Report and recommendations of the Environmental Protection Authority

Brockman Railway Infrastructure Project

Brockman Iron Pty Ltd

Report 1455

November 2012

Assessment on Proponent Information
Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
18/04/2011	Level of assessment set	
24/05/2012	Scoping guideline issued by EPA	57
12/10/12	Proponent's Final Documentation for API Assessment received by EPA	20
19/11/12	Publication of EPA report (3 days after report to Minister)	5
3/12/12	Close of appeals period	2

Timelines for an assessment may vary according to the complexity of the project and are usually agreed with the proponent soon after the level of assessment is determined.

In this case, the Environmental Protection Authority met its timeline objective in the completion of the assessment and provision of a report to the Minister noting that the delay in issuing the Scoping guideline was related to the proponent finalising its proposal.

Dr Paul Vogel
Chairman

14 November 2012

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Assessment No. 1883

Contents

1. Introduction and background

This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for Environment on the proposal by Brockman Iron Pty Ltd (Brockman) to develop the Brockman Railway Infrastructure Project. The proposed railway will allow Brockman to transport iron ore from the previously approved Brockman Marillana Iron Ore Project to the proposed Multi-User Iron Export (Landside) Facility in Port Hedland.

Section 44 of the *Environmental Protection Act 1986* (EP Act) requires the EPA to report to the Minister for Environment on the outcome of its assessment of a proposal. The report must set out:

- the key environmental factors identified in the course of the assessment; and
- the EPA's recommendations as to whether or not the proposal may be implemented, and, if the EPA recommends that implementation be allowed, the conditions and procedures to which implementation should be subject.

The EPA may include in the report any other advice and recommendations as it sees fit.

The proponent has submitted an Assessment on Proponent Information (API) document setting out the details of the proposal, potential environmental impacts and proposed commitments to manage those impacts.

The EPA considers that the proposal, as described, can be managed to meet the EPA's environmental objectives, subject to the EPA's recommended conditions being made legally binding.

This report provides the EPA's advice and recommendations in accordance with section 44 of the EP Act.

2. The proposal

Brockman is proposing to construct a railway line and associated infrastructure in the Hamersley Iron province in the Pilbara region of Western Australia, approximately 100 kilometres (km) north west of Newman. The railway line would be approximately 79 km in length. The proposal will connect the previously approved Brockman Marillana Iron Ore Project (Ministerial Statement 855) to the existing Fortescue Metals Group (FMG) railway line. A multi-user service agreement will enable Brockman to transport ore along the existing FMG Cloudbreak to Herb Elliot Port railway line to the proposed Multi-User Iron Export (Landside) Facility (Ministerial Statement 891) in Port Hedland. The railway is to be constructed within a 200 metre (m) wide corridor. Figure 1 shows the regional location of the proposed railway track.

The main characteristics of the proposal as presented by the proponent are summarised in the table below.

Table 1: Summary of key proposal characteristics

Proposal Title	Brockman Railway Infrastructure Project
Short Description	Construct a railway line and associated infrastructure connecting the Brockman Marillana Iron Ore Mine to an existing railway including: • rail line and embankment; • communication equipment; • rail crossings; • signalling equipment; • roads; • borrow pits; • laydown areas; and • temporary construction camp.

Physical Elements		
Element	**Location**	**Authorised Extent**
Disturbance Area	Figure 3	• Up to 1500 hectares (ha) within Clearing Area 1; and • up to 88 ha within Clearing Area 2.

The potential impacts of the proposal are discussed by the proponent in the referral document (*ecologia, July 2012*).

