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1. Introduction

The Environmental Protection Authority (EPA) has determined that the above proposal is to be assessed under Part IV of the *Environmental Protection Act 1986* (EP Act).

The purpose of the Environmental Scoping Document (ESD) is to define the form, content, indicative timing and procedure of the environmental review, required by s. 40(3) of the EP Act.

This ESD has been prepared by the EPA in consultation with the proponent, decision-making authorities and interested agencies consistent with the EPA's [Procedures Manual](#).

The EPA requires the proponent to undertake the environmental review according to the procedures in the EPA's [Administrative Procedures](#) and [Procedures Manual](#), and the [Instructions and Template: How to prepare an Environmental Review Document](#).

This ESD has not been released for public review. The ESD will be available on the EPA website (www.epa.wa.gov.au) upon endorsement and must be appended to the Environmental Review Document (ERD). The ERD is to be published for public review for a period of 8 (eight) weeks.

The Proponent will undertake a review of the ERD to ensure the requirements of the relevant EPA instructions, templates and guidance have been met. The ERD will include a scoping checklist that identifies the section(s) and page number of the ERD indicating where both all the dot points in the scoping checklist on page 5 of the [Template - Environmental Review Document](#) (2023) and the requirements of this ESD can be found.

Table 1: General proposal and proponent information

Proposal information	
Proposal name	Winu Project
Proponent	Rio Tinto Winu Pty Limited
Location	Approximately 300 kilometres (km) south of Broome and 320 km east of Port Hedland in the northern Pilbara
Assessment number	2386
Local Government area	Shire of East Pilbara Shire of Broome
Public review period	Environmental Review Document – 8 weeks

The subject of this ESD is Rio Tinto Winu Pty Limited's Winu Project for the construction and operation of a new copper-gold mine located approximately 300 km south of Broome and 320 km east of Port Hedland in the northern Pilbara region of Western Australia (WA).

The regional location of the proposal is shown in Figure 1 and the development envelope encompassing the proposal is delineated in Figure 2.

1.1 Indicative timing of the environmental review

Table 2 sets out the indicative outline of the timing of the environmental review (indicative timeline) agreed between the EPA and the proponent.

Table 2: Indicative outline of the timing of the environmental review (indicative timeline)

Key assessment milestones	
EPA approves Environmental Scoping Document	18 November 2025
Proponent submits first draft Environmental Review Document	28 November 2025
EPA provides comment on first draft Environmental Review Document (8 weeks from receipt of ERD)	27 January 2026
Proponent submits revised draft Environmental Review Document (6 weeks)	10 March 2026
EPA authorises release of Environmental Review Document for public review (2 weeks from EPA approval of ERD)	24 April 2026
Proponent releases Environmental Review Document for public review for 8 weeks	8 May 2026
Close of public review period	3 July 2026
EPA provides Summary of Submissions (3 weeks from close of public review period)	24 July 2026
Proponent provides Response to Submissions (8 weeks)	18 September 2026
EPA reviews the Response to Submissions (4 weeks from receipt of Response to Submissions)	16 October 2026
EPA prepares draft assessment report and completes assessment	26 November 2026
EPA finalises Assessment report (including two-week consultation on draft conditions) and gives report to Minister (6 weeks from completion of assessment)	7 January 2027

1.2 Commonwealth Government approvals

The proposal was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 29 May 2025 (EPBC 2025/10208). The Proponent is not seeking an accredited assessment, therefore the proposal will be assessed separately.

2. Form and content (required work)

The EPA requires that the form of the report on the environmental review required under section 40 of the EP Act is in accordance with the [Instructions and Template: How to prepare an Environmental Review Document](#). The EPA requires that the content of the ERD is in accordance with the [Instructions and Template: How to prepare an Environmental Review Document](#).

The EPA also requires that the environmental review includes the proposal specific content outlined in Section 2.2.

2.1 Preliminary key environmental factors

The preliminary key environmental factors to be addressed in the ERD are:

1. Social surroundings
2. Inland waters
3. Flora and vegetation
4. Terrestrial fauna

5. Subterranean fauna
6. Terrestrial environmental quality
7. Landforms
8. Air quality
9. Greenhouse gas emissions

Benthic communities and habitats and Marine fauna were also identified as preliminary key environmental factors in the public record of the EPA's decision to assess the proposal. Since the EPA's decision dated 20 December 2023, the proponent applied to amend the proposal under s.43A of the EP Act. The amendment (approved by the EPA on 03 September 2025) includes the removal of groundwater abstraction from the Wallal aquifer, which the EPA notes is expected to avoid potential indirect impacts to Walyarta (Mandora) Salt Marsh Ramsar wetland and Eighty Mile Beach, including any potential impacts to marine fauna and benthic communities and habitats.

The EPA requires that the proponent addresses the required work under Inland Waters (Section 2.2, Table 3) to demonstrate that there will be no impacts to Benthic communities and habitats and Marine fauna from the proposal.

2.2 Specific work required for assessment of proposal for key environmental factors

The general form and content of the ERD will be in accordance with the [Instructions and Template: How to prepare an Environmental Review Document](#).

Table 3 outlines the proposal specific and/or additional work required as it relates to the preliminary key environmental factors for the proposal.

In addition, spatial data (i.e. shapefiles) relevant to each factor may be requested throughout the course of the assessment for spatial analysis and creation of maps and/or figures for the EPA assessment report.

Table 3: Proposal specific required work

All environmental factors	
Required work	Work to be consistent with the requirements in the Instructions and Template: How to prepare an Environmental Review Document and provided for each factor: 1. factor objective 2. relevant policies and guidance (including, but not limited to the most recent version of those listed in Appendix 1) 3. receiving environment 4. potential environmental impacts 5. mitigation 6. assessment and significance of residual impact 7. environmental outcomes Work required to inform the ERD will be conducted in accordance with the requirements of the most recent EPA Environmental Factor Guidelines and Technical Guidance at the time the ERD is published for each preliminary key environmental factor. If multiple surveys have been undertaken, provide a consolidated report of all surveys and/or investigations undertaken for each factor.

