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Note to Reader:

The obligations to meet the requirements of Ministerial Statement conditions are addressed in the Schedules of this Biodiversity Environmental Management Plan. All other information is considered supporting information, and is not subject to Department of Water and Environmental Regulation (DWER) compliance auditing, nor does it require DWER endorsement to be amended.

Document Amendment Record

<table>
<thead>
<tr>
<th>Version</th>
<th>Page Number</th>
<th>Version description</th>
<th>Key changes</th>
<th>Date of Change</th>
</tr>
</thead>
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<tr>
<td>1.0</td>
<td>ALL</td>
<td>Submitted to meet the requirements of Ministerial Statement 1021 Condition 6.</td>
<td>New document.</td>
<td>02/11/2016</td>
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<tr>
<td>2.0</td>
<td>ALL</td>
<td>Revised document. Submitted to meet the requirements of Ministerial Statement 1037 Conditions 5, 6 and 7.</td>
<td>Addition of Schedule 2.</td>
<td>10/02/2017</td>
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<tr>
<td>3.0</td>
<td>ALL</td>
<td>Revised document following OEPA stakeholder consultation, to align to “Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans”.</td>
<td>Schedule structure changed to be based on asset rather than Ministerial Statement. Addition of Stakeholder Consultation and Rationale and approach sections.</td>
<td>11/08/2017</td>
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<tr>
<td>4.0</td>
<td>ALL</td>
<td>Submitted to meet the requirements of Ministerial Statement 679 conditions 11 and 12.</td>
<td>Update to Schedules 2 and 5, and Appendix 3.0</td>
<td>10/10/2017</td>
</tr>
<tr>
<td>5.0</td>
<td>ALL</td>
<td>Submitted to support the assessment of the Mining Area C Southern Flank Public Environment Review</td>
<td>Addition of Schedule 7 Update to Appendix 3.0</td>
<td>10/10/2017</td>
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</tbody>
</table>
## Summary

<table>
<thead>
<tr>
<th>Proponent</th>
<th>Title of proposal / operation</th>
<th>Ministerial Statement Number</th>
<th>EMP Purpose</th>
<th>Key environmental factors and objectives</th>
<th>Key provisions in the plan</th>
</tr>
</thead>
</table>
| BHP Billiton Iron Ore Pty Ltd | Orebody 31 | 1021 | Implementation of condition requirements | Flora and Vegetation – to protect flora and vegetation so that biological diversity and ecological integrity are maintained | - Avoid direct impacts to Acacia sp. East Fortescue, through the modification of the Development Envelope and implementation of Project Aboriginal Heritage Review (PEAHR) process.  
- Response actions to be implemented in the event that trigger/threshold criteria are exceeded include, but are not limited to:  
  - Implement additional dust control practices during operations in the vicinity of ‘impact populations’;  
  - Alter waste material disposal practices to reduce dust generation; and  
  - Rehabilitate northern side of OSA adjacent to ‘impact populations’ as soon as practicable. |
| BHP Billiton Iron Ore Pty Ltd | Eastern Ridge | 1037 | | Flora and Vegetation – to protect flora and vegetation so that biological diversity and ecological integrity are maintained Terrestrial fauna – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained | - Avoid direct impacts (i.e. clearing) to known locations of Eremophila magnifica subsp. velutina, where practicable.  
- Minimise impacts to conservation significant fauna and habitat of conservation significant flora, by implementing the PEAHR process prior to land disturbance.  
- Alter surplus water discharge regime and/or alter abstraction regime to minimise impacts to riparian vegetation  
- Avoid direct impacts to the known locations of Pilbara Olive Python habitat, through the modification of the Development Envelope and implementation of the PEAHR process. |
|                 | Yandi | 679 | | Flora and Vegetation – to protect flora and vegetation so that biological diversity and ecological integrity are maintained | - Minimise impacts to conservation significant flora and habitat of conservation significant fauna, by implementing the PEAHR process prior to land disturbance.  
- Conduct weed hygiene inspections on ground-engaging equipment prior to arriving at site.  
- Implement weed management controls specific to the target species as required. |
| Mining Area C (Southern Flank) | Support the assessment of the Mining Area C (Southern Flank) Public Environmental Review | | Terrestrial fauna – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained | - Avoid direct impacts to ghost bat cave buffer zones, by implementing the PEAHR process prior to land disturbance.  
- Minimise impacts to all known ghost bat cave locations and foraging habitat, by avoiding direct impacts where practicable and implementing the PEAHR process prior to land disturbance. |
1. Context, Scope and Rationale

This Biodiversity Environmental Management Plan (BEMP) has been compiled by BHP Billiton Iron Ore Pty Ltd (BHP) to meet ‘external’ Regulatory (Environmental Protection Authority (EPA)) requirements. Those requirements are to develop and submit an ‘Environment Management Plan (EMP)’ and relevant ‘Schedules’ in accordance with the Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans (EPA, 2016) (the ‘Instructions’) to demonstrate how the business meets the intent of various biodiversity-related implementation conditions under Ministerial Statements.

The provisions of the Instructions permit a Proponent to:

- cover one or more key environmental factors for a particular proposal, and
- cover one or more operations or Ministerial Statements.

(EPA, 2016, p. i),

BHP has utilised these provisions in this particular document to manage an identified number of biodiversity assets to meet its biodiversity management objectives in the Pilbara Region of Western Australia (WA). BHP’s management-based objective for biodiversity in the Pilbara Region is:

where practicable, avoid and mitigate impacts to significant flora species and vegetation communities, where they occur within BHP’s area of influence to an acceptable level.

The regional biodiversity assets within the Pilbara area to which a Ministerial Statement implementation condition applies, have been identified as:

- Acacia sp. East Fortescue - Orebody 31 Iron Ore Mining Project – Jimblebar Hub;
- Conservation significant species – Eastern Ridge Hub and Yandi;
- Eremophila magnifica subsp. veluntina – Eastern Ridge Hub;
- Riparian vegetation (Eucalyptus camaldulensis subsp. refulgens and E. victrix) – Eastern Ridge Hub;
- Conservation significant fauna – Eastern Ridge Hub and Yandi;
- Pilbara Olive Python habitat – Eastern Ridge Hub; and
- Ghost bats (Macroderma gigas) – Mining Area C (Southern Flank)

This document is one of a number of ‘EMPs’, which have been, or are being, developed by BHP to address its various environmental management requirements within the Pilbara Region. This particular document is known within BHP as the BEMP. As such, reference to ‘EMP’ and ‘BEMP’ herein are both considered to refer to this document.

In accordance with the Instructions (EPA, 2016), the following sub-sections outline the Proposals that this BEMP addresses (Section 1.1), the relevant key environmental factors (Section 1.2), the condition requirements applicable to those Proposals (Section 1.3) and the rationale and approach underlying this BEMP (Section 1.4).

---

1 Further explained in Section 1.1
1.1. Proposals

BHP currently operates a number of iron ore mines and associated rail and port infrastructure within the Pilbara Region of WA (Figure 1). Current mining operations include the:

- Newman Joint Venture (NJV) hub located approximately two kilometres (km) west of Newman Township and consisting of Mount Whaleback, and Orebodies 29, 30 and 35;
- Mining Area C (MAC) located approximately 90 km north west of Newman Township;
- Orebody 18 and Wheelarra Hill (Jimblebar) Mine located approximately 35 km east of Newman Township;
- Eastern Ridge consisting of Orebodies 23, 24 and 25; located approximately 5 km east of Newman Township; and
- Yandi Mine located approximately 100 km north-west of Newman Township.

However, not all activities within these hubs are governed by Ministerial Statements containing contemporary biodiversity-related implementation conditions requiring an EMP to be developed and endorsed by the CEO. As such, for the purposes of this section and to meet the requirements of the Instructions (EPA, 2016), Table 1 lists only the Proposals for which a Ministerial Statement has been issued that includes a contemporary implementation condition requiring an EMP to be developed for a biodiversity-related asset in the Pilbara Region.

Table 1: Proposals for which Ministerial Statement implementation conditions require the development of a Schedule for a biodiversity-related regional asset.

<table>
<thead>
<tr>
<th>BHP Hub</th>
<th>Ministerial Statement Number</th>
<th>Title of proposal on Ministerial Statement</th>
<th>Proposal (exact wording in the Ministerial Statement)</th>
<th>Relevant Schedule in this BEMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jimblebar Hub</td>
<td>1021</td>
<td>Orebody 31 Iron Ore Mine Project</td>
<td>&quot;The Proposal is to construct and operate an open-cut iron ore mine, and associated infrastructure, approximately 40 kilometres (km) east of Newman.&quot;</td>
<td>Schedule 1</td>
</tr>
<tr>
<td>Eastern Ridge Hub</td>
<td>1037</td>
<td>Eastern Ridge Iron Ore Revised Proposal</td>
<td>&quot;The Proposal is to undertake mining and associated activities at Eastern Ridge, located approximately 3km north-east of Newman&quot;.</td>
<td>Schedules 2, 3, 4, 5 and 6</td>
</tr>
<tr>
<td>Yandi</td>
<td>679</td>
<td>Marillana Creek (Yandi) Life of Mine Proposal</td>
<td>&quot;Life-of-mine proposal to mine iron ore within Mining Leases 270SA and 47/292 at a rate of approximately 45 million tonnes per annum, and subsequent rehabilitation and decommissioning of the site, as documented in schedule 1 of this statement.&quot;</td>
<td>Schedules 2 and 5</td>
</tr>
<tr>
<td>BHP Hub</td>
<td>Ministerial Statement Number</td>
<td>Title of proposal on Ministerial Statement</td>
<td>Proposal (exact wording in the Ministerial Statement)</td>
<td>Relevant Schedule in this BEMP</td>
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<td>------------------------------------------------------</td>
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</tr>
<tr>
<td>Mining Area C (Southern Flank)</td>
<td>X</td>
<td>TBC</td>
<td>TBC (Draft is below) The proposal is to undertake mining and associated activities at Mining Area C, located approximately 100 km north-west of Newman. The proposal involves open-pit mining above and below the water table at Northern and Southern Flank. The proposal includes pit dewatering, and the construction and operation of associated mine infrastructure.</td>
<td>Schedule 7</td>
</tr>
</tbody>
</table>

For a more in-depth detailed summary of each of the Proposals listed in Table 1, refer to Appendix 1 – Proposal/Operation Summaries.
Figure 1: Regional Overview – Biodiversity Environmental Management Plan
1.2. Key environmental factors

The Instructions require for each environmental factor (relevant to the Proposals detailed in Table 1 of Section 1.1), that a Proponent describes:

1. “the proposal activities which would affect the key environmental factor; and
2. the site-specific environmental value, existing and/or potential uses, ecosystem health condition or sensitive component of the key environmental factor which will be affected”. (EPA, 2016, p. ii)

The key environmental factors applicable to the Proposals presented in Section 1.1 are listed in Table 2.

Table 2: Key environmental factors for which a Schedule has been developed in this BEMP

<table>
<thead>
<tr>
<th>BHP Hub</th>
<th>Title of proposal / operation</th>
<th>Ministerial Statement Number</th>
<th>Key environmental factors</th>
<th>Values</th>
<th>Impacts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jimblebar Hub</td>
<td>Orebody 31 Iron Ore Mine Project</td>
<td>1021</td>
<td>Flora and Vegetation</td>
<td>Acacia sp. East Fortescue</td>
<td>Direct</td>
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<td>Indirect</td>
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<td>Land disturbance</td>
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<td>Dust</td>
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<td></td>
<td>Terrestrial Fauna</td>
<td>Conservation significant flora</td>
<td>Land disturbance</td>
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<td></td>
<td>Eremophila magnifica subsp. velutina</td>
<td>Land disturbance</td>
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<td></td>
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<td></td>
<td>Riparian vegetation (Eucalyptus camaldulensis subsp. refulgens and E. victrix)</td>
<td>Groundwater drawdown</td>
<td>Surplus water</td>
<td>waterlogging</td>
</tr>
<tr>
<td>Yandi</td>
<td>Marillana Creek (Yandi) Life of Mine Proposal</td>
<td>679</td>
<td>Flora and Vegetation</td>
<td>Conservation significant flora</td>
<td>Land disturbance</td>
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<td>Weeds</td>
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<td></td>
<td>Terrestrial Fauna</td>
<td>Conservation significant fauna</td>
<td>Land disturbance</td>
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<tr>
<td>Mining Area C (Southern Flank)</td>
<td>TBC</td>
<td>TBC</td>
<td>Flora and Vegetation</td>
<td>Conservation significant flora</td>
<td>Weeds</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Terrestrial Fauna</td>
<td>Conservation significant fauna</td>
<td>Land disturbance</td>
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</tr>
</tbody>
</table>

DRAFT
1.3. Condition requirements

In accordance with the requirements of the Instructions (EPA, 2016), a list of those Ministerial Statement implementation conditions, for which a Schedule has been developed within this BEMP is provided below in Table 3. The relevant Schedule number is also included in Table 3.
### Table 3: Ministerial Statement conditions and requirements for which a Schedule has been developed in this BEMP

