

**Western Australia Iron Ore**

The background of the lower half of the page is a photograph of an iron ore processing plant. A large, circular, orange-colored structure, likely a ball mill, is the central focus, surrounded by other industrial equipment and scaffolding. The scene is set against a clear blue sky and a large pile of reddish-brown iron ore in the foreground. A large, semi-transparent "DRAFT" watermark is overlaid diagonally across the image.

# **Condition Environmental Management Plan**

Version: Draft

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## 1. Summary

This Condition Environmental Management Plan (the Plan) is submitted by BHP Billiton Iron Ore in accordance with the Ministerial Statements and respective conditions as listed in Table 1 for a number of its Iron Ore Mine Projects across the Pilbara region.

BHP Billiton Iron Ore is working towards a regional management approach for its Pilbara operations. As such, this Plan constitutes a series of 'Schedules', each of which present the environmental criteria to measure achievement of the relevant condition that must be met through implementation of this Plan.

This Plan has been drafted to incorporate adaptive management as knowledge regarding the implementation of a particular objective or management action for a specific factor changes over time.

## 2. Context and scope

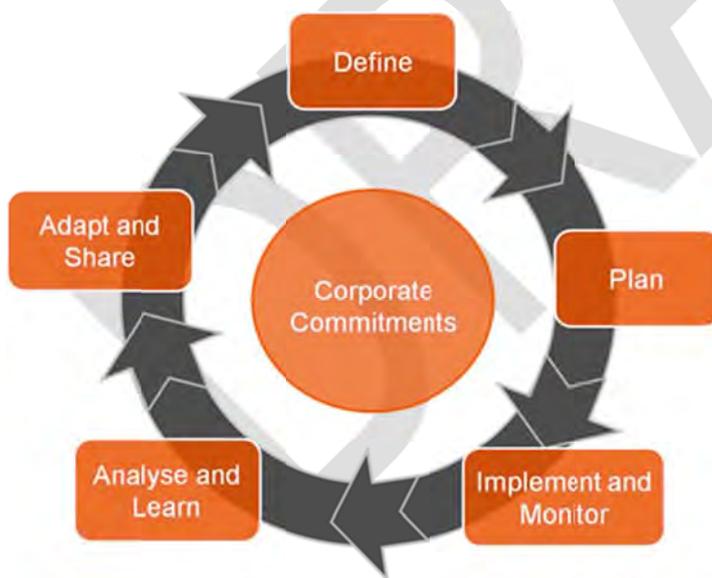
There will be a number of conditions which will be addressed by this Plan. Each individual condition is cross-referenced to a Schedule which contains detailed information specific to the individual condition and Ministerial Statement (refer Table 1).

In developing this Plan, BHP Billiton Iron Ore has considered the guidance provided by the EPA in the Environmental Assessment Guideline (EAG) No. 17: *Preparation of Management Plans under Part IV of the Environmental Protection Act 1986* (EPA 2015).

## 3. Adaptive management

BHP Billiton Iron Ore applies an adaptive management framework for implementing management measures identified in this Plan. Adaptive management is a structured, iterative process to decision making. An integral component is the application of the mitigation hierarchy (avoid, minimise and rehabilitate environmental impacts, prior to applying offsets as a last resort).

The framework embeds a cycle of monitoring, reporting and implementing change where required. It allows an evaluation of the management controls so that they are progressively improved and refined, or alternative solutions adopted, to ensure the outcome-based objectives are achieved. The key steps of the adaptive management approach are outlined in Figure 1.



**Figure 1 BHP Billiton Iron Ore's adaptive management approach**

## 4. Project Environmental and Aboriginal Heritage Review

BHP Billiton Iron Ore has a Project Environmental Aboriginal Heritage Review (PEAHR) process to manage the implementation of its environmental, Aboriginal heritage, land tenure and legal obligations prior to and during land disturbance activities. Additionally, the PEAHR process provides a mechanism whereby technical and professional advice can be provided to the business regarding environmental aspects, land access and Aboriginal heritage planning and management issues. The PEAHR system consists of an electronic workflow process linked to a geographical information system. The objectives of the PEAHR process are to:

- identify the significant environmental, Aboriginal heritage and legal aspects of proposed activities;

- ensure that, through appropriate environmental Aboriginal heritage and land access planning and management, BHP Billiton Iron Ore activities comply with all legal and other obligations;
- avoid, minimise and mitigate the number and nature of environmental, Aboriginal heritage and land tenure impacts and ensure adequate environmental performance of BHP Billiton Iron Ore operations; and
- provide a mechanism for continuous improvement.

