

Draft Terms of Reference for an EIS

Winchelsea Island Manganese Mine Project
Winchelsea Mining Pty Ltd
East Arnhem Local Government Area
September 2021

Proposal :	Winchelsea Island Manganese Mine Project
Proponent:	Winchelsea Mining Pty Ltd
NT EPA Reference:	EP2021/004
Location:	Winchelsea Island, approximately 12 km northeast of Alyangula in the Gulf of Carpentaria, in the northeast of the Northern Territory
Local Government Area:	East Arnhem Region
Public consultation period:	Draft Terms of Reference – 15 business days
	Environmental Impact Statement – 30 to 60 business days
EPBC Act Reference No.:	EPBC 2021/8877

Further information and guidance on the environmental impact assessment process is available on the NT EPA website at: www.ntepa.nt.gov.au

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Contents

1. Introduction	5
1.1. Overview	5
1.2. Assessment under accredited assessment process	5
1.3. Assessment timeline	5
2. Matters to be addressed in the draft EIS	6
2.1. Summary	6
2.2. Proposal description	6
2.2.1. Overview	6
2.2.2. Proponent	7
2.2.3. Objectives of the proposal	7
2.2.4. Statutory framework	7
2.2.5. Mineral resources and ore reserves	7
2.2.6. Construction and operation	8
2.2.7. Rehabilitation and mine closure	11
2.2.8. Minor changes or amendments to proposal	13
3. Information requirements for environmental factors	13
3.1. Terrestrial environmental quality	15
3.2. Terrestrial ecosystems	16
3.3. Hydrological processes	19
3.4. Inland water environmental quality	21
3.5. Aquatic ecosystems	23
3.6. Coastal processes	25
3.7. Marine environmental quality	27
3.8. Marine ecosystems	29
3.9. Air quality	32
3.10. Atmospheric processes	33
3.11. Community and economy	35
3.12. Culture and heritage	37
4. Other requirements	40
4.1. Other environmental factors or matters	40
4.1.1. Matters of national environmental significance	40
4.2. Offsets	41
4.3. Whole of environment considerations (NT and Commonwealth)	41
4.3.1. Impacts of a changing climate	41
4.4. Stakeholder engagement and consultation	41
4.5. Indigenous peoples	42
4.6. Public consultation requirements	42
4.6.1. Submission period	42
4.6.2. Public consultation locations	42

Appendix A – List of relevant guidance material..... 44

1. Introduction

1.1. Overview

The Winchelsea Island Manganese Mine Project (the proposal) proposed by Winchelsea Mining Pty Ltd (the proponent) is being assessed by the Northern Territory Environment Protection Authority (NT EPA) under the *Environment Protection Act 2019* (EP Act) at the level of an environmental impact statement (EIS).

These terms of reference (TOR) set out the matters relating to the environment that are to be addressed in the draft EIS for this proposal. The draft EIS must also address all requirements in the [NT EPA guidance: Preparing an environmental impact statement](#).

The proposal is to construct and operate an open cut manganese mine on Winchelsea Island, about 600 km southeast of Darwin and 6 km northeast of Groote Eylandt in the Gulf of Carpentaria. Production of approximately 0.7 million tonnes per annum run-of-mine (ROM) would be targeted utilising hydraulic excavators to extract ore and overburden in strips over a 12 year mine life.

Mine infrastructure would include ROM and ore stockpiling areas, crushing and screening equipment, workshops, haul and access roads, a product conveyor from the processing area to a barge landing facility. Product would be loaded onto barges then transferred to ships.

The proposed mineral lease would cover an area of 1,460 hectares, (approximately 35%, of Winchelsea Island and the mine disturbance footprint is predicted to be 378 hectares, 10% of the island.

1.2. Assessment under accredited assessment process

The proposal was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The delegate of the Australian Government Minister for the Environment decided under section 75 of the EPBC Act that the proposed action is a controlled action and, as such, requires assessment and an approval decision due to the potential for a significant impact on matters of national environmental significance (MNES) protected under Part 3 of the EPBC Act.

The proposal is being assessed under an accredited assessment process (in accordance with section 87(4) of the EPBC Act as referenced in section 45 of the EP Act). These TOR have been prepared to meet the requirements of both government jurisdictions.

The proponent EIS must address matters outlined in Schedule 4 of the EPBC Regulations.

1.3. Assessment timeline

Table 1 sets out the indicative timeline for the assessment of the proposal.

Table 1 Indicative assessment timeline for the proposal

Key assessment milestones	Proposed / completion date
Referral accepted	23 December 2020
Public and government authority consultation on referral	8 January 2021 – 8 February 2021
Decision on accepted referral	10 March 2021
Assessment process suspended at proponent's request	25 March 2021
Notice of significant variation (NOSV) accepted by NT EPA	12 May 2021

Key assessment milestones	Proposed / completion date
Public and government authority consultation on NOSV	1 June 2021 – 29 June 2021
Decision on significant variation	10 August 2021
Draft Terms of Reference consultation period	29 September 2021 – 19 October 2021
Terms of reference approved	TBC
Draft EIS submitted to the NT EPA	TBC
Public and government authority consultation on draft EIS	TBC
Proponent prepares Supplement, including any additional information the NT EPA has directed it to provide	TBC
Supplement submitted to the NT EPA	TBC
Public and government authority consultation on Supplement	TBC
Assessment Report provided to the Minister	TBC
NT Minister's decision	TBC
Australian Government Minister's decision	TBC

2. Matters to be addressed in the draft EIS

2.1. Summary

A summary of the draft EIS is required as part of the EIS documentation. The summary should be written as a stand-alone document, able to be provided on request to interested parties who may not wish to read the full EIS.

The summary should provide the following at a minimum:

- a clear and concise overview of the proposal, including key components and activities, lifespan, closure outcomes and intended future use of the site
- an explanation of the approvals process and function of the EIS
- a summary of the site selection process and alternatives considered
- an overview of the existing environment including location of the nearest sensitive receptors
- a summary of the environmental impacts of the proposal
- a summary of measures to avoid, mitigate and, if applicable, offset potential impacts of the proposal.

2.2. Proposal description

2.2.1. Overview

Provide a clear description of the proposal and the full scope of works for which approval is sought. The proposal description should include:

- a summary table listing the key physical components of the proposal

- maps, figures, images, diagrams and flow charts
- any variations or modifications to the proposal since the referral information was submitted
- where there is uncertainty in the detailed design, footprint, capacity or life of the proposal, the approach to resolving this uncertainty should be clearly explained and the maximum extent for each parameter provided.

2.2.2. Proponent

Provide background to the proponent including but not limited to:

- information on the environmental history of the proponent
- partnerships with other organisations or industries as part of the proposal
- notification/disclosure of offences with regard to fit and proper person, or any non-compliances
- compliance with state/territory and Commonwealth environmental approval conditions.

2.2.3. Objectives of the proposal

State the rationale and justification for the proposal, considering social, economic and other environmental benefits and costs to the NT, in particular to local and regional communities, during the life of the proposal.

List the key objectives of the proposal and include a description of how the proposal meets these objectives.

The proponent should demonstrate in the draft EIS how the objectives of the proposal address the specific requirements of sections 42 and 43 of the EP Act.

2.2.4. Statutory framework

The EIS must provide information on the statutory framework including a description of any permits, consents, or other approvals that will be required from NT and Australian government authorities.

2.2.5. Mineral resources and ore reserves

Summarise the results of studies and surveys undertaken to identify and delineate the mineral resources, and ore reserves within the proposal footprint (including any areas underlying related infrastructure).

Report the mineral resources (measured, indicated or inferred) and ore reserves (proved or probable) in accordance with the Australasian code for reporting of exploration results, mineral resources and ore reserves (JORC 2012). Include the modifying factors and assumptions made in arriving at the estimates.

Describe in detail the location, tonnage and quality of the mineral resources and ore reserves within the project area. Illustrate, with appropriately-scaled maps and diagrams, the location, areal extent and depth of the mineral resources to be developed or mined, and show those resources in relation to the following features:

- boundaries of mining tenures, granted or proposed, to which the project area is, or would be subject
- proposed mine excavation(s)
- features that would result from the proposed mining, including waste/spoil dumps, water storage facilities and other infrastructure

- proposed buffers surrounding the working areas
- boundaries of any other project sites
- any part of the resource not intended to be mined and any part of the resource that might be sterilised by the proposed mining operations or infrastructure.

Similarly report, to the extent practicable, on other resources related to the geology of the locality, including petroleum and energy resources. Include information from publicly available or searchable studies and surveys undertaken by other entities than the proponent.

2.2.6. Construction and operation

Provide a detailed description of all construction and operational aspects of the proposal as outlined in Table 2.

Table 2 Minimum information requirements for the proposal description

Topic	Required information
Site layout maps	<p>The description of the proposal must include, but not be limited to, detailed maps and graphics/illustrations of:</p> <ul style="list-style-type: none"> • the location and dimensions of existing disturbance, infrastructure, roads/tracks and natural and modified landforms (including a depiction of these overlaid on aerial photos or high-resolution satellite imagery) within the proposal area • the location and approximate dimensions of areas to be disturbed, structures to be built or repurposed, including (where applicable): <ul style="list-style-type: none"> ○ all areas to be cleared¹ or disturbed ○ access and haul roads, mining and service infrastructure ○ marine infrastructure ○ water storage, stormwater and drainage infrastructure ○ buildings, structures and laydown areas ○ borrow areas ○ hazardous mine waste and other waste storage areas ○ other significant infrastructure. • the proposal layout in relation to existing infrastructure (e.g. roads, cables, shipping channels, pipelines, exploration disturbance, and other developments or proposals). • the boundaries of the proposal area in relation to any overlapping or adjacent licences and permits (mineral, petroleum or other); and any other interests in land including native title (claims or determined), and Aboriginal freehold land.
Design	<p>Describe mine planning and design options considered, reasons for selection of preferred mine plan, and how the proposed mine plan avoids and/or mitigates environmental constraints and potential impacts and risks to the surrounding environment.</p> <p>Describe alternatives and options for barge loading and general handling of ore, and how the proposed method avoids and/or mitigates potential impacts and risks to the</p>

¹ In accordance with the NT Land Clearing Guidelines and/or requirements under the NT Planning Scheme.

