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ENVIRONMENTAL PROTECTION AUTHORITY

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**ENVIRONMENTAL SCOPING DOCUMENT**

<b>PROPOSAL:</b>	<b>Koodaideri Iron Ore Mine and Infrastructure (Assessment No. 1933)</b>
<b>LOCATION:</b>	<b>110 kilometres west-north-west of Newman</b>
<b>LOCALITY:</b>	<b>Shire of East Pilbara and Shire of Ashburton</b>
<b>PROPONENT:</b>	<b>Hamersley Iron Pty Limited</b>
<b>LEVEL OF ASSESSMENT:</b>	<b>Public Environmental Review with a 6 week public review period</b>
<b>EPBC REFERENCE:</b>	<b>2012/6422</b>

This Environmental Scoping Document (ESD) is provided to define the requirements of the Public Environmental Review (PER) document to be prepared in accordance with the Western Australian *Environmental Protection Act 1986* (EP Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The preliminary key environmental factors to be addressed are identified in Section 2. The generic guidelines for the format of an environmental review document are provided in Attachment 1.

**The Public Environmental Review document must adequately address all elements of this scoping document prior to approval being given to commence the public review.**

## **1. Introduction**

The EP Act sets out that where a proposal is considered to have a significant environmental impact it will be subject to an assessment by the Environmental Protection Authority (EPA) under section 38 of the EP Act. This proposal is being assessed by way of a PER because it raises significant environmental factors. The EPA will, at the conclusion of its assessment, prepare a report on the outcome of its assessment of the proposal and give the assessment report to the Minister for Environment. The Minister for Environment will then decide whether or not the proposal may be implemented, and, if the proposal may be implemented, the conditions and procedures that implementation of the proposal should be subject.

The procedure for a PER is described in the Western Australian EP Act *Environmental Impact Assessment – Administrative Procedures 2010*. The

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proponent should have regard to the Administrative Procedures when preparing the PER.

Under the EPBC Act, a proposed action that has been determined to have a significant impact on one or more Matters of National Environmental Significance (MNES) protected under the EPBC Act will need to be assessed and approved before it can proceed. This proposal was determined as likely to have a significant impact on EPBC Act listed threatened species and communities.

This proposal is being assessed by way of an accredited process with the EPA under the bilateral agreement with the Australian Government made under section 47 of the EPBC Act. The bilateral agreement allows the Australian Government Minister for Sustainability, Environment, Water, Population and Communities to rely on the PER process of the State of Western Australia in assessing the action under the EPBC Act.

The PER document should contain a separate section identifying MNES that occur or have the potential to occur within the proposal development envelope discussing how any potential impacts on MNES have been avoided and mitigated and discussing any proposed offsets to address any significant residual impacts on MNES. Where required offsets must be developed in accordance with DSEWPac's EPBC Act Environmental Offsets Policy. The assessment report on the proposed action prepared by the EPA and provided to the Western Australian Minister for Environment is forwarded to the Commonwealth Environment Minister who will then make a decision as to whether or not the proposal should be approved under the EPBC Act. This is separate from any Western Australian approval that may be required.

As this proposal is subject to a PER, the proponent is required to produce a PER document in accordance with an approved ESD. The purpose of the ESD is to:

- develop proposal-specific guidelines to direct the proponent on the key environmental issues for the proposal, including any potential impacts on MNES that should be addressed in preparing the PER document; and
- identify the necessary impact predictions required for an assessment of the proposal, and the information on the environmental setting required to carry out the assessment.

The EPA has determined that it will prepare and issue the ESD outlining the scope and content of the PER in relation to this proposal.

The EPA, in its formulation of the ESD, undertakes consultation with the proponent regarding the details of the proposal, its environmental setting and the environmental surveys and investigations required and expected outcomes. In addition the EPA will consult with the relevant government agencies, including decision - making authorities. The Office of the EPA (OEPA) provides services and facilities for the EPA. In many cases the OEPA will facilitate the assessment on behalf of the EPA.

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ESDs prepared by the EPA are not subject to a public review period. The ESD will be available on the EPA website ([www.epa.wa.gov.au](http://www.epa.wa.gov.au)) upon finalisation and will be included as an appendix in the PER document.

The proponent will then be required to prepare a PER document in accordance with the ESD. When the EPA is satisfied that the PER document has adequately addressed all of the environmental factors and studies identified in the ESD, the proponent will be required to release the document for a public review period of 6 weeks.

An important aspect of the environmental impact assessment process is the review by the public. The EPA requires public input into the possible environmental impacts of this proposal and its implementation. The EPA expects the proponent to fully consult with interested members of the public and relevant stakeholders, and to take due care in ensuring any other relevant environmental factors which may be of interest to the public and stakeholders are succinctly addressed. The PER should document the matters raised in consultation ideally in a table including any changes made to the proposal as a result of consultation and/or the proponent's response to each matter raised in consultation.

The EPA considers that adequate consultation can be demonstrated when stakeholders:

- are included in the consultation process and are able to make their concerns known;
- are kept informed about the potential and actual environmental impacts; and
- receive responses to the concerns raised including identifying how the proposal has been modified and/or identifying management measures that will be implemented to address the concerns raised.

