, alternative designs depending on the outcome of exploratory works/investigatory works

c) a comparative description of the impacts of each alternative on each relevant protected matter (e.g. each listed threatened species and community)

d) sufficient detail (including feasibility studies and cost analysis) to make clear why any alternative is preferred to another

[1] All maps must follow the Guide to providing maps and boundary data for EPBC Act projects (2021) .

e) short, medium and long-term advantages and disadvantages of the options, including but not limited to the environmental outcomes to be achieved for MNES under each alternative.

Description of the environment

A3.24 Describe the environment of the project site and surrounding areas (i.e. adjacent, upstream and downstream from project site) that may be affected by the project. At a minimum, this section needs to include details of:

a) the current and historical land uses of the local region and project area, including the existing condition of the overall environment

b) terrain, topography and elevation of the project site and surrounding areas including a description of any floodplains and significant geological features and structures of the region such as faults relevant to the mine site

c) vegetation communities in the local region including the area (in hectares (ha)) they each cover, including the total size (in ha) of vegetation communities ground-truthed as well as map/s showing the size (in ha) of regional ecosystem (RE) patches and native vegetation regrowth

d) important habitat areas, recognised populations and habitat, and aggregations of listed species

e) Area in ha of MNES habitats in the local region including threatened ecological communities

f) terrestrial and aquatic ecosystems including groundwater dependent ecosystems (GDEs), key vegetation communities and relevant watercourses

g) Hydrology of water resources[2] (surface water and groundwater), including flood extents, relevant hydrogeology, groundwater depth across the project area, and local water quality, including, but not limited to, the Isaac River and Cherwell Creek and relevant wetlands and aquifers in the region

h) characteristics of potentially impacted water resources (surface water and groundwater) including, but not limited to, the Isaac River and Cherwell Creek and relevant wetlands in the region

i) values of water resources, including but not limited to social and economic values (including third party uses of groundwater and surface water), and cultural values.

j) the distribution and abundance of pest species and weeds. Weeds are to be categorised in accordance with relevant legislation and regulations, from weeds of national significance (WoNS), State listed and those listed by Isaac Regional Council

k) soil types and characteristics in the project area and broader region including presence and extent of erosive soils

l) cultural heritage values, people and communities and other relevant social considerations.

A3.25 For each triggered MNES, include a brief description, status of matter in the region and the key threatening processes. Describe the key threatening processes applicable to each MNES within the proposed project site/s. For further MNES information requirements, please refer to the MNES section below.

Environmental information required within project area and surrounds

A3.26 Provide details of the scope, timing (survey season/s) and methodology for studies or surveys used to provide information on the listed species/community/habitat at the site (and in areas that may be impacted by

[2] Water resources are defined as:

- Surface water or groundwater
- A watercourse, lake, wetland or aquifer (whether or not it currently has water in it).

And includes all aspects of the water resource (including water, organisms and other components and ecosystems that contribute to the physical state and environmental value of the water resource) (*Water Act 2007*).

the project). Surveys should include all areas below, downstream, within and adjacent to the proposed project area to allow for detailed design and impact minimisation, to provide context, or to increase the likelihood of detection.

A3.27 Provide information on topography and elevation across the project area and adjacent area to enable assessment of MNES and relevant impacts on MNES such as sediment run-off and erosion. Include a map with contour intervals.

A3.28 Describe the vegetation communities within, and adjacent to, the project area including the area (in ha) they each cover and the percent (%) cover for each vegetation type to an appropriate resolution (provide information on where vegetation communities have been ground-truthed).

A3.29 Describe the habitat mapping and the results of surveys, the natural and existing upstream and downstream movement and habitat requirements for relevant terrestrial and aquatic flora and fauna, both native and introduced species (e.g. including weeds and feral animals). Similar species can be grouped and discussed together where practicable.

A3.30 Discuss how habitat assessments are informed by desktop searches, including but not limited to examination of: Australasian Virtual Herbarium; Atlas of Living Australia; and Queensland's WildNet resources.

A3.31 Discuss how habitat assessments are informed by field surveys (in accordance with departmental guidelines or as supported by evidence-based best practice). Habitat assessments should refer to relevant departmental and other documents, which may include: approved Conservation Advices; Recovery Plans; survey guidelines; draft referral guidelines and Listing Advices; SPRAT Database; and published research.

Matters of National Environmental Significance (MNES)

Note

Based on information provided in the referral documentation and other available information, it is considered that the proposed project may significantly impact MNES including listed threatened species and communities.

The MNES chapter must provide the quantification of the extent of the MNES present both within and surrounding the proposed project site, details of the resources used to identify and assess the MNES listed at Appendix B, and whether consultation was undertaken and/or advice sought from local community groups or experts.

Ensure habitat definitions for listed threatened species are in accordance with definitions available in the EPBC Act Guidelines or other relevant, most recent, statutory documents (e.g., referral guidelines, approved listing advice(s), approved conservation advice(s), recovery plan(s), threat abatement plan(s) or comparable policy guidelines, and information contained in relevant Commonwealth databases such as the SPRAT database). Note that DCCEEW does not endorse habitat definitions in Kerswell, Kaveney, Evans, and Appleby (2020) (see Appendix A) of preferred, suitable and marginal. Ensure that the habitat definitions also take into account all relevant Queensland REs and other available information. The most up to date documentation and/or scientific expert advice must be used.

Assessments must be informed by up-to-date desktop and field surveys and informed by relevant department documents, including but not limited to approved Conservation Advice, Recovery Plans, draft referral guidelines and Listing Advice, the SPRAT Database, published research, and other relevant sources, including but not limited to those outlined in Appendix A.

It is the proponent's responsibility to ensure that any listed threatened and migratory species and ecological communities at the time of the controlled action decision, which will or are likely to be impacted by the project, are assessed for the Minister or the delegate's consideration. Any listing events (e.g. the listing or up-listing of a species) that occur after the controlled action decision do not affect the assessment and approval process.

A3.32 The MNES chapter must include a detailed assessment of the presence of individuals and suitable habitat for the listed threatened and migratory species and ecological communities which are known to occur, may occur, or are likely to occur below, within and adjacent to the project area.

A3.33 The MNES chapter must provide information about the habitat for and presence of any MNES identified as potentially being significantly impacted by the proposed project, including but not limited to the listed threatened species and ecological communities in Appendix B. The assessment should consider the presence of species outside, within and adjacent to the proposed project area where they have the potential to be impacted.

A3.34 The MNES chapter must also include a detailed presence and habitat assessment for any other listed threatened species and/or ecological community which will, or is likely to, be directly or indirectly impacted by the proposed project.

A3.35 Habitat assessment descriptions for listed species must be in accordance with the latest relevant Commonwealth policies and guidelines, and information provided in the SPRAT database (e.g. foraging, breeding, dispersal etc.).

A3.36 The MNES Chapter must discuss how statutory documents such as conservation advices, recovery plans and threat abatement plans have been considered in the assessment of each MNES.

A3.37 Habitat assessments for species listed in Appendix B must provide estimates for habitat quality for each protected matter. Habitat quality should be assessed using the same approach/scoring mechanism as is used for any offset site[3] (where offsets are required). The method applied must be suitable and targeted for each protected matter.