Topic	Required information
	<p>surrounding environment.</p> <p>Describe alternatives and options for transshipping and general handling of ore, and how the proposed method avoids and/or mitigates potential impacts and risks to the surrounding environment.</p> <p>Describe alternatives and options for meeting the project energy demand, and how the proposed method avoids and/or mitigates potential impacts and risks to the surrounding environment.</p> <p>Describe how the proposal has been designed, or allows for, adaptation to a changing climate e.g. capacity and efficiency of water facilities to allow for potential increase in evaporation and/or large rainfall events, and changes in the frequency or intensity of extreme weather events.</p> <p>Discuss any feasible operation alternatives including alternatives for land management. Where multiple alternatives exist, the choice of the preferred option(s) should be clearly explained, and a comparison provided against other options in terms of potential environmental impacts.</p> <p>Demonstrate engagement with existing operators and/or other infrastructure owners in the region, for opportunities, alternatives and options to share existing infrastructure and facilities on Groote Eylandt, to reduce impacts to the environment.</p>
Construction	<p>Describe all elements of the construction phase including:</p> <ul style="list-style-type: none"> • construction methods and any limitations of these in the area of the proposal. Where multiple alternatives exist, the choice of the preferred option(s) should be clearly explained and a comparison provided against other options in terms of potential environmental impacts • equipment and machinery required • construction materials required – major types, quantities, qualities, sources, storage requirements and potential hazards • location, shape, size and nature of temporary stockpiles • timeframes • any new ancillary infrastructure and upgrades required to service the proposal, including supply of electricity, road access and boat or barge landing • available and potential sources of fill / borrow material • vegetation clearing and site preparation • erosion, sediment and drainage control • water requirements including sources, supply and storage • waste management including classification of waste streams • air quality and emissions management • maintenance of components and servicing of infrastructure • controls to avoid spills/discharges to the terrestrial and marine environment • applicable legislation, guidelines and standards
Operation	<p>Describe all elements of the proposed operation including:</p> <ul style="list-style-type: none"> • all aspects of the proposed operation with detailed maps, diagrams and facility design specifications and standards where relevant, including:

Topic	Required information
	<ul style="list-style-type: none"> ○ mine plan, pit layout and pre-stripping of vegetation and overburden ○ mining, handling and processing of ore ○ location, shape, size and nature of temporary and permanent stockpiles ○ erosion and sediment control ○ water management including water requirements, storage, supply and demand (provide a water balance) ○ waste management including disposal and recycling ○ air quality management, including dust control ○ weed management ● ongoing maintenance of onshore and offshore components, and servicing of infrastructure ● applicable legislation, guidelines, and standards.
Transport and traffic	<p>Describe traffic and transport activities during construction and operation, including but not limited to:</p> <ul style="list-style-type: none"> ● proposed transport methods onshore, nearshore and offshore, including land and marine based vessels ● forecast vehicle/vessel movements including type, size, volume and frequency of movements ● details on access, routes, vehicle/vessel types, volumes of traffic.
Barge loading operations	<p>Describe the barge loading and transport activities during construction and operation, including but not limited to:</p> <ul style="list-style-type: none"> ● infrastructure ● vessels ● storage, containment and loading method.
Offshore ship loading operations	<p>Describe the nearshore and offshore ship loading activities and transport operations, including:</p> <ul style="list-style-type: none"> ● the type, size and number of vessels utilised for ship loading ● planned navigation and shipping routes ● anchorage or mooring location and where the ship would be loaded. ● the product loading and transfer location, mode, and method.
Energy	<p>Provide relevant information with respect to energy during construction and operation, including but not limited to:</p> <ul style="list-style-type: none"> ● energy requirements ● a detailed comparison of options for renewable and non-renewable sources of energy. Provide selection criteria and justification of selected options.
Workforce	<p>Provide a summary for each phase of the proposal, of the:</p> <ul style="list-style-type: none"> ● estimated number of people to be employed

Topic	Required information
	<ul style="list-style-type: none"> skills base required likely sources (local, regional, overseas) onsite facilities provided.

2.2.7. Rehabilitation and mine closure

This section should outline the strategy and plan for rehabilitation and mine closure. It should detail:

- the proposal lifespan
- biological, cultural, economic and social considerations of options for progressive rehabilitation, decommissioning of infrastructure, removal and disposal of infrastructure and components at the end of the proposal's life, and final closure
- proposed land use after closure (including alternatives).

Provide a detailed description of rehabilitation and closure as outlined in Table 3.

Table 3: Minimum information requirements for rehabilitation and closure.

Aspect	Specific information required
Mine rehabilitation and closure planning requirements for the EIS	<ul style="list-style-type: none"> Provide a proposed Mine Rehabilitation and Closure Plan (MRCP) that describes best practice approaches about the strategies and methods for progressive and final rehabilitation. The plan must: <ul style="list-style-type: none"> 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 the condition to which the land must be rehabilitated Describe how the rehabilitation costs have been considered in the proposed rehabilitation outcomes Demonstrate that the rehabilitation of the environment disturbed by construction, operation, and decommissioning of the proposal can meet the NT EPA's environmental objectives and outcomes listed below Describe how land disturbed as a result of the proposal that is outside of the mining lease will be rehabilitated where there is no ongoing use. Ensure revegetation will be with native plant species and able to adapt to a changing climate, selected based on site-specific analysis by appropriately qualified specialists. The proposed MRCP must be consistent with the information requirements in the: <ul style="list-style-type: none"> International Council on Mining and Metals (ICMM) Integrated Mine Closure: Good Practice Guide Australian Government Leading Practice Handbooks for Sustainable Mining: Mine Closure

Aspect	Specific information required
	<ul style="list-style-type: none"> ○ Australian Government Leading Practice Handbooks for Sustainable Mining: Mine Rehabilitation. • The proposed MRCP must include the following components: <ul style="list-style-type: none"> ○ a rehabilitation planning component ○ a progressive mine rehabilitation and closure plan schedule component.
Rehabilitation planning	<p>The rehabilitation planning part of the proposed MRCP must address the following:</p> <ul style="list-style-type: none"> • Describe each resource tenure, including the area of each tenure • Describe the relevant activities and the likely duration of the relevant activities • Include a detailed description, including maps, of how and where the relevant activities are to be carried out • Include details of the consultation undertaken by the proponent in developing the proposed MRCP and details of how the proponent will undertake ongoing consultation in relation to the rehabilitation to be carried out under the plan • Provide the extent to which each proposed post-mining land use or non-use area is consistent with the outcome of consultation with the community in developing the plan and any strategies or plans for the land of the Anindilyakwa people, or the government of the region, the Territory or the Commonwealth • For each proposed post-mining land use, state the proposed methods or techniques for rehabilitating the land to a stable condition in a way that supports the rehabilitation milestones under the proposed MRCP schedule • For land identified for a proposed post-mining land use, identify the risks and potential impacts of a stable condition not being achieved. Also identify how the proponent intends to mitigate or manage those risks and impacts • For any area that is not proposed for a future beneficial post-mining land use, state the reasons the proponent considers the area cannot be rehabilitated to a stable condition, and the proposed methodology for achieving best practice management of the area to support the proposed MRCP.
Rehabilitation scheduling requirements	<p>Provide a proposed MRCP schedule which describes time-based milestones for achieving each post-mining land use for the proposal. The schedule must identify:</p> <ul style="list-style-type: none"> • all land within the resource tenure as either as post-mining land use or (if applicable) non-use area • when land becomes available for rehabilitation or improvement • rehabilitation milestones to achieve a post-mining land use, and management milestones for any area where a post mining land use is not proposed

Aspect	Specific information required
	<ul style="list-style-type: none"> milestone criteria that are consistent with the SMART principles² and demonstrate when each milestone has been completed completion dates for each milestone to be achieved a final site design supported by suitably scaled maps which show the area of each relevant resource tenure, proposed area of disturbance and locations of the proposed post-mining land uses and (if applicable) any areas where a post-mining land use is not proposed.
<p>The following rehabilitation and mine closure objectives and outcomes are to be met:</p> <ul style="list-style-type: none"> Land disturbed by mining activities must be rehabilitated progressively as it becomes available, to minimise environmental impacts and reduce cumulative areas of disturbed land for mining. The proposal must be implemented in a way that meets the NT EPA's environmental objectives. The proposal must be implemented in a manner that disturbed land will be rehabilitated or restored to a safe and stable condition, does not cause environmental harm, and can sustain a post-mining land use. Open pit voids are backfilled and rehabilitated before surrender or relinquishment, unless it can be demonstrated that retaining a final pit void would ensure closure objectives are met. The final landform is physically safe to humans and animals, geo-technically stable, geo-chemically non-polluting/non-contaminating. 	

2.2.8. Minor changes or amendments to proposal

Describe any minor changes, amendments or refinements to the proposal since submission of the referral, noting that the NT EPA must be formally notified of any significant variations under section 51 of the EP Act.

3. Information requirements for environmental factors

The preliminary environmental factors for the EIS are listed in Table 4.

Table 4: Preliminary environmental factors that must be considered in the draft EIS

THEME	FACTOR	ENVIRONMENTAL OBJECTIVE
LAND	Terrestrial environmental quality	Protect the quality and integrity of land and soils so that environmental values are supported and maintained.
	Terrestrial ecosystems	Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.

² SMART milestones are:

Specific – it is clear what must be done

Measurable – it must be possible to know when it has been achieved

Achievable – it is capable of being achieved

Reasonable/relevant – there is a reasonable and clear connection between the milestone and the desired outcomes

Time-specific – it is clear when the milestone will be completed.