To facilitate adequate public input, the PER should be made available as widely as possible and at a reasonable cost.

## **2. Specific Guidelines for the Preparation of the Public Environmental Review document**

### **2.1 The proposal**

The EPA has prepared *Environmental Assessment Guideline for Defining the Key Characteristics of a Proposal* (May 2012) (EAG 1). EAG 1 describes how to define the Key Proposal Characteristics for the purposes of assessing the proposal and subsequent incorporation in the Ministerial approval statement. It is expected that the Key Proposal Characteristics will be informed by the outcome of the work required for the environmental factors that are relevant to the proposal specified below (section 2.2).

The proposal that is the subject of this assessment is Hamersley Iron Pty Limited's proposed Koodaideri Iron Ore Mine and associated infrastructure. The proposal is

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for a new iron ore mine and associated infrastructure relating to the Koodaideri deposit located approximately 110 kilometres (km) west-north-west of Newman in the Pilbara region of Western Australia. The project is forecast to have a production rate of 70 million tonnes per annum and an operational mine life of >30 years. The total vegetation clearing footprint associated with the proposal is expected to be a maximum of 13,360 hectares. The regional location of the proposal is indicated in Figure 1.

The Koodaideri proposal is principally located within Mining Lease No. 252 (ML252SA), granted to Mount Bruce Mining Pty Limited under the *Iron Ore (Mount Bruce) Agreement Act 1972*. Northern and central portions of the proposal development envelope intersect the Marillana Station Pastoral Lease (L3114 984) currently held by a subsidiary of BHP Billiton. Areas of the Fortescue Marsh and surrounds have been proposed for conservation tenure following the partial resumption of Western Australian pastoral leases proposed in 2015. This includes the portion of Marillana Station intersecting the proposal development envelope.

The proposal would comprise of the following components:

- a series of predominately above water table (>90% above watertable) open pits along the ore strike zone and associated haul roads and ramps;
- ore handling and processing infrastructure (incorporating ore stockyards, train load-out and rail loop facilities), including dry and potentially future wet processing (e.g. ore washing, concentrator) facilities;
- surface waste dumps, including mineralised waste dumps, sub-grade dumps, low grade ore dumps and topsoil and sub-soil stockpiles. Waste fines storage facilities (WFSF's) will be required when wet processing is undertaken;
- road infrastructure (mine access and internal road network);
- mine support facilities (e.g. communications infrastructure, offices, workshops, explosives storage, waste water treatment plants, operations village);
- accommodation for the Fly-in-fly-out mining workforce at a new village facility adjacent to the proposed mining area; and
- possible new airstrip in the general region and/or an upgrade of the existing dis-used airstrip located within the proposal development envelope.

### Power

Power supply options are subject to ongoing engineering considerations. Current options include:

- connection to the existing Rio Tinto 220 kV power-line that extends from Tom Price to Yandicoogina passing to the south of the proposed area (via the proposed southern corridor);
- development of supplementary on-site generation (potentially including some small-scale renewable options); or
- a combination of external connection and on-site generation.

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*Water*

Water supply options are currently under consideration. The identified options include:

- abstraction of water from within mining deposits (across the orebody the mine pits are more than 90% above the watertable based on hydrogeological drilling results to date);
- utilisation of excess water discharges from Rio Tinto's Yandicoogina mine operation; or
- local bore fields developed within/near the Koodaideri proposal area.

*Transport*

Mined and processed ore from the Koodaideri proposal will be railed to Rio Tinto's existing port operations at Dampier and/or Cape Lambert mostly using the Rio Tinto heavy freight rail network. Several options for connecting with the existing rail network are being evaluated and are included as part of this proposal. These include:

- Western corridor; and
- Southern corridor - consisting of several branch options (will also be used for power, water pipeline and road access).

An alternative option to a rail in the Southern corridor is a conveyor to transport ore from the Koodaideri mine to a new train load out facility adjacent to the existing Yandicoogina rail.

The Eastern corridor is an option only for a water pipeline and a road access between Yandicoogina and Koodaideri; it is not a rail corridor option.

The development envelope is indicated in Figure 2.

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**Table 1****Summary of the proposal**

Proposal Title	Koodaideri Iron Ore Mine and Infrastructure
Proponent Name	Hamersley Iron Pty Limited
Short Description	<p>The proposal is for an open cut iron ore mine approximately 110 km west-north-west of Newman in the Pilbara region and will comprise of ore handling and processing infrastructure, waste dumps, WFSFs, access roads, mine support facilities, power and water infrastructure, rail line connection corridors, accommodation village and associated infrastructure, and an airstrip.</p> <p>The PER should provide a clear project summary which defines the extent of the proposal and to the best of the proponent's knowledge any aspects which will require environmental assessment at a later date.</p>

**Physical Elements**

Mining method	>90% Above watertable over the length of the Koodaideri ore body.
Proposal area	Clearing not more than 13,360 hectares within a 72,073 hectares maximum development envelope.
Mine/plant areas	Clearing not more than 9,100 hectares within a 19,187 hectares maximum development envelope.
Corridors (Western, Southern, Eastern)	Clearing not more than 4,260 hectares within a combined 52,886 hectares maximum development envelope.