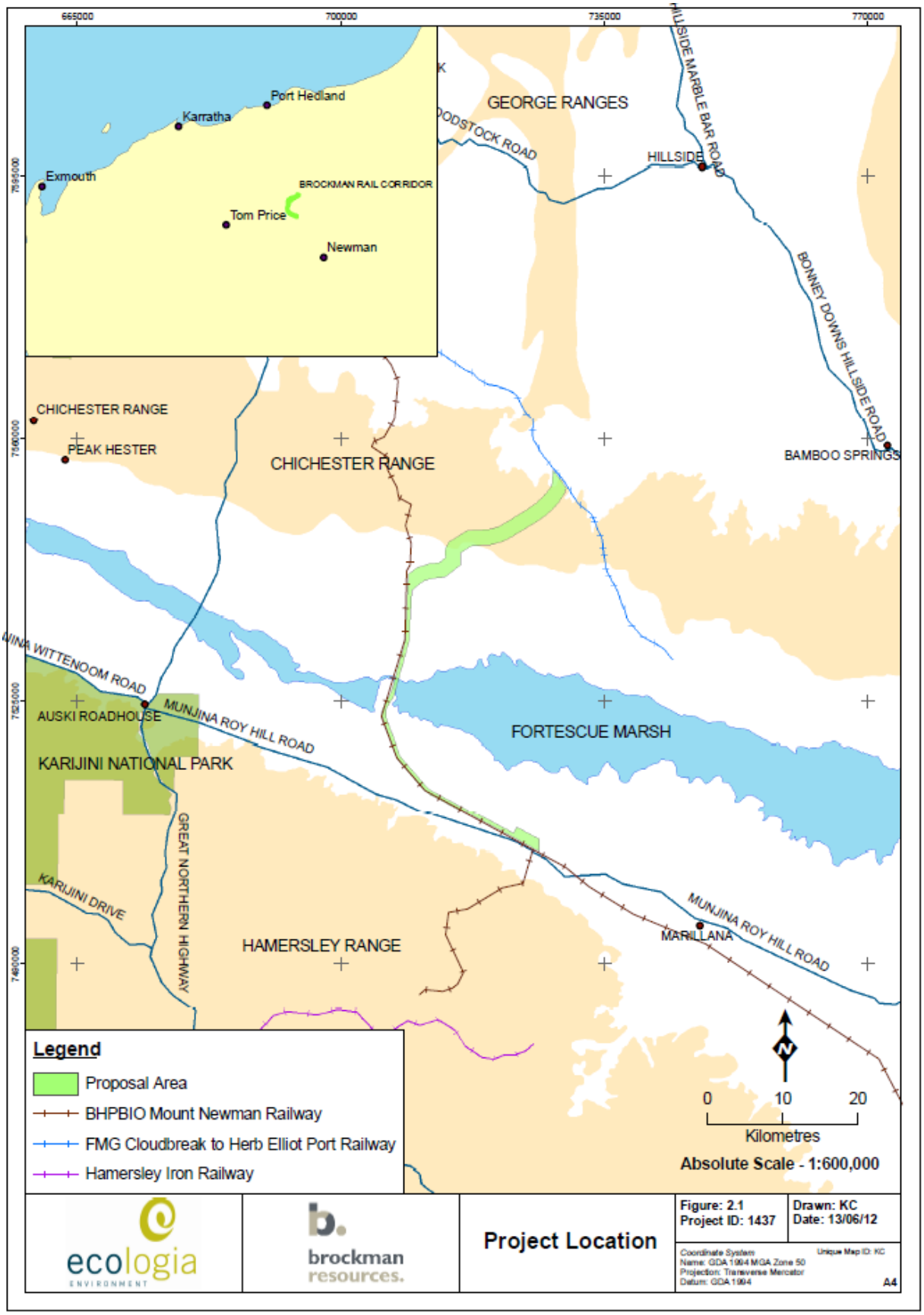


Figure 1: Regional Location of Proposal

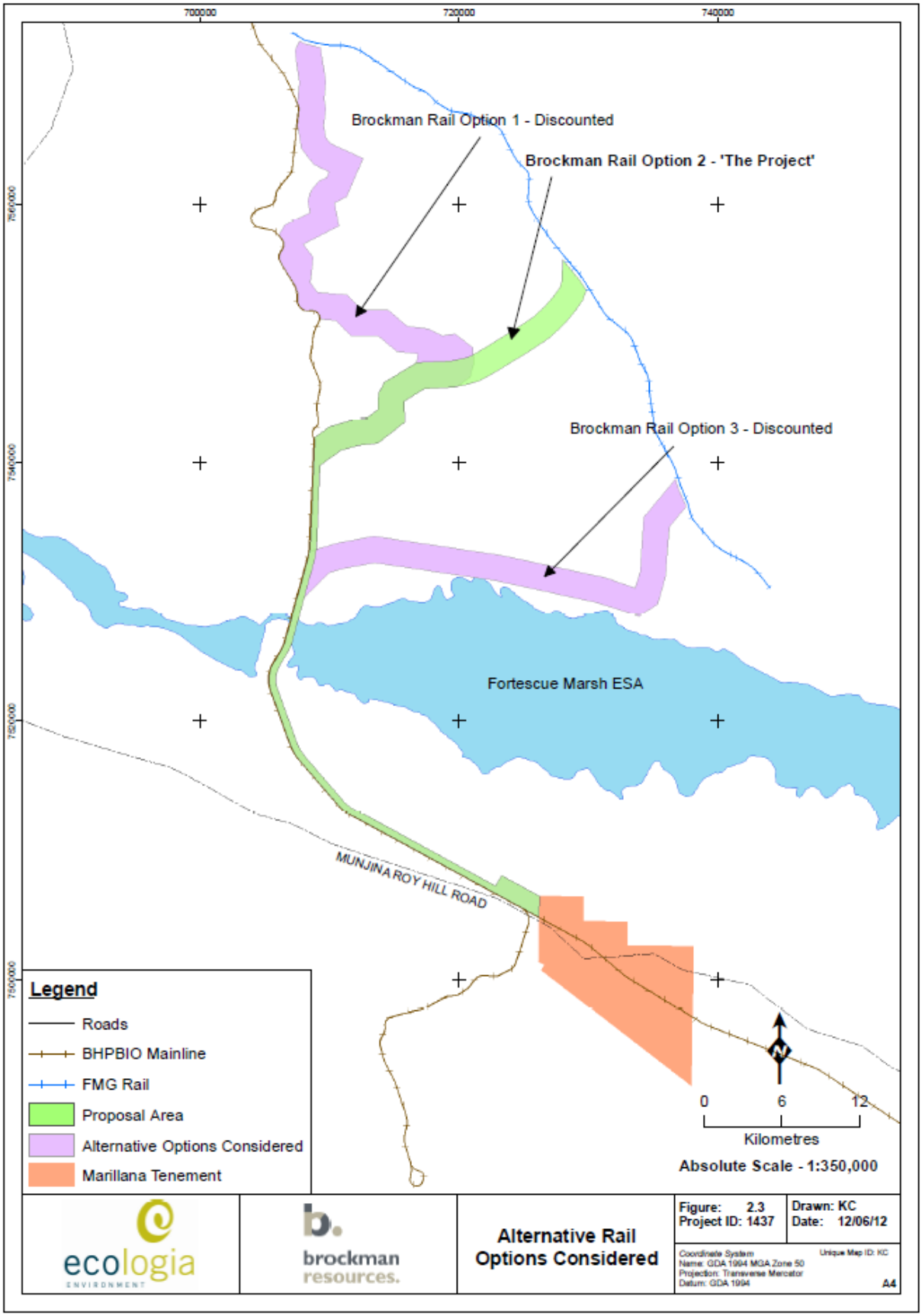


Figure 2: Alternative Rail Options Considered

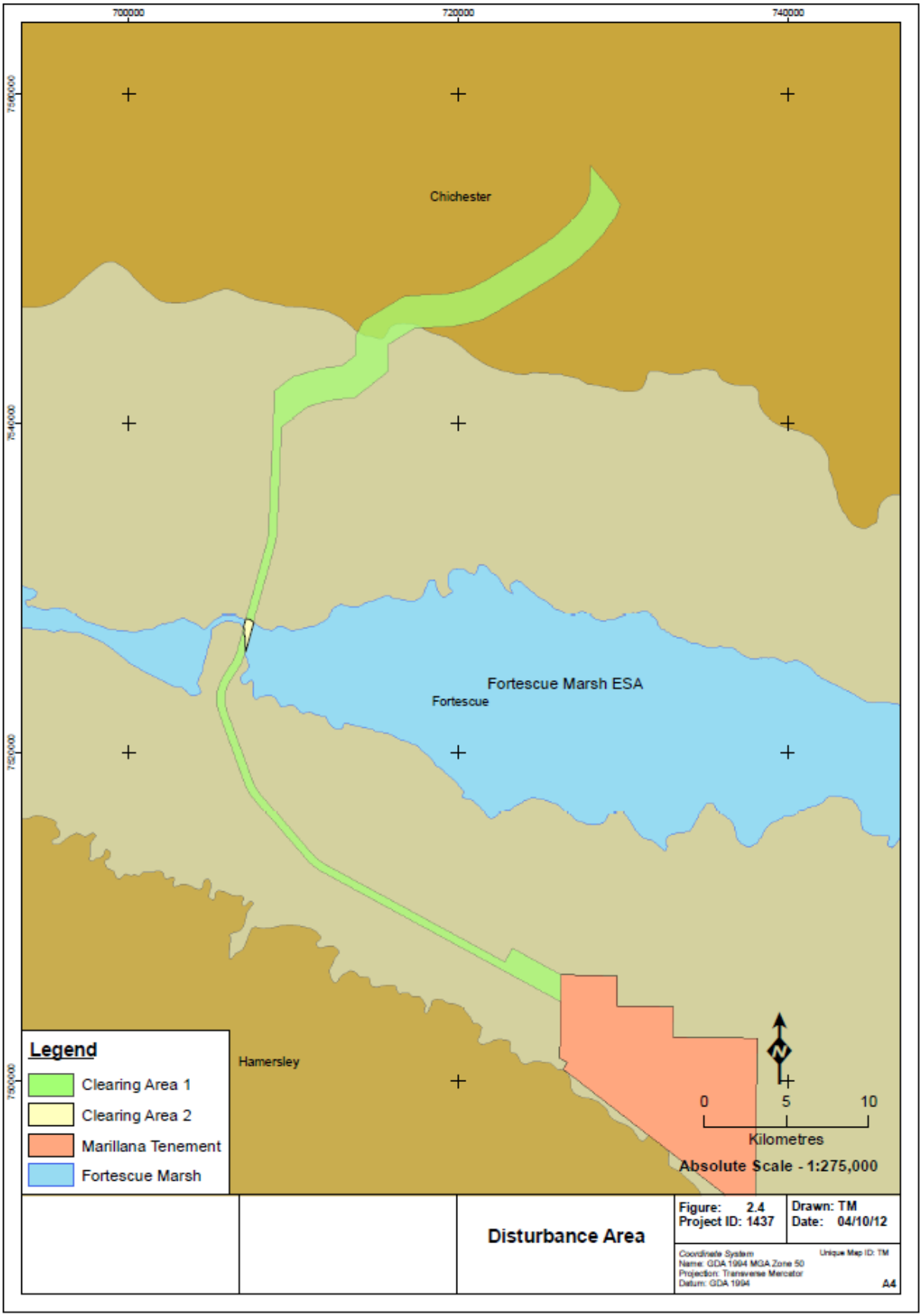


Figure 3: Disturbance Area

3. Consultation

During the preparation of the API, the proponent has undertaken consultation with government agencies and key stakeholders. The agencies, groups and organisations consulted, the comments received and the proponent's response, are detailed in the proponent's referral document (*ecologia, July 2012*).

The EPA considers that the consultation process has been appropriate and that reasonable steps have been taken to inform the community and stakeholders on the proposed development.

4. Key environmental factors

It is the EPA's opinion that the following key environmental factors relevant to the proposal require evaluation in this report:

(a) Flora and vegetation;

(b) Fauna;

(c) Surface water;

(d) Rehabilitation; and

(e) Residual impacts.

The key environmental factors are discussed in Sections 4.1 – 4.5. The description of each factor shows why it is relevant to the proposal and how it will be affected by the proposal. The assessment of each factor is where the EPA decides whether or not a proposal is likely to meet the environmental objective set for that factor.

4.1 Flora and vegetation

Description

The proposal is to construct the railway line within a maximum 200 m corridor over a distance of approximately 79 km, clearing a maximum 1588 ha.