	Where previous investigations or surveys are relied upon, justification will be to demonstrate that they are relevant and consistent with EPA guidance. If new or alternative techniques are used, a peer review of information, modelling, surveys conducted, and management plans developed for a factor are required to support the appropriateness and adequacy of the alternative techniques. Ensure all information as required by EPA guidelines and technical guidance is provided in the ERD and that the content in the main document aligns with the information in the attached appendices or provide justification why this is not the case. For each preliminary key environmental factor, the proponent is required to follow relevant recovery plans, conservation advice(s) and/or threat abatement plans for conservation significant species, communities, habitat (supporting, significant, and critical), and ecosystems that are known to occur, or are likely to occur in the proposal area. Any instances where published guidance is not followed must be adequately justified. Figures/ maps should be of high resolution, clear and legible ensuring text and symbols are easily identifiable. Discuss whether the pit will be backfilled, or justification if the pit will not be backfilled. Provide a Mine Closure Plan (prepared in accordance with <i>Guideline for Preparing Mining Development and Closure Proposals</i> (DEMIRS 2025)).
Flora and vegetation	
Required work	1. In accordance with EPA guidance (including Environmental factor guideline – Flora and vegetation), conduct surveys to identify and characterise the flora and vegetation of areas in a local, regional and where relevant, state context. Provide an explanation, including a spatial boundary, of the local and regional context used in the assessment. 2. All survey reports and data should be submitted via IBSA Submissions with the IBSA number provided for verification. 3. Provide maps and figures of the survey effort applied in relation to, at a minimum, the local area and development envelope, and identify the direct and indirect impact areas. 4. Identify and describe the flora species and vegetation identified by the studies and surveys. 5. Describe significant flora and vegetation, and provide an analysis of local and regional and state (where relevant) context, (refer to the Environmental factor guideline – Flora and vegetation for definition of significant). Provide justification for the flora species and vegetation communities identified in the studies and surveys not considered significant. 6. Provide tables with quantitative assessments of impact: a. For significant flora, this includes: i. known number of individuals and populations in a local, regional and state (where relevant) context ii. numbers and proportions (% of known) of individuals and populations directly or potentially indirectly impacted

	iii. numbers/proportions/populations currently protected within the conservation estate (where known). b. For all vegetation units (noting threatened and priority ecological communities and significant vegetation, including facultative or obligate groundwater dependent vegetation) this involves: i. area (in hectares) and proportions directly or potentially indirectly impacted ii. proportions/hectares of the vegetation unit currently protected within conservation estate (where known). 7. Undertake Traditional Ecological Knowledge assessments to understand culturally significant flora species and vegetation. The information required for significant flora and vegetation should also apply to any identified culturally significant flora species and vegetation. 8. Provide maps/figures showing the recorded locations of significant flora and vegetation in relation to the proposal's direct and indirect impact areas, and species distributions, in local, regional and state context. 9. Predict the residual impacts from the proposal, both direct and indirect, on flora and vegetation after demonstrating how the mitigation hierarchy has been applied. 10. Alongside the Mine Closure Plan, discuss the direct, indirect and cumulative impacts on flora species, vegetation units, habitats and communities from activities, including any proposed management (e.g. surplus water discharge and surface water management, water diversion channels and catchment ponds) that are likely to be ongoing post closure, and how those impacts will be managed during operations and post-closure with regards to the mitigation hierarchy, including but not limited to commitments to progressive rehabilitation rates over the life of the proposal.
Terrestrial fauna	
Required work	11. In accordance with EPA (and other relevant state and commonwealth) guidance conduct studies to identify and characterise the vertebrate, aquatic invertebrate, and short-range endemic (SRE) invertebrate fauna and fauna habitats in a local and regional context, clarify and justify the quantification of the local and regional context used in the assessment. If previous surveys and records are utilised older specimens should be compared with newer collected specimens. Genetic analysis may be required to match and identify specimens (applicable for invertebrates and SREs). 12. Invertebrate species to be identified to the species level or provide a justification if unable to do so. Resolve the invertebrate specimen identifications to species/operational taxonomic units (OTU), using genetic and/or morphological methods. 13. All survey reports and data should be submitted via IBSA Submissions with the IBSA number provided for verification. 14. Undertake Traditional Ecological Knowledge assessments to understand the potential impacts of the proposal on culturally significant fauna species. 15. Provide maps of the survey efforts applied in relation to, at a minimum, the local area and development envelope, and identifying the direct and

	indirect impact areas. 16. Identify and describe the fauna assemblages and fauna habitat types present and likely to be present within the development envelope that may be impacted by the proposal. 17. Identify significant (including restricted fauna) and describe in detail their known ecology, likelihood of occurrence, habitats and known threats, (refer to the Environmental factor guideline – Terrestrial fauna for definition of significant fauna). Provide justification for terrestrial fauna identified in the studies and surveys not considered significant. 18. Describe and quantify the extent of potential direct, indirect and cumulative impacts, including percentages, to habitats and significant species that may occur following implementation of the proposal during both construction and operations, in a local and regional context. 19. Provide a table of the proportional extents of each habitat within the study area and development envelope, and the predicted amount to be directly impacted and remaining. Consider any local or regional cumulative impacts. 20. Predict the residual impacts (direct, indirect and cumulative) from the proposal, both direct and indirect, after outlining any avoidance and mitigation options that will be applied. This should include assessing the risk posed to any listed species as a result of the proposal. Impact predictions should consider both short-and long-term impacts and how the proposal may change terrestrial fauna patterns of use and cumulative impacts.
Subterranean fauna	
Required work	21. In accordance with EPA guidance, conduct studies and surveys to identify and characterise the subterranean fauna (identified to a species level where possible), assemblages, and habitats in a local and regional context, and clarify and justify the quantification of the local and regional context used in the assessment. If previous surveys and records are utilised, older specimens should be compared with newer collected specimens. Genetic analysis may be required to match and identify specimens. 22. All survey reports and data should be submitted via IBSA Submissions with the IBSA number provided for verification. 23. Identify and describe the subterranean fauna habitats: - That may be impacted directly and indirectly by the proposal during construction and operations. - Describe the significance of these values in a local and regional context. - Include relevant geological and hydrological information to determine habitat suitability and connectivity, including inside and outside the impact areas. 24. Provide figures and maps showing the extent of subterranean fauna habitats in relation to the proposal and species distributions. Additionally, include a table of the proportional (lateral and vertical) extents of each habitat within the study area and development envelope, and the predicted amount to be directly impacted and remaining. Consider any local or regional cumulative impacts. Any graphics provided must be clearly