**Operational Elements**

Water demand	Peak demand (with wet processing) approximately 18 Gigalitres per annum after 2030.
Water supply	Options include: sourcing surplus dewatering volumes from Yandicoogina (involving ~ 60 kilometres of pipeline along the southern or eastern infrastructure corridors), in-pit bores and a possible new bore-field south of Koodaideri, or a combination of these.
Discharge of waste (WFSFs)	Waste fines (the clay portion of washed ore) will initially be placed in a paddock styled storage facility near the plant area until storage becomes available in the mine pits. Some water for processing may be recoverable using decant water from the WFSF's.

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Water discharges	No off-site surface water discharges from mine pits (dewatering) or WFSF's will occur, except under emergency circumstances (eg major rainfall or flood event).
Mine dewatering	Limited mine dewatering is planned. Water from mine pit dewatering will be used for operational purposes. There will be no off-site discharge from dewatering.
Mineral waste disposal	Surface waste dumps initially, with later progressive storage and backfilling into pits with mineral waste as areas within individual mine pits become available.
Ore transport	By Rio Tinto heavy freight rail network to Rio Tinto's port operations at Dampier and/or Cape Lambert. A conveyor may also be used to connect with a train load-out facility adjacent to the existing Yandicoogina railway.
Rehabilitation	Progressive throughout life of mine of all disturbed areas.

\* NB: Table 1 will be informed by the outcomes of the work required for the environmental factors

## 2.2 Environmental factors and policy documents relevant to this proposal

The PER should give a detailed assessment of each of the environmental factors identified for this proposal.<sup>1</sup> At this stage, the EPA has identified the relevant preliminary environmental factors, objectives and work required as detailed below (see Table 2).

The EPA has identified a list of relevant policy documents (see Table 2) which set out how the EPA expects the environmental factors to be considered. The EPA expects that the treatment of environmental factors will be consistent with the approaches set out in these policy documents. The EPA also considers that the proponent should assess the proposal in a local and regional context and ensure that all cumulative impacts are addressed.

The proponent should demonstrate in the PER that best available technology would be implemented to prevent, control and abate emissions to an acceptable level or explain any deviations from best available technology.

The EPA considers that the following are the preliminary key factors relevant to the proposal:

- Flora and Vegetation;
- Terrestrial Fauna and Subterranean Fauna;
- Hydrological Processes and Inland Waters Environmental Quality;
- Rehabilitation and Mine Closure; and
- Residual Risk Management.



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**Table 2: Environmental factors relevant to the proposal**

Flora and Vegetation	
<b>EPA objective</b>	To maintain representation, diversity, viability and ecological function at the species, population and community level.
<b>Potential Impacts</b>	<p>The proposal involves the clearing of not more than 13,360 ha of native vegetation. Vegetation clearing has the potential to cause loss of conservation significant flora species and important vegetation communities.</p> <p>The proposal has the potential to have an impact on the level of representation of species and communities located on a portion of the Marillana Station pastoral lease which is earmarked for inclusion in the conservation reserve system post 2015.</p>
<b>Work required</b>	<p>Description of the proposal and clearing proposed.</p> <p>Flora and vegetation surveys of all areas likely to be directly or indirectly impacted by the proposal undertaken in accordance with EPA (2004) Guidance Statement No. 51 (the decision on the level of survey required should be determined using EPA (2004) Guidance Statement No. 51 - Appendix 2).</p> <p>A description of the survey area and methodologies, including reference to timing, duration, survey effort, any survey limitations, and the nomenclature used. Sampling design should be adequately explained and justified.</p> <p>Maps and text describing the survey area, location of significant species, vegetation mapping, vegetation condition assessment and predicted extent of impact on the vegetation.</p> <p>A comprehensive list of flora species identified and assessment of threatened, priority or other significant flora/ecological communities (TECs, PECs) known or reasonably expected to occur in the area. If flora of conservation interest are found, it is essential that targeted surveys for these taxa extend on a local or regional basis (if data is not available) to facilitate a conservation assessment of the taxa and the potential impact of the proposal.</p> <p>An evaluation of the impact of the proposal on the flora species/communities, including reference to the extent of regional clearing of the vegetation complex/type and ecological linkage.</p> <p>Identification of the direct and indirect impacts on the area and conservation values of the 2015 proposed reserve area (south of Fortescue Marsh) potentially impacted by proposed mining at Koodaideri.</p> <p>Indicative mapping of weed affected areas in any area likely to be directly or indirectly impacted by the proposal.</p> <p>Discussion using current predictions of potential for climate change to increase or decrease the direct and indirect impacts to conservation significant flora and vegetation.</p> <p>A separate section should identify MNES that occur or have the potential to occur within the project area and the quality of the habitat that would be impacted, and discuss how any potential impacts on these matters have been addressed through avoidance and mitigation measures, and discuss any offsets proposed.</p> <p>A quantified evaluation of cumulative impacts of clearing on the conservation status of flora species/communities and strategies and controls to avoid or minimise these.</p>