THEME	FACTOR	ENVIRONMENTAL OBJECTIVE
WATER	Hydrological processes	Protect the hydrological regimes of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.
	Inland water environmental quality	Protect the quality of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.
	Aquatic ecosystems	Protect aquatic habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.
SEA	Coastal processes	Protect the geophysical and hydrological processes that shape coastal morphology so that the environmental values of the coast are maintained.
	Marine environmental quality	Protect the quality and productivity of water, sediment and biota so that environmental values are maintained.
	Marine ecosystems	Protect marine habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.
AIR	Air quality	Protect air quality and minimise emissions and their impact so that environmental values are maintained.
	Atmospheric processes	Minimise greenhouse gas emissions so as to contribute to the NT Government's target of achieving net zero greenhouse gas emissions by 2050.
PEOPLE	Community and economy	Enhance communities and the economy for the welfare, amenity and benefit of current and future generations of Territorians.
	Culture and heritage	Protect sacred sites, culture and heritage.
	Human health	Protect the health of the Northern Territory population.

The draft EIS should address how each of the above factors may be impacted by the relevant components of the proposal. While it is for the NT EPA to decide whether potential impacts are significant, the EIS should consider the significance of the identified potential impacts with reference to section 11 of the EP Act and [significant impact guidelines](#) for MNES. In addition, the EIS will consider and address indirect and cumulative impacts.

A proposal footprint (direct disturbance) and area of influence (indirect disturbance) are to be established to identify the aspects of the environment (under each environmental factor) and the specific environmental values that could be impacted by implementation of the proposal. Consideration should be given to potential impacts associated with normal operations, abnormal operations, unplanned shutdowns of part or all of the proposal, and emergency shutdowns of part or all of the proposal.

For each of the key environmental factors listed in Table 3, the draft EIS is to provide an assessment of how the NT EPA's environmental objective would be met, as outlined in the NT EPA's *Preparing an environmental impact statement – Environmental impact assessment guidance for proponents* and detailed below.

If additional potential environmental impacts are identified through the environmental impact assessment process, they must also be included in the draft EIS, even if this requires addressing additional environmental factors not specified in Table 3.

The following sections and tables outline the information to be addressed for each environmental factor. The below information requirements should be addressed in an appropriate format within the draft EIS, with technical assessment reports appended to the EIS as applicable.

Detailed maps and figures must be included to support the descriptions and findings for each of the relevant environmental factors.

3.1. Terrestrial environmental quality

Table 5: Minimum information required for assessment of Terrestrial environmental quality

Aspect	Specific work and information required
NT EPA objective: Protect the quality and integrity of land and soils so that environmental values are supported and maintained.	
Relevant activities	<ul style="list-style-type: none"> • Ground disturbance within the proposal footprint to accommodate the mining areas and proposal infrastructure, and • Mining operations.
Environmental values	<ul style="list-style-type: none"> • Characterise the existing environment, considering topography, geology, landscape, land suitability and soils. • Characterise the chemical and physical nature of the ore, mine waste (overburden, rejects/tailings) materials and product.
Potential significant impacts and risks	<p>Identify potential impacts and risks to the terrestrial environment and:</p> <ul style="list-style-type: none"> • Describe the proposed activities and pathways by which terrestrial environmental quality could potentially be affected by the proposal, and undertake a risk assessment addressing soil erosion, dispersive soils, potential acid sulfate soils, surface hydrology and sediment transport. • using appropriate studies, investigations and relevant information, quantify the direct, indirect and cumulative impacts of the proposal on terrestrial environmental quality, and assess the significance of those impacts.
Avoidance, mitigation and management	<p>Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision-making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <ul style="list-style-type: none"> • Describe the proposed avoidance, mitigation and management measures to be implemented, applying the management hierarchies (sections 26 and 27 of EP Act), including an assessment of their effectiveness and considerations for mine closure and rehabilitation. • Demonstrate that all reasonable and practicable avoidance and mitigation

Aspect	Specific work and information required
	<p>measures would be taken to ensure residual impacts and risks are acceptable.</p> <ul style="list-style-type: none"> Discuss adaptation to a changing climate including design and resultant viability of the proposal, with reference to the NT policy Northern Territory Climate Change Response: Towards 2050 and Climate Change in the Northern Territory: State of the science and climate change impacts. Substantiate proposed mitigation measures with consideration of best practice standards including benchmarking of mitigation measures at similar facilities and advice from relevant Australian and NT government authorities. Describe how the NT EPA's objective for this factor and the predicted environmental outcomes can be met.
Monitoring and reporting	<ul style="list-style-type: none"> Outline proposed monitoring and reporting activities related to potential impacts and risks, and mitigation and management measures. The proposed monitoring and reporting should address potential impacts and risks from each project phase. Substantiate proposed monitoring activities with consideration of best practice standards and advice from relevant government authorities.
Residual impact	<ul style="list-style-type: none"> Identify any potential residual impact or risk of the proposal to environmental values.
Offsets	<ul style="list-style-type: none"> Where significant residual impacts remain (after applying the environmental decision making hierarchy), determine and quantify any significant residual impacts by applying the NT Offsets framework and Target-based outcomes offsets model, and the Commonwealth EPBC Act Environmental Offsets Policy where the impact is for MNES Include an assessment of any proposed offsets against the six offsets principles in the NT Offsets Framework Principles. The area and extent of any significant residual impacts must also be quantified.

3.2. Terrestrial ecosystems

Table 6: Minimum information required for assessment of Terrestrial ecosystems

Aspect	Specific information required
<p>NT EPA objective: Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.</p>	
Relevant activities	<ul style="list-style-type: none"> Clearing of habitat in the construction footprint to accommodate the mining areas and proposal infrastructure Use of plant and equipment during mining operations.
Environmental values	<ul style="list-style-type: none"> Identify all terrestrial ecological values present or likely to be present within the areas potentially impacted by the proposal. The presence of Ghost Bats on Winchelsea Island is currently uncertain. Conduct surveys to determine habitat use and roost locations on

Aspect	Specific information required
	<p>Winchelsea Island.</p> <ul style="list-style-type: none"> • Surveys suggests that the Brush-tailed Rabbit-rat occurs at low abundance and is patchily distributed on Groote Eylandt. The species were not detected during targeted surveys within the proposal area on Winchelsea Island however, the likelihood of occurrence of this species is considered high. Conduct further targeted surveys to resolve the uncertainty. • Undertake robust flora and fauna surveys, taking into account seasonal, spatial and temporal differences, to describe the terrestrial ecosystems of the proposal footprint and area of influence with detail on vegetation communities, flora species and fauna species. Provide a description of communities and species of regional and national significance, and pest and exotic species. The vegetation mapping must be to at least NVIS level 4 or higher. • Through robust targeted surveys, identify the known, likely and potential presence of threatened ecological communities and species (identified in preliminary terrestrial ecology studies for the proposal, NR Maps and the DAWE Protected Matters Search Tool (PMST) as target species) under the EPBC Act. <p>The known and potential presence of species are identified as target species in preliminary terrestrial ecology studies for the proposal and includes but is not limited to:</p> <ul style="list-style-type: none"> • listed threatened forest birds and migratory/threatened marine and shorebirds • threatened shorebirds, listed migratory species, marine turtles • Northern Hopping-mouse (<i>Notomys aquilo</i>) • Northern Masked owl (<i>Tyto novaehollandiae kimberli</i>) • Northern Quoll (<i>Dasyurus hallucatus</i>) • Brush-tailed Rabbit-rat (<i>Conilurus penicillatus</i>) • Ghost bat (<i>Macroderma gigas</i>) • Bare-rumped Sheathtail bat (<i>Saccolaimus saccolaimus</i>) and • Northern Leaf-nosed bat (<i>Hipposideros stenotis</i>). <p>Describe the existing condition of habitat and vegetation communities using a robust protocol.</p> <p>Describe any existing threatening processes, including extent, severity and frequency of such processes.</p> <p>Species protected under the EPBC Act and TPWC Act must be described subject to robust targeted surveys in consultation with Fauna and Flora Division of DEPWS.</p>
Potential significant impacts and risks	<p>Describe potential impacts and risks to terrestrial ecosystems and address:</p> <ul style="list-style-type: none"> • threatened or sensitive fauna species including, but not limited to: <ul style="list-style-type: none"> ○ Northern Quoll ○ Masked Owl

Aspect	Specific information required
	<ul style="list-style-type: none"> ○ Ghost Bat ○ Brush-tailed Rabbit-rat ○ Northern Hopping Mouse <ul style="list-style-type: none"> • direct loss of flora/ecological communities from vegetation clearing and ongoing maintenance (e.g. fire and vegetation management) including significant and sensitive vegetation³ and potential habitats for threatened species listed under TPWC Act and EPBC Act or fauna species that are locally sensitive to impacts. Provide an overview of the extent (ha) of the loss in table and map format • the potential threat of cane toads on the important sub-population of Northern Quoll • indirect disturbance or degradation of vegetation communities, possibly resulting in a long-term decline or loss over time, for example from erosion, dust, weeds/pathogens, disturbance of acid sulfate soils, etc. • introduction or increase of weed and pest species due to proposal activities e.g. potential introduction of cane toad, fire ant and Gamba grass. • changes in bushfire risk (fire frequency and intensity) due to vegetation clearing and weeds • direct impacts to threatened or sensitive fauna and fauna habitat (including behaviours) from clearing, operating plant, vehicles and equipment, noise and/or light • indirect impacts to threatened or sensitive fauna and fauna habitat due to changes to water quality, reduced habitat availability, or fragmentation and edge effects. • Determine the areas that could feasibly experience those impacts. Classify the areas as: <ul style="list-style-type: none"> • proposal footprint – or direct disturbance footprint. These are the areas of proposed infrastructure, vegetation clearing and direct use • area of influence – or indirect disturbance footprint. These are surrounding areas that may be indirectly affected by proposed activities, for example via the release of contaminants (air, water, land), changes to land, water, and also cumulative impacts with other natural processes (e.g. cyclones), industries or proposals. <p>Quantify extent of impacts to terrestrial ecosystems relating to a changing climate, and how these have been considered cumulatively to proposal impacts.</p>
Avoidance, mitigation and management	<p>Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision-making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> • Mine design and layout