## 5. Stakeholder consultation

BHP Billiton Iron Ore undertakes regular and ongoing stakeholder engagement as part of its core business activities. BHP Billiton Iron Ore aims to facilitate regular, open and honest dialogue to understand expectations, concerns and interests of stakeholders and incorporate them into business planning to help build strong, mutually beneficial relationships. The main objectives of the consultation programme are to:

- provide information and the opportunity to comment to relevant government agencies, local authorities and to other groups or individuals who may potentially be interested in a Proposal; and
- where relevant, discuss and allow stakeholder comments on Proposals to be incorporated into this Plan.

## 6. Reporting requirements

Government reporting requirements, including compliance reporting, will be prepared in accordance with the Ministerial Statement conditions described within the attached respective Schedules.

## 7. Review and update of this Plan

BHP Billiton Iron Ore will review and update this Plan to ensure it is relevant and is being implemented effectively. Changes may arise from, but not limited to, a change of scope, stakeholder consultation comments or from opportunities for improvement.

Table 1 will be updated to include date of review and details of subsequent Schedules. New and/or revised Schedules will be provided to the OEPA for review and endorsement by the Chief Executive Officer (CEO) as per the requirements of the respective Ministerial Statement conditions. It is proposed that the number of conditions included in Table 1 will vary in the future including when:

- new Proposals are approved and conditioned through Part IV of the *Environmental Protection Act 1986* (EP Act);
- existing Proposals subject to historic EP Act Part IV conditions are revised and brought under this Plan through a section 46 or Revised Proposal process; and/or
- the Chief Executive Officer (CEO) of the Environmental Protection Authority (EPA) has confirmed by notice in writing that it has been demonstrated that the objective in the relevant condition is being and will continue to be met and therefore implementation of commitments or aspects of the Plan are no longer required.

**Table 1** Index list for Ministerial Statement conditions addressed by this Plan

Ministerial Statement	Title	Condition No.	Type of Condition	Environmental Factor	Schedule	Version/ Date
No. 1021	Orebody 31 Iron Ore Mine Project	Condition 6	Management action	Flora and vegetation	Schedule 1	[in prep]
No. [insert]	Eastern Ridge Revised Proposal	Condition 5	Management action	Flora and vegetation Terrestrial fauna	Schedule 2	Draft Revision B 12 Jan 2016
		Condition 6	Management action	Flora and vegetation Subterranean fauna Hydrological processes		

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**Schedule 1 – Ministerial Statement 1021 – Orebody 31 Iron Ore Mine Project**

**Condition objective:** The proponent shall ensure that the implementation of the Orebody 31 Iron Ore Mine proposal does not affect the viability of *Acacia* sp. East Fortescue at the population level, through the implementation of Conditions 6-2 to 6-15.

**Rationale for management actions/targets:**

- **Conservation Significant Flora** – Direct impacts to *Acacia* sp. East Fortescue were avoided through project design; however, potential indirect impact (i.e. dust) to this species will be minimised where practicable.