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	<p>Discussion of proposed management, monitoring and mitigation methods to be implemented.</p> <p>Completion of checklist for documents submitted for EIA on marine and terrestrial biodiversity.</p>
<b>Relevant policy/guidance documents</b>	<p>EPA (2000) Position Statement 2: Environmental Protection of Native Vegetation in Western Australia.</p> <p>EPA (2002) Position Statement 3: Terrestrial Biological Surveys as an Element of Biodiversity Protection.</p> <p>EPA (2004) Position Statement 7: Principles of Environmental Protection.</p> <p>EPA (2005) Position Statement 8: Environmental Protection in Natural Resources Management.</p> <p>EPA (2004) Guidance Statement No. 51: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia June 2004.</p> <p>EPA Checklist for documents submitted for EIA on marine and terrestrial biodiversity.</p> <p>SEWPaC (2012) EPBC Act Environmental Offsets Policy.</p>
<b>Terrestrial Fauna and Subterranean Fauna</b>	
<b>EPA objective</b>	To maintain representation, diversity, viability and ecological function at the species, population and assemblage level.
<b>Potential impacts</b>	Clearing of vegetation would result in loss or fragmentation of fauna habitat and consequential displacement of fauna. Death or injury of fauna (including subterranean fauna) may occur during clearing and construction. Possible obstruction of fauna movements due to increased presence of human activity and disruption to nesting and roosting habits from dust, noise and light emissions.
<b>Work required</b>	<p>Fauna surveys of all areas likely to be directly or indirectly impacted by the proposal undertaken in accordance with EPA (2004) Guidance Statement No. 56 and EPA and DEC (2010) Technical Guide for Terrestrial Fauna Surveys (the decision on the level of survey required should be determined using EPA (2004) Guidance Statement No. 56 - Table 3, Appendix 2).</p> <p>A description of the survey methodologies in the context of the EPA and DEC (2010) Technical Guide for Terrestrial Fauna Surveys.</p> <p>Maps and text describing the survey area, sampling locations and fauna habitats.</p> <p>A comprehensive list and assessment of fauna known or reasonably expected to occur in the area, including any Specially Protected and other significant fauna, and an evaluation of the impact of the proposal on the species and key habitat/s.</p> <p>Investigations (including expert advice) to better understand the potential for the proposal activities such as clearing, blasting and excavation to impact on the identified Pilbara Leaf-nosed Bat colony (<i>Rhinonicteris aurantius</i>) and the regional population of this species. Investigations should include echolocation recording surveys to determine dispersal routes from the colony and to determine locally significant feeding and drinking locations within and outside the project footprint area.</p> <p>An evaluation of the regional and local significance of recorded fauna species and vegetation types likely that will be impacted by the proposal.</p> <p>Aquatic fauna sampling and assessment to determine the conservation values and significance of the fauna of Koodaideri Spring.</p>



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	<p>Troglofauna surveys planned and implemented in accordance with EPA (2003) Guidance Statement 54 and EPA (2007) Guidance Statement 54a.</p> <p>A brief discussion of the potential for impacts to subterranean stygofauna and reasoning behind the decision not to conduct stygofauna surveys.</p> <p>A comprehensive list and assessment of subterranean fauna recorded or reasonably expected to occur in the area, including any Specially Protected and other significant fauna and their known occurrence/habitats locally and their wider status if known, and an evaluation of the risk of the proposal to long-term survival of the species and community.</p> <p>Discussion using current predictions of potential for climate change to increase or decrease the direct and indirect impacts to conservation significant fauna and fauna habitat.</p> <p>A separate section should identify MNES that occur or have the potential to occur within the project area and the quality of the habitat that would be impacted, and discuss how any potential impacts on these matters have been addressed through avoidance and mitigation measures and discuss any offsets proposed.</p> <p>Consideration and discussion of cumulative impacts and the development of strategies and controls to minimise these.</p> <p>Discussion of proposed management, monitoring and mitigation methods to be implemented.</p>
<b>Relevant policy/guidance documents</b>	<p>EPA (2002) Position Statement 3: Terrestrial Biological Surveys as an Element of Biodiversity Protection.</p> <p>EPA (2003) Guidance Statement 54: Consideration of Subterranean Fauna in Groundwater and Caves during Environmental Impact Assessment in Western Australia.</p> <p>EPA (2007) Draft Guidance Statement 54a: Sampling Methods and Survey Considerations for Subterranean Fauna in WA.</p> <p>EPA (2004) Guidance Statement No. 56: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia June 2004.</p> <p>EPA (2011) Technical Guide - Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment.</p> <p>EPA Checklist for documents submitted for EIA on marine and terrestrial biodiversity.</p> <p>SEWPaC (2012) EPBC Act Environmental Offsets Policy.</p>
<b>Hydrological Processes and Inland Waters Environmental Quality</b>	
<b>EPA objective</b>	<p>To maintain the hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.</p> <p>To maintain the quality of groundwater and surface water, sediment and/or biota so that the environmental values, both ecological and social, are protected.</p>
<b>Potential impacts</b>	<p>Surface drainage systems will be disrupted by mine pits, surface waste dumps and stock piles, and drainage structures. This will occur predominantly in the Fortescue Marsh catchment, although no significant drainage lines within the catchment context are expected to be impacted.</p>