<table>
<thead>
<tr>
<th>Ministerial Statement</th>
<th>Operation</th>
<th>Condition No.</th>
<th>Environmental Factor</th>
<th>Condition Requirements</th>
<th>Schedule</th>
<th>Asset</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1021</td>
<td>Orebody 31</td>
<td>Condition 6</td>
<td>Flora and vegetation</td>
<td>6 Acacia sp. East Fortescue flora species (Flora and Vegetation): 6-1 The proponent shall ensure that the implementation of the Orebody 31 Iron Ore Mine proposal does not affect the viability of <em>Acacia</em> sp. East Fortescue at the population level, through the implementation of Conditions 6-2 to 6-15. 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 <em>Acacia</em> 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 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; (4) Develop an appropriate monitoring methodology and 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 management actions to be implemented in the event that the trigger criteria specified by Condition 6-6(5) are reached.</td>
<td>Schedule 1</td>
<td>Acacia sp. East Fortescue</td>
</tr>
<tr>
<td>No. 1037</td>
<td>Eastern Ridge</td>
<td>Condition 5</td>
<td>Flora and vegetation</td>
<td>5 Management-based Condition Environmental Management Plans 5-1 Within 6 months of issue of this Statement or as otherwise agreed by the CEO, the proponent shall prepare and submit a Condition Environmental Management Plan/s to demonstrate that the environmental objectives in conditions 6-1 and 7-1 will be met. 5-2 The Condition Environmental Management Plan/s shall: (1) specify the environmental objectives to be achieved, as specified in conditions 6-1 and 7-1; (2) specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions; (3) specify measurable management targets to determine the effectiveness of the risk-based management actions; (4) specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring; (5) specify a process for revision of management actions and changes to proposal activities, in the event that the management targets are not achieved. The process shall include an investigation to determine the cause of the management targets being exceeded; (6) provide the format and timing to demonstrate that condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 3-6 including, but not limited to: a) verification of the implementation of management actions; and b) reporting on the effectiveness of management actions against management targets. 6 Flora and Vegetation - conservation significant flora species and vegetation 6-1 The proponent shall manage the implementation of the proposal to meet the following environmental objectives: (1) minimise impacts to Priority flora species, including <em>Eremophila magnifica</em> subsp. <em>velutina</em>; (2) minimise impacts to riparian vegetation (<em>Eucalyptus camaldulensis</em> subsp. <em>refugens</em> and <em>E. victoriae</em>) health. 6-2 The Condition Environmental Management Plan/s is required by condition 5-1 shall include provisions required by condition 5-2, to address potential impacts on conservation significant flora and vegetation health including from, but not limited to, changes to groundwater levels and from weeds.</td>
<td>Schedule 2</td>
<td>Conservation significant flora</td>
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<td></td>
<td>Condition 5</td>
<td>Flora and vegetation</td>
<td>5 Management-based Condition Environmental Management Plans 5-1 Within 6 months of issue of this Statement or as otherwise agreed by the CEO, the proponent shall prepare and submit a Condition Environmental Management Plan/s to demonstrate that the environmental objectives in conditions 6-1 and 7-1 will be met. 5-2 The Condition Environmental Management Plan/s shall: (1) specify the environmental objectives to be achieved, as specified in conditions 6-1 and 7-1; (2) specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions; (3) specify measurable management targets to determine the effectiveness of the risk-based management actions; (4) specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring; (5) specify a process for revision of management actions and changes to proposal activities, in the event that the management targets are not achieved. The process shall include an investigation to determine the cause of the management targets being exceeded; (6) provide the format and timing to demonstrate that condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 3-6 including, but not limited to: a) verification of the implementation of management actions; and b) reporting on the effectiveness of management actions against management targets.</td>
<td>Schedule 3</td>
<td>Eremophila magnifica subsp. velutina</td>
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<tr>
<td>Condition Requirements</td>
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<tr>
<td>6 Flora and Vegetation - conservation significant flora species and vegetation</td>
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<tr>
<td>6-1 The proponent shall manage the implementation of the proposal to meet the following environmental objectives:</td>
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<tr>
<td>(1) minimise impacts to Priority flora species, including <em>Eremophila magnifica</em> subsp. <em>velutina</em>.</td>
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<tr>
<td>6-2 The Condition Environmental Management Plans required by condition 5-1 shall include provisions required by condition 5-2, to address potential impacts on conservation significant flora and vegetation health including from, but not limited to, changes to groundwater levels and from weeds.</td>
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<td>5 Management-based Condition Environmental Management Plans</td>
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<td>5-1 Within 6 months of issue of this Statement or as otherwise agreed by the CEO, the proponent shall prepare and submit a Condition Environmental Management Plan/s to demonstrate that the environmental objectives in conditions 6-1 and 7-1 will be met.</td>
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<td>5-2 The Condition Environmental Management Plan/s shall:</td>
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<td>(1) specify the environmental objectives to be achieved, as specified in conditions 6-1 and 7-1;</td>
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<td>(2) specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions;</td>
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<td>(3) specify measurable management targets to determine the effectiveness of the risk-based management actions;</td>
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<td>(4) specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring;</td>
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<tr>
<td>(5) specify a process for revision of management actions and changes to proposal activities, in the event that the management targets are not achieved. The process shall include an investigation to determine the cause of the management targets being exceeded;</td>
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<td>(6) provide the format and timing to demonstrate that condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 3-6 including, but not limited to:</td>
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<td>a) verification of the implementation of management actions; and</td>
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<td>b) reporting on the effectiveness of management actions against management targets.</td>
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<tr>
<td>6 Flora and Vegetation - conservation significant flora species and vegetation</td>
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<tr>
<td>6-1 The proponent shall manage the implementation of the proposal to meet the following environmental objectives:</td>
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<tr>
<td>(2) minimise impacts to riparian vegetation (<em>Eucalyptus camaldulensis</em> subsp. <em>refulgens</em> and <em>E. victrix</em>).</td>
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<tr>
<td>6-2 The Condition Environmental Management Plan/s required by condition 5-1 shall include provisions required by condition 5-2, to address potential impacts on conservation significant flora and vegetation health including from, but not limited to, changes to groundwater levels and from weeds.</td>
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<tr>
<td>5 Management-based Condition Environmental Management Plans</td>
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<tr>
<td>5-1 Within 6 months of issue of this Statement or as otherwise agreed by the CEO, the proponent shall prepare and submit a Condition Environmental Management Plan/s to demonstrate that the environmental objectives in conditions 6-1 and 7-1 will be met.</td>
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<tr>
<td>5-2 The Condition Environmental Management Plan/s shall:</td>
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<tr>
<td>(1) specify the environmental objectives to be achieved, as specified in conditions 6-1 and 7-1;</td>
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<tr>
<td>(2) specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions;</td>
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<tr>
<td>(3) specify measurable management targets to determine the effectiveness of the risk-based management actions;</td>
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<td>(4) specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring;</td>
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<tr>
<td>(5) specify a process for revision of management actions and changes to proposal activities, in the event that the management targets are not achieved. The process shall include an investigation to determine the cause of the management targets being exceeded;</td>
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<tr>
<td>(6) provide the format and timing to demonstrate that condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 3-6 including, but not limited to:</td>
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<tr>
<td>a) verification of the implementation of management actions; and</td>
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<td>b) reporting on the effectiveness of management actions against management targets.</td>
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<tr>
<td>7 Terrestrial Fauna- conservation significant terrestrial fauna</td>
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<tr>
<td>7-1 The proponent shall manage the implementation of the proposal to meet the following environmental objective:</td>
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<tr>
<td>(1) minimise direct and indirect impacts on conservation significant fauna species, including Pilbara Olive Python, and their habitat.</td>
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<tr>
<td>11 Conservation of Significant Flora and Fauna</td>
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<tr>
<td>11-1 Prior to any ground-disturbing activity following the formal authority issued to the decision-making authorities under section 45(7) of the Environmental Protection Act 1986, the proponent shall prepare a Significant Species Management Programme to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Department of Conservation and Land Management.</td>
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<td>The objective of this Programme is to maintain the abundance, diversity, geographic distribution, conservation status and productivity of flora and fauna at species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge.</td>
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</table>
## Biodiversity Environmental Management Plan

### Condition 12

**12 Weeds**

12-1 Within 12 months following the formal authority issued to the decision-making authorities under section 45(7) of the Environmental Protection Act 1986, the proponent shall prepare a Weed Management Plan to the requirements of the Minister for the Environment acting on advice of the Environmental Protection Authority and the Department of Conservation and Land Management.

The objective of this Plan is to minimise the spread of weed species.

This Plan shall include:

1. the location, approximate number and type of each weed species which has been recorded during previous vegetation surveys;
2. weed control and eradication measures and monitoring activities to manage weeds;
3. weed species which have not been recorded within the project area, but which have the potential to occur;
4. weed control measures and/or monitoring activities to be used to minimise the potential for weed species which have not been previously recorded in the project area from entering; and
5. reporting procedures and schedule.

12-2 The proponent shall review and revise the Weed Management Plan required by condition 12-1 at intervals not exceeding five years.

12-3 The proponent shall implement the Weed Management Plan required by condition 12-1.

12-4 The proponent shall make the Weed Management Plan required by condition 12-1 publicly available.

### Management-based Condition Environmental Management Plans

A Written 6 months of issue of the Statement and otherwise agreed by the CEO, the proponent shall prepare and submit a Condition Environmental Management Plans to demonstrate that the environmental objective in condition X will be met.

X The Condition Environmental Management Plans shall:

1. specify the environmental objectives to be achieved, as specified in condition X;
2. specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in condition X; failure to implement one or more of the management actions represents non-compliance with these conditions; and
3. specify measurable management targets to determine the effectiveness of the risk-based management actions.

X specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring.

X specify a process for revision of management actions and changes to proposal activities; in the event that the management targets are not achieved, the process shall include an investigation to determine the cause of the management targets being exceeded.

X provide the formal and timing to demonstrate that condition X has been met for the reporting period in the Compliance Assessment Report required by condition X, including, but not limited to:

1. verification of the implementation of management actions; and
2. reporting on the effectiveness of management actions against management targets.

### Flora and vegetation - conservation significant flora

1. The proponent shall manage the implementation of the proposal to meet the following environmental objectives:

<table>
<thead>
<tr>
<th>Ministerial Statement</th>
<th>Condition No.</th>
<th>Environmental Factor</th>
<th>Condition Requirements</th>
<th>Schedule</th>
<th>Asset</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td>This Programme shall include:</td>
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<td>(1) surveys, prior to ground-disturbing activities, where baseline surveys have identified the likelihood of significant impact (see note) on flora and fauna species, vegetation associations and habitat areas for species of conservation significance;</td>
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<td>(2) a description of the identified flora and fauna species, vegetation associations and habitat areas for species of conservation significance;</td>
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<td>(3) modification of land clearing plans and evaluation of alternative mine plans or creek diversion designs, where practicable, to minimise or avoid impacts on identified flora and fauna species, vegetation associations and habitat areas for species of conservation significance;</td>
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<td>(4) appropriate demarcation of identified populations and/or individuals of species of conservation significance or habitat areas suitable for fauna species of conservation significance in the vicinity of the disturbance areas;</td>
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<tr>
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<td>(5) species-specific management plans where mining or creek diversion activities are likely to impact on known locations of significant flora and fauna species, vegetation associations and habitat areas of conservation significance;</td>
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<td></td>
<td>(6) records of impacted flora and fauna species, vegetation associations and habitat areas of conservation significance and consultation with regulators where potential impacts on conservation significant species are identified;</td>
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<td>(7) allowance for the staging of mining operations; and</td>
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<td>(8) reporting procedures and schedule.</td>
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</tbody>
</table>

Note: 'significant impact' will be determined by the Minister for the Environment acting on advice of the Environmental Protection Authority and the Department of Conservation and Land Management.
<table>
<thead>
<tr>
<th>Ministerial Statement</th>
<th>Operation</th>
<th>Condition No.</th>
<th>Environmental Factor</th>
<th>Condition Requirements</th>
<th>Schedule</th>
<th>Asset</th>
</tr>
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</table>

### Terrestrial Fauna

1. The Condition Environmental Management Plan/s required by condition X shall include provisions required by condition X to address potential impacts on conservation significant flora including from, but not limited to, weeds.

### Management-based Condition Environmental Management Plans

1. Within 6 months of issue of this Statement or as otherwise agreed by the CEO, the proponent shall prepare and submit a Condition Environmental Management Plan to demonstrate that the environmental objective in condition X will be met.

2. The Condition Environmental Management Plan/s shall:

   - (7) specify the environmental objectives to be achieved, as specified in condition X;
   - (8) specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in condition X; Failure to implement one or more of the management actions represents non-compliance with these conditions;
   - (9) specify measurable management targets to determine the effectiveness of the risk-based management actions;
   - (10) specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring;
   - (11) specify a process for revision of management actions and changes to proposal activities, in the event that the management targets are not achieved. The process shall include an investigation to determine the cause of the management targets being exceeded;
   - (12) provide the format and timing to demonstrate that condition X has been met for the reporting period in the Compliance Assessment Report required by condition X including, but not limited to:
     a) verification of the implementation of management actions; and
     b) reporting on the effectiveness of management actions against management targets.

3. Terrestrial Fauna: conservation significant terrestrial fauna

   1. The proponent shall manage the implementation of the proposal to meet the following environmental objectives:
      1. avoid, where possible, and minimise impacts as far as practicable to conservation significant fauna Macroderma gigas and its habitat;
      2. minimise impacts as far as practicable to the habitats of short range endemic species Antichiropus 'DIP006' and Antichiropus 'DIP007'.
1.4. Rationale and approach

This section provides a concise description of the rationale and approach for this BEMP and discusses the environmental objectives for the identified biodiversity regional assets to which implementation conditions (and Schedules) apply.

The following sections summarise:

- survey findings;
- key assumptions and uncertainties;
- the management approach; and
- the rationale for choice of provisions,

as is required by the Instructions (EPA, 2016, p. ii).

1.4.1. Overall objective, purpose and scope of this BEMP

As previously mentioned, this BEMP has been compiled by BHP to meet 'external' Regulatory (EPA) requirements to develop and submit an EMP and relevant Schedules to demonstrate how the business meets the intent of various biodiversity-related implementation conditions.

From a regional perspective, BHP has been undertaking baseline biological surveys on most of its Pilbara tenements since the 1990s. Comprehensive baseline and targeted flora and vegetation and fauna surveys are undertaken to support environmental impact assessment (EIA) and management. This BEMP seeks to:

... where practicable, avoid and mitigate impacts to significant flora species and vegetation communities and significant fauna species and fauna habitat, where they occur within BHP’s area of influence to an acceptable level.

This will be achieved through:

- prescribing standardised systems and processes to avoid conservation significant flora species and vegetation communities;
- detailing the management actions and strategies that will be implemented to mitigate potential impacts to significant flora species and vegetation communities during the planning, construction and operation of BHP mines, projects and associated infrastructure; and
- outlining the monitoring, inspection, reporting, and management plan review programs that will be implemented in a consistent manner during the life of BHP’s projects.

The biodiversity-related assets, within the Pilbara Region, which have been identified as requiring a ‘Schedule’ to be developed are:

- *Acacia* sp. East Fortescue - Orebody 31 Iron Ore Mining Project – Jimblebar Hub (Schedule 1);
- Conservation significant flora – Eastern Ridge Hub, Yandi and Mining Area C (Southern Flank) (Schedule 2);
- *Eremophila magnifica* subsp. *veluntina* – Eastern Ridge Hub (Schedule 3);
- Riparian vegetation (*Eucalyptus camaldulensis* subsp. *refulgens* and *E. victrix*) – Eastern Ridge Hub (Schedule 4);
- Conservation significant fauna – Eastern Ridge Hub and Yandi (Schedule 5);
- Pilbara Olive Python habitat – Eastern Ridge Hub (Schedule 6);
For these above-listed biodiversity-related assets, management actions, targets and proposed monitoring parameters have been developed in this BEMP and specifically included in the relevant Schedules for the endorsement of the CEO of the EPA. The Schedules are intended to be stand-alone documents.

1.4.2. Surveys – general

Ordinarily, baseline surveys are conducted at a tenement scale. This ensures a regional understanding of flora and vegetation and fauna communities which enables informed management in a regional context and an assessment at a Proposal level of impact and area of influence beyond its direct footprint. Baseline surveys are reviewed on a five-yearly basis to ensure they remain current and applicable for management. In these reviews, survey timing, methodology and extent are considered against contemporary standards. The results of the survey are considered against taxonomic and conservation significance changes over the past five years and the potential for future operational activity in the area.

Targeted surveys may be undertaken to update baseline information or to resolve particular survey or study gaps. Targeted surveys may also be undertaken prior to approved land clearing if there is an identified risk of Declared Rare Flora or Priority 1 species occurring in a proposed impact area.

1.4.3. Management Approach – General

BHP 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. All ground disturbance activities will be required to meet the requirements of the PEAHR process, as well as relevant legislative and regulatory requirements and BHP’s Sustainable Development Policy. 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 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 operations; and
- provide a mechanism for continuous improvement.

*In relation to this BEMP, environmental aspects particularly consider conservation significant fauna, flora and habitat.

1.4.4. Value specific rationale and approach

The Instructions (EPA, 2016) require a “concise” description of the rationale and approach for the EMP against the environmental objective for each regional asset. Appendix 3 – Rationale and Context outlines the survey and study findings, key assumptions and uncertainties, management approach and rationale for choice of provisions regarding each value.
2. EMP provisions

Please refer to the Schedule sections.