A3.38 Identify and describe known historical records of the listed threatened species and ecological communities within the proposed project area and adjacent area. Where relevant, also identify and describe known and historical records of listed threatened species in the broader region (e.g. highly mobile, transient, or cryptic species). All known records must be supported by an appropriate source (e.g. Commonwealth and State databases, Queensland Government's WildNet, Atlas of Living Australia, published research, publicly available survey reports), and where possible and relevant, state the year of the record and a description of the habitat in which the record was identified.

A3.39 MNES chapter is to include map/s of presence/records and habitat areas that may support MNES to a suitable scale, in order to assess the proximity and location of the proposed project in relation to MNES.

A3.40 Provide detailed mapping of suitable habitat for all listed threatened species and ecological communities which may be impacted by the project, which:

a) is specific to the habitat requirements for each listed threatened species and ecological community (i.e. does not only illustrate relevant Queensland REs)

b) includes below, downstream, within and adjacent to the proposed project area

c) includes the total patch size of habitat, including sections of the patch that fall outside of the project area (in ha)

d) identifies any specific habitat requirements (e.g. breeding, foraging, dispersal, prey availability, known important habitat, suitable habitats, roosting)

e) considers the regional context and describes the connectivity of habitat in the broader landscape

f) includes known records of individuals derived from desktop analysis and field surveys

g) is provided separately as high-resolution attachments.

A3.41 Provide information on the current baseline condition and characterisation of surface water hydrology and quality in the project area and surrounding area. Consider the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018), or updated revisions. Provide details of the potential impacts from creek diversions in relation to:

a) surface water baseflows, flow and no-flow duration, seasonality, and other factors that could alter surface water regimes (such as high rainfall events)

b) altered surface water-groundwater interactions

[3] See Offsets

c) potential impacts to terrestrial and aquatic ecology.

A3.42 Provide information and data to characterise the current condition of all groundwater systems associated with the project area and how they relate to other MNES (such as listed threatened species and communities), including but not limited to, groundwater levels/potentiometric surface, hydraulic parameters, groundwater flow, inter-aquifer connectivity, groundwater-surface water interactions and groundwater quality.

A3.43 Provide a conceptualisation of water resources. Conceptualisation and understanding of surface water, GDEs, groundwater, surface-to-ground water interactions and their interconnection should:

a) be informed by systematic water level and water quality monitoring with appropriate temporal coverage to best capture seasonality, inter-annual variability and trends, including:

i) continuous or at least monthly monitoring of groundwater levels

ii) regular water quality sampling of groundwater, as informed by variability in groundwater levels e.g. to capture processes like rainfall infiltration

iii) regular water quality sampling of surface waters, and event-based sampling as needed

b) follow relevant Commonwealth, State and/or best practice guidelines to conduct a baseline study and derive site-specific water quality guidelines where appropriate and/or adopt default guidelines as provided by the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018) (and other relevant sources)

c) include measurement of physico-chemical parameters, nutrients, metals and metalloids, and any other relevant parameters, such as hydrocarbons, needed to understand potential impacts

d) describe, if relevant, how baseline hydrological conditions may be influenced by activities associated with nearby mining operations

e) provide a statement to evaluate the representativeness of water sampling and monitoring sites.

A3.44 Identify water quality and environmental flow guidelines and objectives within and at the outflow point of the Fitzroy Catchment.

A3.45 Provide details of the scope, methodology, timing, and effort of field surveys. Surveys are to be undertaken by qualified species experts with demonstrated experience in detecting the relevant species or community. Provide details of:

a) how surveys were, or will be, undertaken in accordance with relevant Commonwealth, State and/or best practice survey guidelines, including DCCEEW survey guidelines[4]

b) an assessment of the adequacy of any surveys undertaken (including survey effort and timing), the extent to which the surveys were appropriate for the species and in accordance with Australian Government's relevant survey and policy guidelines[4], or best practice methods where these are unavailable

c) if relevant, the justification for divergence from relevant Commonwealth, State and/or best practice survey guidelines

d) state the total number of records (individuals and evidence of presence) of listed threatened species, migratory species and ecological communities in and within the vicinity of the proposed project site, and show in applicable area maps

e) provide maps identifying verified sightings of MNES during studies or surveys, in accordance with DCCEEW mapping guidance

[4] See Survey guidelines for Australia's threatened mammals: Guidelines for detecting mammals listed as threatened under the EPBC Act - DCCEEW

f) any limitations associated with the survey which may have impacted on the results, including (but not limited to) rain events, inaccessible areas, resource limitations (e.g. time, equipment failure), inadequate sampling and/or effort

g) how any survey limitations have been addressed.

A3.46 Attach all relevant ecological surveys referenced in the referral and MNES chapter as supporting documents to the EIS.

A3.47 Where potential habitat for listed threatened species and ecological communities is identified in the project area, an assessment must be undertaken regardless of whether the species was recorded (i.e. the potential for occurrence of these species and communities must also be considered and assessed).

A3.48 Wherever practicable, surveys should be undertaken over an ecologically relevant scale and period to adequately determine the likely presence or absence of the target species or environmental value. A precautionary approach should be taken where this is not possible.

A3.49 Identify potential climate change refugia within the proposed project area and adjacent area for listed threatened and migratory species which may be impacted by the proposed project. See *Characteristics of climate change refugia for Australian biodiversity* (Reside et al 2014) for information on climate change refugia, as well as other more recent and species-specific research where relevant.

Relevant Impacts

Note

The MNES chapter must include a description of all the relevant impacts of the project. Relevant impacts are impacts that the project will have or is likely to have on a matter protected by a controlling provision. The MNES chapter must include a description of all the relevant impacts of the project. 'Likely' is taken to mean a "real or not remote chance or possibility". Relevant impacts are impacts that the project will have or is likely to have on a matter protected by a controlling provision.

For each listed threatened species and community, provide the habitat assessment and impact assessment together under a heading of the species' name so potential impacts can be easily understood.

A3.50 With consideration of all project phases, identify and describe which component/s and stage/s of the project and/or consequential actions are of relevance to each listed threatened species and/or ecological community. All relevant impacts of the project are to be assessed in accordance with the latest relevant Commonwealth policies and guidelines, and information provided in the SPRAT database, including but not limited to:

a) habitat clearance

b) habitat inundation

c) habitat fragmentation and degradation

d) injury or death (such as from vehicle strike or entanglement in structures such as barbed wire fencing)

e) disturbance from dust, light, vibration and noise

f) behavioural changes

g) barriers to fauna movement and edge effects

h) changes to prey availability

i) introduction, spread and/or increase in pests, weeds and diseases

j) changes to hydrological regimes (including flow changes, groundwater levels and flooding)

k) impacts on or changes to water quality (including direct and indirect), including but not limited to total suspended sediment and turbidity changes, waste and chemical pollution and land contamination

l) impacts to groundwater levels in root zones of relevant vegetation habitat

m) Impacts to groundwater levels and quality resulting from the final void

n) sedimentation and erosion.