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	<p>Water flows in the Koodaideri Spring may be significantly impacted (reduced) by adjacent mining activities. This may cause water pools to recede, with a consequent reduction in habitat for aquatic fauna and other dependent vertebrate fauna.</p> <p>Although 90% of mining is currently anticipated to occur above the natural watertable, some dewatering will occur. No off-site discharges from dewatering will occur, except from high rainfall or flood events.</p> <p>Without appropriate management of waste dumps containing at-risk material (eg material with potential for metalliferous drainage or AMD), there is the potential for contamination of surface water and groundwater.</p>
<b>Work required</b>	<p>Determine the potential water resources available to meet water requirements for the proposal for life of mine. Assess the sustainability of these identified resources for their proposed use and means through which water use can be minimised. Identify the preferred water supply for the proposal.</p> <p>Characterise baseline hydrological regimes and water quality.</p> <p>Develop a conceptual model of the groundwater systems, incorporating groundwater quality and the extent of connectivity between aquifer systems.</p> <p>Detail the site layout plans including locations of surface water diversions so that the extent of surface water impacts can be determined. Define whether the diversions will be permanent or temporary.</p> <p>Provide a description of the design, location and extent of discharges of the proposed waste facilities, and any other elements of the proposal with the potential to impact surface water or groundwater.</p> <p>Undertake a hydrological investigation to determine what effect the proposal will have on the surface water and groundwater, quality and quantity of the area.</p> <p>Determine dewatering requirements and proposed use or disposal of this water.</p> <p>Assessment of the potential impacts on the known conservation values of the Fortescue Marsh. Determine the extent of potential impacts on the Fortescue Marsh from altered surface water drainage and dewatering.</p> <p>Determine the conservation values of the Koodaideri Spring and determine the extent of potential impacts on Koodaideri Spring from altered surface water drainage patterns, dewatering and proximity of pit voids.</p> <p>Discussion using current predictions of potential for climate change to increase or decrease the direct and indirect impacts to surface water and groundwater.</p> <p>Consideration of cumulative impacts and the development of strategies and controls to minimise these.</p> <p>Discussion of proposed management, monitoring and mitigation methods to be implemented.</p>
<b>Relevant policy/guidance documents</b>	<p>ANZECC and ARMCANZ (2000) Implementation Framework for Western Australia for the Australian and New Zealand Guidelines for Fresh and Marine Water Quality and Water Quality Monitoring and Reporting.</p> <p>Government of WA (2004) State Water Quality Management Strategy Document No. 6.</p> <p>Department of Water (2009) Pilbara Water in Mining Guideline. Report No 34.</p>



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	Department of Water (2012) Draft WA Water in Mining Guideline. Report No 12.
<b>Rehabilitation and Mine Closure</b>	
<b>EPA objective</b>	To ensure that premises can be closed, decommissioned and rehabilitated in an ecologically sustainable manner, consistent with agreed outcomes and land uses, and without unacceptable liability to the State.
<b>Potential impacts</b>	<p>Poor rehabilitation and mine closure procedures, planning and management practices may result in a number of undesirable impacts to the receiving environment such as:</p> <ul style="list-style-type: none"> <li>• unauthorised vegetation disturbance;</li> <li>• depletion of topsoil resources;</li> <li>• compacted soil layers with poor infiltration rates;</li> <li>• the formation of pit lakes which may attract and harm wildlife, birds or stock;</li> <li>• the introduction of weeds to rehabilitated areas;</li> <li>• landscape modification, altered hydrology and other ecosystem impacts;</li> <li>• unstable landforms and adverse dust impacts;</li> <li>• poor return of native vegetation and flora species; and</li> <li>• contamination.</li> </ul>
<b>Work required</b>	<p>Desktop study of successful mine closure strategies and outcomes.</p> <p>Provide waste characterisation work (static and kinetic test results) to enable a thorough assessment of Acid Mine Drainage risk posed by the project. If Potentially Acid Forming (PAF) material is identified, provide mine scheduling detail to demonstrate that PAF material is not disturbed during mining and/or that effective strategies will be in place to ensure PAF material is adequately managed should it be exposed and/or disturbed.</p> <p>Provide the physical characteristics of the waste materials and proposed locations and geotechnical design detail for the waste landforms, including the WFSFs. Identify proposed management and monitoring for the waste landforms.</p> <p>As the Western Corridor Rail Option passes through the Wittenoom region, the PER should address asbestos management.</p> <p>Prepare a Rehabilitation and Mine Closure Plan consistent with the Department of Mines and Petroleum (DMP) and EPA <i>Guidelines for Preparing Mine Closure Plans</i>. Include closure objectives addressing habitat quality for significant flora and fauna. A conclusive discussion on backfill options (including 'worst case scenario') is also required.</p> <p>Provide an assessment of the potential for long term contamination of any pit lakes remaining and the potential impacts on groundwater quality, surface water quality.</p> <p>Discuss proposed management, monitoring and mitigation methods to be implemented including post-mining land use and areas to be revegetated.</p>
<b>Relevant policy/guidance documents</b>	<p>DMP and EPA (2011) <i>Guidelines for Preparing Mine Closure Plans</i>.</p> <p>EPA (2006) Guidance Statement No 6: Rehabilitation of Terrestrial Ecosystems.</p>
<b>Residual Risk Management</b>	
<b>EPA objective</b>	To counterbalance any significant residual environmental impacts and risks through the