3. Adaptive Management and review of the EMP

BHP applies an adaptive management framework for implementing management measures identified in this BEMP. 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 2.

![Figure 2: BHP's adaptive management approach](image)

3.1. Review and update of this BEMP

This BEMP will be reviewed and updated to ensure it addresses the relevant conditions and is being implemented effectively. Changes may arise from, but not limited to, a change of scope, request by proponent or regulator for a change to Ministerial Conditions or this BEMP, stakeholder consultation comments or from opportunities for improvement.

Table 3 will be updated to include date of review and details of subsequent Schedules. New and/or revised Schedules will be provided for review and endorsement by the CEO as per the requirements of the respective Ministerial Statement implementation conditions. It is proposed that the number of conditions included in Table 3 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 BEMP though, for example, a section 46 process; and/or
- the CEO 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 BEMP are no longer required.
4. Stakeholder consultation

BHP undertakes regular and ongoing stakeholder engagement as part of its core business activities. BHP 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 BEMP.

BHP will continue to engage with Traditional Owners through targeted consultation and via administration of Native Title heritage agreements.

Please refer to Appendix 2 – Stakeholder Consultation for details of specific consultation activities, relevant to this BEMP.
5. References

Biota Environmental Sciences (2001) Baseline Biological and Soil Surveys and Mapping for ML244SA West of the Fortescue River. Report prepared for BHP.
ENV Australia (2006) OB 24 Flora And Fauna Assessment Phase II. Report prepared for BHP.
Onshore Environmental (2014a) OB 31 Second Season Level 2 Flora and Vegetation Assessment. Report prepared for BHP.
Onshore Environmental (2014b) OB 31 / Wheelarra Hill North Targeted Flora Survey. Report prepared for BHP.
### Schedule 1 – *Acacia* sp. East Fortescue

To meet the requirements of Conditions 6-1 and 6-6 of Ministerial Statement 1021

**EPA Factor and objective:** Flora and Vegetation – to protect flora and vegetation so that biological diversity and ecological integrity are maintained.

**Values:**

- Acacia sp. East Fortescue – Priority 1 flora taxon.

**Objective:**

- 6-1: 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.

**Key impacts and risks:**

- Risk to biological diversity and/or ecological integrity of *Acacia* sp. East Fortescue population, due to potential indirect impact (i.e. dust). Direct impacts (clearing) to *Acacia* sp. East Fortescue were avoided through project design.

### Management-based provisions

#### Management Actions

6-6 (1) Specify management actions that will be implemented to ensure the management objective in Condition 6-1 is achieved

- Avoid direct impacts to *Acacia* sp. East Fortescue, through the modification of the Development Envelope, as depicted in Schedule 1 Figure(s).
- Avoid direct impacts to *Acacia* sp. East Fortescue buffer areas (as depicted in Schedule 1 Figure(s)), by implementing the PEAHR process prior to land disturbance.

- No unauthorised disturbance as a result of BHP activities beyond the Development Envelope or within the *Acacia* sp. East Fortescue buffer areas.

- Annual land disturbance reconciliation (hectares and spatial footprint).

#### Management Targets

- The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a proposed non-compliance being known.
- The proponent shall submit to the CEO the first Compliance Assessment Report on 1 October following the date of issue of this Statement and then subsequent Compliance Assessment Reports on 1 October in each year or as otherwise agreed in writing by the CEO.
- The Compliance Assessment Report shall:
  1. be endorsed by the proponent’s Chief Executive Officer or a person delegated to sign on the CEO’s behalf;
  2. include a statement as to whether the proponent has complied with the conditions;
  3. identify all potential non-compliances and describe corrective and preventative actions taken;
  4. be made publicly available in accordance with the approved Compliance Assessment Plan; and
  5. indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1.
- In the event that the monitoring specified in the Plan, indicates that the trigger criteria specified in the Plan have been exceeded, the proponent shall provide a report to the CEO within 30 days of an event, referred to in condition 6-8, occurring. The report shall include:
  1. details of trigger management actions implemented; and
  2. the findings of the investigation required by condition 6-8(2).

#### Monitoring

**Report to the Director General of the DWER and the Director General of the DBCA:**

Notification of potential management target or objective non-compliance will be provided to the Director General of the DWER, and the DBCA, within 7 days of that potential non-compliance being known. A report including any corrective actions identified will be provided to the Director General of the DWER, and the DBCA, once an investigation into the potential non-compliance has been completed.

An annual compliance assessment report will be submitted as part of the Annual Environment Report, which will be submitted to the Director General of the DWER by 1 October each year.

The Compliance Assessment Report shall:

1. be endorsed by BHP’s CEO or a person delegated to sign on the CEO’s behalf;
2. include a statement as to whether the proponent has complied with the conditions;
3. identify all potential non-compliances and describe corrective and preventative actions taken;
4. be made publicly available in accordance with the approved Compliance Assessment Plan; and
5. indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1.
<table>
<thead>
<tr>
<th>Environment criteria:</th>
<th>Response actions:</th>
<th>Monitoring</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigger criteria:</td>
<td>Trigger level actions</td>
<td>Monitoring outcomes from impact populations will be compared to the control population. Using photo-point monitoring techniques, conduct quarterly monitoring of Acacia sp. East Fortescue.</td>
<td>4-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known.</td>
</tr>
<tr>
<td>Threshold criteria:</td>
<td>Trigger level actions</td>
<td>Monitoring Point Location</td>
<td>The Compliance Assessment Report shall:</td>
</tr>
<tr>
<td>6-6 (5) Specify appropriate plant health criteria that will trigger the implementation of management actions to ensure condition 6-1 is being met;</td>
<td>- Implement additional dust control practices during operations in the vicinity of ‘impact populations, such as:</td>
<td>Photo-point monitoring sites will be installed at each potential ‘impact population’, as depicted in Schedule 1 Figure(s).</td>
<td>(1) be endorsed by the proponent’s Chief Executive Officer or a person delegated to sign on the Chief Executive Officer’s behalf;</td>
</tr>
<tr>
<td>6-6 (6) Specify trigger management actions to be implemented in the event that the trigger criteria specified by Condition 6(5) are reached</td>
<td>- Water carts;</td>
<td>Four photo-point monitoring sites to be established at each ‘control population’, as depicted in Schedule 1 Figure(s).</td>
<td>(2) include a statement as to whether the proponent has complied with the conditions;</td>
</tr>
<tr>
<td>6-6 (2) Identify and spatially define the proposed monitoring sites and rationale for the location of these sites to assess plant health</td>
<td>- Water cannons;</td>
<td>The location and number of monitoring sites will be amended as required.</td>
<td>(3) identify all potential non-compliances and describe corrective and preventative actions taken;</td>
</tr>
<tr>
<td>6-6 (3) Detail the proposed frequency and timing of monitoring; and</td>
<td>- Application of chemical dust suppressant;</td>
<td>Timing and Frequency</td>
<td>(4) be made publicly available in accordance with the approved Compliance Assessment Plan; and</td>
</tr>
<tr>
<td>6-6 (4) Develop an appropriate monitoring methodology and measurable indicators of plant health.</td>
<td>- Alter waste material disposal practices to reduce dust generation, for example:</td>
<td>Monitoring program will be reviewed at regular intervals and amended as required.</td>
<td>(5) indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1.</td>
</tr>
<tr>
<td>• Statistically significant difference over at least three monitoring periods in the quantitative plant health indicator between potential impact and control monitoring sites.</td>
<td>- Increase cycle time between waste material deposition</td>
<td>Monitoring Methodology</td>
<td>In the event that the monitoring indicates that the trigger criteria have been exceeded, a report will be submitted to the Director General of the DWER, and the DBCA, within 30 days of an event, referred to in condition 6-8, occurring. The report shall include:</td>
</tr>
<tr>
<td>Response actions to be implemented in the event that trigger/threshold criteria are exceeded include, but are not limited to:</td>
<td>- Decrease waste material deposition load volume</td>
<td>A quantitative indicator of population health will be used to compare the potential impact populations with the control population. The population health indicator used will be the overall quantity of photosynthetic material from sample individuals within each population. This indicator of plant health may change depending on findings in accordance with the principles of adaptive management.</td>
<td>(a) details of trigger management actions implemented; and</td>
</tr>
<tr>
<td>• Implement additional dust control practices during operations in the vicinity of ‘impact populations, such as:</td>
<td>• Accelerate progressive rehabilitation of northern side of OSA adjacent to ‘impact populations’.</td>
<td>Quarterly qualitative visual inspection of impact populations and plants assessed using a qualitative scoring method and taking into account, indicators such as flowering, seed set and recruitment.</td>
<td>(b) the findings of the investigation required by condition 6-8(2).</td>
</tr>
<tr>
<td>• Alter waste material disposal practices to reduce dust generation, for example:</td>
<td>• Local weather station data will be used to assist in the quarterly analysis of monitoring results.</td>
<td>Ancillary Data</td>
<td>An annual compliance assessment report will be submitted as part of the Annual Environment Report, which will be submitted to DWER by 1 October each year. The Compliance Assessment Report shall:</td>
</tr>
<tr>
<td>Monitoring outcomes from impact populations will be compared to the control population. Using photo-point monitoring techniques, conduct quarterly monitoring of Acacia sp. East Fortescue.</td>
<td>• Qualitative visual inspection results will be used to validate the quantitative results.</td>
<td>Notification of potential trigger/threshold criteria or objective non-compliance will be provided to the Director General of the DWER, and the DBCA, within 7 days of that potential non-compliance being known.</td>
<td>(1) be endorsed by the proponent’s Chief Executive Officer or a person delegated to sign on the Chief Executive Officer’s behalf;</td>
</tr>
<tr>
<td>Monitoring Point Location</td>
<td>Monitoring program will be reviewed at regular intervals and amended as required.</td>
<td></td>
<td>(2) include a statement as to whether the proponent has complied with the conditions;</td>
</tr>
<tr>
<td>• Photo-point monitoring sites will be installed at each potential ‘impact population’, as depicted in Schedule 1 Figure(s).</td>
<td>Monitoring Methodology</td>
<td></td>
<td>(3) identify all potential non-compliances and describe corrective and preventative actions taken;</td>
</tr>
<tr>
<td>• Four photo-point monitoring sites to be established at each ‘control population’, as depicted in Schedule 1 Figure(s).</td>
<td>Ancillary Data</td>
<td></td>
<td>(4) be made publicly available in accordance with the approved Compliance Assessment Plan; and</td>
</tr>
<tr>
<td>• The location and number of monitoring sites will be amended as required.</td>
<td>Notification of potential trigger/threshold criteria or objective non-compliance will be provided to the Director General of the DWER, and the DBCA, within 7 days of that potential non-compliance being known.</td>
<td></td>
<td>(5) indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1.</td>
</tr>
</tbody>
</table>

**Ancillary Data**

- Local weather station data will be used to assist in the quarterly analysis of monitoring results.
- Qualitative visual inspection results will be used to validate the quantitative results.
Figure Schedule 1(1) – Location of Acacia Sp. East Fortescue populations and monitoring locations
Schedule 2 – Conservation Significant Flora

To meet the requirements of Conditions 6-1 (1), 6-2 and 5-2 of Ministerial Statement 1037, and Conditions 11-1 and 12-1 of Ministerial Statement 679.

EPA Factor and objective: Flora and Vegetation – to protect flora and vegetation so that biological diversity and ecological integrity are maintained.

Values: Priority flora taxa within relevant Development Envelope(s)

Objective:
- MIN1037 6-1 (1) and 5-2 (1): Minimise impacts to conservation significant flora species
- MSX 11-1: Maintain the abundance, diversity, geographic distribution, conservation status and productivity of flora and fauna species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge
- MSX 12-1: Minimise the spread of weed species
- MSX: Minimise the spread of weed species

Key impacts and risks: Risk to biological diversity and/or ecological integrity of conservation significant flora, due to direct loss of habitat or introduced flora species.

Management-based provisions

Management Actions | Management Targets | Monitoring | Reporting
--- | --- | --- | ---
MS1037 5-2 (2) and MSX X specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in MS1037 conditions 6-1 and 7-1 and MSX condition(s) X. Failure to implement one or more of the management actions represents non-compliance with these conditions.
MSX 11-1(3) modification of land clearing plans and evaluation of alternative mine plans or creek diversion designs, where practicable, to minimise or avoid impacts on identified flora and fauna species, vegetation associations and habitat areas for species of conservation significance in the vicinity of the disturbance areas.
MSX 11-1(4) appropriate demarcation of identified populations and/or individuals of species of conservation significance or habitat areas suitable for fauna species of conservation significance in the vicinity of the disturbance areas.
MSX 11-1(5) appropriate demarcation of identified populations and/or individuals of species of conservation significance or habitat areas suitable for fauna species of conservation significance in the vicinity of the disturbance areas.
MSX 11-1(7) allowance for the staging of mining operations.
MSX 12-1(2) weed control and eradication measures and monitoring activities to manage weeds.
MSX 12-1(3) weed control measures and/or monitoring activities to be used to minimise the potential for weed species which have not been previously recorded in the project area entering the Development Envelope.
MSX 12-1(4) weed control measures and/or monitoring activities to be used to minimise the potential for weed species which have not been previously recorded in the project area entering the Development Envelope.
MSX 12-1(5) annual land disturbance reconciliation (hectares and spatial footprint). Notification of potential non-compliance will be provided to the DWER within 7 days of that potential non-compliance being known.

MS1037 5-2 (4) and MSX X specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring.
MSX 11-1(6) records of impacted flora and fauna species, vegetation associations and habitat areas of conservation significance and consultation with regulators where potential impacts on conservation significant species are identified.
MSX 12-1(2) weed control and eradication measures and monitoring activities to manage weeds.
MSX 12-1(4) weed control measures and/or monitoring activities to be used to minimise the potential for weed species which have not been previously recorded in the project area entering.
MS1037 3-5 and MSX X. The proponent shall advise the CEO of any potential non-compliance within 7 days of a potential non-compliance being known.
MSX 3-6 The proponent shall submit to the CEO a Compliance Assessment Report by 1 October each year addressing compliance in the previous financial year, or as agreed in writing by the CEO. The first Compliance Assessment Report shall be submitted by 1 October 2017 addressing the compliance for the period from the date of issue of this Statement, notwithstanding that the first reporting period may be less than 12 months.
MSX X The proponent shall submit to the CEO a Compliance Assessment Report on 1 October following the date of issue of this Statement and then subsequent Compliance Assessment Reports on 1 October thereafter or as otherwise agreed in writing by the CEO.

In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall report the failure to implement management actions within seven (7) days of the exceedance being identified.
MSX 3-4 (1) and MSX X. In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall provide a report to the CEO within 90 days of the exceedance being reported as required by MSX 3-4 (1) and MSX X. The report shall include:
- cause of management targets being exceeded;
- details of revised and/or additional management actions to be implemented to prevent exceedance of the management target/s; and
- relevant changes to proposal activities.
MSX 3-5 (1) and MSX X. In the event that monitoring, tests, surveys or investigations indicate one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall report the failure to implement management actions in writing to the CEO within 7 days of identification; and
MSX 3-5 (4) and MSX X. In the event that monitoring, tests, surveys or investigations indicate one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall provide a report to the CEO within 21 days of the reporting required by MSX 3-5 (1) and MSX X. The report shall include:
- cause for failure to implement management actions;
- the findings of the investigation required by conditions 5-4(2);
- relevant changes to proposal activities; and
- measures to prevent, control or abate the environmental harm which may have occurred.
MSX 11-1(8) and MSX 12-1(5) reporting procedures and schedule.