Condition	Key Impact	Management Targets	Management Action	Monitoring	Adaptive Management
Condition 6 The proponent shall ensure that the implementation of the Orebody 31 Iron Ore Mine proposal does not affect the viability of <i>Acacia</i> sp. East Fortescue at the population level, through the implementation of conditions 6-2 to 6-15.	[in prep]				
6-6 In the event that advice from the Department of Parks and Wildlife following a review of the survey report of condition 6-5 indicates that the conservation status of <i>Acacia</i> sp. East Fortescue meets Priority 1 flora or higher, the proponent shall, within six months of ground disturbing activities related to the development of the Overburden Storage Area, prepare a Plan, in consultation with the Department of Parks and Wildlife, and to the satisfaction of the CEO. The Plan shall for the Orebody 31 Iron Ore Mine: (1) specify management actions that will be implemented to ensure the management objective in condition 6-1 is achieved; (2) identify and spatially define the proposed monitoring sites and rationale for the location of these sites to assess plant health (3) detail the proposed frequency and timing of monitoring and develop an appropriate monitoring methodology; (4) measurable indicators of plant health; (5) specify appropriate plant health criteria that will trigger the implementation of management actions to ensure condition 6-1 is being met; and (6) specify trigger management actions to be implemented in the event that the trigger criteria specified by condition 6-6(5) are reached.					

**Corporate Endorsement:**

I hereby certify that to the best of my knowledge, the Condition EMP provisions within Schedule 1 of this Plan are true and correct and address the legal requirements of Condition 6 of Ministerial Statement 1021.

Name: \_\_\_\_\_ Signed: \_\_\_\_\_  
 Designation: \_\_\_\_\_ Date: \_\_\_\_\_

## Schedule 2 – Ministerial Statement [insert number] – Eastern Ridge Revised Proposal

**Condition objective:** The proponent shall ensure that the Eastern Ridge Revised Proposal minimises and manages potential impacts to conservation significant flora, conservation significant fauna, riparian vegetation and Ethel Gorge Aquifer Stygobiont Community; and minimise and manage the introduction and spread of introduced flora species through the implementation of proposed Condition 5 and Condition 6.

### Rationale for management actions/targets:

- **Conservation Significant Flora** – Direct impacts to *Eremophila magnifica* subsp. *velutina* were unable to be avoided due to the current resource definition; however, direct impact to this species will be avoided where practicable. Due to the direct impacts on this species from the Eastern Ridge Revised Proposal, *Eremophila magnifica* subsp. *velutina* material will be used during rehabilitation activities undertaken on site.
- **Conservation Significant Fauna** – The Eastern Ridge Development Envelope has been modified to avoid some of the known locations of the Pilbara Olive Python habitat (specifically semi-permanent waterholes) to minimise direct impacts to this species where practicable (Figure 2A).
- **Riparian Vegetation** – *Eucalyptus camaldulensis* subsp. *refulgens* and *E. victrix* have the potential to be impacted from groundwater drawdown at key receptors (sections of Homestead Creek). To validate the potential predicted impacts, monitoring of these species will be undertaken.
- **Ethel Gorge Aquifer Stygobiont Community** – Ethel Gorge Aquifer Stygobiont Community has the potential to be impacted from groundwater drawdown and from changes in water quality through discharge into Ophthalmia Dam. Monitoring of the community will be undertaken in order to validate our potential predicted impacts.
- **Introduced Flora Species** – Introduced flora species will be managed (i.e. implementation of monitoring and controls) in order to minimise impacts to native vegetation.