	annotated and of high resolution. If unable to provide any of the above information, clearly provide justification. 25. Identify and describe the fauna assemblages present and likely to be present within the development envelope that may be impacted by the proposal. 26. Describe and quantify the extent of potential direct, indirect and cumulative impacts, including percentages, to subterranean fauna as a result of implementation of the proposal during both construction and operations, including through resource extraction and mine dewatering, in a local and regional context. 27. Alongside the Mine Closure Plan, discuss the direct, indirect and cumulative impacts on subterranean fauna values from activities, including any proposed management (e.g. surplus water management) that are likely to be ongoing post closure. Discuss how those impacts will be managed during operations and post-closure with regards to the mitigation hierarchy, including potential impacts from a pit lake forming post-mining.
Terrestrial environmental quality	
Required work	28. Provide details and rationale for locations of Waste Rock Landforms (WRL), Tailings Storage Facility (TSF), stockpiles, including a detailed flood risk assessment (i.e. meteorological, geological and geographical characteristics). Investigations for WRLs and TSF locations should be informed by the local landforms and natural topography (with minimal impact to visual amenity, ecological function and environmental value, consider placement within the immediate catchment of the pit void and consider the option of in-pit disposal of tailings. 29. Provide details of the stability of the site from a geotechnical and geochemical perspective, including baseline studies and stability assessment, materials characterisation and availability, proposed landform designs, waste schedules and assessment of available growth mediums. 30. Undertake and provide the results of baseline ambient groundwater monitoring in the vicinity of the TSFs with ongoing ambient groundwater monitoring for comparison with the baseline data. 31. Undertake and provide details of a baseline soil quality assessment of the development envelope. Include figures of the mapped soil units and soil profile in the ERD. 32. Undertake a desktop acid sulfate soils risk assessment to determine the risk of presence of acid sulfate soils. Undertake an acid sulfate soils survey if results from the desktop risk assessment identify this to be necessary. If present, details of proposed management measures to be implemented during construction to minimise impacts to terrestrial environmental quality. 33. Provide a graphical conceptual representation of the final TSF, including parameters to prevent/minimise seepage impacts. 34. Conduct seepage modelling (including a groundwater mounding study) to demonstrate that the conceptual TSF design would be environmentally acceptable. 35. For each mine waste/processing waste and tailings stream identify:

	• geochemical properties, including quantities of problematic materials (e.g. dispersive materials) • sampling methodology • environmental risk • any issues with drainage and tailings consolidation. 36. Assess impacts on surrounding environment from the TSF, including if there was a failure of TSF integrity. 37. Assess potential impacts on surrounding environment through erosion and sediment transport as a result of clearing, WRL and stockpiles. 38. Provide details regarding the proposed approach to tailings storage, including an analysis of the approach in arid environments, a proof of concept to verify assumptions regarding the prevention, avoidance, and management of acid and/or metalliferous drainage, and details of any trials or models undertaken or planned. Provide detailed and quantitative information to assess if the risk posed by adverse components can be adequately managed. The approach and analysis of tailings storage should also include: • analysis of acid and/or metalliferous drainage, so that metalliferous drainage potential in non-acidic conditions is considered, as well as saline drainage • kinetic tests to assess long term solute release • the spatial extent of neutralisation potential in the primary sulfides and carbonates • baseline groundwater monitoring to quantify water quality • design of surface water drainage to align with current design. 39. Provide details of proposed management actions for the TSF, including early testing to ensure significant impacts will be mitigated over the life of the proposal and an assessment of the suitability of any TSF liner. Discuss the process for developing triggers and thresholds (including appropriate indicators), and contingency measures if the triggers and/or thresholds are reached. 40. Provide detailed information on the pit lake closure model, including an assessment of relevant details to inform how potential impacts to terrestrial environmental quality from the pit lake can be mitigated.
Landforms	
Required work	41. Describe and assess the significance of potential direct, indirect and cumulative impacts to the system within and directly adjacent to the proposal area. 42. Consider the impacts resulting from the removal of important dune systems or the disruption of sediment flow, as these actions could lead to the loss of environmental values supported by such systems. Include an analysis of the nature, magnitude and duration of the impacts (including extent, severity and duration). 43. Synthesise all relevant information (i.e. tables, geospatial information, photos, aerials) to describe, spatially define and visually represent the

	extent of temporary (define timescales) and permanent impacts to the landform, its ecological function and environmental values. 44. Provide the relevant additional information set out in the EPA's <i>Environmental Factor Guideline: Landforms</i>.
Inland waters	
Required work	45. Characterise the baseline hydrological and hydrogeological regimes in the local and regional context. Provide an explanation, including spatial boundary, of the local and regional context used in the assessment. 46. Provide a hydrogeological conceptualisation and assessment for the proposal (including detailed numerical groundwater modelling) with geological cross-sections to assess potential impacts on local and regional aquifers (and their connectivity) due to groundwater abstraction for dewatering and water supply) and surplus water management (e.g. aquifer injection and discharge to infiltration ponds) and subsequent impacts to culturally significant surface water including soaks, springs and Lake Waukarlicarly. This must address aquifer and pit lake recovery during mine closure. The assessment must demonstrate that predicted drawdown does not extend to the Eighty Mile Beach Ramsar Wetland, including Eighty Mile Beach and Walyarta (Mandora) Marsh and the critically endangered Threatened Ecological Community (TEC) Assemblages of the Organic Springs and Mound Springs of Mandora Marsh Area. 47. Provide a hydrogeological assessment for the proposal (analytical modelling due to temporary nature of abstraction) to assess potential impacts on local and regional aquifers due to abstraction for water supply during upgrade/construction of the Road Access Corridor. 48. Undertake hydrological investigations to determine: - the effects any modified drainage will have on the surface and groundwater quality and quantity - the likely direct and indirect impact areas from the above - the impacts of climate change, potential weather conditions, cumulative impacts and a range of climatic scenarios including probable maximum precipitation (refer to the Department of Water and Environmental Regulation's [DWER] <i>Guide to future climate projections for water management in WA</i>). 49. Undertake seepage modelling of the conceptual waste rock and tailings storage facilities to characterise geochemical and physical properties of geological structures which may result in greater connectivity between potential sources of seepage (open cut pits, waste rock landforms and tailings storage) and sensitive environmental receptors. 50. Provide a detailed description of the design, location, activity, elements and aspects (e.g. pathways) of the proposal with the potential to impact surface and groundwater (including relevant maps and figures). If acid sulfate soils are present, assess the impact of dewatering on acid sulphate soils and present appropriate mitigation strategies. 51. Conduct a detailed flood risk assessment to justify suitable siting of WRLs and rehabilitation material stockpiles and inform the final proposal design.