Minimise

- Minimise impacts to conservation significant flora, by implementing the PEAHRI process prior to land disturbance.
- Minimise clearing of native vegetation, by utilising existing infrastructure and facilities, and disposing of waste rock within mine pits, where practicable.

No unauthorised disturbance beyond the Development Envelope.

Annual land disturbance reconciliation (hectares and spatial footprint).
Biodiversity Environmental Management Plan

**Value and objective:**

- **Flora and Vegetation:** To protect flora and vegetation so that biological diversity and ecological integrity are maintained.

**Values:**

- Priority flora taxa within relevant Development Envelope(s)

**Objective:**

- **MS679 11-1:** Maintain the abundance, diversity, geographic distribution, conservation status and productivity of flora and fauna at species and ecosystem levels through the avoidance of adverse impacts.
- **MS679 12-1:** Minimise the spread of weed species.

**Key impacts and risks:**

- Risk to biological diversity and/or ecological integrity of conservation significant flora, due to direct loss of habitat or introduced flora species.

**Management-based provisions**

<table>
<thead>
<tr>
<th>Management Actions</th>
<th>Management Targets</th>
<th>Monitoring</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS1037 5-2 (3) and MSX X specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in MS1037 conditions 6-1 and 7-1 and MSX conditions X. Failure to implement one or more of the management actions represents non-compliance with these conditions.</td>
<td>MS1037 5-2 (4) and MSX X specify monitoring to determine the effectiveness of risk-based management actions.</td>
<td>MS1037 3-5 and MSX X The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known.</td>
<td>MS1037 3-6 The proponent shall submit to the CEO a Compliance Assessment Report by 1 October each year addressing compliance in the previous financial year, or as agreed in writing by the CEO. The first Compliance Assessment Report shall be submitted by 1 October 2017 addressing the compliance for the period from the date of issue of this Statement, notwithstanding that the first reporting period may be less than 12 months. MSX X The proponent shall submit to the CEO the first Compliance Assessment Report on 1 October following the date of issue of this Statement and then subsequent Compliance Assessment Reports on 1 October thereafter or as otherwise agreed in writing by the CEO. MS1037 5-2 (6) and MSX X provide for the form and timing to demonstrate that MS1037 condition 5-1 and MSX condition X has been met for the reporting period in the Compliance Assessment Report required by MS1037 condition 3-6 and MSX condition X including, but not limited to: (a) verification of the implementation of management actions; and (b) reporting of the effectiveness of management actions against target/s.</td>
</tr>
</tbody>
</table>

**Minimise**

- Conduct weed hygiene inspections on ground-engaging equipment prior to arriving at site.
- Implement weed management controls to specific species and activities as required.
- Undertake periodic weed surveys.

**Note:**

- The process for revision of management actions (required by MS1037 condition 5-2 (5) and MSX condition X), will be to submit a revised schedule to the relevant regulator for endorsement.
- The process for revision of changes to proposal activities (required by MS1037 condition 5-3 and MSX condition X), will be as per the Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual (EPA, 2016) (or subsequent version), e.g. via a Section 45C.

- The proponent shall submit to the CEO a Compliance Assessment Report by 1 October each year addressing compliance in the previous financial year, or as agreed in writing by the CEO. The first Compliance Assessment Report shall be submitted by 1 October 2017 addressing the compliance for the period from the date of issue of this Statement, notwithstanding that the first reporting period may be less than 12 months.

- The proponent shall report the failure to implement management actions to the CEO within seven (7) days of a potential non-compliance being known.

- The proponent shall provide a report to the CEO within 90 days of the exceedance being identified as required by MS1037 condition 5-4(1) and MSX condition X. The report shall include:
  - (a) cause of management target/s being exceeded;
  - (b) the findings of the investigation required by conditions 5-4(2);
  - (c) details of revised and/or additional management actions to be implemented to prevent exceedence of the management target/s;
  - (d) relevant changes to proposal activities.

- The proponent shall report the failure to implement management action/s in writing to the CEO within 7 days of identification; and

- The proponent shall provide a report to the CEO within 21 days of the reporting required by MS1037 condition 5-7(1) and MSX condition X. The report shall include:
  - (a) cause for failure to implement management actions;
  - (b) the findings of the investigation required by MS1037 conditions 5-7(2) and 5-8(3) and MSX condition/s X;
  - (c) relevant changes to proposal activities; and
  - (d) measures to prevent, control or abate the environmental harm which may have occurred.

- An annual compliance assessment report will be submitted as part of the Annual Environment Report, which will be submitted to the DWER by 1 October each year. The compliance assessment report will include, but not be limited to:
  - (a) verification of the implementation of management actions; and
  - (b) reporting on the effectiveness of management actions against management target/s.
Figure Schedule 2(1) – Location of Conservation Significant Flora (Eastern Ridge)
Figure Schedule 2(2) – Location of Conservation Significant Flora (Yandi)
Figure Schedule 2(3) – Location of Weeds (Yandi)
Schedule 3 – *Eremophila magnifica* subsp. *velutina*

To meet the requirements of Conditions 6-1 (1), 6-2 and 5-2 of Ministerial Statement 1037.

**EPA Factor and objective:** Flora and Vegetation – to protect flora and vegetation so that biological diversity and ecological integrity are maintained.

**Values:** *Eremophila magnifica* subsp. *velutina* – Priority 3 flora taxon.

**Objective:** 6-1 (1) and 5-2 (1): Minimise impacts to *Eremophila magnifica* subsp. *velutina.

**Key impacts and risks:** Risk to biological diversity and/or ecological integrity of *Eremophila magnifica* subsp. *velutina*, due to direct loss of habitat.

**Management-based provisions**

<table>
<thead>
<tr>
<th>Management Actions</th>
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</tr>
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<tbody>
<tr>
<td>5-2 (2) specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions</td>
<td>5-2 (3) specify measurable management targets to determine the effectiveness of the risk-based management actions;</td>
<td>5-2 (4) specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring;</td>
<td>3-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known; 3-6 The proponent shall submit to the CEO a Compliance Assessment Report by 1 October each year addressing compliance in the previous financial year, or as agreed in writing by the CEO. The first Compliance Assessment Report shall be submitted by 1 October 2017 addressing the period up to and including the date of issue of this Statement, notwithstanding that the first reporting period may be less than 12 months; 5-2 (6) provide the format and timing to demonstrate that condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 5-6 including, but not limited to: (a) a list of the implementation of management actions; and (b) reporting on the effectiveness of management actions against management targets; 5-4 (1) in the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s) specified in the Condition Environmental Management Plan/s, the proponent shall report the exceedance in writing to the CEO within 21 days of the exceedance being identified; 5-5 (1) in the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s) specified in the Condition Environmental Management Plan/s, the proponent shall provide a report to the CEO within 90 days of the exceedance being reported as required by condition 5-4 (1). The report shall include: (a) cause of management targets being exceeded; (b) the findings of the investigation required by conditions 5-4 (2); (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target(s); and (d) relevant changes to proposal activities; 5-5 (4) in the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan Have not been implemented, the proponent shall report the failure to implement management action(s) in writing to the CEO within 7 days of identification; and 5-5 (5) in the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan Have not been implemented, the proponent shall provide a report to the CEO within 21 days of the reporting required by condition 5-5 (1). The report shall include: (a) cause for failure to implement management actions; (b) the findings of the investigation required by conditions 5-5 (2) and 5-5 (3); (c) relevant changes to proposal activities; and (d) measures to prevent, control or abate the environmental harm which may have occurred.</td>
</tr>
</tbody>
</table>

Avoid
- Avoid direct impacts (i.e. clearing) to known locations of *Eremophila magnifica* subsp. *velutina*, where practicable.

Rehabilitate
- Progressive rehabilitation as described in the Eastern Ridge Mine Closure Plan will be implemented using local top soil, and including the use of *Eremophila magnifica* subsp. *velutina* material.
- Research and development will be undertaken on the propagation and establishment of *Eremophila magnifica* subsp. *velutina* in rehabilitation in the Eastern Pilbara.

Retain
- Retention of self-sustaining population(s) of *Eremophila magnifica* subsp. *velutina* within the Development Envelope.

Annual land disturbance reconciliation (hectares and spatial footprint), Rehabilitation monitoring undertaken in accordance with the Mine Closure Plan and BHP Rehabilitation monitoring standard.

Notification of potential non-compliance will be provided to the Director General of the DWER within 7 days of that potential non-compliance being known.

In the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s):

1. the potential exceedance will be reported in writing to the Director General of the DWER within 21 days of the potential exceedance being identified
2. a report will be provided to the Director General of the DWER within 90 days of the exceedance being reported, and shall include: (a) cause of management targets being exceeded; (b) the findings of potential exceedance investigation; (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target(s); and (d) relevant changes to proposal activities
**EPA Factor and objective:** Flora and Vegetation – to protect flora and vegetation so that biological diversity and ecological integrity are maintained.

**Values:**

**Objective:**
- 6-1 (1) and 5-2 (1): Minimise impacts to *Eremophila magnifica* subsp. *velutina*.

**Key impacts and risks:**
- Risk to biological diversity and/or ecological integrity of *Eremophila magnifica* subsp. *velutina*, due to direct loss of habitat.

### Management-based provisions

#### Management Actions | Management Targets | Monitoring | Reporting
--- | --- | --- | ---

**5-2 (2)** specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions.

**5-2 (3)** specify measurable management targets to determine the effectiveness of the risk-based management actions; monitoring to be implemented to demonstrate the condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 3-6 including, but not limited to:
- (a) verification of the implementation of management actions; and
- (b) reporting on the effectiveness of management actions against management targets/s.

**5-4 (1)** In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall report the exceedance in writing to the CEO within 21 days of the exceedance being identified;

**5-4 (3)** In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall provide a report to the CEO within 90 days of the exceedance being reported as required by condition 5-4(1).

**5-5 (1)** In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall report the failure to implement management action/s in writing to the CEO within 7 days of identification; and

**5-5 (4)** In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall provide a report to the CEO within 21 days of the reporting required by condition 5-5(1).

In the event that monitoring, tests, surveys or investigations indicate that one or more management actions have not been implemented:

1. the potential failure to implement will be reported in writing to the Director General of the DWER within 7 days of the potential failure to implement being identified;
2. a report will be provided to the Director General of the DWER within 21 days of the potential failure to implement being reported, and shall include:
   - (a) cause for failure to implement management actions;
   - (b) the findings of the investigation required by conditions 5-5(2) and 5-5(3); and
   - (c) relevant changes to proposal activities; and
   - (d) measures to prevent, control or abate the environmental harm which may have occurred.

An annual compliance assessment report will be submitted as part of the Annual Environment Report, which will be submitted to the Director General of the DWER by 1 October each year. The compliance assessment report will include, but not be limited to:
- (a) verification of the implementation of management actions; and
- (b) reporting on the effectiveness of management actions against management target/s.

---

Note that the process for revision of management actions (required by MS1037 condition 5-2 (5)), will be to submit a revised schedule to the Director General of the DWER for endorsement. The process for revision of changes to proposal activities required by MS 1037 condition 5-2 (5)), will be as per the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual* (EPA, 2016) (or subsequent version), e.g. via a Section 45C.
Figure Schedule 3(1) – Local context and location of Eremophila magnifica subsp. velutina
### Schedule 4 – Riparian vegetation (Eucalyptus camaldulensis subsp. refulgens and E. victrix)

To meet the requirements of Conditions 6-1 (2), 6-2 and 5-2 of Ministerial Statement 1037.

**EPA Factor and objective:** Riparian vegetation (Eucalyptus camaldulensis subsp. refulgens and E. victrix).

**Objectives:**
- 6-1 (2) and 5-2 (1): Minimise impacts to riparian vegetation (Eucalyptus camaldulensis subsp. refulgens and E. victrix) health.

**Key impacts and risks:** Risk to riparian vegetation (Eucalyptus camaldulensis subsp. refulgens and E. victrix), affecting biological diversity and ecological integrity, due to changes in groundwater levels.

**Management-based provisions**

<table>
<thead>
<tr>
<th>Management Actions</th>
<th>Management Targets</th>
<th>Monitoring</th>
<th>Reporting</th>
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<tbody>
<tr>
<td><strong>5-2 (2)</strong> specify risk-based management actions that will be implemented to demonstrate compliance with the objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions</td>
<td><strong>5-2 (3)</strong> specify measurable management targets to determine the effectiveness of the risk-based management actions;</td>
<td><strong>5-2 (4)</strong> specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring;</td>
<td><strong>3-5</strong> The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known; <strong>3-6</strong> The proponent shall submit to the CEO a Compliance Assessment Report by 1 October each year addressing compliance in the previous financial year, or as agreed in writing by the CEO. The first Compliance Assessment Report shall be submitted by 1 October 2017 addressing the compliance for the period from the date of issue of this Statement, notwithstanding that the first reporting period may be less than 12 months; <strong>5-2 (6)</strong> provide the format and timing to demonstrate that condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 3-6 including, but not limited to: (a) verification of the implementation of management actions; and (b) reporting on the effectiveness of management actions against management targets; <strong>5-4 (1)</strong> In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall report the exceedance in writing to the CEO within 21 days of the exceedance being identified; <strong>5-4 (2)</strong> In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall provide a report to the CEO within 90 days of the exceedance being reported as required by condition 5-4(1). The report shall include: (a) cause of management target/s being exceeded; (b) findings of the investigation required by conditions 5-4(2); (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target/s; and (d) relevant changes to proposal activities; <strong>5-5 (1)</strong> In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan/s in the Environmental Management Plan/s have not been implemented, the proponent shall report the failure to implement management action/s in writing to the CEO within 7 days of identification; and <strong>5-5 (4)</strong> In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall provide a report to the CEO within 21 days of the reporting required by condition 5-5(1). The report shall include: (a) cause for failure to implement management actions; (b) the findings of the investigation required by conditions 5-5(2) and 5-5(3); (c) relevant changes to proposal activities; and (d) measures to prevent, control or abate the environmental harm which may have occurred.</td>
</tr>
</tbody>
</table>

**Trigger level actions**
- alter surplus water discharge regime; and/or
- alter abstraction regime

**Threshold level actions**
- alter surplus water discharge regime; and/or
- alter abstraction regime

**Eucalyptus camaldulensis subsp. refulgens and E. victrix** at monitoring sites 2 and 3 and reference sites 5 or 6, and 6:

- **Trigger criteria** – a vegetation condition score of ≥ 2 across 3 or more of 30%, whichever is lesser, of monitoring (impact) sites during one sample period, unless decline is consistent with regional decline in vegetation (established from comparison with reference sites).

**Parameters:**
- **Vegetation health of Eucalyptus victrix and Eucalyptus camaldulensis**
- **Methodology:** Qualitative assessment of vegetation health of key indicator species, with vegetation health in each monitoring site allocated a score of 0-5, with 0 comprising ‘most plants dead’ and 5 comprising ‘no evidence of stress’.

**Frequency:** Annual

**Error! Reference source not found.** Schedule 4 (1) depicts the

Notification of potential non-compliance will be provided to the Director General of the DWER within 7 days of that potential non-compliance being known.