A3.51 Describe all relevant impacts of the project (direct, indirect, cumulative and facilitated), including the magnitude, duration and frequency of the impacts (including any temporary impacts). All stages and components of the project must be addressed, and the following information provided:

a) a detailed assessment of the nature and extent of the likely short-term and long-term relevant impacts, taking into consideration any indirect impacts (e.g. light and dust pollution, noise from operations, construction and explosives, increased risk of predation, edge effects, barrier effects, habitat fragmentation, drawdown, contamination)

b) a statement, with supporting evidence, whether any relevant impacts are likely to be unknown, unpredictable or irreversible

c) any technical data and other information used or needed to make a detailed assessment of the relevant impacts, including but not limited to baseline studies, site characterisation, relevant modelling, and surveys undertaken. This should include a discussion of what is included in studies and characterisation assessments and any relevant thresholds used

d) the geographic extent of impacts and the length of the impact period(s).

e) an assessment of the likelihood and total quantum (in ha) of the impact of the proposed project on the ecological functions, populations, habitat (including critical and supporting), species behaviours (foraging, migration and breeding) and known threats of any MNES, including natural values and ecological character of these MNES, within and surrounding the proposed project area.

   i) consideration must be given to specific habitat features such as hollow-bearing trees, nest trees, refuge habitat, foraging, breeding and dispersal habitat, sheltering or other microhabitat features relevant to the species and threatened ecological communities within and surrounding the development footprint

f) an analysis of the significance of the relevant impacts.

A3.52 Provide a detailed assessment of any likely impact that the project may have on the MNES above at the local, regional, state, and national scale. The assessment of impacts should include a discussion of the overall implication of all relevant impacts on population and sub-population size (including genetic diversity), species recovery, health and species range for each relevant MNES.

A3.53 The MNES chapter should identify and address cumulative impacts, where potential project impacts are in addition to existing impacts of other activities, including known potential future expansions or developments by the proponent and, to the extent possible, other proponents in the region and vicinity. This should include, but is not limited to:

a) establish and describe clear spatial and temporal boundaries for the assessment of cumulative impacts

b) address the potential cumulative impact of the project on ecosystem resilience (including GDEs). Where relevant to the potential impact, a risk assessment is to be conducted and documented

c) a discussion of the potential for existing pressures and threats to be exacerbated by the proposed project

d) a review and analysis of residual impacts of the proposed project, and of other known proposals, where there may be a spatial or temporal overlap.

A3.54 The MNES chapter is to identify and assess the cumulative impacts on MNES (terrestrial and aquatic) created by the project and the activities of other existing and proposed adjacent, upstream and downstream relevant developments, water users and land users. This must include at a minimum, cumulative impacts of other projects impacting on the greater glider, ornamental snake and other relevant MNES including, but not limited to, the Isaac Downs coal mine project (EPBC 2019/8413), the Bowen Gas Project (EPBC 2012/6377) the Moranbah South Project Coal Mine (EPBC 2012/6337), and any other mines which may interact with the impacts for the proposed action. Details of these projects can be found on DCCEEW's EPBC Public Notices website.

A3.55 The MNES chapter is to address the potential impact of the project on ecosystem resilience where relevant for MNES. This should include consideration of the likely/predicted changes to climate regimes.

A3.56 Where relevant, the MNES chapter should consider the anticipated/predicted future climatic conditions at the site in the assessment of impacts on MNES, and how changes in climate and the frequency and severity of weather events may interact with, exacerbate or reduce the impacts of the proposed project on MNES over time. This should include, but not be limited to, the:

a) loss, fragmentation, and/or drying of potential climate refugia and/or refuges for threatened species or communities as a result of the proposed project – consider the potential impacts of removing or otherwise impacting these habitats under drier conditions and periods of extreme heat

b) increased risk of fire as a result of mining operations under drier conditions and periods of extreme heat

c) overtopping of the sediment basin/Mine Affected Water (MAW) dam/s during extreme rain events and the downstream impacts on MNES

d) inclusion of different climate scenarios in water modelling.

A3.57 The MNES chapter should also provide a detailed assessment of any potential or likely impacts that the proposed project may facilitate on threatened species and ecological communities, including but not limited to increased road traffic, increased use of area, etc.

Impacts on listed threatened species and ecological communities

A3.58 The MNES chapter must include an assessment of relevant impacts to habitat from all phases of the proposed project, including from land clearing, construction, dewatering, and mining. Indirect impacts including those which may arise from changes to hydrological regimes or tidal processes should also be considered. The chapter should characterise the following:

a) the type of habitat being impacted including species use and ecological characteristics, including whether the habitat:

   i) is habitat critical to the survival of a species or ecological community

   ii) supports an important population

b) the footprint of habitat impacted within the proposed project area

c) impacts to the ecological function and characteristics of adjacent habitat, including consideration of whether the surrounding area may be retained, removed, or functionally lost.

A3.59 Provide an assessment of the likelihood, intensity, duration, magnitude and extent of impacts resulting from the pre-construction activities, construction, operation, maintenance, decommissioning and rehabilitation components of the project on listed threatened species, their habitat and threatened ecological communities in the project site.

A3.60 For threatened ecological communities, the total direct and indirect impact (in ha) to each identified patch within and adjacent to the project site must be provided. Further, the impact assessment for ecological communities must include a discussion on the post-impact viability of each individual patch within and adjacent to the project site to be directly or indirectly impacted from fragmentation as a result of vegetation clearance. Assessment of the impact to threatened ecological communities must include any relevant buffers directly surrounding the patch. Justification must be provided as to the size and form of any buffer applied, or in cases where a buffer is not applied.

A3.61 Assess how changes to hydrology associated with the proposed project may impact on listed threatened species and ecological communities, taking into consideration both surface and groundwater dependence.

A3.62 Include the potential direct, indirect, facilitated, and cumulative (where possible) loss and/or disturbance on listed threatened species, their habitat and threatened ecological communities as a result of the proposed project. This must include:

a) the quality of the habitat impacted

b) quantification of the individuals where relevant

c) duration of impact

d) habitat area (in ha) to be impacted.

A3.63 Describe, with supporting evidence, how the proposed project will not be inconsistent with:

a) Australia's obligations under the Biodiversity Convention, the Convention on Conservation of Nature in the South Pacific (Apia Convention), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

b) a recovery plan or threat abatement plan.

A3.64 Describe, with supporting evidence, how the proposed project has taken into account any relevant approved conservation advice for the relevant listed threatened species and threatened ecological communities.

A3.65 A risk assessment for all identified risks to threatened species and ecological communities should be conducted and documented.

A3.66 After consideration of proposed avoidance, mitigation, and management measures, provide an assessment of the likelihood of significant impacts on relevant listed threatened species and ecological communities. Provide the total amount of significant residual impact, if any, for each type of habitat (in ha) in the disturbance footprint for each listed threatened species and ecological community. The significant impact assessment must consider DCCEEW's Significant impact guidelines 1.1.

Impacts to water resources

Note

The National Partnership Agreement on Coal Seam Gas and Large Coal Mining, to which Queensland is a signatory, specifies that all coal seam gas and large coal mining proposals that are likely to have a significant impact on water resources are to be referred to the Independent Expert Scientific Committee on Unconventional Gas Development and Large Coal Mining Development (IESC) for advice. The IESC provides scientific advice to decision makers on potential impacts from unconventional gas and large coal mining developments on Australia's water resources.

The IESC's Information guidelines for proponents preparing coal seam gas and large coal mining development proposals (2024) outlines the information considered necessary to enable the IESC to provide robust scientific advice to relevant decision-makers on water-related impacts of unconventional gas and large coal mining projects. The proponent should ensure that all the information outlined in the IESC *Information Guidelines* is provided in the MNES chapter. Historic and contemporary data should be included.