	The flood risk modelling should be undertaken in accordance with the Australian Rainfall and Runoff Guidelines. Note: where flood risk is identified and discussed under other factors, refer to relevant sections of the ERD. 52. Complete a water balance study to determine if proposal water requirements can be met over the life of the proposal. This must address surplus water management (including but not limited to discharge to infiltration ponds and Managed Aquifer ReInjection (MAR) and consider recovery of TSF decant water) and include locations and sizes. The water balance must quantify the rate of groundwater abstraction and surplus water disposal, including a breakdown of where the water will be disposed (e.g dust suppression, infiltration, aquifer injection. Assess the potential impacts of the proposed surplus management, including artificial surface water on the Cane toad 'waterless' barrier plan. 53. Discuss seepage modelling of the waste rock landforms and tailings storage facilities in relation to inland waters. 54. Provide detailed information on the pit lake closure model, including an assessment of the orebody margin and other relevant details in relation to inland waters. 55. Predict the residual impacts (direct, indirect and cumulative) from the proposal on inland waters after considering and applying the mitigation hierarchy. 56. Alongside the Mine Closure Plan, discuss the direct, indirect and cumulative impacts on inland water values from activities, including any proposed management (e.g. surplus water management), that are likely be ongoing post closure, and how those impacts will be managed during operations and post-closure with regards to the mitigation hierarchy, including any commitments to progressive rehabilitation.
Air quality	
Required work	57. Identify and quantify all air emissions from the proposal that may impact the environment (including where relevant, impacts on human health and well-being, odour, nuisance and amenity). Evaluate all potential emission sources, pathways and impacts on receptors. 58. Describe the scale and nature of power generation/combustion activities associated with the Proposal. 59. Provide details of the likely dust composition and concentration. 60. Undertake dust modelling (consistent with <i>Air quality modelling guidance notes</i> (Department of Environment 2006)) and assessment of dust impacts to relevant Traditional Owner groups, nearby landholders and any other sensitive receptors. 61. Confirm through water balance modelling that there is sufficient available water for dust suppression activities. 62. Predict the residual impacts (direct, indirect and cumulative) from the proposal on air quality after considering and applying the mitigation hierarchy.
Greenhouse gas emissions	
Required work	63. Estimate scope 1, 2 and 3 greenhouse gas (GHG) emissions in tonnes of

	carbon dioxide equivalent (CO₂-e). Scope 1 estimates must include emissions associated with clearing including estimates of progressive sequestration through progressive rehabilitation. Provide an explanation of the scope boundaries for scope 1, 2 and 3 emissions relevant to the proposal and justification for any emissions excluded. 64. Provide a breakdown of estimated scope 1 and 2 emissions by source. Consider all proposed activities in determining the sources of emissions (e.g. electricity generation, transportation and clearing of land). <i>Please note that the EPA considers greenhouse gas emissions from electricity generation produced for the proposal (i.e. not by an independent third party) and haulage of concentrate (regardless of third-party contractual arrangements) as scope 1 emissions for the proposal.</i> 65. Identify how scope 1, 2 and 3 GHG emissions are proposed to be avoided or reduced. Provide a clear pathway for reducing scope 1 and 2 GHG emissions (annual and total) over the life of the proposal. 66. Discuss how best practice measures have been adopted to avoid or reduce GHG emissions at commencement and throughout the life of the proposal through regular reviews. 67. Describe the intended GHG emissions offsets to offset residual emissions that cannot be avoided or reduced. 68. Discuss how the scope 1, 2 and 3 GHG emissions from the proposal's operation beyond 2050 is consistent with a global low-carbon transition to a net zero by 2050 scenario.
Social surroundings	
Required work	69. Characterise and describe the social, cultural, amenity, and heritage values within and adjacent to the proposal area and any sensitive receptors that may be directly or indirectly impacted as a result of this proposal. This includes any receptors that may be affected by land clearing, construction and operation activities, noise and dust emissions, traffic, access, and amenity issues. Include relevant maps to show the locations of the sensitive receptors likely to be affected by the proposal (refer to the Environmental Factor Guideline - Social Surroundings). 70. Identify and assess potential impacts to any pastoral leases that may occur as a result of this proposal being implemented. Consult with pastoral leaseholders and users that may be impacted, either directly or indirectly, regarding operation and closure land uses. 71. Identify sites of cultural significance within a regional context, in consultation with the Traditional Owners. 72. Identify the areas likely to be subject to the <i>Aboriginal Heritage Act 1972</i> (AH Act), how the AH Act will consider Aboriginal cultural heritage (ACH), likely outcomes of the AH Act and whether application of the AH Act processes to the proposal are likely to result in consistency with the EPA's objective to protect social surroundings from significant harm (refer to Section 3 of Technical Guidance EIA of Social Surroundings - Aboriginal Cultural Heritage for both work items 72 and 73). 73. For areas outside the development envelope or within the development envelope but not regulated through the AH Act, and where the proposal is likely to have a physical or biological impact to ACH values provide the

	following information: a. a map showing the heritage survey effort for the development envelope. b. proposal elements or activities that may impact ACH values. c. the physical and biological impacts (both direct and indirect, such as clearing, dust, bush tucker/bush medicine, noise and/or odour), and whether they are, or are not, within the area likely to be subject to the AH Act. d. identify the ACH values that may be harmed by the physical and biological impacts and the extent and duration of impacts, (including impacts to culturally important dunal landforms) and taking cumulative effects into account. e. the proposed avoidance and mitigation of impacts to ACH. f. predicted residual impacts to ACH values. g. the proposed environmental outcomes to protect ACH values which may be significantly harmed by physical or biological impact from the proposal. h. a summary of the consultation process, the information provided to inform the consultation regarding the proposal and its physical or biological impacts on ACH values and outcomes from the consultation/engagement from all stakeholders, including State Government regulatory authorities. 74. Undertake noise modelling and assessment of noise impacts to relevant Traditional Owner groups, nearby landholders and any other sensitive receptors. 75. Undertake a visual impact assessment to inform the proposal's design and to assess potential impacts to visual amenity as viewed from sites and places of cultural significance as determined through consultation and engagement with Traditional Owner Groups. 76. Assess how the changes to hydrological regimes and water quality have the potential to impact significant waters, flora and fauna species considered culturally significant to the Traditional Owners. 77. Predict the residual impacts from the proposal on social surroundings after considering and applying the mitigation hierarchy.
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2.3 Cumulative impact assessment

The ERD will include a cumulative impact assessment (CIA) to assess the Proposal's contribution to impacts on relevant environmental values. Describe, quantify and discuss the direct and indirect cumulative impacts to environmental values. The CIA will consider successive, incremental and interactive impacts of the proposal on the environment, with one or more past, present and reasonably foreseeable future activities.

The CIA should consider relevant boundaries beyond the development envelope, including IBRA subregions, land systems, catchments and aquifers. The Proposal is predominantly situated in the Great Sandy Desert IBRA region, primarily in the Mackay IBRA subregion, with the access road intersecting with the McLarty IBRA subregion.

Noting the increased level of development in the region, assessment of cumulative impacts will be required to address how the objectives of the environmental factors will be met.

The ERD will include a CIA of combined effects of different cumulative impacts upon the following environmental factors: Flora and vegetation, Terrestrial fauna, Subterranean fauna, Inland waters, Social surroundings, Terrestrial environmental quality, Landforms, Air quality, and Greenhouse gas emissions. This includes impacts from the clearing of native vegetation in good to excellent condition, impacts to areas of Aboriginal heritage value within the development envelope on Nyangumarta Country and Martu Country, potential introduction or exacerbation of feral animals, increase the incidence of fire events, impacts to the potential high endemism and diversity of species in the region, emissions resulting from mining activities, the effects of drawdown from mine dewatering on the Walyarta Conservation Park and other surface water features including soaks and springs.

The CIA must also include other development and industries in the region and catchment area (including mining and irrigated agriculture operations).