Condition	Key Impact	Management Targets	Management Action	Monitoring	Adaptive Management
5-1 The Proponent shall ensure that the implementation of the Eastern Ridge Revised Proposal minimises and manages potential impacts to conservation significant flora, conservation significant fauna, and minimise and manage the introduction and spread of introduced flora species.  5-2 The Proponent shall implement the Plan, or any subsequent revisions as approved to the satisfaction of the CEO.	Clearing	No unauthorised disturbance beyond the Development Envelope (Figure 2A).	<ul style="list-style-type: none"> <li>• PEHR must be in place prior to land disturbance to minimise impacts to native vegetation through unauthorised clearing.</li> <li>• Minimise clearing required for overburden storage areas through disposal of waste rock within mine pits where practicable.</li> </ul>	Reporting of land disturbance	Assess level of impact as a result of unauthorised clearing and determine if rehabilitation actions are required.
		<i>Eremophila magnifica</i> subsp. <i>velutina</i> local population material is incorporated in rehabilitation.	<ul style="list-style-type: none"> <li>• Progressive rehabilitation as described in the Eastern Ridge Mine Closure Plan will be implemented (including the use of <i>Eremophila magnifica</i> subsp. <i>velutina</i> material).</li> </ul>	Reporting of rehabilitation monitoring	Rehabilitation monitoring will be evaluated annually to determine the success of the re-establishment of a local population of <i>Eremophila magnifica</i> subsp. <i>velutina</i> within the Eastern Ridge Development Envelope. If the predicted re-establishment of this species is not achieved, the Eastern Ridge Mine Closure Plan will be reviewed and the rehabilitation practices will be adapted where practicable.
	Spread of introduced flora species	No increase in weed distribution attributable to BHP Billiton Iron Ore activities beyond the Development Envelope.	<ul style="list-style-type: none"> <li>• Weed hygiene inspections of ground-engaging equipment prior to arriving at site.</li> <li>• Undertake periodic weed surveys, including species identification and mapping.</li> <li>• Implement weed management controls as required for areas adjacent to native vegetation.</li> </ul>	Weed hygiene forms, and reporting of weed survey	Weed management programs will be evaluated periodically to determine the success of the weed management controls for the Eastern Ridge mining operations. If there is an increase in the occurrence and type of introduced flora species, on site weed management controls will be reviewed and adapted where practicable.
6-1 The Proponent shall manage mine dewatering and surplus water discharge from the Eastern Ridge mining operations in a manner that minimises impacts to the habitat of Ethel Gorge Aquifer Stygobiont Community and riparian vegetation tree species through the implementation of the Plan.  6-2 The Proponent shall implement the Plan, or any subsequent revisions as approved to the satisfaction of the CEO.	Groundwater drawdown	No decline in the health of <i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i> and <i>E. victrix</i> attributable to BHP Billiton Iron Ore activities.	<ul style="list-style-type: none"> <li>• Monitoring of <i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i> and <i>E. victrix</i> within Creek Monitoring Zone of the Homestead Creek will be undertaken periodically during operations (i.e. active dewatering) (Figure 2A).</li> </ul>	Reporting of riparian vegetation monitoring	Riparian vegetation monitoring data will be evaluated and compared to baseline data. In a process of adaptive management, BHP Billiton Iron Ore will verify whether the response to the impacts are the same or similar as predicted. Should the impacts not be as predicted, mitigation actions informed by data obtained from the regional groundwater monitoring network will be implemented.
		Groundwater level targets as described within the Eastern Pilbara Water Resource Management Plan.	<ul style="list-style-type: none"> <li>• Monitoring of groundwater levels within the Ethel Gorge Primary Habitat Monitoring Zone (Figure 2A) during operations (i.e. active dewatering) will be undertaken, as described in the Eastern Pilbara Water Resource Management Plan.</li> </ul>	Annual groundwater reporting	Mitigation actions will be implemented as described in the Eastern Pilbara Water Resource Management Plan.
	Groundwater quality	Groundwater quality target as described within the Eastern Pilbara Water Resource Management Plan.	<ul style="list-style-type: none"> <li>• Monitoring of groundwater quality within the Ethel Gorge Primary Habitat Monitoring Zone (Figure 2A) during operations (i.e. active dewatering) will be undertaken, as described in the Eastern Pilbara Water Resource Management Plan.</li> </ul>	Annual groundwater reporting	Mitigation actions will be implemented as described in the Eastern Pilbara Water Resource Management Plan.