The MNES chapter must describe and assess the impacts to water resources giving consideration to the EPBC Act Significant impact guidelines 1.3: Coal seam gas and large coal mining developments— impacts on water resources (2022).

Provide information on any ground-truthing surveys to confirm the presence of water dependent flora and fauna.

General

A3.67 With consideration of all project phases, identify and describe which component/s and stage/s of the project and/or consequential actions are of relevance to water resources. All relevant impacts of the project must be assessed in accordance with the latest relevant Commonwealth policies and guidelines, including but not limited to:

a) changes to hydrological regimes (including flow changes, groundwater levels, river-floodplain connectivity, inter-aquifer connectivity, groundwater recharge rates and flood regimes)

b) impacts on or changes to water quality (including direct and indirect), including but not limited to total suspended sediment and turbidity changes, waste and chemical pollution and land contamination

c) impacts to groundwater levels in root zones of relevant vegetation habitat

d) impacts to groundwater levels and quality resulting from the final void. Discuss the potential for slumping and pit wall collapse

e) changes to sedimentation and erosion.

A3.68 Identify and assess the cumulative impacts on water resources created by the project and the activities of other existing and proposed adjacent, upstream and downstream relevant developments, water users and land users. This must include at a minimum, cumulative impacts of other projects impacting on groundwater levels and other relevant parameters including, but not limited to, the Isaac Downs coal mine project (EPBC 2019/8413), the Bowen Gas Project (EPBC 2012/6377), the Moranbah South Project Coal Mine (EPBC 2012/6337) and any other mines which may interact with the impacts for the proposed action. Details of these projects can be found on DCCEEW's EPBC Public Notices website.

A3.69 Provide a conceptual model/s to describe impact pathways and linkages for pre- and post-mining activities, showing at least, but not limited to:

a) groundwater-surface water interactions including groundwater recharge, and loss/gain to Isaac River and Cherwell Creek

b) inter-aquifer connectivity vertical and horizontal hydraulic conductivity

c) altered geomorphology of water courses through proposed infrastructure (e.g. diversion, bridge, levees).

Groundwater

A3.70 Develop robust conceptual and numerical models that provide information on the potential future impacts to all groundwater systems and potential aquitards. Use the modelling and field data to assess the causes, pathways and receptors of potential impacts to groundwater. Discuss how modelling aligns with the IESC Information guidelines for proponents preparing coal seam gas and large coal mining development proposals (2024).

A3.71 Provide information to identify and assess risks and impacts to all groundwater resources (and dependent flora and fauna) in the project area.

A3.72 Provide information and data to characterise long-term impacts to groundwater levels and quality depending on the final landform design, which has not been determined – e.g., open voids acting as a groundwater sink and permitting evaporative concentration of contaminants.

Surface water

A3.73 Provide a detailed impact assessment for surface water resources (and dependent flora and fauna) in the project area and downstream of the project area and in the surrounding area.

A3.74 Provide information to identify and assess risks to all surface water resources (and dependent flora and fauna) in the project area.

A3.75 Provide a draft Receiving Environment Monitoring Program (REMP) to monitor potential impacts to downstream water quality and aquatic ecology values, which should be informed by adequate baseline data.

Groundwater dependent ecosystems (GDEs)

A3.76 Riverine and wetland groundwater-dependent ecosystems have been identified in the project area. Provide information on groundwater dependent ecosystems and provide details of the groundwater dependency of vegetation in the project area and surrounding area.

A3.77 Provide information including using a robust numerical groundwater model to evaluate how changes in groundwater flux may impact on the GDEs.

A3.78 Describe ground-truthing survey methodologies employed to determine the abundance of these communities and assess groundwater dependence. The department notes that groundwater dependency should be assessed using techniques such as leaf water potential and isotype studies. This information must include, but is not limited to:

a) survey methods and timing

b) whether seasonal changes to groundwater dependency have been sufficiently characterised in the methodology

c) a comparison of current ecosystem condition to historical ecosystem condition

d) an assessment of the impact of the project and how the assessment was used for the development of monitoring programs.

A3.79 Provide information on ecological communities dependent on groundwater, including any wetlands that are likely to be impacted by the proposed project (e.g. within drawdown extent) in relation to the:

a) presence and abundance of ecological communities (flora and fauna) relying on groundwater – using the surveying techniques outlined in the Information Guidelines Explanatory Note: Assessing groundwater-dependent ecosystems (Doody et al. 2019) and relevant state guidelines

b) studies of baseline water quality on relevant wetlands

c) likely nature and extent of impacts as a result of the project (e.g. loss of ecological communities and habitat, degradation of water quality, reduced water availability).

A3.80 Provide information on stygofauna, including sampling methodology and analyses, following the guidelines in Department of Science, Information Technology and Innovation Guideline for the Environmental Assessment of Subterranean Aquatic Fauna – Sampling methods and survey considerations (2015), including, but not limited to:

a) survey timing (i.e. over how many years the pilot survey was completed, and if seasonal changes were adequately accounted for)

b) survey methods and techniques for sampling stygofauna

c) bore mapping (i.e. which bores were sampled for stygofauna in the project area, and how many bores were sampled).

A3.81 Sample bores in relevant aquifers to confirm the presence of stygofauna and to confirm their dependency on groundwater in the project area.

A3.82 Provide an evidence-based assessment that the potential impacts (due to dewatering and groundwater quality degradation) and expected depletion of aquifers will not affect other water users, aquifers, and associated environmental values.

Independent Expert Scientific Committee on Unconventional Gas Development and Large Coal Mining Development (IESC) Explanatory notes

Consider and apply the guidance in the IESC Explanatory notes where applicable:

- Uncertainty analysis for groundwater modelling (Peeters and Middlemis, 2023)
- Assessing groundwater-dependent ecosystems (Doody et al., 2019)
- Deriving site-specific guideline values for physico-chemical parameters and toxicants (Huynh and Hobbs, 2019)
- Characterisation and modelling of geological fault zones (Murray and Power, 2021)

Avoidance, mitigation and management measures

Note

Avoidance, minimisation, and mitigation measures are the primary methods of eliminating and reducing significant impacts on MNES. Where possible and practicable, it is best to avoid impacts. If impacts cannot be avoided, then they should be minimised or mitigated as much as possible. Residual impacts should then be managed. Avoidance, minimisation, and mitigation measures must be investigated thoroughly as a part of the assessment and be supported by evidence to demonstrate likely success.

The MNES chapter must provide information on proposed avoidance, minimisation, mitigation, and management measures to deal with the impacts of the project. Non-committal language (i.e. ‘may’, ‘where possible’, ‘if required’, etc.) must be avoided. Clear language demonstrating commitment must be used (i.e. ‘will’), and any commitments by the proponent must be clearly distinguished from recommendations or statements of best practice made by the document author or other technical expert. The proposed measures and the outcomes to be achieved must be provided and substantiated and based on best available evidence and practices.

The SPRAT Database, conservation advice, recovery plans, and associated statutory and policy documents may provide a starting point for relevant mitigation measures for listed threatened and migratory species and ecological communities.