³ NT Land clearing Guidelines (DENR 2019)

Aspect	Specific information required
	<ul style="list-style-type: none"> Clearing of native vegetation Fauna relocation and management Pest/weed/pathogen control and management Compliance with any statutory or policy basis for the proposed measures. <p>A comprehensive and effective quarantine plan is required to ensure that the proposed action does not provide a vector for introduction of the Cane Toad to Winchelsea Island</p> <p>Provide a toad management plan that includes details of robust measures to prevent the introduction of cane toad to Winchelsea Island. The plan must include details of monitoring and assurance measures to evaluate the success of the measures, and contingency measures in case on failure or breach</p> <p>Discuss adaptation to a changing climate including design and resultant viability of the proposal.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
Monitoring and reporting	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks and mitigation and management measures to terrestrial ecosystems. The proposed monitoring and reporting should address the potential impacts and risks of each project phase, i.e. construction or operations.</p> <p>Provide a detailed cane toad monitoring and reporting protocol that has sufficient sensitivity to detect plan failure.</p> <p>All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.</p>
Residual impact	Identify any potential residual impact or risk of the proposal to environmental values.
Offsets	Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offsets Framework (as published) and EPBC Act environmental offsets policy.

3.3. Hydrological processes

Table 7: Minimum information required for assessment of Hydrological processes

Aspect	Specific information required
<p>NT EPA objective: Protect the hydrological regimes of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.</p>	
Relevant activities	<ul style="list-style-type: none"> Clearing of vegetation and disturbing the natural surface and flowpaths in the construction footprint to accommodate the mining areas and proposal infrastructure

Aspect	Specific information required
	<ul style="list-style-type: none"> Lowering the watertable and dewatering during mining operations.
Environmental values	<p>Describe the following:</p> <ul style="list-style-type: none"> climate and meteorological conditions of the proposal's area of influence with reference to hydrological regimes, the frequency and severity of extreme weather conditions, such as storms and cyclones surface water, surface water catchment systems of the proposal's area of influence including detail on any waterways of significance, drainage patterns, flow variations and flooding groundwater, groundwater systems and hydrogeology of relevant proposal areas any relevant water control districts and water allocation plans declared beneficial uses, existing users, water quality objectives and environmental values of water resources in proposal's area of influence. <p>Provide detailed maps to support the above descriptions.</p> <p>Provide results and interpretation of any hydrological and hydrogeological surveys of the area of influence.</p>
Potential significant impacts and risks	<p>Describe potential impacts and risks to hydrological processes and characterise:</p> <ul style="list-style-type: none"> the natural catchment and surface and groundwater hydrology, for example from the creation of pits, roads, hardstand surfaces and other infrastructure through construction and operation of the proposal surface water flows groundwater use (including impacts to other groundwater users and the environment) <p>Determine the proposal footprint and influence that could feasibly experience those impacts.</p> <p>Provide an assessment of potential impacts to hydrological processes utilising outcomes of investigations and other relevant information. As a minimum, the assessment should take into consideration:</p> <ul style="list-style-type: none"> methods, equipment, timing and frequency any cumulative impacts with other industries or proposals environmental management requirements associated with seasonal weather, extreme weather conditions such as storms and cyclones for the 10%, 5%, 2%, 1% and 0.1% annual exceedance probability (AEP) design events reversibility of potential impacts (including timeframe). <p>The assessment must take into account all construction and operation activities of the proposal.</p> <p>The assessment must identify potential impacts and risks to hydrological processes and quantify their significance:</p> <ul style="list-style-type: none"> against relevant guideline thresholds on the beneficial uses, water quality objectives and identified environmental values including groundwater dependent ecosystems and existing ground

Aspect	Specific information required
	<p>and surface water users.</p> <p>Quantify extent of impacts to hydrological processes relating to a changing climate, and how these have been considered cumulatively to proposal impacts.</p>
Avoidance, mitigation and management	<p>Outline the measures for avoiding or mitigating potential impacts and risks identified above, with consideration of sections 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality. These should address at a minimum:</p> <ul style="list-style-type: none"> • mine design and layout • water management and efficiency, including stormwater and wastewater management • water efficiency • waste management including a detailed description of management methods for all types of wastes • geomorphic stability • compliance with any statutory or policy basis for the proposed measures <p>Discuss the design features of the proposal that will allow it to adapt to a changing hydrological environment.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
Monitoring and reporting	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks and mitigation and management measures to hydrological processes.</p> <p>The proposed monitoring and reporting should specify which project phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.</p>
Residual impact	<p>Identify any potential residual impact or risk of the proposal to environmental values.</p>
Offsets	<p>Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offsets Framework (as published) and EPBC Act environmental offsets policy.</p>

3.4. Inland water environmental quality

Table 8: Minimum information required for assessment of Inland water environmental quality

Aspect	Specific information required
NT EPA objective: Protect the quality of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.	
Relevant Activities	<ul style="list-style-type: none"> • Mining operations and ground disturbance activities within the proposal

Aspect	Specific information required
	<p>footprint generating sediments, dust, reject material and waste</p> <ul style="list-style-type: none"> • Operation of mining infrastructure, plant and equipment generating dust, reject material and waste.
Environmental values	<p>Describe the water quality (chemical, physical and biological) of surface water and groundwater in the proposal's area of influence.</p> <p>Provide detailed maps to support the above descriptions.</p> <p>Provide results and interpretation of any hydrological and hydrogeological surveys of the area of influence.</p>
Potential significant impacts and risks	<p>Describe potential impacts and risks to water quality and describe:</p> <ul style="list-style-type: none"> • changes to surface water quality from sediment, mine waste management, mineral processing and product storage and transfer • changes to groundwater quality from seepage • contamination from hazardous materials. <p>Determine the proposal footprint and area of influence that could feasibly experience those impacts.</p> <p>Provide an assessment of potential impacts, benefits and risks to inland water environmental quality utilising outcomes of investigations and/or other relevant information. As a minimum, the assessment should take into consideration:</p> <ul style="list-style-type: none"> • methods, equipment, timing and frequency • potential contaminants/pollutants • cumulative impacts with other industries or proposals. • environmental management requirements associated with seasonal weather, extreme weather conditions such as storms and cyclones for the 10%, 5%, 2%, 1% and 0.1% annual exceedance probability (AEP) design events • the physical and chemical characteristics, volume, timing and location of any discharges • the reversibility of potential impacts (including timeframe). <p>The assessment must take into account all construction and operation activities of the proposal.</p> <p>The assessment must identify potential impacts and risks to inland water environmental quality and quantify their significance:</p> <ul style="list-style-type: none"> • against site specific water quality data and any relevant guideline thresholds including ANZG 2018 • on the beneficial uses, water quality objectives and identified environmental values. <p>Quantify extent of impacts to inland water environmental quality relating to a changing climate, and how these have been considered cumulatively to proposal impacts.</p>

Aspect	Specific information required
Avoidance, mitigation and management	<p>Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> mine design and layout water management and efficiency, including stormwater, wastewater and mine-affected water management waste management including a detailed description of management methods for all types of wastes erosion, sediment and drainage controls compliance with any statutory or policy requirements for the proposed measures. <p>Provide an overview of water quality of any controlled discharge (including targets in accordance with ANZG (2018), best practice erosion and sediment control guidance and other relevant guidance), location of the discharge point/s, and schedule for discharges.</p> <p>Discuss adaptation to a changing climate including design and resultant viability of the proposal.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
Monitoring and reporting	<p>Outline proposed monitoring and reporting activities related to potential impacts, risks, mitigation and management measures.</p> <p>The proposed monitoring and reporting should specify which proposal phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.</p>
Residual impact	<p>Identify any potential residual impact or risk of the proposal to environmental values.</p>
Offsets	<p>Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offsets Framework (as published) and EPBC Act environmental offsets policy.</p>

3.5. Aquatic ecosystems

Table 9: Minimum information required for assessment of Aquatic ecosystems.

Aspect	Specific information required
NT EPA objective: Protect aquatic habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.	

Aspect	Specific information required
Relevant activities	<ul style="list-style-type: none"> • Clearing of vegetation and disturbing the natural surface and surface hydrology in the construction footprint to accommodate the mining areas and proposal infrastructure • Lowering the watertable and dewatering during mining operations
Environmental values	<p>Describe the aquatic ecosystems and groundwater dependent ecosystems in the proposal's area of influence.</p> <p>Provide detailed maps to support the above descriptions.</p> <p>Provide results and interpretation of any aquatic ecology surveys of the area of influence.</p>
Potential significant impacts and risks	<p>Describe potential impacts and risks to aquatic ecosystems from:</p> <ul style="list-style-type: none"> • direct and indirect disturbance to waterways and/or wetlands and associated ecological and hydrological values during proposal construction and operation, including: <ul style="list-style-type: none"> ○ pit development and mine waste storage ○ mining and construction infrastructure, where in proximity to waterways/wetlands, e.g. sedimentation, erosion, uncontrolled runoff ○ processing infrastructure, where in proximity to waterways/wetlands. <p>Determine the proposal footprint and area of influence that could feasibly experience those impacts.</p> <p>Provide an assessment of potential impacts, benefits and risks to aquatic ecosystems utilising outcomes of investigations and/or other relevant information. As a minimum, the assessment should take into consideration:</p> <ul style="list-style-type: none"> • methods, equipment, timing and frequency • cumulative impacts with other industries or proposals • the reversibility of potential impacts (including timeframe). <p>The assessment must take into account all construction and operation activities of the proposal.</p> <p>The assessment must identify potential impacts and risks to aquatic ecosystems and quantify their significance:</p> <ul style="list-style-type: none"> • against relevant guideline thresholds • on the beneficial uses, water quality objectives and identified environmental values including groundwater dependent ecosystems and existing ground and surface water users. <p>Quantify extent of impacts to aquatic ecosystems relating to a changing climate, and how these have been considered cumulatively to proposal impacts.</p>
Avoidance, mitigation and management	<p>Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision-making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p>

Aspect	Specific information required
	<ul style="list-style-type: none"> mine design and layout compliance with any statutory or policy basis for the proposed measures. <p>Discuss adaptation to a changing climate including design and resultant viability of the proposal.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
Monitoring and reporting	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks and mitigation and management measures to aquatic ecology.</p> <p>The proposed monitoring and reporting should specify which project phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.</p>
Residual impact	Identify any potential residual impact or risk of the proposal to environmental values.
Offsets	Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offsets Framework (as published) and EPBC Act environmental offsets policy.