The proponent has undertaken flora and vegetation surveys in accordance with the EPA's *Guidance Statement 51 – Terrestrial Flora and Vegetation Surveys for Environmental Impact in Western Australia* (June 2004). The first phase of the Level 2 flora and vegetation survey was conducted over three rail options. The subsequent second phase was confined to the study corridor envelope (see Figure 1), as by this stage Brockman had determined that this was the option to be developed.

The survey of the study corridor envelope identified:

- 34 vegetation communities;
- no Declared Rare Flora species;
- four Priority Flora;

- one additional unconfirmed Priority taxa *Tecticornia globulifera* (Priority 1) which required further material for verification;
- six species representing range extensions based on collection records lodged at the Western Australian Herbarium; and
- six weed species recorded at 30 locations.

No declared weeds were recorded in the study corridor envelope. However, one plant of *Argemone ochroleuca* subsp. *ochroleuca* (Mexican Poppy), which is declared in districts other than the East Pilbara Shire was recorded in the study corridor envelope.

Two Priority Ecological Communities (PEC) are present within the study corridor envelope (see Figure 4): being the Fortescue Marsh (Priority 1) and the Fortescue Valley Sand Dunes (Priority 3). A further Priority 1 PEC, Freshwater Clay Pans of the Fortescue Valley lies to the immediate west of the study corridor envelope and has the potential to be indirectly impacted by changes to surface hydrology.

The most regionally restricted unit present within the study corridor envelope is Unit 562 (Mosaic of *Acacia aneura* low woodland in valleys with open low tree steppe of *Eucalyptus leucophloia* and *Triodia wiseana* hummock grasslands), of which 1036 km^2 has been mapped regionally. This unit comprises 18.9% of the study corridor envelope, occurring as a single band at the point where the study corridor envelope turns east.

The study corridor envelope intersects some mulga vegetation communities and has the potential to indirectly impact this vegetation by altering the surface hydrology. This is discussed further in Section 4.4 Surface Water. Similarly, changes to surface hydrology, if not managed, have the potential to alter the Fortescue Marsh.

Fortescue Valley Sand Dunes

The Fortescue Valley Sand Dune PEC is regionally rare, small, fragile and highly susceptible to threatening processes. Vegetation is currently of poor quality due to cattle grazing; however the community remains significant due to its unique ecological qualities.

Investigations are underway to delineate the boundary of the Fortescue Valley Sand Dune PEC. The proponent is of the view that there is potential for localised impacts if construction management procedures are not complied with. The Construction Environmental Management Plan proposed by the proponent will include the following to minimise the impact to the Fortescue Valley Sand Dune PEC:

- Prevention of groundwater pollution and contamination will be achieved through appropriate waste management practices.
- Detailed design will consider the locations of PECs and other conservation significant areas, and disturbance will be avoided where possible.

- Wherever necessary, drainage structures will be put in place to ensure that the surface hydrology of the Environmentally Significant Areas and PECs are not adversely affected.
- Other specific management strategies will be developed in consultation with the DEC if required.