Any management plans required for the mitigation and management of impacts on MNES should be provided either as separate documents attached to the EIS or provided as subsections in the MNES chapter. Attach draft environmental management plans (EMPs) to the MNES chapter to be assessed prior to approval.

DCCEEW encourages the proponent to establish, test, and monitor novel methods for avoiding, minimising, and mitigating impacts of the proposed project on MNES. DCCEEW also encourages the development of scientifically rigorous monitoring programs to measure impacts and assess the effectiveness of mitigation. Mitigation, management and monitoring activities must adhere to the 'S.M.A.R.T' principle:

a) Specific (S) – it is clear what must be done;

b) Measurable (M) – activities have clearly specified performance standards with measurable parameters;

c) Achievable (A) – it is capable of being achieved;

d) Reasonable/relevant (R) – the activity is reasonable and relevant to the protected matter in accord with statutory documents;

e) Time specific (T) – activities have a clear timeframe or specific point in time in which they occur.

A3.83 Proposed measures must be based on best available practices, appropriate standards, evidence of success for other similar projects and supported by published scientific evidence. All commitments must be drafted using committal language (e.g. 'will' and 'must') when describing the proposed measures. All proposed measures must also be drafted to meet the 'S.M.A.R.T' principle.

A3.84 Describe in detail measures proposed to avoid, mitigate and manage relevant impacts during all stages of the project on MNES. The proposed measures are to be based on best available practices, appropriate standards and supported by scientific evidence (e.g. outcomes of successful field trials, research papers, other projects, etc.). The MNES chapter is to include:

a) proposed measures to be undertaken to avoid and mitigate the relevant impacts of the project on MNES, including those required by other Commonwealth, State and local government approvals. Measures must be specific to the ecology of each affected MNES

b) an assessment and evaluation of the predicted effectiveness of the proposed measures supported by scientific evidence including details on how proposed measures meet best practice standards

c) any statutory or policy basis for the proposed measures, including reference to the SPRAT database and relevant approved conservation advices, and a discussion on whether the proposed measures are not inconsistent with relevant and current recovery plans, conservation advices and threat abatement plans

d) details of ongoing management, including monitoring programs to support an adaptive management approach and determine the effectiveness of the proposed measures

e) details on measures, if any, proposed to be undertaken by State and local government, including the name of the agency responsible for approving each measure

f) information on the timing, frequency and duration of the measures to be implemented

g) the outcomes to be achieved for each relevant MNES through the implementation of individual or combined mitigation measures, including details of how these outcomes can be measured

h) name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.

A3.85 Describe how habitat fragmentation and patch isolation will be avoided, with consideration of whether avoidance areas will enable species mobility across the project area and still be connected to habitat in the broader landscape.

A3.86 Describe how impacts to water resources will be avoided. Provide details on the expected water quality of the overflow water from sediment dams and whether the water will be treated prior to reuse. Clarify whether treatment of MAW will be undertaken and, if so, describe how.

Specific requirements for environmental management plans

A3.87 Provide draft EMPs for assessment prior to approval. The EMPs are to be presented as stand-alone documents (appendices to the EIS) or provided as subsections in the MNES chapter. Management plans may be designed to cover requirements outside of the EPBC Act. Where this is the case, plans must explicitly address relevant protected matters, and discussion of them in the MNES chapter should directly reference the relevant section within the plan.

A3.88 All EMPs must be developed in accordance with the DCCEEW Environmental Management Plan Guidelines and take account of all requirements relevant to the proposed project and its impacts. Additional requirements for specific management plans are provided below. It is the proponent's responsibility to determine which management plans will or may be required for managing the impacts of the proposed project, and these may include but is not limited to those discussed in the TOR.

A3.89 All proposed measures in the EMPs must also be drafted to meet the 'S.M.A.R.T' principle:

A3.90 The EMPs need to address the proposed project phases (e.g. construction, operation and maintenance) and any staging of each phase separately.

A3.91 The EMPs must also describe contingencies, including timing, for events such as accidental or machinery spills, heavy or prolonged rainfall, storms, containment structure failure, groundwater contamination or other trigger level exceedances. The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program must also be provided.

A3.92 The EMPs must include details of specific and measurable environmental outcomes, performance criteria, monitoring, reporting, triggers and corrective actions, responsibility, and timing for each measure, including an assessment of the expected or predicted effectiveness of the proposed measures for relevant protected matters, including, but not limited to:

a) information on the timing, frequency and duration of the proposed avoidance, mitigation and management measures to be implemented and address the project phases (construction, operation, decommission and rehabilitation) separately

b) details of ongoing management and monitoring programs, including timing, to validate the effectiveness of proposed measures and demonstrate that environmental outcomes will be, or have been, achieved

c) details of tangible, on-ground corrective actions that will be implemented, including timing, in the event that monitoring programs indicate that the environmental outcomes have not been, or will not be, achieved

d) measures for the handling, disposal, and storage of organic chemicals, heavy metals or other potentially harmful chemicals that might be used during operation. The EMP must also include a discussion on risk management and mechanisms for monitoring potential leakages to groundwater

e) future climate change scenarios in the surface and groundwater models when designing the capacity of containment dams and other relevant infrastructure

f) water quality and levels baseline data and details of trigger levels for groundwater and surface water contaminants

g) information about other groundwater users and potential cumulative impacts of groundwater drawdown to these users as a result of the project

h) Information about other surface water users and potential cumulative impacts of reduced surface water flows or quality to these users as a result of the project

i) results of the flood impact assessment to compare pre-development and current flooding risk with the predicted flooding risk as a result of the proposed project at a range of Annual Exceedance Probabilities and including consideration of future climate change

j) any statutory or policy basis for the proposed measures, including reference to the SPRAT Database and relevant approved conservation advice, recovery plan or threat abatement plan, and a discussion on how

the proposed measures are consistent with relevant plans, such as the National Light Pollution Guidelines for Wildlife.

A3.93 The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program must be stated.

Rehabilitation requirements

Note

Where rehabilitation is proposed and relevant to MNES, the information below must be included in a rehabilitation management plan or a subsection of the MNES chapter.

A3.94 Detail any rehabilitation activities proposed to be undertaken and how they meet best practice standards, including for the restoration of habitat for relevant listed threatened species and communities.

A3.95 Provide maps showing the areas that will be progressively rehabilitated within the project area and the size of these areas in ha.

A3.96 Provide the proposed final landform, including rehabilitation completion criteria, and its relation to the pre-disturbance vegetation community. Include an assessment of the expected or predicted effectiveness of the proposed rehabilitation activities.

A3.97 Provide a description of the vegetation chosen for rehabilitation that is appropriate for the natural succession trajectory of vegetation communities and/or threatened ecological communities.

A3.98 Provide a summary of the vegetation communities including dominant species that are being rehabilitated.

A3.99 Provide the details of any rehabilitation activities proposed to be undertaken as required by Commonwealth, State or Territory, and local government legislation. Attach relevant Commonwealth, State or Territory, and local government approvals and permits as supporting documents to the MNES chapter. This must include a draft mine Progressive Rehabilitation and Closure Plan (PRC Plan).

A3.100 Provide information on the timing, frequency and duration of proposed rehabilitation activities to be implemented, including anticipated time to completion (refer to 'S.M.A.R.T' principle above). All commitments must be drafted using committal language (e.g. 'will' and 'must') when describing the proposed activities.