In the event that monitoring, tests, surveys or investigations indicate a potential exceedance of management target(s):

1. the potential exceedance will be reported in writing to the Director General of the DWER within 21 days of the potential exceedance being identified.
2. a report will be provided to the Director General of the DWER within 90 days of the potential exceedance being reported, and shall include:
   - (a) cause of management targets being exceeded;
   - (b) the findings of potential exceedance investigation;
   - (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target(s); and
   - (d) relevant changes to proposal activities.
Note that the process for revision of management actions (required by MS1037 condition 5-2 (5)), will be to submit a revised schedule to the Director General of the DWER for endorsement. The process for revision of changes to proposal activities required by MS 1037 condition 5-2 (5), will be as per the Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual (EPA, 2016) (or subsequent version), e.g. via a Section 45C.
Schedule 5 – Conservation Significant Fauna

To meet the requirements of Conditions 7-1, 7-2 and 5-2 of Ministerial Statement 1037 and Condition 11-1 of Ministerial Statement 679.

EPA Factor and objective: Terrestrial fauna – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained.

Values: Conservation significant fauna taxa, and their habitat, within relevant Development Envelope(s).

Objective: MS679 11-1: Maintain the abundance, diversity, geographic distribution, conservation status and productivity of flora and fauna at sites and in areas suitable for species of conservation significance and their habitat.

Key impacts and risks: Risk to biological diversity and/or ecological integrity of conservation significant fauna, due to direct loss of habitat.

Management-based provisions

Management Actions | Management Targets | Monitoring | Reporting
--- | --- | --- | ---
MS1037 5-2 (2) specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions | MS1037 5-2 (4) specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and duration of monitoring | MS1037 3-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known; | MS1037 3-6 The proponent shall submit to the CEO a Compliance Assessment Report by 1 October each year addressing compliance in the previous financial year, or as agreed in writing by the CEO. The first Compliance Assessment Report shall be submitted by 1 October 2017 addressing the compliance for the period from the date of issue of this Statement, notwithstanding paragraph 1(7) of the first reporting period may be less than 12 months; | MS1037 5-2 (6) provide the format and timing to demonstrate that condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 5-6 including, but not limited to: (a) verification of the implementation of management actions; and (b) reporting on the effectiveness of management actions against management targets(s); | MS1037 5-4 (1) In the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s) specified in the Condition Environmental Management Plan(s), the proponent shall report the exceedance in writing to the CEO within 7 days of the exceedance being identified; | MS1037 5-4 (2) In the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s) specified in the Condition Environmental Management Plan(s), the proponent shall provide a report to the CEO within 90 days of the exceedance being reported as required by condition 5-4(1). The report shall include: (a) cause of management targets being exceeded; (b) findings of the investigation required by conditions 5-4(2); (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target(s); and (d) relevant changes to proposal activities; | MS1037 5-5 (1) In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall report the failure to implement management actions in writing to the CEO within 7 days of identification; and | MS1037 5-5 (2) In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall provide a report to the CEO within 21 days of the reporting required by condition 5-5(1). The report shall include: (a) cause for failure to implement management actions; (b) findings of the investigation required by conditions 5-5(2) and 5-5(3); (c) relevant changes to proposal activities; and (d) measures to prevent, control or abate the environmental harm which may have occurred. | MS1037 11-1(8) reporting procedures and schedule. | Notification of potential non-compliance will be provided to the DWER within 7 days of that potential non-compliance being known. In the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s): 1. the potential exceedance will be reported in writing to the DWER within 21 days of the potential exceedance being identified; 2. a report will be provided to the DWER within 90 days of the exceedance being reported, and shall include: (a) cause of management targets being exceeded; (b) findings of potential exceedance investigation; (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target(s); and (d) relevant changes to proposal activities. | |

Minimise

- Minimise impacts to habitat of conservation significant fauna by implementing the PEAH process prior to land disturbance.
- Minimise clearing of native vegetation, by utilising existing infrastructure and facilities, and disposing of waste rock within mine pits, where practicable.

No unauthorised disturbance beyond the Development Envelope. Annual land disturbance reconciliation (hectares and spatial footprint).
Biodiversity Environmental Management Plan

EPA Factor and objective: Terrestrial fauna – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained.

Values: Conservation significant fauna taxa, and their habitat, within relevant Development Envelope(s).

Objective: MS679 11-1(2) state that the implication of management actions against management targets, including, but not limited to, parameters to be measured, baseline data, monitoring locations and frequency and timing of monitoring.

MS679 11-1(3) specify measurable management targets to determine the effectiveness of the risk-based management actions.

Key impacts and risks: Risk to biological diversity and/or ecological integrity of conservation significant fauna, due to direct loss of habitat.

Management-based provisions

<table>
<thead>
<tr>
<th>Management Actions</th>
<th>Management Targets</th>
<th>Monitoring</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS1037 5-2 (2)</td>
<td>MS1037 5-2 (4)</td>
<td>MS1037 5-2 (3)</td>
<td>MS1037 3-5</td>
</tr>
<tr>
<td>specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions.</td>
<td>specify monitoring to measure the effectiveness of management actions against management targets, including, but not limited to, parameters to be measured, baseline data, monitoring locations and frequency and timing of monitoring.</td>
<td>specify monitoring to measure the effectiveness of management actions against management targets, including, but not limited to, parameters to be measured, baseline data, monitoring locations and frequency and timing of monitoring.</td>
<td>The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known.</td>
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<tr>
<td>MS679 11-1(3)</td>
<td>MS679 11-1(3)</td>
<td>MS679 11-1(6)</td>
<td>MS1037 3-6</td>
</tr>
<tr>
<td>modification of land clearing plans and evaluation of alternative mine plans or creek diversion designs, where practicable, to minimise direct and indirect impacts on conservation significant fauna species, and their habitat.</td>
<td>MS679 11-1(6)</td>
<td>MS679 11-1(6)</td>
<td>The proponent shall submit to the CEO a Compliance Assessment Report by 1 October each year addressing compliance in the previous financial year, or as agreed in writing by the CEO.</td>
</tr>
<tr>
<td>appropriate demarcation of identified populations and/or individuals of species of conservation significance or habitat areas suitable for fauna species of conservation significance in the vicinity of the disturbance areas</td>
<td>MS679 11-1(6)</td>
<td>MS679 11-1(6)</td>
<td>The first Compliance Assessment Report shall be submitted by 1 October 2017 addressing the compliance for the period from the date of issue of this Statement, notwithstanding that the first reporting period may be less than 12 months;</td>
</tr>
<tr>
<td>appropriate demarcation of identified populations and/or individuals of species of conservation significance or habitat areas suitable for fauna species of conservation significance in the vicinity of the disturbance areas</td>
<td>MS679 11-1(7)</td>
<td>MS679 11-1(7)</td>
<td>In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall report the exceedance in writing to the CEO specified in the Condition Environmental Management Plan's, the proponent shall report the exceedance in writing to the CEO within (7) days of the exceedance being identified;</td>
</tr>
<tr>
<td>MS679 11-1(7)</td>
<td>MS679 11-1(7)</td>
<td>MS679 11-1(7)</td>
<td>MS1037 3-6 (g)</td>
</tr>
<tr>
<td>allowance for the staging of mining operations</td>
<td>MS679 11-1(8)</td>
<td>MS679 11-1(8)</td>
<td>In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall provide a report to the CEO within 90 days of the exceedance being reported as required by condition 5-4(1). The report shall include:</td>
</tr>
</tbody>
</table>

Note that the process for revision of management actions (required by MS1037 condition 5-2 (b)), will be to submit a revised schedule to the Director General of the DwER for endorsement. The process for revision of changes to proposal activities (required by MS 1037 Condition 5-2 (b)), will be as per the Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual (EPA, 2016) (or subsequent version), e.g. via a Section 21CC. Note that the requirements of MS679 11-1(1), 11-1(2), 12-1(1) and 12-1(3) are addressed in Appendix 3 – Rationale and Context, Figure Schedule 5(2).
Figure Schedule 5(1) – Conservation Significant Fauna (Eastern Ridge)
Under Development

Figure Schedule 5(2) – Conservation Significant Fauna (Yandi)
Schedule 6 – Pilbara Olive Python

To meet the requirements of Conditions 7-1, 7-2 and 5-2 of Ministerial Statement 1037.

EPA Factor and objective: Terrestrial fauna – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained.

Values: Pilbara Olive Python - listed as Rare or Likely to become Extinct under the Wildlife Conservation Act 1960.

Objective: 7-1 and 5-2(1); minimise direct and indirect impacts on the Pilbara Olive Python and its habitat.

Key impacts and risks: Risk to biological diversity and/or ecological integrity of Pilbara Olive Python habitat, due to direct loss of habitat.

Management-based provisions

<table>
<thead>
<tr>
<th>Management Actions</th>
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<tr>
<td>5-2 (2) specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions.</td>
<td>5-2 (3) specify measurable management targets to determine the effectiveness of the risk-based management actions.</td>
<td>5-2 (4) specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring.</td>
<td>3-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known; 3-6 The proponent shall submit to the CEO a Compliance Assessment Report by 1 October each year addressing compliance in the previous financial year, or as agreed in writing by the CEO. The first Compliance Assessment Report shall be submitted by 1 October 2017 addressing the compliance for the period from the date of issue of this Statement, notwithstanding that the first reporting period may be less than 12 months; 5-2 (6) Provide the format and timing to demonstrate that condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 3-6 including, but not limited to: (a) verification of the implementation of management actions; and (b) reporting on the effectiveness of management actions against management target(s); 5-4 (1) In the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s) specified in the Condition Environmental Management Plan(s), the proponent shall report the exceedance in writing to the CEO within 21 days of the exceedance being identified; 5-4 (2) In the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s) specified in the Condition Environmental Management Plan(s), the proponent shall provide a report to the CEO within 90 days of the exceedance being reported as required by condition 5-4(1). The report shall include: (a) cause of management targets being exceeded; (b) the findings of the investigation required by conditions 5-4(2); (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target(s); and (d) relevant changes to proposal activities; 5-5 (1) In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall report the failure to implement management actions in writing to the CEO within 7 days of identification; and 5-5 (4) In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall provide a report to the CEO within 21 days of the reporting required by condition 5-5(1). The report shall include: (a) cause for failure to implement management actions; (b) the findings of the investigation required by conditions 5-5(2) and 5-5(3); (c) relevant changes to proposal activities; and (d) measures to prevent, control or abate the environmental harm which may have occurred.</td>
</tr>
</tbody>
</table>

Avoid

- Avoid direct impacts to the known locations of Pilbara Olive Python habitat (waterholes), through the modification of the Development Envelope, as depicted in Schedule 6 Figure(s).

Minimise

- Minimise impacts to Pilbara Olive Python habitat (waterholes), by avoiding direct impacts where practicable and implementing the PEAHR process prior to land disturbance.
- Minimise clearing of native vegetation, by utilising existing infrastructure and facilities, and disposing of waste rock within mine pits, where practicable.

No unauthorised disturbance beyond the Development Envelope. Annual land disturbance reconciliation (hectares and spatial footprint). Notification of potential non-compliance will be provided to the Director General of the DWER within 7 days of that potential non-compliance being known.

In the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s): 1. the potential exceedance will be reported in writing to the Director General of the DWER within 21 days of the potential exceedance being identified; and 2. a report will be provided to the Director General of the DWER within 90 days of the exceedance being reported, and shall include: (a) cause of management targets being exceeded; (b) the findings of potential exceedance investigation; (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target(s); and (d) relevant changes to proposal activities.
### Biodiversity Environmental Management Plan

#### EPA Factor and objective:
Terrestrial fauna – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained.

#### Values:
Pilbara Olive Python listed as *Rare or Likely to become Extinct* under the Wildlife Conservation Act 1950.

#### Objective:
7-1 and 5-2(1): minimise direct and indirect impacts on the Pilbara Olive Python and its habitat.

#### Key impacts and risks:
Risk to biological diversity and/or ecological integrity of Pilbara Olive Python habitat, due to direct loss of habitat.

### Management-based provisions

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<tr>
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<td>5-2 (2) specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in conditions 6-1 and 7-1. Failure to implement one or more of the management actions represents non-compliance with these conditions</td>
<td>5-2 (3) specify measurable management targets to determine the effectiveness of the risk-based management actions;</td>
<td>5-2 (4) specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring location, and frequency and timing of monitoring;</td>
<td>3-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known; 3-6 The proponent shall submit to the CEO a Compliance Assessment Report by 1 October each year addressing compliance in the previous financial year, or as agreed in writing by the CEO. The first Compliance Assessment Report shall be submitted by 1 October 2017 addressing the compliance for the period from the date of issue of this Statement, notwithstanding that the first reporting period may be less than 12 months; 5-2 (6) provide the format and timing to demonstrate that condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 3-6 including, but not limited to:  5-4 (1) In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall report the exceedance in writing to the CEO within 21 days of the exceedance being identified; 5-4 (2) In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall report the exceedance in writing to the CEO within 90 days of the exceedance being reported as required by condition 5-4(1). The report shall include: (a) cause of management targets being exceeded; (b) the findings of the investigation required by conditions 5-4(2); (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target/s; and (d) relevant changes to proposal activities; 5-5 (1) In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall report the failure to implement management action/s in writing to the CEO within 7 days of identification; and 5-5 (4) In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall report the failure to implement management action/s in writing to the CEO within 21 days of the reporting required by condition 5-5(1). The report shall include: (a) cause for failure to implement management actions; (b) the findings of the investigation required by conditions 5-5(2) and 5-5(3); (c) measures to prevent, control or abate the environmental harm which may have occurred.</td>
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Note that the process for revision of management actions (required by MS1037 condition 5-2 (5)), will be to submit a revised schedule to the Director General of the DWER for endorsement. The process for revision of changes to proposal activities required by MS 1037 condition 5-2 (5), will be as per the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual* (EPA, 2016) (or subsequent version), e.g. via a Section 45C.

An annual compliance assessment report will be submitted as part of the Annual Environment Report, which will be submitted to the Director General of the DWER by 1 October each year. The compliance assessment report will include, but not be limited to:  3-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known; 3-6 The proponent shall submit to the CEO a Compliance Assessment Report by 1 October each year addressing compliance in the previous financial year, or as agreed in writing by the CEO. The first Compliance Assessment Report shall be submitted by 1 October 2017 addressing the compliance for the period from the date of issue of this Statement, notwithstanding that the first reporting period may be less than 12 months; 5-2 (6) provide the format and timing to demonstrate that condition 5-1 has been met for the reporting period in the Compliance Assessment Report required by condition 3-6 including, but not limited to: (a) verification of the implementation of management actions; and (b) reporting on the effectiveness of management actions against management target/s.
Figure Schedule 6(1) – Local context and location of Pilbara Olive Python habitat (semi-permanent waterholes)
### Schedule 7 – Ghost bats (Macroderma gigas)

**To meet the requirements of Condition(s) X Ministerial Statement X.**

**EPA Factor and objective:** Terrestrial fauna – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained.

**Values:** Ghost bat (Macroderma gigas) – listed as Vulnerable under the Wildlife Conservation Act 1950 and the Environment Protection and Biodiversity Conservation Act 1999

**Objective:** X. avoid, where possible, and minimise impacts as far as practicable to conservation significant fauna Macroderma gigas and its habitat.