Fortescue Marsh

The Fortescue Marsh is the largest ephemeral wetland in the Pilbara and the water regime supports a variety of environmental values. Plant and animal species and communities of high conservation value occur in the Marsh and in surrounding areas. The Fortescue Marsh is listed in the *Directory of Important Wetlands in Australia* (2001) as meeting the following criteria:

- It is a good example of a wetland type occurring within a biogeographic area in Australia.
- It is a wetland which plays an important ecological or hydrological role in the natural functioning of a major wetland system / complex.
- It is a wetland which is important as the habitat for animal taxa at a vulnerable stage in their life cycles, or provides a refuge when adverse conditions such as drought prevail.
- The wetland is of outstanding historical or cultural significance.

It is estimated up to 88 ha of the 108 262 ha Fortescue Marsh PEC will be impacted by the proposal.

The proponent has indicated that the proposal has been designed to minimise potential impacts. This included ceasing all further feasibility studies on alternative railway options that would have greater impacts on the Fortescue Marsh than the proposal subject to this assessment (see Figure 2). The proponent is proposing to cross the Fortescue Marsh at its narrowest point, adjacent to the existing BHB Billiton Iron Ore (BHBBIO) railway (see Figure 3) in order to minimise impacts on the Fortescue Marsh. The proposed railway then continues parallel to the BHPBIO railway for approximately 10 km past the Fortescue Marsh where it forks north east. Due to its location and the surrounding vegetation at the Marsh (Mulga woodlands of up to 6 m in height), the proponent is of the view that the proposal should have a very low visibility to tourists visiting the area.

The proponent has indicated the following considerations are specific to the Fortescue Marsh planning and construction practices:

- Disturbance of the Marsh is to be kept to a minimum and only in areas approved for work.
- All in-flowing and out-flowing creeks and streams are to be preserved, with culverts and drainage structures installed wherever necessary.
- Appropriate scientific studies will be commissioned to monitor water quality and other aspects of possible impact on the Marsh by proposed works.

- Brockman has committed to the long-term preservation of the Marsh by working with the Martu Idja Banyjima (MIB) and relevant external organisations to develop, implement and enforce a comprehensive Cultural Heritage Management Plan.
- The prevention of groundwater pollution and contamination will be achieved through appropriate waste management practices.
- Removal of non-essential infrastructure will occur post-construction and rehabilitation of the site undertaken to final land use requirements.

Assessment

The EPA's environmental objectives for this factor are to:

- maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities through the avoidance or management of adverse impacts and improvement in knowledge; and
- maintain the integrity, functions and environmental values of the Fortescue Marsh.

The EPA notes the outcomes of the flora and vegetation surveys. The EPA considers that based on the narrow width of the proposal area (clearing within a 200 m corridor) and that the final rail alignment is flexible in its placement within this corridor, the proposal is unlikely to significantly impact flora and vegetation, provided the final rail alignment within the proposal area minimises impacts to PECs. To ensure the proposal is implemented consistent with the extent of impacts detailed by the proponent, the EPA recommends that the extent of authorised clearing is limited to 1588 ha within the proposal area as described in Table 2 and spatially defined in the Figures of the recommended statement of approval (Appendix 2).

Specifically, in relation to the Fortescue Marsh, the EPA notes that the proponent is proposing to locate the railway adjacent to the existing BHPBIO railway crossing Fortescue Marsh at its narrowest point. The EPA supports this approach in order to minimise potential impacts to the Marsh. Given the important environmental values of the Fortescue Marsh, the proponent has also confirmed it will manage its project to ensure clearing within the boundaries of the Marsh does not exceed 88 ha. To ensure the proposal is implemented consistent with the extent of impacts detailed by the proponent, the EPA recommends that the extent of authorised clearing within the boundaries of the Fortescue Marsh (Clearing Area 2 of Figure 1) of the recommended statement of approval, is limited to 88 ha. The residual impacts of clearing are discussed separately in Section 4.5 below.

Summary

Having particular regard to the:

- the flora investigations undertaken by the proponent and the narrow width of the proposal area (clearing within a 200 m corridor) and that the final rail alignment is flexible in its placement within this corridor, the proposal is

unlikely to significantly impact flora and vegetation, provided the final rail alignment within the proposal area minimises impacts to PECs; and

- extent of authorised clearing being limited to 1588 ha for the proposal and no more than 88 ha within the boundaries of the Fortescue Marsh,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objectives for this factor.

4.2 Fauna

Description

An analysis of aerial photography, previous vegetation surveys carried out in the Survey Area, and observations during the current survey, revealed there are six main fauna habitats present within the study corridor envelope: stony spinifex hills and plains, sandy spinifex plain, low halophytic shrubland bordering the Fortescue Marsh, cracking clay, creek bed and mulga/mixed acacia woodland. All fauna habitats are well represented outside the study corridor envelope in the surrounding region.