The proponent should seek to use available information publicly available online such as the EPA website, Clearing Permit Systems (CPS) and through data sharing arrangements to gather data in addressing this aspect.

Table 4 outlines the scope of the CIA, noting that throughout the preparation of the ERD, there may be additional environmental values identified that are to be included.

Table 4: Scope of the cumulative impact assessment

Flora and vegetation	
Required work	• The boundaries of the cumulative impact assessment (CIA) are likely to not be limited to the proposal development envelope and can vary with each environmental value. The CIA should include any direct or indirect impacts that will have been identified to be impacted by the proposal. Spatial boundaries may include Sandy Desert Lake Dora Catchment, species extent, ecosystem type and/or landform system. • Environmental values include the following, which may be considered preliminary until all surveys are completed/consolidated and additional values may be included (exclusion of any environmental values require justification): ◦ conservation significant species and communities that occur within the development envelope, and outside the development envelope that may be directly or indirectly impacted by proposal activities ◦ ACH values of flora species ◦ other environmental values as identified in studies. • Activities considered include clearing of up to 4,878 hectares (ha) of native vegetation, mining and construction operations, groundwater abstraction, alteration to surface water flows and groundwater systems, surplus water management, increased dust and weed invasion, changes in climate and fire behaviour, rehabilitation and closure impacts.
Terrestrial fauna	
Required work	• The boundaries of the CIA are likely to not be limited to the proposal development envelope and can vary with each environmental value. The CIA should include any direct or indirect impacts that will have been identified to be impacted by the proposal. Spatial boundaries may include breeding and foraging grounds, roosting sites, migration routes and the total range of affected populations. • Environmental values include the following, which may be considered

	preliminary until all surveys are completed/consolidated and additional values may be included (exclusion of any environmental values require justification): ◦ fauna habitats, including breeding areas and key foraging habitats ◦ conservation significant terrestrial fauna species (including State listed species and communities, short range endemic species and assemblages) ◦ ACH values of fauna species ◦ conservation significant aquatic invertebrate species ◦ other environmental values as identified in studies. • Activities considered include clearing of fauna habitat, vehicle and machinery movements, increased dust, noise, vibration and light emissions, dewatering, alterations and disruptions to surface water flows, surplus water management, waste disposal and rehabilitation and closure impacts.
Subterranean fauna	
Required work	• The boundaries of the CIA are likely to not be limited to the proposal development envelope and can vary with each environmental value. The CIA should include any direct or indirect impacts that will have been identified to be impacted by the proposal. Spatial boundaries may include aquifers and interconnected aquifers, river basins, species and habitat extent. • Environmental values at the time of ESD publication are preliminary pending completion/consolidation of all surveys and will be required to address impacts to significant or restricted subterranean fauna species and habitat. • Activities considered include mine pit excavation, ground disturbance, groundwater abstraction, surplus water discharge/reinjection, placement of infrastructure and waste landforms, exposure of potential acid forming materials and post-closure formation of pit lake.
Terrestrial environmental quality	
Required work	• The boundaries of the CIA are likely to not be limited to the proposal development envelope and can vary with each environmental value. The CIA should include any direct or indirect impacts that will have been identified to be impacted by the proposal. Spatial boundaries may include aquifers and interconnected aquifers, basins. • Environmental values include soils within and surrounding the development envelope for use in revegetation and rehabilitation of the proposal and soil use in post-mining land use. • Activities considered include mining and construction operations, clearing of native vegetation, vehicle and machinery movements, alterations to landforms (development of WRLs and topsoil stockpile locations near waterways), alterations and disruptions to surface water flows, construction of surface water management infrastructure, construction of dam raises, use and storage of hydrocarbons and chemicals, storage of waste rock and other materials, run-off and/or leachate seepage of pollutants or contaminants to catchments, surplus water management and waste disposal, rehabilitation and closure impacts.

Inland waters	
Required work	- The boundaries of the CIA are likely to not be limited to the proposal development envelope and can vary with each environmental value. The CIA should include any direct or indirect impacts that will have been identified to be impacted by the proposal. Spatial boundaries may include aquifer and interconnected aquifers and Sandy Desert Lake Dora Catchment. - Environmental values include the following, which may be considered preliminary until all surveys are completed/consolidated and additional values may be included (exclusion of any environmental values require justification): - Lake Waukarlicarly - other key water features, including major drainage lines, springs/soaks, aquifers and sheet flow areas, as identified in studies. - Activities considered include groundwater abstraction during construction, water supply/surplus management, alteration of surface water flows, use and storage of hydrocarbons, storage of waste rock and other materials, pit lake formations and closure impacts.
Landforms	
Required work	- The boundaries of the CIA are likely to not be limited to the proposal development envelope and can vary with each environmental value. The CIA should include any direct or indirect impacts that will have been identified to be impacted by the proposal. Spatial boundaries may include dune landform system/s, Sandy Desert Lake Dora Catchment, ecosystem type and/or landform systems. - Activities considered include clearing of flora and vegetation, including fauna habitats, mine pit excavation, ground disturbance, groundwater abstraction, surplus water discharge, reinjection/infiltration, placement of infrastructure and waste landforms, alteration of surface water flows, pit lake formations and closure impacts.
Air quality	
Required work	- The boundaries of the CIA are likely to not be limited to the proposal development envelope and can vary with each environmental value. The CIA should include any direct or indirect impacts that will have been identified to be impacted by the proposal. Spatial boundaries may include the local airshed. - Environmental values include the following, which may be considered preliminary until all surveys are completed/consolidated and additional values may be included (exclusion of any environmental values require justification): - visual, local, social and cultural amenity (including European heritage and ACH) - public safety and health. - Activities considered include mining and construction operations, mining equipment use and movements, (including ore, waste and concentration haulage) alteration of landforms, storage of waste rock and other materials,

	erosion from pits, TSF and WRLS, fire (e.g. bushfires) and consideration of changes in fire regimes due to climate change.
Greenhouse gas emissions	
Required work	- Boundaries of assessment include GHG emissions contributions to the Western Australian resource sector (mining, processing, transport, oil and gas), and the cumulative emissions contributed to total West Australian GHG emissions. - Cumulative emissions for this proposal include those associated with the construction, operation and closure of the proposal from electricity generation, construction activities, mining activities, haulage, processing and transportation of product for export. - Environmental values include scope 1 and 2 generations, and other environment receptors at risk associated with impacts from climate change. - Activities considered include electricity generation, diesel combustion, use of equipment, vehicles and land clearing.
Social surroundings	
Required Work	- The boundaries of the CIA are likely to not be limited to the proposal development envelope and can vary with each environmental value. The CIA should include any direct or indirect impacts that will have been identified to be impacted by the proposal. Spatial boundaries may include dune landform system/s, Sandy Desert Lake Dora Catchment, and intangible boundaries (e.g. songlines). - Environmental values include the following, which may be considered preliminary until all surveys are completed/consolidated and additional values may be included (exclusion of any environmental values require justification): - visual, local and social and cultural amenity - registered aboriginal cultural heritage sites - culturally significant features, including drainage lines, springs/soaks, dunal landforms as identified in studies and through consultation. - Activities considered include mining and construction operations, mining equipment use and movements, (including ore, waste and concentration haulage) resulting in increased dust, noise, vibration and light emissions and risk of unearthing or damaging an Aboriginal site, or impacting ACH values, clearing vegetation, alteration of landforms, storage of waste rock and other materials, erosion from pits, TSF and WRLs, alteration of surface water flows, water supply (e.g. groundwater abstraction) and surplus water management (e.g. managed aquifer recharge (reInjection) and infiltration ponds), run-off and/or leachate seepage of pollutants or contaminants to catchments, post-mining land use, rehabilitation and closure impacts.