A3.101 Provide details of ongoing management and monitoring programs, including timing, to validate the effectiveness of proposed rehabilitation activities, including any contingency measures and when they would be triggered.

A3.102 Provide a framework for adaptive management including review of the monitoring program.

A3.103 Provide details of tangible, on-ground corrective actions that will be implemented, including timing, in the event that monitoring programs indicate that the completion criteria have not been, or will not be, achieved.

A3.104 Provide information on the management of the rehabilitation sites including, but not limited to, weed and pest management.

A3.105 Describe the procedures, including contingency measures, that will be undertaken to achieve the rehabilitation acceptance criteria.

Offsets

Note

According to the EPBC Act Environmental Offsets Policy (2012) (Offsets Policy), environmental offsets are measures that compensate for the residual adverse impacts of an project on the environment. Offsets provide environmental benefits to counterbalance the impacts that remain after avoidance and mitigation measures. It is important to consider environmental offsets early in the assessment process and correspondence with the department regarding offsets is highly encouraged.

Offset proposals must engage specifically with the ecological requirements of the protected matter and impacts of the project. For example, for a hollow-dependent species like the Greater Glider, management measures such as weeding and fencing will not generally be accepted as suitable compensation for the loss of hollows suitable for

denning, which is a limiting habitat requirement for the species. Where denning resources are proposed to be impacted, offset proposals should demonstrate an increase in the quality and / or availability of denning resources at an offset site, relative to the quantum of impact. Offsets proposals based on creation of hollows (or artificial denning resources) must realistically address whether they will be used by Greater Gliders, whether they will attract predator or competitor species and their durability, accompanied by suitable monitoring and performance measures. Deviations from these principles will need to be explained and justified.

The MNES chapter must include an assessment of the likelihood of residual significant impacts occurring on relevant MNES after avoidance, mitigation and management measures relating to the proposed project have been applied. If it is considered that residual significant impacts are likely, then environmental offsets are required to be provided, and the EIS must include a draft Offset Management Plan (OMP) consistent with the department's Offsets Policy. Note that if there is a residual significant impact, the department will recommend to the Minister (or delegate) that any conditions of approval require the environmental offset and associated OMP be approved and implemented prior to the commencement of the proposed project. DCCEEW highly encourages proponents to attach draft OMPs or strategies to the MNES chapter to be assessed prior to approval.

Please note, the 'absence of threats' component of the score must only contain indicators that reflect the current habitat quality of the site (e.g. presence of pest species). Indicators that instead relate to a site's potential future condition must be excluded (e.g. risk of clearing or development). These threats are appropriately dealt with in consideration of future risk of loss in the Offsets Assessment Guide and so should not be included in the score for current habitat condition.

Minimum Requirements for a draft Offset Management Plan

A3.106 Provide an assessment of the likelihood of residual significant impacts occurring on relevant MNES, after avoidance, mitigation and management measures have been applied

A3.107 If a residual significant impact is likely, provide a summary of the proposed environmental offset and key commitments to achieve a conservation gain for each protected matter in accordance with the EPBC Act Environmental Offsets Policy (Offsets Policy).

A3.108 Provide baseline data and other supporting evidence that documents the presence of the relevant protected matter/s within the offset area/s.

A3.109 Where the proposed offset area/s supports an environmental offset for multiple MNES, proposed management action/s for one protected matter must not be detrimental (i.e. have an impact) to other protected matters.

A3.110 Where an offset is proposed, a completed Offsets Assessment Guide calculation must be provided. All inputs in the Offsets Assessment Guide must be supported by robust scientific evidence and/or supporting evidence (e.g. historical grazing regimes, satellite imagery, statements from landholders).

A3.111 The draft OMP must be prepared by a suitably qualified ecologist and in accordance with DCCEEW's Environmental Management Plan Guidelines.

A3.112 The draft OMP must include robust scientific evidence (e.g. published research, pilot studies, previously successful projects/programs) to demonstrate the success of proposed measures to create, revegetate, regenerate and/or improve habitat (e.g. tree planting, nest boxes, artificial hollows) in the proposed offset area/s for a listed threatened species or ecological community.

A3.113 Provide details, with supporting evidence, to demonstrate how the environmental offset/s meet the principles of the Offsets Policy. This must include, but is not limited to, details and justification for all inputs for the DCCEEW Offsets Assessment Guide including:

a) total area of habitat (in ha)

b) time over which loss is averted (max. 20 years)

c) time until ecological benefit

d) risk of loss (%) without offset

e) risk of loss (%) with offset

f) confidence in result (%).

Please note, risk of loss should not include consideration of stochastic events (e.g. bushfires), activities that contribute to changes in habitat quality scores, or impacts that would otherwise require an offset under any relevant legislation.

A3.114 Provide a description of the offset area/s, including location, size, condition, environmental values present and surrounding land uses.

A3.115 Provide baseline data and other supporting evidence that documents the presence of the relevant MNES, and the quality of their habitat within the offset area/s.

A3.116 Provide an assessment of the site habitat quality for the offset area/s. Before undertaking habitat quality assessments, consult with DCCEEW regarding proposed methodology for deriving Habitat Quality scores for the Offset Assessment Guide (calculator). The department currently prefers the use of the Modified Habitat Quality Assessment (MHQA) method, an adaptation of the Queensland Guide to determining terrestrial habitat quality v1.2 (2017). The MHQA was developed to better reflect the requirements of the Offsets Policy for determining habitat quality. A copy of the MHQA scoring spreadsheet template and guidance material will be provided with the MNES Chapter TOR.

The standard MHQA applies all 13x BioCondition attributes (based on the Qld Guide to determining terrestrial habitat quality v1.2) to provide a reliable indicator of 'ecosystem sustainability' (i.e. Site Condition). The department groups all of the 13xBioCondition attributes, regardless of the species.

However, the department notes that not all of the MHQA attributes may be directly relevant to the viability of all listed species. Therefore, the use of attributes and/or relative contribution of attributes may diverge from the standard MHQA. Where there is a change to the standard MHQA, ensure any modifications are outlined clearly and reference the relevant statutory documents, contemporary literature, or independent expert advice to justify the modification.

It is important that both impact and offset sites are assessed using the same approach/scoring mechanism, that the method is suitable and targeted for each species/community, and that the resulting offset proposed is in line with the core principles of the Offsets Policy.

A3.117 Provide details of how the offset area/s will provide connectivity with other habitats and biodiversity corridors and/or will contribute to a larger strategic offset for the relevant MNES.

A3.118 Include maps and shapefiles to clearly define the location and boundaries of the offset area/s, accompanied by the offset attributes (e.g. physical address of the offset area/s, coordinates of the boundary points in decimal degrees, the relevant MNES that the environmental offset/s compensates for, and the size of the environmental offset/s in ha).

A3.119 The draft OMP must include supporting evidence to justify how proposed management action/s are additional to the existing requirements of the landholder in managing their land (e.g. weed and pest management requirements under the *Queensland Biosecurity Act 1994*, existing grazing regimes, etc.) as required by the Offsets Policy.