Based on the results of database searches and a review of surveys previously undertaken in the area, the potential fauna of the study corridor envelope comprises 37 native and eight introduced mammal species, 170 bird species, 107 reptile species and eight amphibian species. Of this potential fauna, the current survey recorded 21 native and five introduced mammal species, 65 bird species and 45 reptile species. No amphibian species were recorded during the survey. The species accumulation curves generated from trapping data indicated that the majority of trappable fauna were recorded.

Twenty-six species of conservation significance have the potential to occur within the study corridor envelope. Six of these species were recorded during the current surveys. An additional nine species have a high or medium likelihood of occurrence. Conservation significant fauna recorded during the current survey consisted of:

- four individuals of the Australian bustard (DEC Priority 4) from two locations;
- 25 inactive, two possibly active and one active Western pebble mouse mound (DEC Priority 4) recorded from rocky spinifex hillslopes and plains within or nearby the study corridor envelope;
- eight records of Northern short-tailed mouse (DEC Priority 4) from two sites;
- two sightings of Grey falcons (DEC Priority 4) were observed from different locations;
- Rainbow bee-eaters (*Environment Protection Biodiversity Conservation Act 1999* Migratory) at four different locations within the study corridor envelope; and
- six recordings of Bush stone curlew (DEC Priority 4) from three locations.

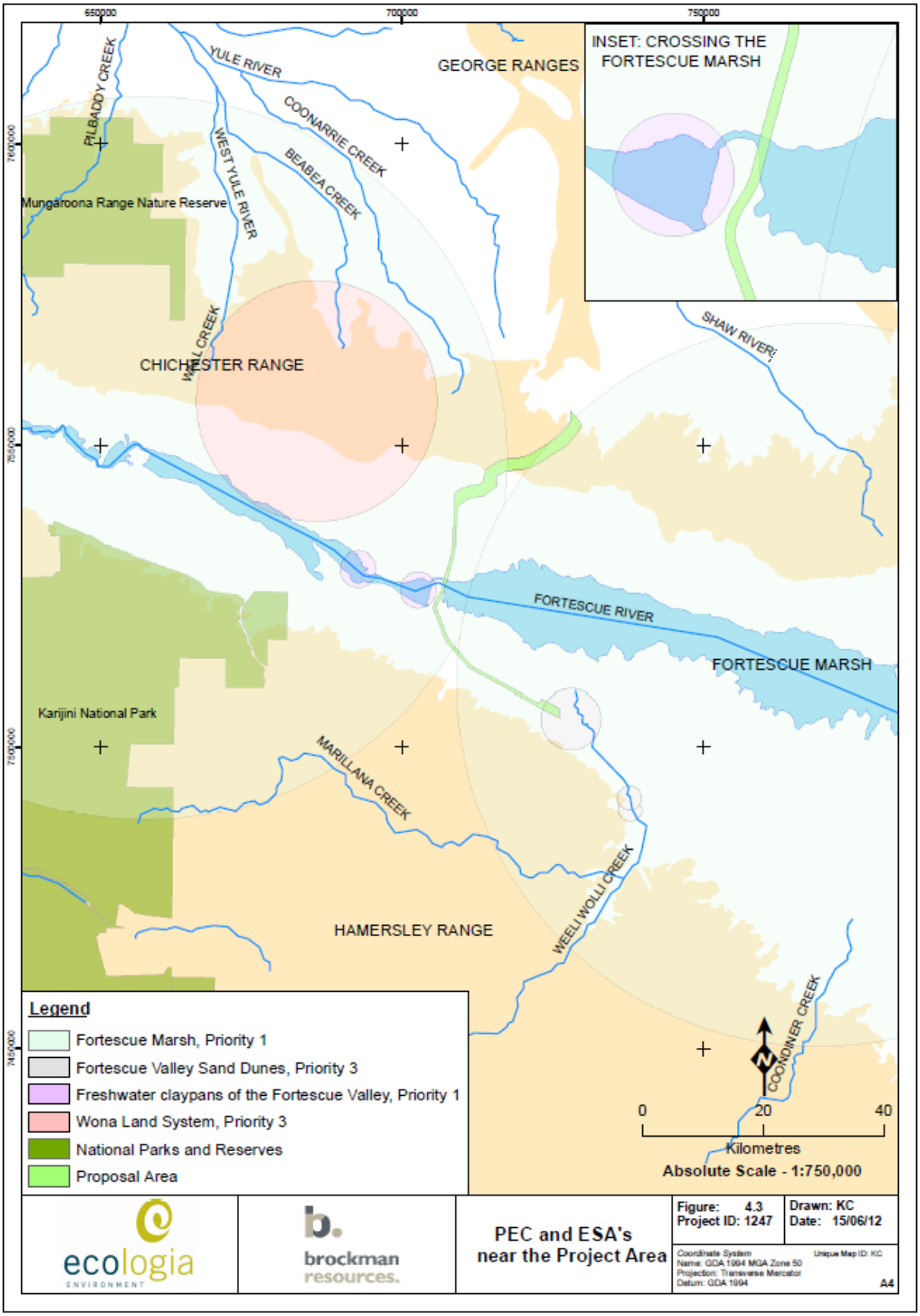


Figure 4: Priority Ecological Communities and Environmentally Sensitive Areas

A targeted survey for the Northern quoll was conducted as some suitable denning habitat was identified during initial surveys. The survey did not identify any primary or secondary evidence of Northern quolls being resident within this habitat.