2.4 Holistic impact assessment

Provide a summary of the environmental effect of the proposal on the environment as a whole (as distinct from a summary of the effect for each individual environmental factor or environmental value), consistent with the requirements in the [Instructions: How to prepare an Environmental Review Document](#).

2.5 Offsets

Provide details of the proposed offset in accordance with [Instructions: How to prepare an Environmental Review Document](#) taking into account the EPA's Public Advice – Considering environmental offsets at a regional scale (March 2024) and any subsequent new policies and guidance.

2.6 Stakeholder consultation

The proponent must consult with stakeholders who are affected by or are interested in the proposal. This includes the decision-making authorities, other relevant state (and Commonwealth) government agencies and local government authorities, Traditional Owners (Nyangumarta People and Martu People), the local community and environmental non-government organisations.

Stakeholders that must be meaningfully consulted include, but are not limited to:

- Nyangumarta People
- Martu People
- Nyangumarta Warrarn Aboriginal Corporation (NWAC) Registered Native Title Body Corporate (RNTBC)
- Jamukurnu Yapalikurnu Aboriginal Corporation (JYAC) RNTBC
- Pastoral leaseholders, where the development envelope overlaps the pastoral lease or may otherwise, directly or indirectly, affect the pastoral lease.

The ERD must include discussion of the stakeholder identification process and address the Stakeholder engagement requirements on page 4 of the [Template - Environmental Review Document](#).

3. Decision-making authorities

The EPA services has identified the State decision-making authorities (DMAs) listed in Table 5 for this Proposal. Additional DMAs may be identified during the course of the assessment. The proponent is required to update the information in Table 5.

Information about how DMAs processes can meet expected outcomes and EPA objectives is preliminary or may be unknown at this ESD stage. The proponent is required to complete Table 6 in the ERD on a per impact basis.

Table 5: Decision-making authorities and processes

Decision-making authority	Legislation or Agreement regulating the activity	Approval required (and specify which proposal element the approval is related to)
Registrar of Aboriginal Sites	<i>Aboriginal Heritage Act 1972</i>	• s. 16 consent to enter, research, excavate anything on an Aboriginal site. • r. 7 approval to bring plant and equipment to an Aboriginal site. • r. 10 approval for minor activities and impacts to an Aboriginal site.
Minister for Aboriginal Affairs	<i>Aboriginal Heritage Act 1972</i>	• s. 18 consent to impact an Aboriginal heritage site.
Minister for Environment	<i>Biodiversity Conservation Act 2016</i>	• s. 40 authority to take or disturb threatened species.
Minister for Mines and Petroleum	<i>Mining Act 1978</i>	• granting of a mining lease/exploration licence/general purpose lease/retention licence/exploration permits.
Minister for Water	<i>Rights in Water and Irrigation Act 1914</i>	• s. 5C licence to take water. • s. 26D licence to construct or alter a well.
Chief Executive Officer, Department of Biodiversity, Conservation and Attractions (DBCAs)	<i>Biodiversity Conservation Regulations 2018</i>	• s. 5 licence to take flora and fauna (other than threatened species).
Chief Health Officer, Department of Health	<i>Health Act 1911</i>	<i>Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulation 1974</i> • Treatment of sewage intended to serve a building that is not a single dwelling or any other building that produces more than 540 litres of sewage per day.
Director WorkSafe Petroleum Safety and Dangerous Goods,	<i>Dangerous Goods Safety Act 2004</i>	• Dangerous goods licence (storage and handling of dangerous goods).

Decision-making authority	Legislation or Agreement regulating the activity	Approval required (and specify which proposal element the approval is related to)
Department of Local Government, Industry Regulation and Safety		
Executive Director, Department of Mines, Petroleum and Exploration	<i>Mining Act 1978</i>	• Mine development and closure proposal. • Mine closure plan.
Mining Registrar, Department of Mines, Petroleum and Exploration	<i>Mining Act 1978</i>	• Miscellaneous license / prospecting license
WorkSafe Commissioner, Department of Local Government, Industry Regulation and Safety	<i>Work Health and Safety Act 2020, Work Health and Safety (mines) Regulations 2022</i>	• Safety standards and requirements for mining operations
Chief Executive Officer, Department of Water and Environmental Regulation	<i>Environmental Protection Act 1986</i>	• Part V works approval and licence • Native vegetation clearing permit
Commissioner of Main Roads Western Australia, Department of Transport and Major Infrastructure (DMTI)	<i>Road Traffic (Vehicles) Act 2012</i>	• Heavy haulage approval
Chief Executive Officer, Shire of East Pilbara	<i>Building Act 2011</i>	• Building permit (worker accommodation, offices etc)
	<i>Health Act 1911 and Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulation 1974</i>	• Treatment of sewage intended to serve a building that is not a single dwelling or any other building that produces less than 540 litres of sewage per day.

Table 6: Other statutory decision-making process which can mitigate potential impacts on the environment

Environmental impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact e.g. time limits, excluded operations	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
<i>Proponent to populate and provide in the</i>					