3.6. Coastal processes

Table 10: Minimum information required for assessment of Coastal processes.

Aspect	Specific information required
NT EPA objective: Protect the geophysical and hydrological processes that shape coastal morphology so that the environmental values of the coast are maintained.	
Relevant activities	<ul style="list-style-type: none"> Construction of infrastructure and operations within the proposal footprint onshore, nearshore and offshore to accommodate transport and transshipping ore Operation of marine infrastructure and vessels, and use of plant and equipment.
Environmental values	<p>Describe the geophysical and hydrological processes and morphology of the coastal environment in the proposal's zone of influence including the local and regional tides, as well as seasonal current patterns and wave magnitudes with a focus on locations where maritime activities such as transshipping are proposed.</p> <p>Describe and characterise the site in relation to coastal zone topography and bathymetry with contours at suitable intervals. Include the relevant tide levels, such as Mean High Water Springs and Highest Astronomical Tide.</p> <p>Provide maps and interpretation of geology, regional bathymetry, geomorphology, sediments and seabed features at the local-scale for the area of influence within NT and Commonwealth waters.</p> <p>Describe the coastal environment and its various habitats and ecosystems,</p>

Aspect	Specific information required
	<p>including:</p> <ul style="list-style-type: none"> • beaches and dune systems • coastal estuaries and waterways • coral reefs • wetlands, mangroves, saltmarshes and mud flats • seagrass meadows • rocky foreshores and headlands • shallows and banks. <p>Describe the aquatic processes that affect the morphology and ecology of the surrounding area, including: tides; currents; waves; and sediment transport, deposition, and erosion.</p> <p>Provide results and interpretation of any marine investigations undertaken in the area of influence to inform the EIS.</p>
Potential significant impacts and risks	<p>Describe potential impacts and risks to coastal processes including:</p> <ul style="list-style-type: none"> • construction and installation of shore and marine infrastructure causing increased sedimentation in water column, negatively impacting coastal processes and marine environments • operation of infrastructure and vessels when loading material and transhipping <p>Provide an assessment of potential impacts, benefits and risks to coastal processes utilising outcomes of investigations and/or other relevant information. The assessment should take into consideration:</p> <ul style="list-style-type: none"> • the likely scale of disturbance • cumulative impacts with other industries or proposals • reversibility of impacts (including timeframe). <p>Determine the proposal footprint and area of influence that could feasibly experience significant impacts and risks.</p> <p>Assess potential hazards and risks of operating within the coastal zone. For example, assess the risk of a storm tide flooding a store of hazardous material.</p> <p>Assess the impacts of removing any vegetation, particularly marine plants, on coastal ecology and stability.</p> <p>The assessment must take into account all construction and operation activities of the proposal, identify and quantify potential impacts and risks to coastal processes on:</p> <ul style="list-style-type: none"> • the beneficial uses, water quality objectives and identified environmental values • the intertidal zone from direct disturbance and potential for disturbance to marine values during project construction and operation • fishing (subsistence, commercial, recreational, charter). <p>Quantify extent of impacts to coastal processes relating to a changing climate, and how these have been considered cumulatively to proposal impacts.</p>

Aspect	Specific information required
Avoidance, mitigation and management	<p>Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> • facility design and layout • construction/installation methods • erosion and sediment control • marine water quality management • marine pest control • potential acid sulfate soil management • spill response • compliance with any statutory or policy basis for the proposed measures. <p>Discuss adaptation to a changing climate including design and resultant viability of the proposal.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
Monitoring and reporting	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks, and mitigation and management measures.</p> <p>The proposed monitoring and reporting should specify which project phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.</p>
Residual impact	<p>Identify any potential residual impact or risk of the proposal to environmental values.</p>
Offsets	<p>Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offsets Framework (as published) and EPBC Act environmental offsets policy.</p>

3.7. Marine environmental quality

Table 11: Minimum information required for assessment of Marine environmental quality.

Aspect	Specific information required
NT EPA objective: Protect the quality and productivity of water, sediment and biota so that environmental values are maintained.	
Relevant activities	<ul style="list-style-type: none"> • Construction of infrastructure and operations within the proposal footprint onshore, nearshore and offshore to accommodate transport and transshipping ore

Aspect	Specific information required
	<ul style="list-style-type: none"> • Operation of marine infrastructure and vessels, and use of plant and equipment.
Environmental values	<p>Describe the water quality (chemical, physical and biological) and sediment characteristics of the marine environment in the proposal's area of influence.</p> <p>Describe water quality objectives and declared beneficial uses.</p> <p>Provide results and interpretation on any marine investigations undertaken</p> <p>Descriptions and interpretation of the environmental values should take into consideration the range of seasonal variation within the proposal footprint and area of influence.</p>
Potential significant impacts and risks	<p>Describe potential impacts and risks to marine environmental quality including:</p> <ul style="list-style-type: none"> • temporary impacts to fishing (commercial, recreational, charter) • installation of marine infrastructure causing increased sedimentation in water column, negatively impacting on water quality and aquatic environments • potential to produce site run-off, with impacts on water quality • spills of hazardous materials • acid sulfate soils • all direct impacts to seabed from barge landing construction, rock armour, anchoring, and any other marine infrastructure or equipment <p>Determine the proposal footprint and area of influence that could feasibly experience those impacts.</p> <p>Provide an assessment of potential impacts, benefits and risks to marine environmental quality utilising outcomes of investigations and/or other relevant information. As a minimum, the assessment should take into consideration:</p> <ul style="list-style-type: none"> • methods, equipment, timing and frequency • the likely scale of disturbance • water management, including stormwater and wastewater management • erosion and sedimentation • cumulative impacts with other industries or proposals • reversibility of impacts. <p>The assessment must take into account all construction and operation activities of the proposal.</p> <p>The assessment must identify potential impacts and risks to marine environmental quality and quantify their significance:</p> <ul style="list-style-type: none"> • against relevant guideline thresholds • on the beneficial uses, water quality objectives and identified environmental values • direct disturbance to the intertidal zone and potential for disturbance to marine values during project construction and operation. <p>Quantify extent of impacts to marine environmental quality relating to a</p>

Aspect	Specific information required
	changing climate, and how these have been considered cumulatively to proposal impacts.
Avoidance, mitigation and management	<p>Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> • facility design and layout • construction/installation methods • erosion and sediment control • marine water quality management • marine pest control • potential acid sulfate soil management • spill response • compliance with any statutory or policy basis for the proposed measures. <p>Discuss adaptation to a changing climate including design and resultant viability of the proposal.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
Monitoring and reporting	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks, and mitigation and management measures.</p> <p>The proposed monitoring and reporting should specify which project phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.</p>
Residual impact	Identify any potential residual impact or risk of the proposal to environmental values.
Offsets	Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offsets Framework (as published) and EPBC Act environmental offsets policy.

3.8. Marine ecosystems

Table 12: Minimum information required for assessment of Marine ecosystems.

Aspect	Specific information required
	NT EPA objective: Protect marine habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.

Aspect	Specific information required
Relevant activities	<ul style="list-style-type: none"> Construction and operation of infrastructure and vessels within the proposal footprint onshore, nearshore and offshore to accommodate transport and transshipping ore impacting the marine environment..
Environmental values	<p>For the proposal's area of influence:</p> <ul style="list-style-type: none"> Provide a habitat map of the marine ecosystems values of the proposal's area of influence, including but not restricted to benthic communities dominated by mangroves, seagrass, macro algae, corals, filter feeders, mixed communities and bare substrates. Describe any listed or threatened marine species within the proposal's area of influence and the Commonwealth Marine Area, and the habitats they rely on, including (but not limited to) the following list derived from the results of the PMST search: <ul style="list-style-type: none"> All relevant cetaceans Dugong (<i>Dugong dugon</i>) Green turtle (<i>Chelonia mydas</i>) Leatherback turtle (<i>Dermochelys coriacea</i>) Loggerhead turtle (<i>Caretta caretta</i>) Flatback turtle (<i>Natator depressus</i>) Olive Ridley Turtle (<i>Lepidochelys olivacea</i>) Saltwater crocodile (<i>Crocodylus porosus</i>) Whale shark (<i>Rincodon typus</i>) <i>Pristis pristis</i> <i>Pristis zijsron</i> <i>Pristis clavata</i>. Describe the existing health/condition/amenity of marine ecosystems in the proposal's area of influence, with reference to threatening processes (e.g. pest species, habitat degradation), underwater noise and vibration, and sedimentation.
Potential significant impacts and risks	<p>Describe potential impacts and risks to marine ecosystems including:</p> <ul style="list-style-type: none"> indirect impacts to fauna habitat (feeding, nursery, epibenthic, infauna, pelagic, water column etc.) due to changes to marine environment, introduction or spread of contaminants or pest species direct impacts to fauna as a result of collision with vessels or survey and/or marine construction equipment or vessels changes to marine fauna behaviours as a result of noise, vibration or lighting offshore and underwater. direct and indirect disturbance/loss to benthic habitats from vessel movement, product loading and unloading, and offshore transshipping operations. impacts to the marine environment from buildings and infrastructure, including barge loading facilities to be built on the shore or on land