**Key impacts and risks:** Risk to biological diversity and/or ecological integrity of Macroderma gigas and its habitat, due to direct loss of habitat (roosts) and indirect impacts due to loss of foraging habitat.

### Management-based provisions

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<tr>
<th>Management Actions</th>
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<tbody>
<tr>
<td>X specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in condition(s) X. Failure to implement one or more of the management actions represents non-compliance with these conditions</td>
<td>X specify measurable management targets to determine the effectiveness of the risk-based management actions;</td>
<td>X specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations and frequency and timing of monitoring;</td>
<td>X The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known; X The proponent shall submit to the CEO the first Compliance Assessment Report on 1 October following the date of issue of this Statement and then subsequent Compliance Assessment Reports on 1 October thereafter or as otherwise agreed in writing by the CEO; The Compliance Assessment Report shall: (1) be endorsed by the proponent's Chief Executive Officer or a person delegated to sign on the Chief Executive Officer's behalf; (2) include a statement as to whether the proponent has complied with the conditions; (3) identify all potential non-compliances and describe corrective and preventative actions taken; (4) be made publicly available in accordance with the approved Compliance Assessment Plan; and (5) indicate any proposed changes to the Compliance Assessment Plan required by condition X X provide the format and timing to demonstrate that condition X has been met for the reporting period in the Compliance Assessment Report required by condition X including, but not limited to: (a) verification of the implementation of management actions; and (b) reporting on the effectiveness of management actions against management targets;</td>
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<tr>
<td>Avoid</td>
<td>Avoid direct impacts to ghost bat cave buffer zones (depicted in Figure Schedule 7(1)), by implementing the PEAHRI process prior to land disturbance.</td>
<td>No unauthorised disturbance beyond the Development Envelope or within ghost bat cave buffer zones (depicted in Figure Schedule 7(1)).</td>
<td>Notification of potential non-compliance will be provided to the DWER within 7 days of that potential non-compliance being known. In the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s): 1. the potential exceedance will be reported in writing to the DWER within 21 days of the potential exceedance being identified; 2. a report will be provided to the DWER within 90 days of the exceedance being reported, and shall include: (a) cause of management targets being exceeded; (b) the findings of the investigation required by conditions X; (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target(s); and (d) relevant changes to proposal activities</td>
</tr>
<tr>
<td>Minimise</td>
<td>Minimise impacts to all known ghost bat cave locations (depicted in Figure Schedule 7(1)) and foraging habitat, by avoiding direct impacts where practicable and implementing the PEAHRI process prior to land disturbance.</td>
<td>Annual land disturbance reconciliation (hectares and spatial footprint), Rehabilitation monitoring undertaken in accordance with the Mine Closure Plan and BHP Rehabilitation monitoring standard.</td>
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<tr>
<td>Rehabilitation</td>
<td>Progressive rehabilitation within foraging range will be undertaken using Eucalyptus leucophloia or other large tree species (&lt;2 km from ghost bat caves).</td>
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### Biodiversity Environmental Management Plan

**Ghost bat**

- **Terrestrial fauna**
  - Listed as Vulnerable under the Wildlife Conservation Act 1950 and the Environment Protection and Biodiversity Conservation Act 1999

**Objective**

- X. avoid, where possible, and minimise impacts as far as practicable to conservation significant fauna Macroderma gigas and its habitat.

**Key impacts and risks**

- Risk to biological diversity and/or ecological integrity of Macroderma gigas and its habitat, due to direct loss of habitat (roosts) and indirect impacts due to loss of foraging habitat.
## Biodiversity Environmental Management Plan

### EPA Factor and objective:
- **Terrestrial fauna** – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained.

### Values:
- Ghost bat (Macroderma gigas) - listed as 

### Objective:
- X: avoid, where possible, and minimise impacts as far as practicable to conservation significant fauna. 
  Macroderma gigas and its habitat.

### Key impacts and risks:
- Risk to biological diversity and/or ecological integrity of Macroderma gigas and its habitat, due to direct loss of habitat (roosts) and indirect impacts due to loss of foraging habitat.

### Management-based provisions

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<td>X specify measurable management targets to determine the effectiveness of the risk-based management actions;</td>
<td>X specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring;</td>
<td>X The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known;</td>
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<td>X The proponent shall submit to the CEO the first Compliance Assessment Report on 1 October following the date of issue of this Statement and then subsequent Compliance Assessment Reports on 1 October thereafter or as otherwise agreed in writing by the CEO.</td>
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<td>The Compliance Assessment Report shall:</td>
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<td>(1) be endorsed by the proponent’s Chief Executive Officer or a person delegated to sign on the Chief Executive Officer’s behalf;</td>
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<td>(2) include a statement as to whether the proponent has complied with the conditions;</td>
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<td>(3) identify all potential non-compliances and describe corrective and preventative actions taken;</td>
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<td>(4) be made publicly available in accordance with the approved Compliance Assessment Plan; and</td>
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<td>(5) indicate any proposed changes to the Compliance Assessment Plan required by condition X.</td>
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<td>X In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall report the exceedance in writing to the CEO within 21 days of the exceedance being identified;</td>
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<td>X In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall advise the CEO of any potential non-compliance being exceeded;</td>
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<td>X In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall report the exceedance in writing to the CEO within 90 days of the exceedance being identified;</td>
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<td>X The proponent shall provide to the CEO within 90 days of the exceedance being reported as required by condition X. The report shall include:</td>
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<td>(a) cause of management targets being exceeded;</td>
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<td>(b) findings of the investigation required by conditions X;</td>
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<td></td>
<td>(c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target/s; and</td>
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<td>(d) relevant changes to proposal activities</td>
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<td>X In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall report the failure to implement management action/s in writing to the CEO within 7 days of identification;</td>
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<td>2. provide a report to the DWER within 21 days of the potential failure to implement being reported, and shall include:</td>
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<td>(a) cause for failure to implement management actions;</td>
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<td></td>
<td>(d) measures to prevent, control or abate the environmental harm which may have occurred</td>
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</table>

### Note:
- The process for revision of management actions (required by MSX condition X), will be to submit a revised schedule to the DWER for endorsement. The process for revision of changes to proposal activities required by MSX condition X, will be as per the Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual (EPA, 2016) (or subsequent version), e.g. via a Section 45C.
Figure Schedule 7(1) – Local context and location of Ghost bat (Macroderma gigas) habitat and associated buffer zones.
Schedule 8 – Short Range Endemic species

To meet the requirements of Condition(s) X Ministerial Statement X.

<table>
<thead>
<tr>
<th>EPA Factor and objective:</th>
<th>Terrestrial fauna – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values:</td>
<td>Habitats for short range endemic species Antichiropus ‘DIP006’ and Antichiropus ‘DIP007’</td>
</tr>
<tr>
<td>Objective:</td>
<td>X. minimise impacts as far as practicable to the habitats of short range endemic species Antichiropus ‘DIP006’ and Antichiropus ‘DIP007’</td>
</tr>
<tr>
<td>Key impacts and risks:</td>
<td>Risk to biological diversity and/or ecological integrity of Antichiropus ‘DIP006’ and Antichiropus ‘DIP007’ due to direct loss of habitat.</td>
</tr>
</tbody>
</table>

Management-based provisions

<table>
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<td>X specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in condition(s) X.</td>
<td>X specify measurable management targets to determine the effectiveness of the risk-based management actions;</td>
<td>X specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations and frequency and timing of monitoring;</td>
<td>X The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known; X The proponent shall submit to the CEO the first Compliance Assessment Report on 1 October following the date of issue of this Statement and then subsequent Compliance Assessment Reports on 1 October thereafter or as otherwise agreed in writing by the CEO. The Compliance Assessment Report shall:</td>
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<td>(1) be endorsed by the proponent’s Chief Executive Officer or a person delegated to sign on the Chief Executive Officer’s behalf;</td>
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<td>(2) include a statement as to whether the proponent has complied with the conditions;</td>
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<td>(3) identify all potential non-compliances and describe corrective and preventative actions taken;</td>
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<td>(4) be made publicly available in accordance with the approved Compliance Assessment Plan; and</td>
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<td>X In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plans, the proponent shall report the exceedance in writing to the CEO within 21 days of the exceedance being identified;</td>
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<td>(a) cause of management targets being exceeded;</td>
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<td>(b) the findings of the investigation required by condition X;</td>
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<td>(c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target/s; and</td>
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<td>(d) relevant changes to proposal activities</td>
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<tr>
<td>Minimise</td>
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<td>X In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall report the failure to implement management action/s in writing to the CEO within 7 days of identification;</td>
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</tbody>
</table>

- Minimise impacts to Antichiropus ‘DIP007’ habitat (Corymbia hamersleyana), by avoiding direct impacts where practicable and implementing the PEAHR process prior to land disturbance. Captive breeding and reintroduction where appropriate and approved by DBCA following rehabilitation.
- Minimise impacts to Antichiropus ‘DIP006’ inferred habitat, by avoiding direct impacts where practicable and implementing the PEAHR process prior to land disturbance.

Rehabilitation

- Progressive rehabilitation as described in the Mine Closure Plan will be implemented using local top soil, and include the use of Corymbia hamersleyana material in habitat suitable to support Antichiropus ‘DIP007’.
- No unauthorised disturbance beyond the Development Envelope.
- Re-establishment of Corymbia hamersleyana mallee in rehabilitation of infrastructure areas (ROM pads, haul roads, conveyors, processing plants) to a density similar to pre-mining communities.
- Annual land disturbance reconciliation (hectares and spatial footprint).
- Rehabilitation monitoring undertaken in accordance with the Mine Closure Plan and BHP Rehabilitation monitoring standard.

Notification of potential non-compliance will be provided to the DWER within 7 days of that potential non-compliance being known.

In the event that monitoring, tests, surveys or investigations indicate exceedance of management target(s):

1. the potential exceedance will be reported in writing to the DWER within 21 days of the potential exceedance being identified;
2. a report will be provided to the DWER within 90 days of the exceedance being reported, and shall include:
   - (a) cause of management targets being exceeded;
   - (b) the findings of potential exceedance investigation;
   - (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target/s; and
   - (d) relevant changes to proposal activities
**EPA Factor and objective:** Terrestrial fauna – to protect terrestrial fauna so that biological diversity and ecological integrity are maintained.

**Values:** Habitats for short range endemic species *Antichiropus 'DIP006' and Antichiropus 'DIP007'*

**Objective:** X: minimise impacts as far as practicable to the habitats of short range endemic species *Antichiropus 'DIP006' and Antichiropus 'DIP007'*

**Key impacts and risks:** Risk to biological diversity and/or ecological integrity of *Antichiropus 'DIP006' and Antichiropus 'DIP007'* due to direct loss of habitat.

### Management-based provisions

<table>
<thead>
<tr>
<th>Management Actions</th>
<th>Management Targets</th>
<th>Monitoring</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>X specify risk-based management actions that will be implemented to demonstrate compliance with the environmental objectives specified in condition(s) X. Failure to implement one or more of the management actions represents non-compliance with these conditions</td>
<td>X specify measurable management targets to determine the effectiveness of the risk-based management actions;</td>
<td>X specify monitoring to measure the effectiveness of management actions against management targets, including but not limited to, parameters to be measured, baseline data, monitoring locations, and frequency and timing of monitoring;</td>
<td>X The proponent shall advise the CEO of any potential non-compliance within seven (7) days of a potential non-compliance being known; X The proponent shall submit to the CEO the first Compliance Assessment Report on 1 October following the date of issue of this Statement and then subsequent Compliance Assessment Reports on 1 October thereafter or as otherwise agreed in writing by the CEO. The Compliance Assessment Report shall: (1) be endorsed by the proponent’s Chief Executive Officer or a person delegated to sign on the Chief Executive Officer’s behalf; (2) include a statement as to whether the proponent has complied with the conditions; (3) identify all potential non-compliances and describe corrective and preventative actions taken; (4) be made publicly available in accordance with the approved Compliance Assessment Plan; and (5) indicate any proposed changes to the Compliance Assessment Plan required by condition X. X shall provide the format and timing to demonstrate that condition X has been met for the reporting period in the Compliance Assessment report required by condition X including, but not limited to: (a) notification of the implementation of management actions; and (b) reporting on the effectiveness of management actions against management target/s; X In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall report the exceedance in writing to the CEO within 21 days of the exceedance being identified; X In the event that monitoring, tests, surveys or investigations indicate exceedance of management target/s specified in the Condition Environmental Management Plan/s, the proponent shall report the failure to implement the finding of the investigation required by conditions X; (c) details of revised and/or additional management actions to be implemented to prevent exceedance of the management target/s; and (d) relevant changes to proposal activities X In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the Condition Environmental Management Plan have not been implemented, the proponent shall report the failure to implement management action/s in writing to the CEO within 7 days of identification;</td>
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</tbody>
</table>

Note that the process for revision of management actions (required by MSX condition X), will be to submit a revised schedule to the DWER for endorsement. The process for revision of changes to proposal activities required by MSX condition X, will be as per the Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual (EPA, 2016) (or subsequent version), e.g. via a Section 45C.
Figure Schedule 8(1) – Local context and location of *Antichirus* 'DIP007' habitat (*Corymbia hamersleyana*) and *Antichirus* 'DIP006' inferred habitat.
Appendix 1 – Proposal/Operation Summaries