<i>environmental review document</i>					
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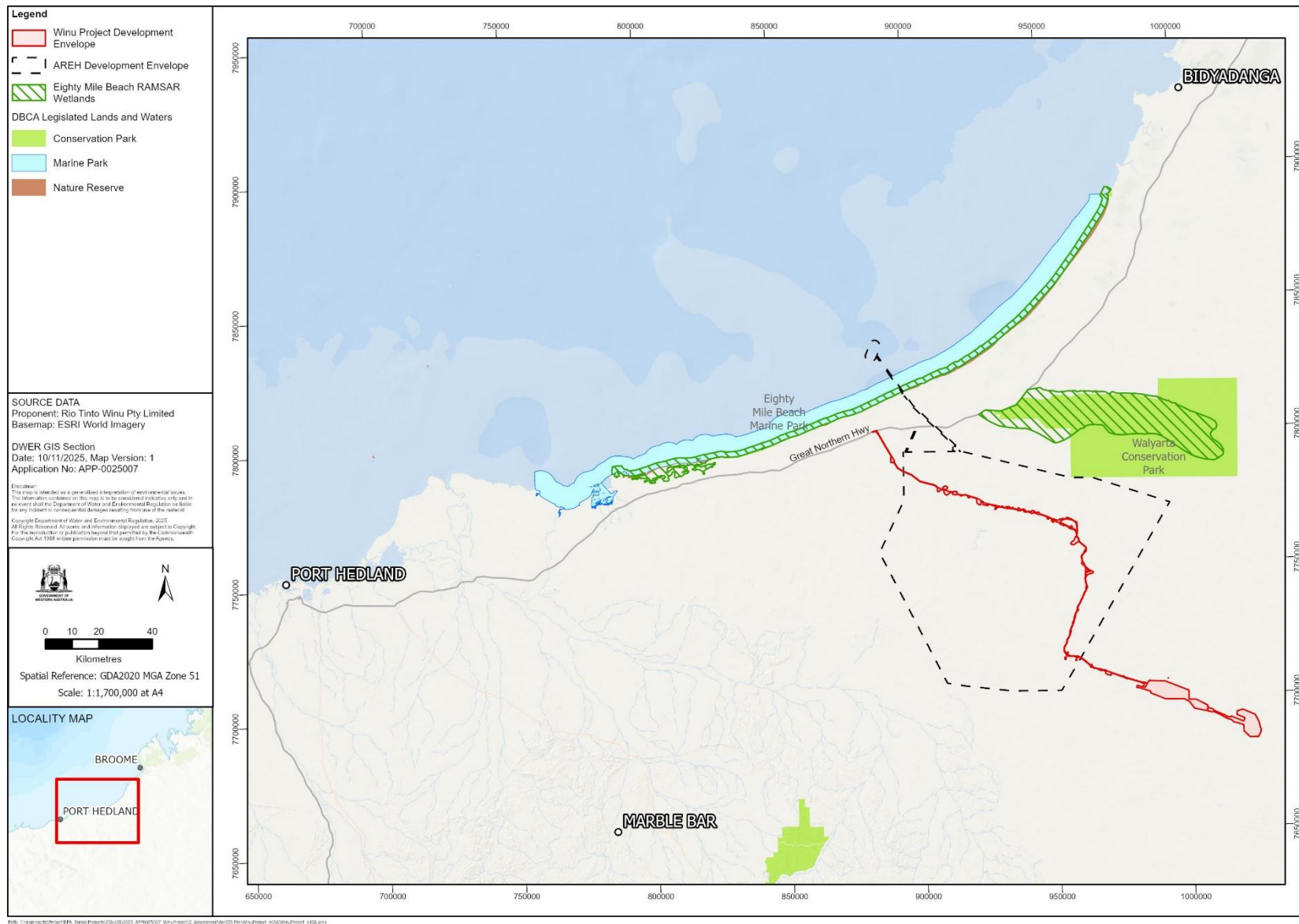


Figure 1: Regional location of the Winu Project

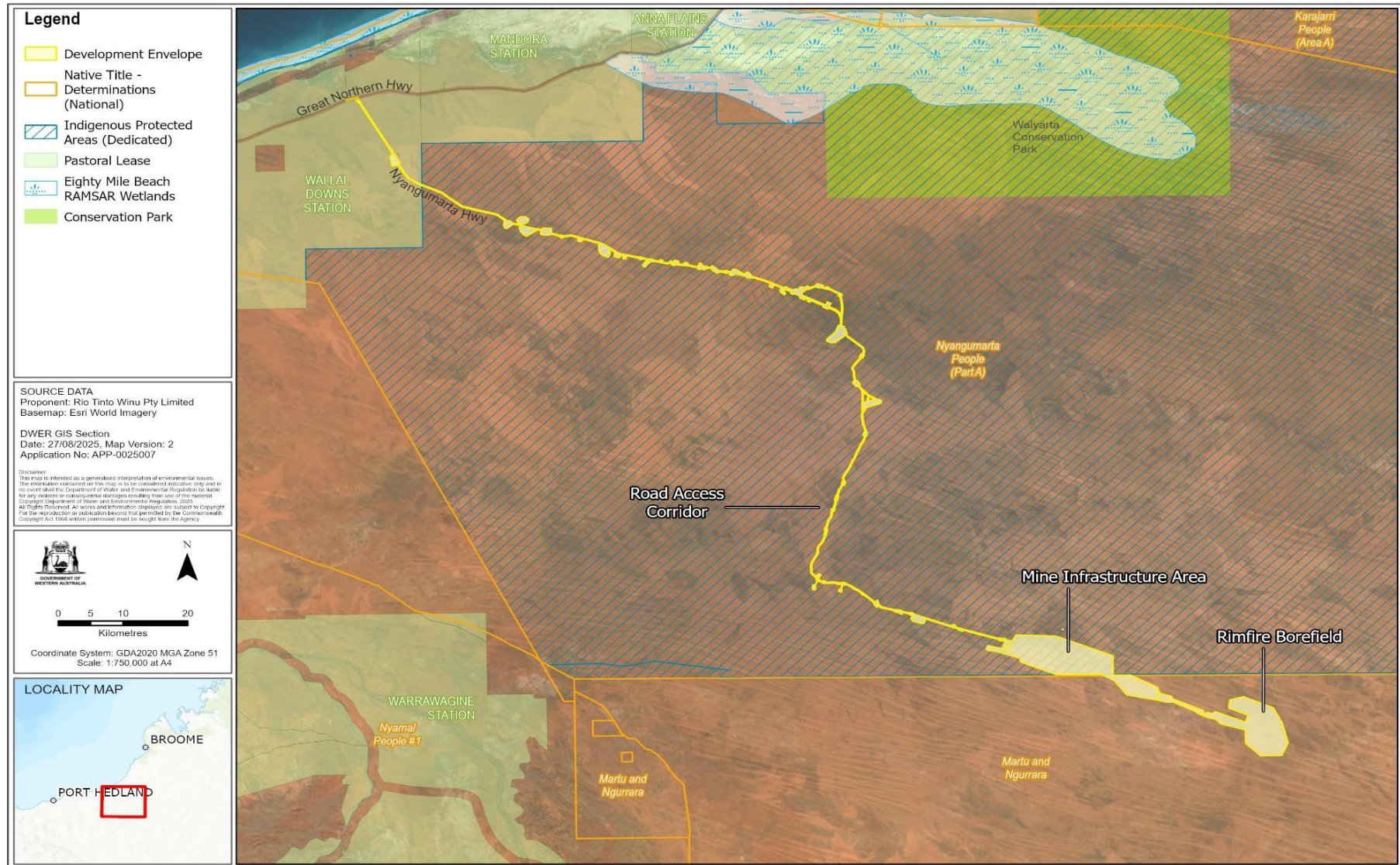


Figure 2: Development envelope of the Winu Project

Appendix 1 – Policy and guidance

All factors (where relevant)