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	application of offsets.
<b>Potential impacts</b>	<p>Potential impacts on vegetation, flora, habitat and fauna species of State and National significance.</p> <p>Potential impacts on the Fortescue Marsh and Koodaideri Spring resulting from hydrological disturbance.</p>
<b>Work required</b>	<p>Examination of significant residual impacts and, if required, development of a draft program of environmental offsets.</p> <p>Identification of residual impacts with regard to MNES.</p> <p>Inclusion in the PER of the completed Environmental Offsets Reporting Form and any offsets required and proposed.</p>
<b>Relevant policy/guidance documents</b>	<p>EPA (2006) Position Statement 9: Environmental Offsets.</p> <p>EPA (2008) Environmental Protection Bulletin No. 1 – Environmental Offsets – Biodiversity.</p> <p>EPA (2008) Guidance Statement No. 19 – Environmental Offsets – Biodiversity.</p> <p>Govt of WA (2011) WA Environmental Offsets Policy.</p> <p>EPA Offsets Reporting Form.</p> <p>SEWPaC (2012) EPBC Act Environmental Offsets Policy.</p>

These factors must be addressed within the environmental review document for the public to consider and make comment to the EPA. The EPA anticipates addressing these factors in its report to the Minister for Environment. All technical reports, modelling and referenced documents (not currently in the public domain) used in the preparation of the PER should be included as appendices to the document. Spatial data should also be provided to the OEPA for validation of predicted impacts.

### 2.3 Other Environmental Factors

The EPA expects the proponent to take due care in ensuring all other environmental impacts which may be of interest to the public are addressed and that management is described in the environmental review.

The EPA has identified other environmental factors which it considers to be relevant to the proposal and which are considered to warrant attention as part of the environmental review of this proposal to the extent that the PER should show how these factors will be mitigated and the extent to which other statutory decision making processes can regulate the potential effects to meet the EPA's objectives and principles of EIA. These include but are not limited to the following:

#### *Indigenous heritage*

To ensure that changes to the biophysical environment do not adversely affect cultural and heritage associations and comply with relevant heritage legislation.

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The outcomes of adequate ethnographic and archaeological surveys covering all areas where ground disturbance is proposed are to be discussed in the PER. These surveys should be undertaken in consultation with the Department of Indigenous Affairs (DIA) and Traditional Owners. The DIA has recently released *The Cultural Heritage Due Diligence Guidelines* to assist developers to assess the level of risk of breaching the *Aboriginal Heritage Act 1972*.

### Noise

To protect the amenity of nearby residents from noise impacts resulting from activities associated with the proposal by ensuring noise levels meet statutory requirements and acceptable standards.

Noise associated with train movements along the western corridor has the potential to affect the Aboriginal community of Youngaleena (15 km west of Munjina and approximately 2 km from the nearest western corridor boundary), the Auski Roadhouse on the Great Northern Highway (approximately 3.7 km from the nearest western corridor boundary) and the mine village. A noise assessment, as specified by the draft EPA (2007) Guidance Statement No. 8, should be undertaken to demonstrate that noise from the proposal can be managed to comply with the *Environmental Protection (Noise) Regulations 1997*. Noise impact from the rail should be assessed as per the implementation guidelines of State Planning Policy 5.4 – Road and Rail Transport Noise and Freight Considerations in Land Use Planning.

This list is provided to assist with the preparation of the Environmental Review document. If during the course of the preparation of the document other factors are found to be relevant, these factors should be discussed with the OEPA to determine whether they warrant inclusion in the PER.

## 2.4 Other Approvals

The EPA notes that a number of other approvals will be required for the proposal. Where possible, the EPA advises that these approvals should be processed in parallel with the Public Environmental Review, with particular regard to Water Licensing and other approvals required by the Department of Water.

Inclusion of information relating to these approvals as appendices to the PER document prior to public review would be desirable and would eliminate some duplication of processes.

## 2.5 Agreed Assessment Milestones

EPA Environmental Assessment Guideline No. 6 - Timelines for EIA of Proposals addresses the responsibilities of proponents and the EPA for achieving timely and effective assessment of proposals.

This timeline (Table 3) is agreed between the EPA and proponent. Proponents are expected to meet the agreed proposal assessment timeline, and in doing so, provide adequate, quality information to inform the assessment. Proponents will need to



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allocate sufficient time to undertake the necessary studies to the appropriate standard and incorporate the outcomes of the studies into the PER.

Where an agreed timeline is not being met by the proponent, or if adequate information is not submitted by the proponent, the timeline for subsequent steps will be re-established. Where the OEPA is unable to meet a date in the agreed timelines the proponent will be advised and the timeline adjusted.

The EPA will report to the Minister for Environment on whether the agreed proposal assessment timeline has been met. Where the timeline has not been met, the reasons for this will be identified.