<table>
<thead>
<tr>
<th>Ministerial Statement</th>
<th>Operation</th>
<th>Operation/Proposal Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1021</td>
<td>Orebody 31</td>
<td>Orebody 31 is located approximately 40 km east of Newman Township and approximately 8 km east of the existing Orebody 18 Mine Hub in the Pilbara region of WA. Orebody 31 was identified as the preferred option to replace ore sources from the Orebody 18 deposit which are expected to be depleted by 2019 and involves conventional open pit iron ore mining of the mineralised Brockman Iron Formation. The approval includes the construction of an overland heavy vehicle haul road (short term) and an overland conveyor (long term) from Orebody 31 to existing operations at the Orebody 18 Mine Hub or the Wheelarra Hill (Jimblebar) Mine Hub as well as the construction of associated mine infrastructure (overburden storage areas, offices, workshops, roads, dewatering infrastructure, ore and topsoil stockpiles and associated facilities). The operation will utilise existing ore handling facilities, including primary crusher, stockpiles and train load out facilities. For the base scenario (15 Mtpa), ore will be transported via road or an overland conveyor to existing ore handling facilities at the Orebody 18 Mine Hub, then railed to the Mount Whaleback Mine, where it will be blended with the ore produced by the Newman Joint Venture. Under the growth scenario (30 Mtpa), some of the additional 15 Mt of ore will be transported to the existing ore handling facilities at the Orebody 18 Mine Hub and some may be transported to the Wheelarra Hill (Jimblebar) Mine Hub, either via road or an overland conveyor in future. Ore from either or both the Orebody 18 Mine Hub and Jimblebar Mine Hub will be railed to the Mount Whaleback Mine Hub and blended with ore produced by the Newman Joint Venture prior to being transported via rail to Port Hedland. The bulk of this orebody lies below the water table (estimated 70%) and will require in-pit and ex-pit mine dewatering in advance to facilitate dry mining conditions.</td>
</tr>
<tr>
<td>No. 1037</td>
<td>Eastern Ridge</td>
<td>The Eastern Ridge Revised Proposal comprises previously existing approved mining operations at Orebody 24 (previously administered under Ministerial Statement 834), Orebody 25 (previously administered under Ministerial Statement 712) and Orebody 32 (previously administered under Ministerial Statement 1018) and a new satellite iron ore deposit at Orebody 25 West. The operation is located approximately three kilometres (km) north-east of Newman within Mineral Lease 244SA. Mining will be undertaken above the water table at Orebody 32 and below the water table at Orebody 24, Orebody 25 and Orebody 25 West. Additional areas of disturbance to those previously approved include minor areas of the Development Envelope, a new satellite Orebody 25 West, additional parts of Orebody 24 and Orebody 32 open pits and additional overburden storage areas. The construction of associated mine infrastructure will be located anywhere within the Development Envelope. Mining operations will utilise conventional drill and blast techniques for open pit mining. Extracted ore will be crushed at ore handling plants and transported via rail to either Newman Hub or the Wheelarra Hill (Jimblebar) Mine Hub as well as the construction of associated mine infrastructure (overburden storage areas, offices, workshops, roads, dewatering infrastructure, ore and topsoil stockpiles and associated facilities). The operation will utilise existing ore handling facilities, including primary crusher, stockpiles and train load out facilities. For the base scenario (15 Mtpa), ore will be transported via road or an overland conveyor to existing ore handling facilities at the Orebody 18 Mine Hub, then railed to the Mount Whaleback Mine, where it will be blended with the ore produced by the Newman Joint Venture. Under the growth scenario (30 Mtpa), some of the additional 15 Mt of ore will be transported to the existing ore handling facilities at the Orebody 18 Mine Hub and some may be transported to the Wheelarra Hill (Jimblebar) Mine Hub, either via road or an overland conveyor in future. Ore from either or both the Orebody 18 Mine Hub and Jimblebar Mine Hub will be railed to the Mount Whaleback Mine Hub and blended with ore produced by the Newman Joint Venture prior to being transported via rail to Port Hedland. The bulk of this orebody lies below the water table (estimated 70%) and will require in-pit and ex-pit mine dewatering in advance to facilitate dry mining conditions.</td>
</tr>
<tr>
<td>No. 679</td>
<td>Yandi</td>
<td>Yandi (Marillana Creek) is located approximately 90 kilometres (km) north-west of Newman Township in the Pilbara region of Western Australia (WA). The Yandi Mine ore body is a near surface Chanel Iron Deposit (CID) which, for mine planning purposes, has been sub-divided into a series of mine areas. These mine areas are known as the C1 to C5, E1 to E8 and W1 to W6 areas (Figure 2-1). Open pit mining at Yandi Mine commenced in 1991. Ore is mined using conventional mining methods before being transported by rail to Port Hedland for export. Mining is approved below water table and requires the diversion of the Marillana Creek from a number of deposits. Diversion activities operate under a separate Diversion Management Plan.</td>
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<tr>
<td>No. 3</td>
<td>Mining Area C (Southern Flank)</td>
<td>The Proposal area is located in the Pilbara region of Western Australia and is located approximately 100 km north-east of the Newman Township in the Pilbara region of Western Australia. The Southern Flank ore body is positioned approximately 8 km south of BHP’s Mining Area C Development Envelope. BHP proposes to extract approximately 80 million tonnes per annum (Mtpa) of iron ore from the Southern Flank orebody, or a total of approximately 150 Mtpa from the Mining Area C operation. The Proposal predominantly comprises above water table mining through conventional open-cut mining methods, however will involve extraction of groundwater in advance of mining to allow campaign mining of iron ore and overburden below the groundwater table.</td>
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</table>
## Appendix 2 – Stakeholder Consultation

<table>
<thead>
<tr>
<th>Version</th>
<th>Stakeholder</th>
<th>Date of Consultation</th>
<th>Description of Consultation</th>
<th>Topics / Issues Raised</th>
<th>BHP Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>DPaW (now DBCA)</td>
<td>29 November 2016</td>
<td>Biodiversity Environmental Management Plan was submitted to the former DPaW for endorsement (Sandra Thomas and Murray Baker)</td>
<td>On 19 December 2016, the former DPaW requested additional information regarding specific aspects of the plan (trigger criteria, photographic monitoring, management actions, adaptive management and review).</td>
<td>On 29 December 2016, BHP responded providing the requested additional information.</td>
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<tr>
<td>1.0</td>
<td>OEPA (now DWER)</td>
<td>23 March 2017 and 26 May 2017</td>
<td>Meeting with officers of the former OEPA (Anthony Sutton, Sally Bowman, Tanya Liaghati, Chris Stanley)</td>
<td>Alignment of the Biodiversity Environmental Management Plan to the recently released EPA Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans (EPA, 2016) template. The former OEPA also suggested an asset-based approach to Schedules, rather than a Ministerial Statement based approach.</td>
<td>BHP revised the Biodiversity Environmental Management Plan in consideration of the former OEPA comments.</td>
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<tr>
<td>2.0</td>
<td>DBCA</td>
<td>4 October 2017</td>
<td>Meeting with Stephen Van Leeuwen (Assistant Director, Science Science &amp; Conservation Division)</td>
<td>Meeting was held with DBCA and BHP’s fauna consultants to discuss proposed research work to be undertaken between 2017 and 2018. The purpose of this research work is to further understand the population genetics of ghost bats at Southern Flank and surrounds and to determine key areas of foraging habitat. The DBCA confirmed that the approach is suitable for the key aims. DBCA is providing the genetics services for the project.</td>
<td>BHP is developing a research proposal for ghost bats for review and endorsement by DBCA.</td>
</tr>
</tbody>
</table>

Note that the above stakeholder consultation is in addition to that conducted as part of the Environmental Referral process, which is described in relevant submission documentation.
Appendix 3 – Rationale and Context

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Value</th>
<th>Surveys and Studies</th>
<th>Survey and Study Findings</th>
<th>Key assumptions and uncertainties</th>
<th>Rationale for choice of provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Schedule 1</strong></td>
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<tr>
<td>Acacia sp. East Fortescue</td>
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<td>Onshore Environmental (2014a) OB 31 Second Season Level 2 Flora and Vegetation Assessment.</td>
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<td>Onshore Environmental (2014b) OB 31 / Wheelarra Hill North Targeted Flora Survey.</td>
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<tr>
<td>Onshore Environmental (2015c) Targeted Flora Survey Acacia sp. East Fortescue.</td>
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<td>Acacia sp. East Fortescue is a new taxon recorded as 567 plants from three populations occurring across approximately 6.1 ha situated along the north-west boundary of BHP’s Orebody 31 tenement. Populations ranged from 0.6 ha to 5.5 ha in area and supported between 105 plants and 348 plants. Plants were concentrated along breakaway slopes of relatively low undulating hills (518 m and 555 m AHD) where overhangs and small caves were characteristic of the landscape. The population typically extended onto low hills slopes and into minor drainage lines dissecting the low hills.</td>
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<td>The three known populations of Acacia sp. East Fortescue occur along a fault line at the intersection of two geological formations within the Hamersley Group BiFs. Boolgeeda Iron Formation and Woongarra Rhyolite. Plants were growing in areas where the Boolgeeda Iron Formation had been heavily weathered, exposing the underlying Woongarra Rhyolite at surface.</td>
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<td>An intensive targeted survey covering 65 km² surrounding the three known populations of Acacia sp. East Fortescue at Orebody 31 failed to record any additional plants. Geographical and landform modelling identified broad regional targets that were difficult to access by vehicle and on foot. Areas that could be accessed as part of targeted searches completed during 2015 did not record any additional populations of Acacia sp. East Fortescue. It is noted that there were significant limitations that restricted access during the regional targeted surveys. There are additional targets situated further east and south-east that are of also interest but cannot be safely accessed.</td>
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<tr>
<td><strong>Schedule 2</strong></td>
<td>Conservation Significant Flora (Eastern Ridge)</td>
<td>BHP Environment Department (2000) Orebody 25 Priority Flora Species Survey.</td>
<td>No plant taxon gazetted as Threatened Flora (T) pursuant to subsection (2) of Section 23F of the Wildlife Conservation Act 1950 (WA) Act or listed under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) has been recorded within the Development Envelope. Four Priority flora taxa have been recorded within the Development Envelope:</td>
<td>We, the exception of Eremophila magnifica subsp. velutina, which is addressed under Schedule 3, it is considered unlikely that any of the Priority flora previously recorded in the Development Envelope are currently present: Isopropis parviflora has not been recorded in subsequent surveys, despite specific efforts to locate it; Goodenia nuda has been documented to have been removed during construction works in 2007; and Calotis latiuscula occurs adjacent to a main access road in an area highly disturbed by weeds. Five weed species (Bidens bipinnata, Cenchrus ciliaris, Echinochloa colona, Malvastrum americanum and Rumex vesicarius) have been recorded within the vicinity of the Calotis latiuscula record. None of these species are Declared Weeds, and turfgrass (Cenchrus ciliatus) presence is promoted by pastoralists in the Pilbara.</td>
<td>The key impact to Priority flora species in the Pilbara are land clearing and degradation of habitats by weeds. Therefore provisions have been added to:</td>
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<td>ENV Australia (2006) OB24 Flora and Fauna Assessment Phase II.</td>
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<td>No plant taxon gazetted as Threatened Flora (T) pursuant to subsection (2) of Section 23F of the Wildlife Conservation Act 1950 (WA) Act or listed under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) has been recorded within the Development Envelope. Four Priority flora taxa have been recorded within the Development Envelope:</td>
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<td>▪ Isopropis parviflora - Priority 2;</td>
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<td>▪ Goodenia nuda subsp. velutina – Priority 3;</td>
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<td>▪ Eremophila magnifica subsp. velutina – Priority 3; and</td>
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<td>▪ Goodenia nuda – Priority 4.</td>
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<td>Isopropis parviflora was recorded from a single location in 2004. Further surveys in suitable environmental conditions have failed to relocate this population. As it is a short-lived colonising species, it is considered likely that the population has been replaced by maturing vegetation cover (Onshore, 2015).</td>
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<td>Locations of the Goodenia nuda were cleared during development of infrastructure during 2007. Calotis latiuscula was recorded from one location in 2011 in disturbed vegetation adjacent to the Eastern Ridge access road.</td>
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<td>The key impact to Priority flora species in the Pilbara are land clearing and degradation of habitats by weeds. Therefore provisions have been added to:</td>
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<td>▪ Minimise impacts to conservation significant flora, by implementing the PEAH process prior to land disturbance.</td>
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<td>▪ Minimise clearing of native vegetation, by utilising existing infrastructure and facilities, and disposing of rock waste within mine pits, where practicable.</td>
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<td>▪ Conduct weed hygiene inspections on ground-engaging equipment prior to arriving at site.</td>
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<td>▪ Implement weed management controls specific to the target species as required.</td>
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<td>One plant taxon (Lepidium catapycnon) listed as Vulnerable under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 was recorded within the Development Envelope (four individuals). This species is currently listed as a Priority 4 taxon.</td>
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<td>All areas within the Development Envelope are accessible by vehicle and/or foot, with the exception of an ethnographic exclusion zone within the north-east of the Development Envelope. The development of vegetation mapping was facilitated by high resolution aerial photography; however extrapolation of vegetation mapping was undertaken over the exclusion area.</td>
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<td>The key impact to Priority flora species in the Pilbara are land clearing and degradation of habitats by weeds. Therefore provisions have been added to:</td>
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*Note: The above text is a sample of the content from the document and is not an exact representation.*
### Biodiversity Environmental Management Plan

<table>
<thead>
<tr>
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<th>Value</th>
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<th>Survey and Study Findings</th>
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</thead>
<tbody>
<tr>
<td>AEC; Woodward Clyde (1995) Manillana and Weeli Wooli Creeks and Paleochannel Vegetation and Flora Survey; Ecologia Environment (1995) Yandi Stage 2 Iron Ore Project Biological Assessment Survey; Halpern Glick Maunsell (1996) Yandi Stage 2 Iron Ore Project Survey of Flora of Interest; Halpern Glick Maunsell (1997) Manillana Creek Iron Ore Project Survey for Goodenia stellata and Flora of Interest; BSD (1997) A survey of Mexican Poppy (Argemone ochroleuca) at Marillana Creek; Ecologia Environment (1998) Yandi Vegetation and Soil Survey; Halpern Glick Maunsell (1999) Manillana Creek Western Access Corridor Biological Assessment; Halpern Glick Maunsell (1999) Manillana Creek Iron Ore Project Review of Biological Reporting; BHP (2000) Yandi Priority Flora Species Survey; Ecologia Environment (2003a) Yandi IOWA Conveyer - Rare and Priority Flora Survey; Ecologia Environment (2003b) Yandi IOWA Conveyer - Amendment to Rare and Priority Flora Survey; Maunsell (2003) Yandi Life of Mine Flora and Fauna; Ecologia Environment (2004) Yandi Stockyard and Overland Conveyer Fauna and Flora Assessment; Ecologia Environment (2007b) Yandi Mine Extension RGPS Ela Flora Survey Interim Report Post Phase I Survey; Ecologia Environment (2008) Two Phase Assessment of the Flora and Vegetation of the Proposed Marillana Creek (Yandi) Mine Extension Areas RGPS - KGR; ENV Australia (2009a) Western 6, 7, and 8 Flora and Vegetation Assessment; ENV Australia (2009b) Western 2 &amp; Western 1 Waste Dump Flora and Assessment; GHD (2010) Report for Yandi W1 and W4 OSThe A Targeted Rare and Priority Flora Survey; BHP Billiton Iron Ore (2010b) Declared Rare Flora (DRF) and Priority flora search at Yandi - Proposed haul road crossing at Marillana Creek; Astron (2011) Manillana Creek (Yandi) Mine Site Weed Survey and Mapping</td>
<td>A total of eight species listed as Priority flora taxa were found to occur within the Development Envelope: 1. Aristida lazaridis – Priority 2 2. Ipomoea rasenigera – Priority 2 3. Isopogon parviflora – Priority 2 4. Acacia subtiliformis – Priority 3 5. Amaranthus centralis – Priority 3 6. Rosettularella adscendens var. latifolia – Priority 3 7. Goodenia nuda – Priority 4 8. Lepidium catapycnon – Priority 4</td>
<td>Seasonality of plant species, including growth and flowering times of annuals and short-lived perennials mean that some species were not evident during the surveys. However given the number of surveys undertaken over at least 20 years it is considered likely that most species have been recorded. During the most recent weed survey conducted by Astron (2011) it was noted that limitations associated with the field visit included incomplete surveys of entire survey areas due to time limitations and access constraints associated with blasting schedules and escort requirements.</td>
<td>• Minimise impacts to conservation significant flora, by implementing the PEAHF process prior to land disturbance. • Minimise clearing of native vegetation, by utilising existing infrastructure and facilities, and disposing of waste rock within mine pits, where practicable. • Conduct weed hygiene inspections on ground-engaging equipment prior to arriving at site. • Implement weed management controls specific to the target species as required.</td>
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**Conservation Significant Flora (Mining Exploration Lease Flora and Vegetation Assessment)**

| ENV Australia (2008b) Southern Flank Exploration Lease Flora and Vegetation Assessment | Eight Priority flora taxa recorded within the Additional Development Envelope at Southern Flank: • Aristida lazaridis (P2) | Twenty flora and vegetation surveys have been undertaken wholly or partially within the Proposed Mining Area C Development Envelope between 1997 and 2011. In total, 762 weed species have been observed / recorded at Yandi. The key impact to Priority flora species in the Pilbara are land clearing and degradation of habitats by weeds. |
### Schedule 3

**Eremophila magnifica** subsp. *velutina*


#### Survey and Study Findings

- **Eremophila magnifica subsp. velutina** occurs in two sub-populations within the Development Envelope, where it occurs on hill crests, ironstone ridges, breakaway slopes, cliff faces, upper hillslopes, rocky ravines, foot slopes and rocky drainage lines.
- The western sub-population was recorded at variable densities ranging from one to 100 plants per 10 m². This population covers approximately 174.4 ha, with 130.1 ha of this supporting a high density of plants. The eastern sub-population occurs at low density over an area of approximately 32.4 ha.