Aspect	Specific information required
	<p>close to the shore.</p> <ul style="list-style-type: none"> • potential impacts to marine turtles and dugongs resulting from extension of the barge landing facility. Undertake sediment transport and hydrodynamic modelling to predict the extent of potential impacts to benthic habitats within the vicinity of the project area. • impacts to seabed and benthic habitats from barge landing construction, rock armour, groynes, jetties anchoring, moorings, channel markers, navigation aids, or other infrastructure to be built in waters. <p>Determine the proposal footprint and area of influence that could feasibly experience those impacts.</p> <p>Provide an assessment of potential impacts, benefits and risks to marine ecosystems utilising outcomes of investigations and/or other relevant information. As a minimum, the assessment should take into consideration:</p> <ul style="list-style-type: none"> • marine and nearshore infrastructure design and layout • methods, equipment, timing and frequency • the likely scale, extent of disturbance • cumulative impacts with other industries or proposals • environmental management requirements associated with seasonal weather, extreme weather conditions such as storms and cyclones for the 10%, 5%, 2%, 1% and 0.1% annual exceedance probability (AEP) design events • reversibility of impacts (including timeframe). <p>The assessment must identify and quantify potential impacts and risks to marine ecosystems and quantify:</p> <ul style="list-style-type: none"> • against relevant guideline thresholds • on the identified environmental values. <p>Quantify extent of impacts to marine ecosystems relating to a changing climate, and how these have been considered cumulatively to proposal impacts.</p>
Avoidance, mitigation and management	<p>Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision-making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> • facility design and layout • construction/installation methods, such as: <ul style="list-style-type: none"> ○ erosion and sediment control ○ potential acid sulfate soil management ○ marine water and sediment management, and ○ marine pest control. • compliance with any statutory or policy basis for the proposed measures.

Aspect	Specific information required
	<p>Discuss adaptation to a changing climate including design and resultant viability of the proposal.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
Monitoring and reporting	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks, and mitigation and management measures.</p> <p>The proposed monitoring and reporting should specify which project phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.</p>
Residual impact	Identify any potential residual impact or risk of the proposal to environmental values.
Offsets	Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offsets Framework (as published) and/or EPBC Act environmental offsets policy.

3.9. Air quality

Table 13: Minimum information required for assessment of Air quality.

Aspect	Specific information required
NT EPA objective: Protect air quality and minimise emissions and their impact so that environmental values are maintained.	
Relevant activities	<ul style="list-style-type: none"> Construction and mining operations, handling and processing manganese ore Power generation utilising diesel generator sets.
Environmental values	<ul style="list-style-type: none"> Describe the sensitive receivers within and in proximity to the proposal area. Describe the existing air quality environment. Provide maps to support descriptions as appropriate.
Potential significant impacts and risks	<p>Describe potential impacts and risks to air quality and identify:</p> <ul style="list-style-type: none"> any sources of emissions which could impact on air quality the reduction in local air quality due to the emission of dust and/or diesel exhaust during construction and/or operation of the proposal. the proposal footprint and area of influence that could feasibly experience those impacts. <p>Provide an assessment of potential impacts, benefits and risks to air quality utilising outcomes of investigations and/or other relevant information. As a minimum, the assessment should take into consideration:</p>

Aspect	Specific information required
	<ul style="list-style-type: none"> • methods, equipment, timing and frequency • the likely source, scale and extent of emissions • nature of sensitive receptors • cumulative impacts with other industries or proposals • reversibility of potential impacts. <p>The assessment must identify and quantify potential impacts and risks to air quality:</p> <ul style="list-style-type: none"> • against relevant guideline thresholds • on identified environmental values. <p>Quantify extent of impacts to air quality relating to a changing climate, and how these have been considered cumulatively to proposal impacts.</p>
Avoidance, mitigation and management	<p>Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> • facility design and layout • construction methods • emission suppression or management measures • compliance with any statutory or policy basis for the proposed measures. <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
Monitoring and reporting	<p>Outline any proposed monitoring and reporting activities related to potential impacts and risks, and mitigation and management measures.</p> <p>The proposed monitoring and reporting should specify which project phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.</p>
Residual impact	<p>Identify any potential residual impact or risk of the proposal to environmental values.</p>
Offsets	<p>Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offsets Framework (as published) and EPBC Act environmental offsets policy.</p>

3.10. Atmospheric processes

Table 14: Minimum information required for assessment of atmospheric processes.

Aspect	Specific information required
NT EPA objective: Minimise greenhouse gas emissions so as to contribute to the NT Government's target of achieving net zero greenhouse gas emissions by 2050.	
Relevant activities	<ul style="list-style-type: none"> • Land clearing • Fuel combustion for the operation of vehicles and equipment • Diesel fired power generation
Environmental values	Describe the potential for greenhouse gas emissions generated by the proposal, and the measures to make a material and meaningful contribution towards achieving the Territory's target of net zero emissions by 2050.
Potential significant impacts and risks	<p>Describe the proposal's impact on:</p> <ul style="list-style-type: none"> • direct GHG emissions due to Scope 1 and Scope 2 emissions (e.g., land clearing, diesel exhaust/etc. during construction and operation) • comparison with NT and national emissions • contribution to the NT target of net zero greenhouse gas emissions by 2050 and broader efforts to reduce global greenhouse gas emissions • improvements in the supply of renewable energy and meeting NT renewable energy targets <p>Provide an inventory of projected annual emissions for each relevant greenhouse gas, with total emissions expressed in 'CO2 equivalent' terms</p> <p>Identify the sources for generation of GHG emissions, and quantify GHG emissions from each source for each financial year, including total GHG emissions for the life of the project</p> <p>Estimate emissions from upstream activities associated with the proposal, including the fossil fuel based electricity to be used during construction, operation and decommissioning and briefly describe the methods used to make the estimates.</p> <p>Assess the potential impacts of the proposal on the Territory and national greenhouse gas inventories and propose measures to avoid and/or minimise greenhouse gas emissions resulting from the proposal, including such activities as transportation of products and consumables, and energy use.</p> <p>Describe how the proposal would contribute to the NT target of net zero greenhouse gas emissions by 2050 and broader efforts to reduce global greenhouse gas emissions.</p>
Avoidance, mitigation and management	<ul style="list-style-type: none"> • Describe any energy efficiency and mitigation and management measures to reduce or minimise GHG emissions, and demonstrate best practice. • Describe how proposed measures to maximise energy efficiency and avoid and/or reduce GHG emissions are consistent with the NT Government's target of achieving net zero greenhouse gas emissions by 2050.
Monitoring and reporting	<p>Outline any proposed monitoring and reporting activities related to potential impacts and risks to atmospheric processes, and mitigation and management measures.</p> <p>The proposed monitoring and reporting should specify which proposal phase it relates to, i.e. construction or operations.</p>

Aspect	Specific information required
	All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.
Residual impact	Identify any potential residual impact or risk of the proposal to identified values.
Offsets	Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offsets Framework (as published) and EPBC Act environmental offsets policy.

3.11. Community and economy

Table 15: Minimum information required for assessment of Community and economy.

Aspect	Specific information required
NT EPA objective: Enhance communities and the economy for the welfare, amenity and benefit of current and future generations of Territorians.	
Relevant activities	<ul style="list-style-type: none"> Construction and mining operations, handling and processing manganese ore Generating employment and social and economic opportunity for local communities.
Environmental values	<p>Describe the existing socio-economic profile of the proposal's areas of influence, including reference to:</p> <ul style="list-style-type: none"> key landowners/custodians/stakeholders/communities, and other persons with overlapping or intersecting interests social values as identified by stakeholders demographics, including skills audit of affected communities and workforce characteristics relevant accommodation type and quantity existing and required local businesses relevant to supply chain, construction and operations primary economic characteristics within the proposal area primary employment source/s of townships/communities within or in proximity to the proposal area proximity to existing infrastructure and associated operators (e.g. roads, boat ramps, accommodation facilities etc.) social amenity and use of the proposal area and adjacent areas for other purposes, including, residential, commercial, industrial, recreational/leisure, tourism, and traditional land use.
Potential significant impacts and risks	Describe potential benefits and impacts to the community and the economy including:

Aspect	Specific information required
	<ul style="list-style-type: none"> • net positive benefits, particularly to local communities associated with the proposed construction and operational activities, including: • changes to population (local and NT), employment market and businesses and indirect impacts to housing market, community and social services, infrastructure and economy • social integration of non-local personnel during construction and operation • direct and indirect impacts to recreation and commercial areas and industries including fishing and tourism activities within the Groote Eylandt archipelago and the existing GEMCO mine • impacts to existing waste management facilities on Groote Eylandt • changes or restrictions on boat ramp access by local traffic during construction and operation • changes or restrictions to local traffic due to development of new roads and construction vehicles resulting in delays or inconvenience to local communities and other road users • visual impact of infrastructure • impacts to amenity (e.g. noise and dust) • interference with shipping and freight-barge logistics and controls (current and planned) • economic assessment of the proposal's impact on the NT economy including the total contribution to Gross Territory Product and Gross Domestic Product over the economic life of the proposal • details of the financial capacity to implement the proposal and the potential risks to project implementation • expected employment and availability of appropriately skilled labour during construction and operation phases of the proposal • potential adverse impacts to local and regional industries due to competition for limited skilled labour resources • use of non-local workforce • estimated capital and annual operational expenditure • value of residual infrastructure at end-of-life of the proposal. <p>Provide an assessment of potential impacts, benefits and risks to the local and NT community and the economy utilising modelling, outcomes of investigations, and/or other relevant information.</p> <p>The assessment must quantify the significance of potential impacts and risks to local and NT communities and the economy.</p> <p>The assessment of each aspect should consider cumulative impacts and the reversibility of potential impacts.</p> <p>Quantify extent of impacts to community and economy relating to a changing climate, and how these have been considered cumulatively to proposal impacts.</p>
Avoidance, mitigation and management	Outline the measures for systematically avoiding and mitigating adverse social impacts, and maximising benefits.