**Table 3: Agreed Milestones for the proposal**

<b>Key Stage of Proposal</b>	<b>Agreed Milestone</b>
EPA approval of ESD Document	Mid December 2012
Proponent submits first adequate draft of PER Document	End February 2013
OEPA provides comment on first draft PER Document	Mid April 2013
Proponent submits adequate revised draft PER Document	Mid May 2013
EPA authorises release of PER Document	End May 2013
Proponent releases approved PER Document	Early June 2013
Public Review of PER Document	Mid July 2013
EPA provides Summary of Submissions	Early August 2013
Proponent provides Response to Public Submissions	Early September 2013
OEPA assesses proposal for consideration by EPA	Late November 2013
Preparation and finalisation of EPA Report (including 2 weeks consultation on draft conditions with proponent and key Government agencies)	Early January 2014

### 2.5 Decision Making Authorities

At this preliminary stage, the EPA has identified the following decision making authorities (DMAs) (see Table 4). These DMAs are constrained from making any

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decision that could have the effect of causing or allowing the revised proposal to be implemented. Throughout the assessment process further DMAs may be identified.

**Table 4: Nominated Decision Making Authorities**

<b>Decision Making Authority</b>	<b>Relevant Legislation</b>
Minister for Environment	<i>Wildlife Conservation Act 1950</i>
Minister for Water	<i>RiWI Act 1914</i>
Minister for State Development	<i>Iron Ore (Hamersley Range) Agreement Act 1963</i> <i>Iron Ore (Mount Bruce) Agreement Act 1972</i> <i>Iron Ore (Yandicoogina) Agreement Act 1996</i>
Minister for Mines and Petroleum	<i>Mining Act 1978</i>
Minister for Indigenous Affairs	<i>Aboriginal Heritage Act 1972</i>
Department of Environment and Conservation	Part V of the <i>Environmental Protection Act 1986</i>
Department of Mines and Petroleum	<i>Mining Act 1978</i>

DMAs are not prevented from parallel processing, up to the point of their decision, so that their views can inform the ministerial consultation process.

### 2.6 Preparation of the Environmental Review Document

The recommended format for the Environmental Review document is enclosed as Attachment 1.

When the EPA and DSEWPAC is satisfied with the standard of the environmental review document (see EAG 6 Section 4.3) it will provide a written sign-off, giving approval to advertise the document for public review. The review document may not be advertised for release before written approval is received.

The proponent is responsible for advertising the release and availability of the PER in accordance with the guidelines which will be issued to the proponent by the OEPA. The EPA must be consulted on the timing and details for advertising the document.

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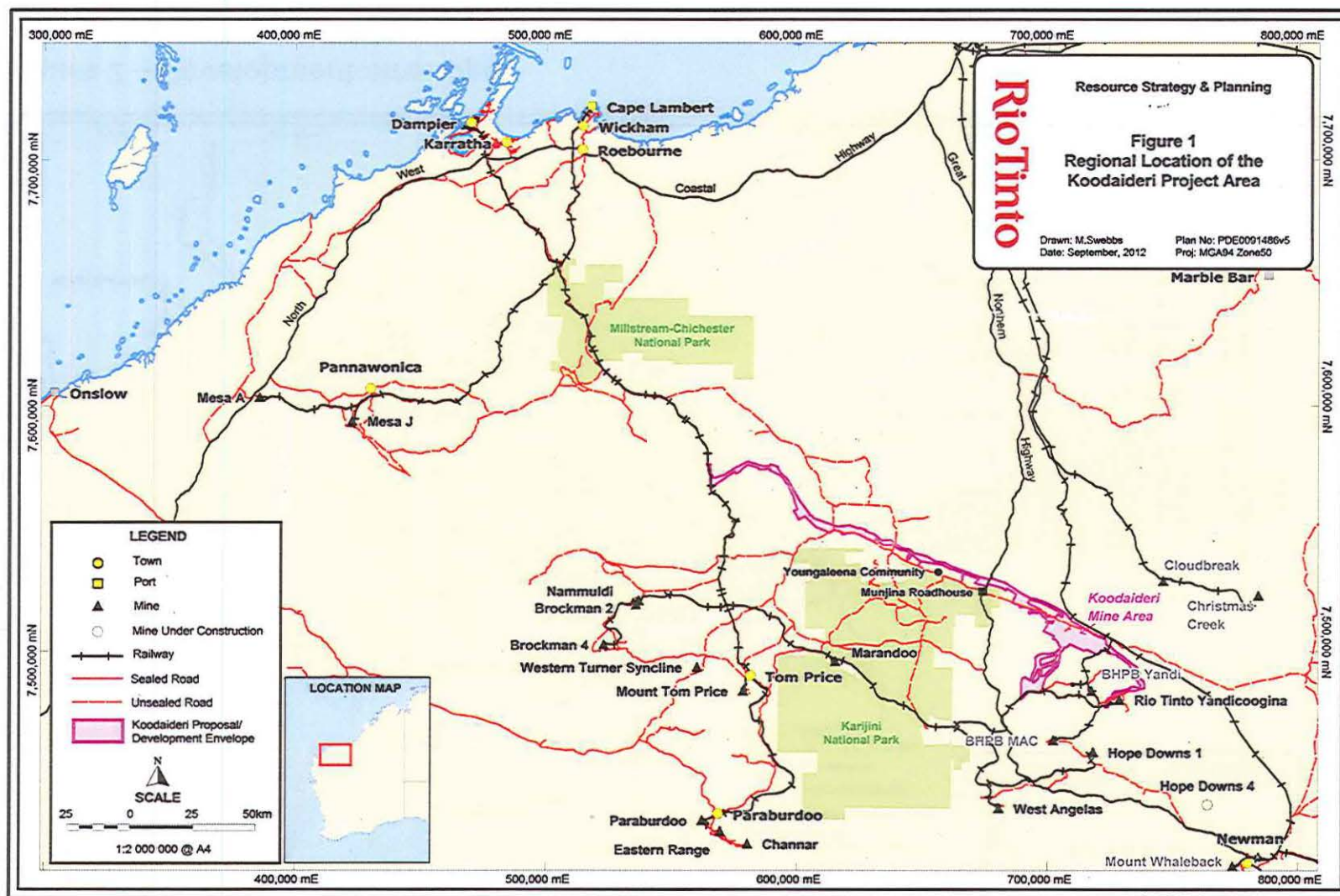