Assessment

The EPA's environmental objectives for this factor are to:

- protect Specially Protected (Threatened) and Priority Fauna and their habitats, consistent with the provisions of the *Wildlife Conservation Act 1950*; and
- maintain the abundance, species diversity, geographic distribution and productivity of fauna species at ecosystem levels through the avoidance or management of adverse impact and improvement in knowledge.

The EPA notes the information provided by the proponent about the potential impacts of the proposal on habitat representation in areas affected by the proposal.

The EPA considers that based on the narrow width of the proposal area (clearing within a 200 m corridor) and noting that the final rail alignment is flexible in its placement, the impacts to fauna are unlikely to be significant.

Summary

Having particular regard to the:

- the proponent's surveys which show that all fauna habitats are well represented outside the study corridor envelope in the surrounding region;
- clearing will be limited and be within a 200 m wide corridor,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objectives for this factor.

4.3 Surface water

Description

The Pilbara is characterised by seasonal rivers in response to the erratic nature of rainfall in the region. The two major rivers of the region are the Fortescue and De Grey rivers, which are divided by the Hamersley and Chichester ranges (van Vreeswyk, Payne et al. 2004). The rivers mostly flow through well-defined channels, however the channels often become poorly defined in a network of braided tidal creeks toward the coastal areas (van Vreeswyk, Payne et al. 2004). Broad-scale surface water-dependent vegetation communities (Mulga) are represented in approximately 18% of the study corridor envelope. The Mulga-dominated vegetation communities are present at a number of locations. The Chichester Interim Birogeographic Regionalisation of Australia (IBRA) sub-region represents the northern limit of *Acacia aneura* (Mulga).

Mulga has a root system that is adapted for taking up water from thin surface soils, and has adaptations that concentrate soil water near the plant and conserve water within the plant. Consequently, the distribution and abundance of Mulga is particularly influenced by soil moisture and the pattern of surface drainage (Paczkowska and Chapman, 2000).

The proposal has the potential to impact on surface water quality and flow-patterns. The impacts of the rail line embankment and other infrastructure on surface water could include:

- alteration to the natural flow pattern;
- reduction in hydraulic capacity;
- reduction in aquatic fauna and flora habitat;
- increased extent of flooding upstream;
- changes in sheet flow characteristics affecting sensitive downstream species (i.e., Mulga);
- increased erosion and sedimentation;
- increased sedimentation, ponding and nutrient input; and
- removal of riparian and in-stream vegetation.

The proponent has advised it will apply to the Department of Water (DoW) for a permit to interfere with the waters, beds or banks of any watercourse within a proclaimed Surface Water Management Area intersected by the proposal.

Erosion and sedimentation impacts during construction are expected to be localised and short-term. The proponent is proposing to implement a range of management standards during the proposal to ensure minimal impacts on the quality of surface water and avoid unnecessary disturbance to natural surface drainage and to minimise the risk of contamination by hydrocarbons.

The following management strategies will be employed to avoid, minimise and/or mitigate impacts:

- Civil engineering designs will include appropriate drainage requirements. Catchment analysis is being carried out in order to determine culvert design.
- Where the risk of erosion is identified in specific areas during construction, erosion control structures such as silt fences, diversion and collection bunds, sediment dams and holding sumps will be installed. Such structures will be temporary in nature and will be completely removed as part of rehabilitation of the construction area.
- Drainage of minor streams and drainage lines that the proposal area crosses will be maintained with effective drains and culverts.
- Management of hydrocarbon, chemical and waste products on site will be in accordance with the Construction Environmental Management Plan and relevant regulations for transport, storage and use.

- The camp infrastructure (if required) will be designed to ensure the safe storage and handling of all hazardous and waste materials to prevent contamination.
- Drainage areas will be suitably designed to minimise contamination of surface water.
- Natural surface water flows will be maintained as far as possible during construction and reinstated following completion of construction.

Assessment

The EPA's environmental objective for this factor is to maintain the natural surface water flow.

The EPA notes that other railway proposals in the Pilbara have demonstrated surface water related impacts to significant vegetation can be managed through appropriate design and engineering.

The EPA also notes that the proponent will need to satisfy the requirements of the DoW to interfere with the waters, beds or banks of any significant watercourse within a proclaimed Surface Water Area.