Aspect	Specific information required
	<p>Conduct an assessment of the impacts and benefits of the proposal on the community. The assessment must be informed by an inclusive and collaborative community and stakeholder engagement and consultation process that is iterative throughout preparation of the EIS.</p> <p>Prepare a report to detail the existing social environment of potentially affected communities, the potential impacts and benefits to communities and how these would be managed and monitored, and how the proposal would contribute to enhancing the sustainability of these communities.</p> <p>Discuss strategies that would be implemented to address:</p> <ul style="list-style-type: none"> • community and stakeholder engagement • workforce management (including how Aboriginal employment target will be met) • housing and accommodation • local business and industry procurement • community wellbeing. <p>Describe timeframes for implementation of management measures, key performance indicators, roles and responsibilities, stakeholders and potential partnerships.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p> <p>Discuss the design features of the proposal that will assist the community to adapt to a changing climate.</p>
Monitoring and reporting	<p>Provide proposed monitoring and reporting activities related to potential impacts and risks to community and economy, and mitigation and management measures.</p> <p>The proposed monitoring and reporting should specify which project phase it relates to i.e., construction or operations.</p> <p>All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.</p>
Residual impact	Identify any potential residual impact or risk of the proposal to identified values.
Offsets	Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offsets Framework (as published) and EPBC Act environmental offsets policy.

3.12. Culture and heritage

Table 16: Minimum information required for assessment of Culture and heritage.

Aspect	Specific information required
NT EPA objective: Protect sacred sites, culture and heritage.	
Relevant activities	<ul style="list-style-type: none"> • Disturbances of sacred sites, and sites of cultural significance.

Aspect	Specific information required
Environmental values	<p>Sites of cultural significance, including:</p> <ul style="list-style-type: none"> • Aboriginal sacred sites protected under the <i>Northern Territory Aboriginal Sacred Sites Act 1989</i> (Sacred Sites Act) • Heritage places or objects protected under the <i>Heritage Act 2011</i> (Heritage Act) • Traditional owner cultural values linked to marine species, and • maintaining of cultural traditions.
Potential significant impacts and risks	<p>Describe potential impacts to cultural and heritage values, including:</p> <ul style="list-style-type: none"> • direct and indirect disturbance to sites of cultural significance during construction, operation, and maintenance activities including vegetation clearing, topsoil stripping, subsoil excavation, marine dredging and construction • direct and indirect disturbance to traditional and/or contemporary Aboriginal values (including sacred sites) or uses of land (e.g. hunting and ceremonial use) due to construction and operation activities • change or permanent land access or use restrictions in areas of project infrastructure • changes to the physical and biological attributes of the environment that could impact on sites of cultural significance. <p>Determine the proposal footprint and area of influence that could feasibly experience those impacts.</p> <p>Provide an assessment of potential impacts, benefits and risks to culture and heritage using outcomes of investigations and/or other relevant information.</p> <p>The assessment must identify potential impacts and risks to sacred sites and culture and quantify their significance.</p> <p>The assessment must identify any effect on intergenerational transmission of cultural traditions.</p> <p>The assessment of each aspect should consider cumulative impacts and the reversibility of potential impacts.</p> <p>Quantify extent of impacts to culture and heritage relating to a changing climate, and how these have been considered cumulatively to proposal impacts.</p>
Avoidance, mitigation and management	<ul style="list-style-type: none"> • Characterise the natural and cultural values of Winchelsea Island (Akwamburkba) including sacred sites and heritage places listed under NT legislation and heritage and cultural values of that occur within the proposed disturbance areas, and any other areas that may be indirectly impacted, to identify sites of significance and their relevance within a wider regional context. • Describe the measures for avoiding and mitigating impacts to cultural heritage values and transmission of cultural traditions • Conduct appropriate surveys and consultation to identify and characterise any sites, places or objects of cultural significance • Obtain sacred sites and heritage clearance for all areas of the

Aspect	Specific information required
	<p>proposal</p> <p>Develop a Cultural Heritage Management Plan that includes:</p> <ul style="list-style-type: none"> • the footprint of impact of the proposal in relation to sites of cultural heritage significance • identification of all sites to be affected by the proposal and outlines a mitigation response for each site • the restrictions that are to be placed on access to sites of cultural heritage significance • a 'cultural heritage buffer zone' to extend inland from the high tide mark for 300m around the whole Island • a program of awareness training, including employee inductions, to ensure all mine employees and contractors are informed of their obligations in relation to cultural heritage values • obligations for all personnel to comply with the access restrictions as well as the procedures to be adopted in relation to any unexpected finds • measures for monitoring and assessment of any long term impacts of the proposal on coastal cultural heritage sites <p>Demonstrate the application of the mitigation hierarchy to avoid and minimise impacts to cultural heritage values, including any considerations for mine rehabilitation and closure.</p> <p>Identify and address the potential impacts on potentially affected Aboriginal people and communities, landholders, tourism and operators as stakeholders.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies and traditional owners.</p> <p>Demonstrate and document in the EIS how the NT EPA's objective for this factor can be met and the predicted environmental outcomes.</p>
Monitoring and reporting	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks and mitigation and management measures to culture and heritage and transmission of cultural traditions.</p> <p>The proposed monitoring and reporting should specify which project phase it relates to i.e., construction or operations.</p> <p>All monitoring activities should be substantiated and in accordance with best practice advice from relevant government advisory agencies.</p>
Residual impact	Identify any potential residual impact or risk of the proposal to identified values.

4. Other requirements

4.1. Other environmental factors or matters

4.1.1. Matters of national environmental significance

The proposal is a controlled action under the EPBC Act where the relevant controlling provisions are:

- Listed threatened species and communities (section 18 and 18A), and
- Listed marine and/or migratory species (sections 20 and 20A).

The proposal is being assessed as an accredited assessment in accordance with the EPBC Act and agreement between the NT EPA and the Commonwealth and the proponent EIS must address matters outlined in Schedule 4 of the EPBC Regulations.

In addressing all relevant MNES, include the following details:

- a list of the controlled action provisions and the relevant policy and guidance for the MNES
- a summary of the existing environmental value(s) that relate to the MNES
- a summary of the potential impacts (direct, indirect and cumulative) on the MNES and provide relevant tables and maps
- a summary of the assessment on the relevant environmental factor/s to determine the level of significance of the impact on the MNES
- how the mitigation hierarchy has been applied
- a summary of any proposed mitigation measures
- a summary of whether offsets are required in relation to the MNES and if so, provide details of the proposed offset and how the offset addressed the Australian Government Environmental Offset Policy.

The draft EIS must address all relevant MNES, and explain how they have adequately regarded the conservation advices of each EPBC listed species that is likely to be impacted, that the project is not inconsistent with any Threat Abatement Plans, Bioregional Plans or Recovery Plans.

These include but are not limited to:

- Marine Bioregional Plans for the North and North-West Marine Regions
- EPBC Act Policy Statement 3.21 - Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species.
- Conservation advices for:
 - Ghost Bat <http://www.environment.gov.au/biodiversity/threatened/species/pubs/174-conservation-advice-05052016.pdf>
 - Greater Bilby <http://www.environment.gov.au/biodiversity/threatened/species/pubs/282-conservation-advice-15072016.pdf>
 - *Stylidium ensatum* <http://www.environment.gov.au/biodiversity/threatened/species/pubs/86366-conservation-advice-05052016.pdf>

- Green Sawfish, Dindagubba, Narrowsnout Sawfish
<http://www.environment.gov.au/biodiversity/threatened/species/pubs/68442-conservation-advice.pdf>
- Recovery Plans for:
 - Greater Bilby: <https://www.environment.gov.au/system/files/consultations/ea542c47-f607-421f-8d8e-51285ffe0dec/files/draft-greater-bilby-recovery-plan.pdf>
 - Northern Quoll <http://www.environment.gov.au/resource/national-recovery-plan-northern-quoll-dasyurus-hallucatus>
- Threat Abatement Plans for:
 - Predation by feral cats
<http://www.environment.gov.au/biodiversity/threatened/publications/tap/threat-abatement-plan-feral-cats>
 - predation by European red fox
<http://www.environment.gov.au/biodiversity/threatened/publications/tap/predation-european-red-fox>
 - Competition and land degradation by rabbits
<http://www.environment.gov.au/biodiversity/threatened/publications/tap/competition-and-land-degradation-rabbits-2016>

4.2. Offsets

Provide details of an overall offset strategy for the residual impacts on the terrestrial and marine environments. If a requirement for offsets is identified in the draft EIS, details of a draft implementation plan for the offset/s may be required as part of the Supplement to the EIS. Offsets may be required as a condition of any approval under the EPBC Act.

4.3. Whole of environment considerations (NT and Commonwealth)

Provide a holistic assessment of the impacts of the proposal on the whole of the environment, including a description of the connections and interactions between the environmental factors, and cumulative impacts. Succinctly discuss predicted outcomes in relation to the principles of environment protection and management (as set out in Part 1 the EPBC Act and Part 2 of the EP Act), and the NT EPA's environmental objectives.

4.3.1. Impacts of a changing climate

Quantify extent of impacts relating to a changing climate across all components including the built, operated (such as energy security) and workforce (including increasing number of extreme heat days). Include an assessment of the resultant viability of the proposal. Discuss how the proposal can adapt, including design features.