A3.120 Provide details of the management actions, and timeframes for implementation, to be carried out to meet the offset completion criteria. Management measures must:

a) be targeted towards the needs of the protected matter that is offset and must align with the recovery objectives for the species as identified in relevant national recovery plans or conservation advices

b) take relevant threat abatement plans into account

c) be site-specific (e.g. informed by surveys at the offset site)

d) have timeframes for implementation

e) be written using committal language (e.g. ‘will’ and ‘must’)

f) be specifically linked to the attribute of the protected matter for which the management measure applies

g) be derived from recognised principles, practice, or guidelines, and is justified – technically, scientifically and legally (e.g., by recommendation in a national recovery plan) – as an effective and appropriate measure to attain and/or maintain the plan’s completion criteria and/or performance targets.

A3.121 Provide specific, committal and measurable environmental outcomes which detail the nature of the conservation gain to be achieved for relevant MNES, including the creation, restoration, and revegetation of habitat in the proposed offset area/s.

A3.122 Proposed management action/s must be based on best available practices, appropriate standards, evidence of success for other similar projects and supported by published scientific evidence. All commitments must be drafted using committed language (e.g. 'will' and 'must') when describing the proposed management action/s, and non-committal language must be avoided (e.g. 'may'). All proposed management action/s must also be drafted to meet the 'S.M.A.R.T' principle.

A3.123 Provide interim milestones that set targets at 5-yearly intervals for progress towards achieving the offset completion criteria.

A3.124 Provide specific offset completion criteria derived from the site habitat quality to demonstrate the improvement in the quality of habitat in the offset area/s over a 20-year period.

A3.125 Provide details of the nature, timing, and frequency of monitoring to inform progress against achieving the 5-yearly interim milestones. The frequency of monitoring must be sufficient to track progress towards each set of milestones, and sufficient to determine whether the offset area/s are likely to achieve those milestones in adequate time to implement all necessary corrective actions.

A3.126 Outline a proposed timing for the submission of monitoring reports which provide evidence demonstrating whether the interim milestones have been achieved.

A3.127 Provide timing for the implementation of tangible, on-ground corrective actions to be implemented if monitoring activities indicate the interim milestones have not been achieved.

A3.128 Provide risk analysis and a risk management and mitigation strategy for all risks to the successful implementation of the OMP and timely achievement of the offset completion criteria, including a rating of all initial and post-mitigation residual risks in accordance with a risk assessment matrix.

A3.129 Discuss evidence of how the management actions and corrective actions take into account relevant approved conservation advices and are consistent with relevant recovery plans and threat abatement plans.

A3.130 Provide details and execution timing of a mechanism to legally secure the proposed offset area/s, such that legal security remains in force over the offset area/s for at least 20 years to provide enduring protection for the offset area/s against development incompatible with conservation.

Other approvals and conditions

Note

The MNES chapter must include information on any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed project.

A3.131 Provide details of any local or State Government planning scheme, or plan or policy under any local or State Government planning system that deals with the proposed project, including:

a) what environmental assessment of the proposed project has been, or is being, carried out under the scheme, plan, or policy

b) how the scheme provides for the prevention, minimisation, and management of any relevant impacts

c) Provide a description of any approval that will or has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the EPBC Act), including any conditions that apply to the project.

A3.132 If relevant, provide a statement identifying any additional approval that is required

A3.133 Provide a description of the monitoring, enforcement, and review procedures that apply, or are proposed to apply, to the project.

Consultation

A3.134 The MNES chapter must detail any consultation about the project, including:

a) any consultation that has already taken place, its outcomes, and details of management measures to address community concerns

b) proposed future consultation (including plans for future engagement) throughout life of the proposed project

c) any documented response to, or result of, the consultation

d) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views

e) signed documents or statements of consent from land holders or managers.

A3.135 Prepare a cultural values assessment, the methodology of which is to be informed by the engagement principles specified in the Interim Engaging with First Nations People and Communities on Assessments and Approvals under the Environment Protection and Biodiversity Conservation Act 1999.

Environmental record of person proposing to develop the project

A3.136 The information provided in the MNES chapter 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 develop the project

b) for a project for which a person has applied for a permit, the person making the application.

A3.137 If the person proposing to develop the project is a corporation, details of the corporation's environmental policy and planning framework must also be included.

Principles of Ecologically Sustainable Development

A3.138 Describe how the proposed project meets the principles of Ecologically Sustainable Development, as defined in section 3A of the EPBC Act. The principles of ecologically sustainable development are:

a) decision making processes should effectively integrate both long term and short term economic, environmental, social and equitable considerations

b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation

c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations

d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making

e) improved valuation, pricing and incentive mechanisms should be promoted.

Economic and social matters

Note

The economic and social impacts of the project, both positive and negative at the local, regional, and national levels, must be analysed. Intangible cultural heritage values may include culturally significant species, ecological communities, biogeographic features, storylines, totems, and areas of spiritual significance

A3.139 Provide an analysis of the economic and social impacts of the project, both positive and negative.

A3.140 Provide details of any public consultation activities undertaken and their outcomes.

A3.141 Detail projected economic costs and benefits of the project, including the basis for their estimation through cost/benefit analysis or similar studies.

A3.142 Describe any state requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed project with regards to Indigenous peoples and communities.

A3.143 Describe opportunities for training facilities or offices in regional towns such as Moranbah or Dysart.

A3.144 Provide an analysis of the carrying capacity of infrastructure in nearby regional towns (including Moranbah and Dysart) to evaluate whether services, airports and road networks are or will be adequate to support increased work forces.

A3.145 Include details of the relevant costs and benefits of identified alternative options to the proposed project (including not proceeding with the project), with reference to impacts on and benefits to nearby communities and other social and economic considerations.

A3.146 Describe the benefits of undertaking mining in this area to the local and state economy including details of state royalties and creation of jobs.

A3.147 Provide a discussion of the global demand for metallurgical coal, which includes information about how the product is likely to be used in manufacturing and other industries.

Indigenous engagement

A3.148 Identify existing or potential native title rights and interests, including any areas and objects that are of particular significance to Indigenous peoples and communities, possibly impacted by the proposed project and the potential for managing those impacts.

A3.149 Describe any Indigenous consultation that has been undertaken, or will be undertaken, in relation to the proposed project and their outcomes.

A3.150 Best practice consultation, in accordance with the Interim engaging with First Nations People and communities on assessments and approvals under the Environment Protection and Biodiversity Conservation Act 1999 which includes:

a) identifying and acknowledging all relevant affected Indigenous peoples and communities

b) committing to early engagement

c) building trust through early and ongoing communication for the duration of the project, including approvals, implementation and future management

d) setting appropriate timeframes for consultation

e) demonstrating cultural awareness.

A3.151 Describe any state requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed project with regards to Indigenous peoples and communities.

A3.152 Describe employment opportunities (including Indigenous employment targets) expected to be generated by the project (including construction, operation, decommissioning and rehabilitation phases).

Information sources provided in the MNES chapter

A3.153 For information given in a draft EIS, the draft must state:

a) the source of the information

b) how recent the information is

c) how the reliability of the information was tested

d) what uncertainties (if any) are in the information.

Conclusion

A3.154 Provide an overall conclusion as to the environmental acceptability of the proposal, including discussion on compliance with principles of ecologically sustainable development and the objects and requirements of the EPBC Act. Reasons justifying undertaking the proposal in the manner proposed should also be outlined.