#### Rationale for choice of provisions

- Minimise impacts to conservation significant flora, by implementing the PEAHRI process prior to land disturbance.
- Minimise clearing of native vegetation, by utilising existing infrastructure and facilities, and disposing of waste rock within mine pits, where practicable.
- Conduct weed hygiene inspections on ground-engaging equipment prior to arriving at site.
- Implement weed management controls specific to the target species as required.

### Schedule 4

**Riparian vegetation (Eucalyptus camaldulensis)** subsp. *refulgens and E. victrix* 


#### Survey and Study Findings

- Vegetation associations occurring within the cumulative drawdown areas along Homestead Creek, support one native tree species that is considered to potentially be at moderate risk from groundwater drawdown (Eucalyptus camaldulensis subsp. *refulgens*), and a second species that is potentially at low risk from groundwater drawdown (Eucalyptus victrix). These tree species are classified as facultative phreatophytes, noting that Eucalyptus victrix may also function in some environments as a vadophyte. Eucalyptus camaldulensis is the most widespread of Australian Eucalyptus species and is known to tolerate a wide range of water regimes. It typically occurs along inland rivers and may be dependent on shallow groundwater for survival, although the root assumptions underpinning the ecohydrological water balance:

- A steady-state water balance for the riparian system has been estimated, taking into account surface water inputs, vadose-zone and groundwater recharge, and water discharge from both the vadose zone (evapotranspiration) and groundwater (as outflow and potentially evapotranspiration). The groundwater-component of the water balance for Homestead Creek has been complemented with a chloride mass balance assessment. Values for most of the parameters in the water balance are subject to uncertainty. An uncertainty analysis was incorporated which results in several water balance scenarios. The water balance has been developed using a “constraint optimisation model.” Key points are:

#### Assumptions Underpinning the Ecohydrological Water Balance

- Avoid direct impacts (i.e. clearing) to known locations of Eremophila magnifica subsp. *velutina*, where practicable.
- Progressive rehabilitation as described in the Eastern Ridge Mine Closure Plan will be implemented using local top soil, and including the use of Eremophila magnifica subsp. *velutina* material.
- Research and development will be undertaken on the propagation and establishment of Eremophila magnifica subsp. *velutina* in rehabilitation in the Eastern Pilbara.

#### The key impact to *Eremophila magnifica* subsp. *velutina* is clearing therefore provisions have been added to:

- Minimise impacts to conservation significant flora, by implementing the PEAHRI process prior to land disturbance.
- Minimise clearing of native vegetation, by utilising existing infrastructure and facilities, and disposing of waste rock within mine pits, where practicable.
- Conduct weed hygiene inspections on ground-engaging equipment prior to arriving at site.
- Implement weed management controls specific to the target species as required.

#### The key impact to *Eucalyptus camaldulensis* subsp. *refulgens* and *E. victrix* in the lower reaches is groundwater drawdown therefore provisions have been added to:

- Alter surplus water discharge regime; and/or
- Alter abstraction regime

Annual monitoring program to be nominally scheduled for the end of the dry season.

**Value**

- Onshore Environmental (2011) Flora and vegetation survey – Area C and Surrounds
- Onshore Environmental (2012) Level 2 Flora and Vegetation Survey South Flank

**Value**

- ENV Australia (2006) OBE24 Flora and Fauna Assessment
- ENV Australia (2009) Oreboby 25 to Newman Flora and Vegetation Assessment
- ENV Australia (2012) OB24 Flora and Fauna Assessment

**Value**

- Extinction Flora and Vegetation Environmental (2015a) T Vegetation Mapping of Homestead Creek.
system may penetrate up to 21 m below the surface. Eucalyptus victrix is relatively drought tolerant but may be susceptible to decline where groundwater is limited during extended dry periods (Mur Environmental 1996, cited in Onshore Environmental, 2015a).

A review of baseline groundwater depth at 2012 confirms in situ groundwater levels are within 25 m/pegl at two major receptors surrounding the Eastern Ridge Development Envelope; Homestead Creek (as well as adjacent floodplains and major tributaries), and a section of the Fortescue River (Onshore, 2015a).

Studies have occurred over many years and relate to the development of the Ophilhamna Borefield, Ophthalmia Dam and dewatering at OB23 and OB25. Additionally, much operational monitoring has been collected and the resulting monitoring record is substantial, with some bores having long periods of continuous record extending as far back as 1970. The feasibility study for Ophilhamna Dam (Tahal 1980, Dames and Moore 1980, cited in AQ2, 2015b) was a particularly detailed investigation covering both the regional groundwater system and also aspects of the vadose zone (such as the effect of particle size distribution on infiltration in riparian sediments).

An eco-hydrological model has been developed for Homestead Creek, as per below Figure 3 and Figure 4, which divides the creek into two distinct zones (AQ2, 2015b). Based on the ecohydrological conceptualisation described in this report (AQ2, 2015b), including high level consideration of the water balance, it was concluded that total evaporation across the Homestead Creek study area (Zone 2) is likely to be in equilibrium with surface water inputs. The soil profile consists of a deep unsaturated zone overlying the water table at a depth of 10 to 20 m. The ecology of riparian trees is consistent with a water constrained ecosystem, and annual replenishment of vadose zone storage is likely to be sufficient to provide for riparian vegetation water use requirements. The series measurements of leaf water potential from riparian trees in the Homestead Creek system collected by BHP since 2009 support the conclusion that Eucalyptus camaldulensis/Elm spp., refugia the E. victrix in the Upper Homestead Creek study area (Zone 2) likely to rely on vadosezone water, are unlikely to have any groundwater dependence (AQ2, 2015b). However, in Zone 1 – lower reaches (Figure 3), it could not be ruled out that changes to the groundwater regime may have some effect on riparian vegetation in the most down-stream part of Homestead Creek (AQ2, 2015b) – hence the establishment of two impact riparian monitoring sites within Zone 1.

- Relationships between the key fluxes and elements were defined such that the water balance was internally consistent (i.e. water in = water out).
- For key parameters (surface water input, tree water use, groundwater recharge, understorey evapotranspiration and total water flux), maximum and minimum values were defined reflecting the operating or potential range for each parameter.
- Scenarios were run to minimise, maximise, or maintain a defined central value for a specific input parameter; while the model determined the resulting optimum value for all other parameters that maintained integrity of the water balance and kept all parameter estimates within their minimum-maximum ranges. For example, one scenario (“GW Max”) was used to simulate as much groundwater recharge as possible (up to the recharge limit); while allowing all other parameters to be determined by the model, varying freely between their minimum and maximum ranges and constrained only by the requirement to maintain the overall balance.

This approach allowed identification of the minimum and maximum values for key parameters that maintained overall water balance integrity. It also allowed identification of the modal value for each parameter (i.e. the value which was most commonly simulated for a particular parameter across multiple scenarios).

The statistical distribution and quantified error range of the key parameters are not known. Thus, the scenario assessment simply defines the most commonly occurring value along with a minimum and maximum range. No quantified likelihood of occurrence has been determined.

A water balance comprising the modal values for each key parameter has been adopted as the ‘base-case’ (AQ2, 2015b).

### Tree water use estimation:

The findings of several studies (Plautsch et al. (2011), Plautsch et al. (2014), RTIO (2011) and Astron (2014), cited in AQ2, 2015b) provided a basis for developing estimates of the annual water use of stands of trees using measurements of stand basal area and sapwood area (m²/hectare). Where this has not been measured, higher level estimates can still be made based on tree density (tree/hectare) and estimations of mean tree size. This approach was used to estimate the plausible range of annual tree water use in riparian vegetation communities in the Eastern Ridge project area.

Eastern Ridge project area (approximately 1,800 to 3,300 mature trees in riparian system):
- Base case = 100 mm/year
- Minimum = 40 mm/year
- Maximum = 150 mm/year (AQ2, 2015b)

### Tree Water Sources and Leaf Water Potential - Method of Interpretation

Data on leaf water potential collected by Astron (2014a,b,c) have been used to determine likely sources of water used by riparian vegetation in the Eastern Ridge project area.

Comparing pre-dawn leaf water potential (VPD) with midday leaf water potential (VMD), was used to provide an index of rehydration (Ecological Rehydration Index = ERI).

Development of the ERI then allowed correlation of water status with other factors such as days since a significant rainfall event or groundwater level change.
Five conservation significant fauna species have been recorded within the Development Envelope:

- **Ghost bat (Macroderma gigas) – WC Act Schedule 3 (Vulnerable);**
- **Pilbara olive python (Liasis olivaceus baroni) – WC Act Schedule 3 (Vulnerable);**
- **Rainbow bee-eater (Merops ornatus) – WC Act Schedule 5;**
- **Peregrine falcon (Falco peregrinus) – WC Act Schedule 7;** and
- **Western pebble-mound mouse (Rasodonsmys chapmanii) – Priority 4.**

High use foraging habitat for the ghost bat species is considered to be waterholes, Gorge/Gully, Minor Drainage Line and Minor Drainage Line habitats. One cave recorded in the Development Envelope that is considered to be a foraging area.

The rainbow bee-eater is commonly recorded in the Pilbara. It is a highly mobile species and is not restricted to any particular habitat. The Peregrine falcon has been recorded once in the Development Envelope. All habitats are considered suitable for foraging, with potential nesting habitats occurring in the Gorge/Gully and Major Drainage Line habitats. There are no breeding records within the Development Envelope.

The western pebble-mound mouse is commonly recorded in suitable habitats within the Pilbara, which comprise gently sloping rocky ranges where the ground is covered with its stony mantle and covered by spinifex (Start, 2008). Within the Development Envelope, suitable habitat occurs within the Hill Crest/ Slope and Stony Plain habitats. It has been recorded from at least 16 locations within the Development Envelope.

The Pilbara olive python is discussed under Schedule 6.

### Rationale for choice of provisions

- **Minimise impacts to habitat of conservation significant fauna by implementing the PEAH process prior to land disturbance.**
- **Minimise clearing of native vegetation, by utilising existing infrastructure and facilities, and disposing of waste rock within mine pits, where practicable.**
## Schedule 6


Pilbara Olive Pythons have been recorded from six locations within the Development Envelope. Five of these are records of an alive individual, all of which were observed within a waterhole. One such record was made from remains within Minor Drainage Line habitat.

Eight semipermanent waterholes have been recorded within the Development Envelope. These are considered key habitat features within the Development Envelope for the Pilbara Olive Python, as they utilise them when hunting. Pilbara Olive Python is also likely to utilise Gorge/Gully, and to a lesser extent Major Drainage Line and Minor Drainage Line habitats.

Estimating population size for this subspecies is difficult due to the cryptic nature of the python, the lack of any reliable trapping or census techniques and the narrow range of reliable surveys. (Threatened Species Scientific Committee, 2008). It is not easily trapped and is active at night.

The key impact to the Pilbara Olive Python is clearing therefore provisions have been added to:

- Avoid direct impacts to the known locations of Pilbara Olive Python habitat (waterholes), through the modification of the Development Envelope, as depicted in Schedule 6 Figure(s).
- Minimise impacts to Pilbara Olive Python habitat (waterholes), by avoiding direct impacts where practicable and implementing the PEAHF process prior to land disturbance.
- Minimise clearing of native vegetation, by utilising existing infrastructure and facilities, and disposing of waste rock within mine pits, where practicable.
### Schedule 7

<table>
<thead>
<tr>
<th>Value</th>
<th>Surveys and Studies</th>
<th>Survey and Study Findings</th>
<th>Key assumptions and uncertainties</th>
<th>Rationale for choice of provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghost Bat Macrolestes gigas</td>
<td>Biologic Environmental Survey (in prep) Hamersley Range Ghost Bat Population Study 2016-2017. Report for BHP Billiton Iron Ore, Perth, Western Australia.</td>
<td>Sixty-three caves considered suitable to be used by ghost bats have been recorded within the Development Envelope. 33 caves have been recorded within indicative areas of disturbance. At least 29 of these caves have been classified as ‘high’ or ‘low’ conservation value to ghost bats, depending on the type and frequency of use. Caves that have physical attributes for a day or maternity roost and surveys indicate that there has been a continual use over a period of years are classified as ‘high’ value caves. A total of five ‘high’ value caves are proposed to be disturbed by operations at Southern Flanks.</td>
<td>Extensive studies have been undertaken on behalf of BHP to identify key habitat requirements for the ghost bats. Whilst there has been a considerable increase in our understanding of the species, there are still key elements of their ecology that are not well understood. This includes temporal and spatial movement between roosts by males and females and the size and location of foraging habitats.</td>
<td>The key impact to the ghost bat is clearing habitat. Provision has been added to:</td>
</tr>
<tr>
<td></td>
<td>Biologic Environmental Survey (2013) Hamersley Range Ghost Bat Population Study 2015-2016. Report for BHP Billiton Iron Ore, Perth, Western Australia.</td>
<td></td>
<td></td>
<td>Avoid direct impacts to the known locations of ghost bat habitat (caves), through the modification of the Indicated Additional Impact Assessment Area, as depicted in Schedule 7 Figure(s).</td>
</tr>
<tr>
<td></td>
<td>Biologic Environmental Survey and Batcall WA (2014). Pilbara Regional Ghost Bat Review. Report for BHP Billiton Iron Ore, Perth, Western Australia.</td>
<td></td>
<td></td>
<td>Undertake progressive rehabilitation within the ghost bat foraging range (2 km from ghost bat roosts) using Eucalyptus leucoxylon or other large tree species.</td>
</tr>
<tr>
<td></td>
<td>Biologic Environmental Survey (2015), Southern Flank Vertebrate Fauna Survey Report for BHP Billiton Pty Ltd.</td>
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<td></td>
<td>Bat Call WA (2011a), South Flank 2010 Vertebrate Fauna Survey Report for BHP Billiton Iron Ore.</td>
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</tbody>
</table>

### Schedule 8

<table>
<thead>
<tr>
<th>Short Range Endemic Species</th>
<th>Biologic (2015) Mining Area C – Life of Project IMP Rev 6, Environmental Impact Assessment of Short-range Endemic Invertebrates.</th>
<th>Thirteen species have been recorded from invertebrate taxonomic groups known to contain short-range endemic invertebrates.</th>
<th>The key impact to the habitats of short range endemic species Antichiropus DIP006 and Antichiropus DIP007 is clearing therefore provisions have been added to:</th>
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Homestead Creek conceptual ecohidrological model: Zone 1 - lower reaches

Figure 3: Ecohidrological Conceptual Model for Homestead Creek: Zone 1 – Lower Reaches
Figure 4: Ecohydrological Conceptual Model for Homestead Creek: Zone 2 – Middle and Upper Reaches