Figure 1 – Regional location of the proposal

## ENVIRONMENTAL PROTECTION AUTHORITY

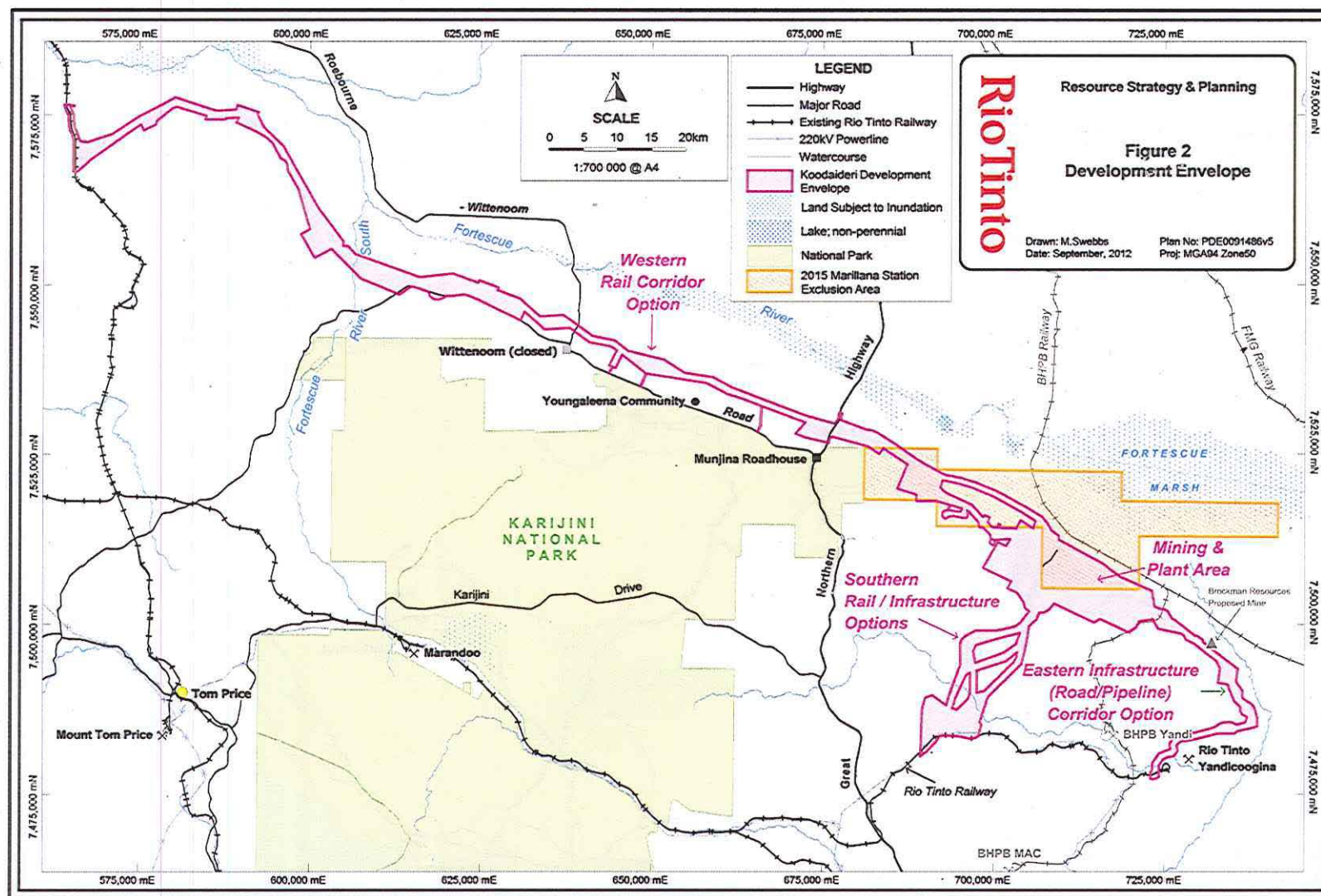


Figure 2 – Development envelope

## **Attachment 1**

### **Generic Guidelines for Preparing a Public Environmental Review**

(see [www.epa.wa.gov.au](http://www.epa.wa.gov.au))