A3.155 Summarise key mitigation proposed, as well as any offsets proposed for any unavoidable residual significant impacts on MNES.

Appendix A Policies and Guidelines

Australian Government, Department of Agriculture, Water and the Environment, *Guide to providing maps and boundary data for EPBC Act projects*, 2021. Available at Guide to providing maps and boundary data for EPBC Act projects - DCCEEW

Australian Government, Department of Climate Change, Energy, the Environment and Water, *Interim engaging with First Nations People and communities on assessments and approvals under the Environment Protection and Biodiversity Conservation Act 1999*, 2023. Available at https://www.dcceew.gov.au/sites/default/files/documents/interim-engaging-with-first-nations-people-and-communities-assessments-and-approvals-under-epbc-act.pdf

Australian Government, Department of Climate Change, Energy, the Environment and Water, *Offsets assessment guide*, 2012. Available at https://www.dcceew.gov.au/environment/epbc/approvals/offsets/guidance/offsets-assessment-guide

Australian Government, Department of Climate Change, Energy, the Environment, and Water *Environmental management plan guidelines*, 2024. Available at https://www.dcceew.gov.au/sites/default/files/documents/environmental-management-plan-guidelines.pdf

Australian Government, Department of Climate Change, Energy, the Environment and Water, *National light pollution guidelines for wildlife*, 2023. Available at National Light Pollution Guidelines for Wildlife - DCCEEW

Australian Government, Department of Climate Change, Energy, the Environment and Water, *Significant impact guidelines 1.3 Coal seam gas and large coal mining developments – impacts on water resources.* 2022. Available at Significant Impact Guidelines 1.3 - Coal seam gas and large coal mining developments - impacts on water resources

Australian Government, Department of the Environment, *How to use the Offsets Assessment Guide,* Available at https://www.dcceew.gov.au/sites/default/files/documents/offsets-how-use.pdf

Australian Government, Department of the Environment, *Matters of National Environmental Significance: Significant impact guidelines 1.1*, 2013. Available at https://www.dcceew.gov.au/environment/epbc/publications/significant-impact-guidelines-11-matters-national-environmental-significance

Australian Government, Department of the Environment, *Sensitive Ecological Data – Access and Management Policy V1.0,* 2016. Available at Sensitive Ecological Data—Access and Management Policy V1.0

Australian Government, Department of the Environment and Energy, *Guidelines for biological survey and mapped data,* 2018. Available at Guidelines for biological survey and mapped data - DCCEEW

Australian Government, Department of the Environment and Energy, *Species observation data template*, 2018 available at https://www.dcceew.gov.au/sites/default/files/documents/species-observation-data-template.xlsx

Australian Government, Department of the Environment, Water, Heritage and the Arts, *Survey guidelines for Australia's threatened birds: Guidelines for detecting birds listed as threatened under the Environment Protection and Biodiversity Conservation Act*, 2010. Available at Survey guidelines for Australia's threatened birds: Guidelines for detecting birds listed as threatened under the EPBC Act - DCCEEW

Australian Government, Department of the Environment, Water, Heritage and the Arts, *Survey guidelines for Australia's threatened mammals: Guidelines for detecting mammals listed as threatened under the Environment Protection and Biodiversity Conservation Act*, 2011. Available at Survey guidelines for Australia's threatened mammals: Guidelines for detecting mammals listed as threatened under the EPBC Act - DCCEEW

Australian Government, Department of the Environment, Water, Heritage and the Arts, *Survey guidelines for Australia's threatened reptiles: Guidelines for detecting reptile listed as threatened under the Environment Protection and Biodiversity Conservation Act*. 2011. Available at: Survey guidelines for Australia's threatened reptiles: Guidelines for detecting reptiles listed as threatened under the EPBC Act - DCCEEW

Australian Government, Department of Sustainability, Environment, Water, Population and Communities, *Environment Protection and Biodiversity Conservation Act 1999: Environmental offsets policy*, 2012. Available at EPBC Act environmental offsets policy - DCCEEW

Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018) found at https://www.waterquality.gov.au/anz-guidelines/framework/baseline-study

Doody TM, Hancock PJ, Pritchard JL, *Information Guidelines Explanatory Note: Assessing groundwater-dependent ecosystems. Report prepared for the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development through the Department of the Environment and Energy, Commonwealth of Australia*, 2019 https://www.iesc.gov.au/sites/default/files/2022-07/information-guidelines-explanatory-note-assessing-groundwater-dependent-ecosystems.pdf

Independent Expert Scientific Committee on Unconventional Gas Development and Large Coal Mining Development, *Information guidelines for proponents preparing coal seam gas and large coal mining development proposals*, 2024. Available at Information guidelines for proponents preparing coal seam gas and large coal mining development proposals | iesc

Kerswell A, Kaveney T, Evans C and Appleby L. (2020) *Habitat descriptions for 12 threatened species, specific to central Queensland*. Report commissioned by BHP

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Peeters, LGM and Middlemis, H. *Information Guidelines Explanatory Note: Uncertainty analysis for groundwater modelling.* 2023. Available at Information Guidelines Explanatory Note: Uncertainty analysis for groundwater modelling

Queensland Government, Department of Environment and Heritage Protection, *Guide to determining terrestrial habitat quality A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy Version 1.2,* 2017. Available at Guide to determining terrestrial habitat quality

Queensland Government, Department of Science, Information Technology and Innovation. *Guideline for the Environmental Assessment of Subterranean Aquatic Fauna Sampling Methods and Survey Considerations*, 2015. Available at https://www.publications.qld.gov.au/dataset/f7e68ccd-8c13-422f-bd46-1b391500423f/resource/ba880910-5117-433a-b90d-2c131874a8e6/download/guideline-subterranean-aquatic-fauna.pdf

Reside, AE, Welbergen, JA, Phillips, BL, Wardell-Johnson, GW, Keppel, G, Ferrier, S, Williams, SE, Vanderwal, J, *Characteristics of climate change refugia for Australian biodiversity*, Austral Ecology, 39: 887-897, DOI:10.1111/aec.12146, 2014

Appendix B

Table 1 lists the threatened species relevant to the controlled action under the EPBC Act, which at a minimum, is to be included in the impact assessment in the MNES chapter. Note: This list at Table 1 may not be a complete list of threatened species that will or are likely to be impacted by the project. It is the proponent's responsibility to ensure that any listed threatened species at the time of the controlled action decision, which will or are likely to be impacted by the project are assessed for the Australian Minister for the Environment and Water's consideration. Any listing events that occur after the controlled action decision (6 June 2025) are not required to be considered in the assessment.

Matters of National Environmental Importance – listed threatened species and ecological communities	
Ecological communities/species name	**Status under the EPBC Act**
Mammals	
Koala (*Phascolarctos cinereus*) (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Endangered
Greater glider (*Petauroides volans* (southern and central))	Endangered
Reptiles	
Ornamental snake (*Denisonia maculata*)	Vulnerable
Birds	
Squatter pigeon (*Geophaps scripta scripta* (southern))	Vulnerable
Threatened ecological communities	
Brigalow (*Acacia harpophylla* dominant and co-dominant)	Endangered
Poplar Box Grassy Woodland on Alluvial Plains	Endangered
Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin TEC	Endangered