EPA policy and guidance

- *Statement of Environmental Principles, Factors and Objectives* (2023)
- *Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans* (2024)
- *Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)* (2021)
- *Cumulative environmental impacts of development in the Pilbara region, s16(e) of the Environmental Protection Act, 1986* (2014)
- *Public Advice: Considering Environmental Offsets at a Regional Scale* (2024)
- *Instructions for preparing Impact Reconciliation Procedures and Impact Reconciliation Reports* (2024)

Other policy and guidance

- *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy*, (Department of Sustainability, Environment, Water, Population and Communities 2012)
- *WA Environmental Offsets Policy* (Government of Western Australia 2011)
- *WA Environmental Offsets Guidelines* (Government of Western Australia 2014)
- *WA Environmental Offsets Template* (2014)
- *Guideline for Preparing Mining Development and Closure Proposals* (DEMIRS 2025)
- *Parks and reserves of the south-west Kimberley and north-west Pilbara joint management plan 2019. Management plan 91* (DBCA 2019)
- *A framework for developing mine-site completion criteria in Western Australia*. (Young, R.E., Manero, A., Miller, B.P., Kragt, M.E., Standish, R.J., Jasper, D.A., & Boggs, G.S. 2019). The Western Australian Biodiversity Science Institute, Perth, Western Australia.

Flora and vegetation

EPA policy and guidance

- *Environmental factor guideline – Flora and vegetation* (2016)
- *Technical guidance: Flora and vegetation surveys for environmental impact assessment* (2016)

Other policy and guidance

- *Australian Weeds Strategy 2017-2027* (Invasive Plants and Animals Committee Commonwealth of Australia 2017)
- *Environmental Weed Strategy for Western Australia* (last updated 2023)
- *Pilbara Conservation Strategy* (Government of Western Australia 2018)
- *Impact and Invasiveness Rating for the Pilbara Region* (DBCA 2023)

Subterranean fauna

EPA policy and guidance

- *Environmental factor guideline – Subterranean fauna* (2016)

- *Technical guidance: Subterranean fauna survey for environmental impact assessment* (2021)

Terrestrial fauna

EPA policy and guidance

- *Environmental factor guideline – Terrestrial fauna* (2016)
- *Technical guidance: Terrestrial vertebrate fauna surveys for environmental impact assessment* (2020)
- *Technical guidance: Sampling of short-range endemic invertebrate fauna* (2016)

Other policy and guidance

- *Guidelines for determining the likely presence and habitat usage of night parrot (*Pezoporus occidentalis*) in Western Australia* (DBCA 2024)
- *Survey guidelines for Australia's threatened birds* (Commonwealth Department of the Environment, Water, Heritage and the Arts 2010)
- *Survey guidelines for Australia's threatened mammals* (Commonwealth Department of Sustainability, Environment, Water, Population and Communities 2011)
- *National Light Pollution Guidelines for Wildlife* (2023)
- *Environmental Management Plan Guidelines* (2014)

Terrestrial environmental quality

EPA policy and guidance

- *Environmental Factor Guideline - Terrestrial Environmental Quality* (2016)

Other policy and guidance

- *IR-F28 Application form annex: Category checklist (tailings storage facilities)* (DWER 2023)
- *Australian Rainfall and Runoff Guideline* (Australian Government 2019)
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC and ARMCANZ 2000)
- *Leading Practice Sustainable Development Program for the Mining Industry - Preventing acid and metalliferous drainage*, Australian Government Department of Industry, Tourism and Resources (2016)
- *Tailings Storage Facilities in Western Australia – Code of Practice* (Department of Mines and Petroleum 2013)
- *Guide to the Preparation of a Design Report for Tailings Storage Facilities (TSFs)* (Department of Mines and Petroleum 2015)

Landforms

EPA policy and guidance

- *Environmental Factor Guideline – Landforms* (2018)

Other policy and guidance

- *Plan for Our Parks* (2023)

Inland waters

EPA policy and guidance

- *Environmental Factor Guideline – Inland Waters* (2018)

Other policy and guidance

- *Australian Rainfall and Runoff Guideline* (Australian Government 2019)
- *Use of mine dewatering surplus* (DWER 2020)
- *Managed aquifer recharge in Western Australia* (DWER 2021)
- *Use of operating strategies in the water licencing process* (DWER 2020)
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC and ARMCANZ 2000)
- *Climate Change in Western Australia Issues Paper* (DWER 2019)
- *Western Australian Climate Policy 2020*
- *Climate Adaptation Strategy* (DWER 2023)
- *Guide to future climate projections for water management in Western Australia* (DWER 2024)

Air quality

EPA policy and guidance

- *Environmental factor guideline – Air Quality* (2020)

Other policy and guidance

- *Air quality modelling guidance notes* (Department of Environment 2006)
- *Guideline: Odour emissions* (DWER 2019)
- *A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities* (DEC 2011)
- *Draft Guideline – Air Emissions* (DWER 2019)
- *Draft Guideline – Fugitive Dust Emissions* (DWER 2021)
- *National Environment Protection (Ambient Air Quality) Measure* (DCCEEW (as amended 2021))

Greenhouse gas emissions

EPA policy and guidance

- *Environmental Factor Guideline – Greenhouse Gas Emissions* (2024)

Other policy and guidance

- *Western Australian Climate Policy 2020*
- *Greenhouse Gas Emissions Policy for Major Projects* (Government of Western Australia 2024)
- *National Greenhouse and Energy Reporting Act 2007*
- *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015* (Australian Government (as amended 2024))

Social surroundings

EPA policy and guidance

- *Environmental Factor Guideline – Social Surroundings* (2023)

- *Technical Guidance – Environmental impact assessment of Social Surroundings – Aboriginal cultural heritage* (2023)

Other policy and guidance

- *Guideline for managing the impacts from dust and associated contaminants from land development sites, contaminated sites remediation and other related activities* (Department of Environment and Conservation 2011)
- *Mine sites, exploration camps and construction villages - Scoping Tool: Public Health Considerations* (Department of Health 2011)
- *Aboriginal Heritage Due Diligence Guidelines* (Department of Aboriginal Affairs and Department of Premier and Cabinet 2013)
- *The Interim Engaging with First Nations People and Communities on Assessments and Approvals under Environment Protection and Biodiversity Conservation Act 1999 (interim guidance)* (2023)
- *Aboriginal Heritage Act 1972 Guidelines* (Department of Planning, Lands and Heritage)
- *Consultation policy for section 18 Applications* (Department of Planning, Lands and Heritage 2023)