### Corporate Endorsement:

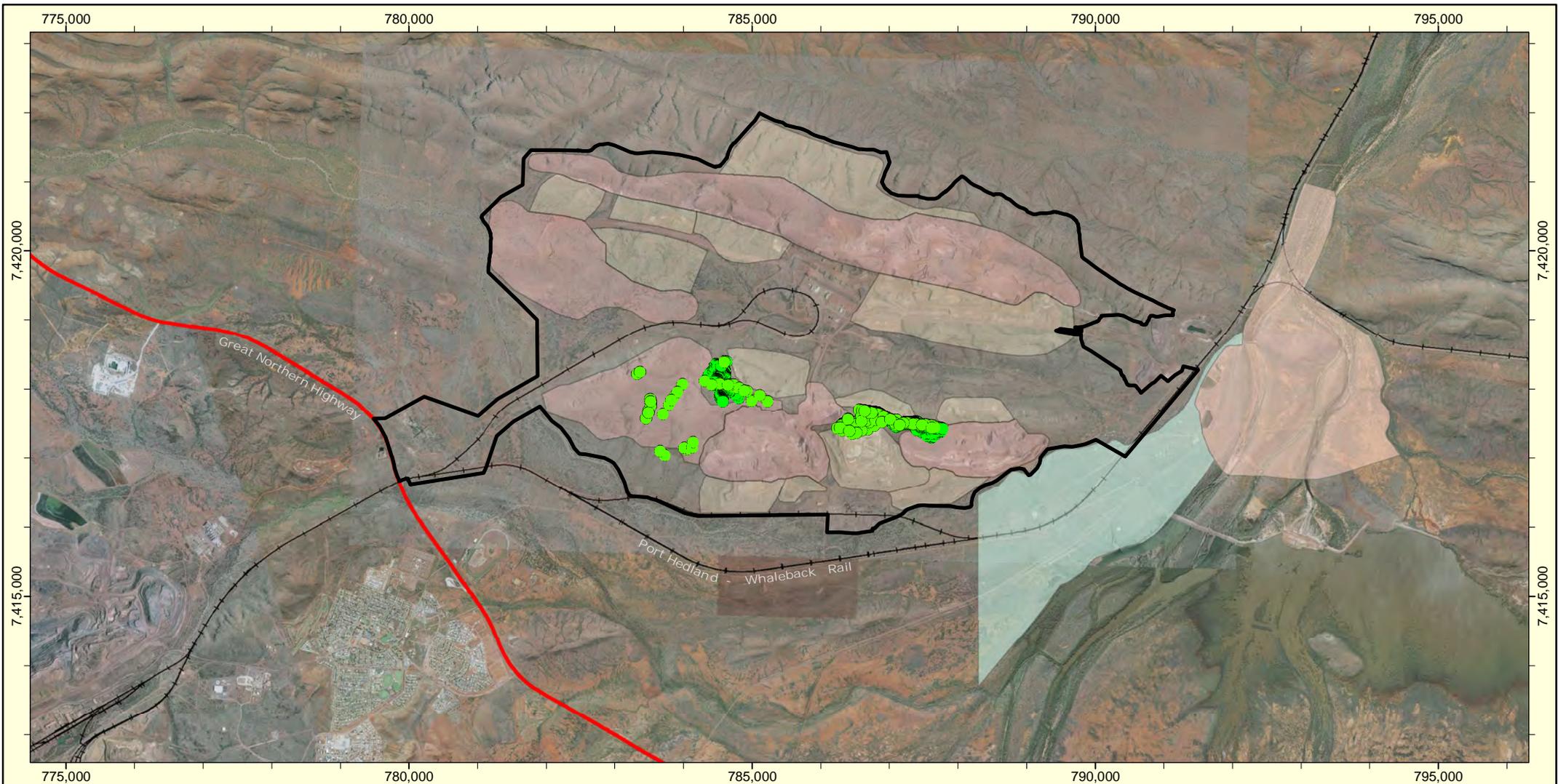
I hereby certify that to the best of my knowledge, the Condition EMP provisions within Schedule 2 of this Plan are true and correct and address the legal requirements of Condition 5 and Condition 6 of Ministerial Statement [insert number].

Name:

Signed:

Designation:

Date:




**Health, Safety and Environment**  
**BHP BILLITON IRON ORE**

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**EASTERN RIDGE  
LOCAL CONTEXT AND LOCATION  
OF EREMOPHILA**

Scale @ A4: 1:80,000	Prepared: P. Gant	Project No: A766/08
Date: 12/01/2016	Checked: E. Drain	Figure: 2a
	Revision: Final	

**LEGEND**

- Significant Flora Observations
- Eremophila magnifica subsp. velutina (Priority 3)
- Opthalmia Dam Monitoring Zones
- Ethel Gorge Primary Habitat Monitoring Zone
  - Creek Monitoring Zone
  - Proposed Eastern Ridge Development Envelope
  - Indicative Pits
  - Indicative Overburden Storage Areas

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