4.4. Stakeholder engagement and consultation

Proponents have a general duty under section 43 of the EP Act to provide communities that may be affected by a proposal with an opportunity for consultation to assist community understanding of the proposed action and its potential impacts and benefits.

The Proponent must engage and consult with stakeholders⁴ who are affected by and interested in the Proposal. The Proponent must document the following in the EIS:

- identified stakeholders
- the stakeholder consultation undertaken and the outcomes, including decision-making and any adjustments to the proposal as a result of consultation
- future engagement activities intended during the assessment process and post-approval, including during construction and operation of the proposal.

4.5. Indigenous peoples

The Proponent must recognise the role and interests of Indigenous peoples, promote the conservation and ecologically sustainable use of natural resources, and seek to:

- obtain the views of any group of Indigenous people directly affected
- promote the cooperative use of Indigenous peoples' knowledge of biodiversity and Indigenous heritage, and
- where it is appropriate, treat the views of Indigenous peoples as the primary source of Information on the value of Indigenous cultural heritage.

4.6. Public consultation requirements

The public consultation requirements for the EIS are outlined in Part 5 Division 6 of the Environment Protection Regulations 2020.

Consultation material must summarise and highlight the main risks and potential impacts of the proposal in a culturally appropriate format and language, accompanied by graphics and illustrations or other media to assist with interpretation.

4.6.1. Submission period

The NT EPA proposes a period (usually between 30 and 60 business days) for consultation on the draft EIS. The duration of the period will be confirmed during the draft EIS pre-lodgement phase.

4.6.2. Public consultation locations

The draft EIS should be provided to and be made available for public consultation at:

1. Anindilyakwa Land Council, 30 Bougainvillea Drive, Alyangula
2. East Arnhem Regional Council, Angurugu
3. Environment Centre Northern Territory, Unit 3, 98 Woods Street, Darwin
4. Northern Territory Library, Parliament House, Darwin
5. NT EPA, Level 1, Arnhemica House, 16 Parap Road, Parap

⁴ As defined in the NT EPA's Stakeholder Engagement and Consultation – Environmental impact assessment guidance for proponents (NT EPA 2020)

6. Department of Industry, Tourism and Trade, Paspalis Centrepoint, 48 Smith Street Mall, Darwin

Appendix A – List of relevant guidance material

The following guidance material is considered relevant to the TOR. This list is not exhaustive, but captures key guidance used in the preparation of these TOR and to inform the preparation of the EIS. The Proponent must draw on further relevant industry and best practice guidance as part of developing the EIS.

- Australian Government Department of Industry, Science, Energy and Resources, 2016. Leading Practice Handbook: Mine Closure. Australian Government Department of Industry, Science, Energy and Resources: <https://www.industry.gov.au/sites/default/files/2019-05/lpsdp-mine-closure-handbook-english.pdf>
- Australian Government Department of Industry, Science, Energy and Resources, 2016. Leading Practice Handbook: Mine Rehabilitation. Australian Government Department of Industry, Science, Energy and Resources: <https://www.industry.gov.au/sites/default/files/2019-04/lpsdp-mine-rehabilitation-handbook-english.pdf>
- Commonwealth of Australia, 2016. Conservation Advice *Macroderma gigas* Ghost Bat. Department of Agriculture, Water and the Environment: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/174-conservation-advice-05052016.pdf>
- Commonwealth of Australia, 2016. Conservation Advice *Macrotis lagotis* Greater Bilby. Department of Agriculture, Water and the Environment: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/282-conservation-advice-15072016.pdf>
- Commonwealth of Australia, 2016. Conservation Advice *Pristis zijsron* Green Sawfish. Department of Agriculture, Water and the Environment: <https://www.environment.gov.au/biodiversity/threatened/species/pubs/68442-conservation-advice.pdf>
- Commonwealth of Australia, 2016. Conservation Advice *Stylidium ensatum*. Department of Agriculture, Water and the Environment: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/86366-conservation-advice-05052016.pdf>
- Commonwealth of Australia, 2015. Conservation Advice *Tyto novaehollandiae kimberli*, masked owl (northern). Threatened Species Scientific Committee: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=26048
- Commonwealth of Australia, 2019. Draft Recovery Plan for the Greater Bilby (*Macrotis lagotis*). Department of Agriculture, Water and the Environment: <https://www.environment.gov.au/system/files/consultations/ea542c47-f607-421f-8d8e-51285ffe0dec/files/draft-greater-bilby-recovery-plan.pdf>
- Commonwealth of Australia, 2017. EPBC Act Policy Statement 3.21 - Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species. Department of Agriculture, Water and the Environment: <http://www.environment.gov.au/epbc/publications/shorebirds-guidelines>
- Commonwealth of Australia, 2012. Marine bioregional plan for the North Marine Region. Department of Agriculture, Water and the Environment: <http://environment.gov.au/coasts/marineplans/north/index.html>

- Commonwealth of Australia, 2010. National Recovery Plan for the Northern Quoll *Dasyurus hallucatus*. Department of Natural Resources, Environment, The Arts and Sport: <https://www.environment.gov.au/resource/national-recovery-plan-northern-quoll-dasyurus-hallucatus>
- Commonwealth of Australia, 2017. Recovery, Management and Monitoring Plan for the Brush-tailed Rabbit-rat (*Conilurus penicillatus*). Department of Agriculture, Water and the Environment: <http://www.environment.gov.au/biodiversity/threatened/publications/recovery/brush-tailed-rabbit-rat>
- Commonwealth of Australia, 2017. Recovery Plan for Marine Turtles in Australia. Department of Agriculture, Water and the Environment: <http://www.environment.gov.au/marine/publications/recovery-plan-marine-turtles-australia-2017>
- Commonwealth of Australia, 2015. Sawfish and River Sharks Multispecies Recovery Plan. Department of Agriculture, Water and the Environment: <http://www.environment.gov.au/biodiversity/threatened/publications/recovery/sawfish-river-sharks-multispecies-recovery-plan>
- Commonwealth of Australia, 2013a. Significant Impact Guidelines 1.1: Matters of National Environmental Significance. Department of Agriculture, Water and the Environment: <https://www.environment.gov.au/epbc/publications/significant-impact-guidelines-11-matters-national-environmental-significance>
- Commonwealth of Australia, 2013b. Significant Impact Guidelines 1.2: Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies Department of Agriculture, Water and the Environment: http://www.environment.gov.au/system/files/resources/a0af2153-29dc-453c-8f04-3de35bca5264/files/commonwealth-guidelines_1.pdf
- DENR, 2020a. Land clearing guidelines. Department of Environment and Natural Resources: <https://nt.gov.au/property/land-clearing>
- DENR, 2020b. Northern Territory Climate Change Response: Towards 2050. Department of Environment and Natural Resources: https://depws.nt.gov.au/_data/assets/pdf_file/0005/904775/northern-territory-climate-change-response-towards-2050.pdf
- DoH, 2018. Health requirements for mining and construction camps. Department of Health: <https://www.nt.gov.au/property/building-and-development/health-and-safety/health-requirements-mining-construction-projects>
- DoH, 2005. Guidelines for preventing mosquito breeding sites associated with mining sites. Medical Entomology, Department of Health: <https://digitallibrary.health.nt.gov.au/prodjspuu/handle/10137/1029>
- ICCM, 2019. Integrated Mine Closure: Good practice guide. International Council on Mining and Metals: https://www.icmm.com/website/publications/pdfs/environmental-stewardship/2019/guidance_integrated-mine-closure.pdf
- NESP Earth Systems and Climate Change Hub, 2020. Climate change in the Northern Territory: state of the science and climate change impacts. National Environment Science Programme, Earth Systems and Climate Change Hub: <http://nespclimate.com.au/building-understanding-of-climate-change-in-the-northern-territory/>
- Northern Territory Government, 2017. Preventing weed spread guide, Weed Management Branch: <https://nt.gov.au/environment/weeds/how-to-manage-weeds/prevent-weed-spread-industry-and-recreation>

- NSW DPIE, 2021. Cumulative Impact Assessment Guideline for State Significant Projects. NSW Department of Planning, Industry and Environment: <https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/Policy-and-legislation/GD1259-RAF-Assessing-Cumulative-Impacts-Guide-final.pdf>
- NSW DPIE, 2021. Social Impact Assessment Guideline for State Significant Projects. NSW Department of Planning, Industry and Environment: https://shared-drupal-s3fs.s3.ap-southeast-2.amazonaws.com/master-test/fapub_pdf/SIA+Guideline+20210622v6_FINAL.pdf
- NT EPA, 2020a. Environmental impact assessment guidance: NT EPA Environmental Factors and Objectives. Northern Territory Environment Protection Authority: <https://ntepa.nt.gov.au/publications-and-advice/environmental-management>
- NT EPA, 2021. Environmental impact assessment guidance for proponents: Preparing an environmental impact statement. Northern Territory Environment Protection Authority: https://ntepa.nt.gov.au/_data/assets/pdf_file/0009/818217/preparing-an-environmental-impact-statements.pdf
- NT EPA, 2020c. Environmental impact assessment guidance for proponents: Stakeholder Engagement and Consultation. Northern Territory Environment Protection Authority: <https://ntepa.nt.gov.au/publications-and-advice/environmental-management>
- NT EPA, 2015. Waste Management Strategy for the Northern Territory 2015-2022. Northern Territory Environment Protection Authority: <https://ntepa.nt.gov.au/publications-and-advice/environmental-management>
- NT EPA, 2013a. Guidelines for Assessment of Impacts on Terrestrial Biodiversity. Northern Territory Environment Protection Authority: <https://ntepa.nt.gov.au/publications-and-advice/environmental-management>
- NT EPA, 2013b. Guidelines for the Preparation of an Economic and Social Impact Assessment. Northern Territory Environment Protection Authority: <https://ntepa.nt.gov.au/publications-and-advice/environmental-management>