The proponent intends to use culverts and drains to maintain drainage of drainage lines and minor streams that the cross the proposal area. Additionally, the proponent has proposed that where the risk of erosion is identified in specific areas during construction, erosion control structures such as silt fences, diversion and collection bunds, sediment dams and holding sumps will be installed.

The EPA considers that impacts to the Fortescue Marsh and significant vegetation, in particular Mulga, related to changes in surface water flows as a result of the proposal are unlikely to be significant, provided that the design of drainage controls for the railway is developed in consultation with relevant decision-making authorities, and is constructed according to current best practice standards. The EPA has recommended a condition (Condition 6) to ensure this occurs.

Summary

Having particular regard to the:

- measures proposed by the proponent to avoid and minimise environmental impacts to mulga and other vegetation;
- requirements of the DoW in relation to disturbance to significant waterways; and
- EPA's recommended Condition 6 to ensure that the Fortescue Marsh and areas of significant vegetation in the proposal area are identified and managed by the proponent, and that drainage controls are designed appropriately in consultation with the DEC and DoW,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor.

4.4 Rehabilitation

The EPA notes that the proponent will construct the railway within a 200 m wide corridor, however the proponent has advised that, once constructed, areas that do not form part of the railway and its associated infrastructure and those areas not required for the ongoing operation of the railway will be rehabilitated. The proponent has advised that ultimately the railway line and associated infrastructure will be operated and maintained within a corridor which is generally 80 m wide.

The EPA has recommended a condition (Condition 7) to ensure that the proponent rehabilitates disturbed areas on a progressive basis to native flora species. The condition provides for rehabilitated areas to be comparable to nearby reference sites established in areas not disturbed by the proposal.

4.5 Residual impacts

Description

Following the implementation of all mitigation measures, the proposal is expected to have the following residual impacts:

- clearing of native vegetation, in good to excellent condition; and
- Fortescue Marsh, Priority 1 PEC and the Fortescue Valley Sand Dunes PEC.

Assessment

The EPA has identified a substantial increase in the number of applications for and amount of clearing of native vegetation in the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) region. This increase, combined with the predicted future activities requiring clearing in the Pilbara bioregion, as well as other impacts from pastoralism and fires, is likely to have a significant impact on environmental values. As a result, the EPA has determined that a proactive approach to limiting these impacts is required.

Conservation areas in the Pilbara bioregion total approximately 8% of the area, with the remainder mostly Crown Land, covered with mining tenements and pastoral leases. As such, the potential for traditional land acquisition and management offsets are limited. The EPA has determined that a possible solution is the establishment of a strategic regional conservation initiative for the Pilbara. This initiative would pool funding from various offset requirements and then fund on-ground management actions to deal with key threatening processes across the Pilbara bioregion. One benefit of this is that the actions undertaken will benefit a range of species and ecosystems, including those identified as Matters of National Environmental Significance. Another benefit of this approach is that it limits the tenure issue by forgoing the requirement to acquire land. Normal government processes to transfer land into the conservation estate can continue to take place outside of the environmental impact assessment process.

Offsets for clearing good to excellent condition native vegetation have already been applied in the Pilbara bioregion for clearing close to the Fortescue Marsh. Where there is an additional level of environmental value (such as a Priority Ecological Community or riparian vegetation), a higher offset has been applied to account for this greater value. This has generally been for proposals within the Fortescue subregion, as well as some that are also partly in the Hamersley subregion, but also within the Upper Fortescue catchment.

The Fortescue subregion is poorly represented in the formal conservation reserve system (currently at 0.57%). The Hamersley IBRA subregion is fairly well represented (12.6%) within the conservation reserve system. However, this is still below the target of 15%. Taking this into account, lower offset rates for clearing of good to excellent condition native vegetation have been applied.

The other two IBRA subregions in the Pilbara (Chichester and Roebourne) are both also poorly represented (3.92% and 4.47% respectively). An appropriate rate will be determined when the EPA receives a proposal in these areas. However, given this limited protection, this rate is likely to be similar to the Fortescue subregion.

The actual rate applied to any particular proposal may vary depending on factors such as impacts on important State environmental assets (such as impacts on National Parks) and overlap between State and Commonwealth matters, such that an offset requirement is not duplicated.

As noted previously, the proponent has reduced the overall impacts to the Fortescue Marsh by locating the railway adjacent to the existing BHPBIO railway and crossing the Marsh at its narrowest point. The proposal will however have residual impacts on native vegetation in good to excellent condition, the Fortescue Marsh, Priority 1 PEC and the Fortescue Valley Sand Dunes PEC. Consistent with the approach outlined above, the EPA has recommended a condition (Condition 8), which addresses the residual impacts of the proposal and provides a contribution to the strategic regional conservation initiative.

5. Recommended conditions

Having considered the information provided in this report, the EPA has developed a set of conditions that the EPA recommends be imposed if the proposal by Brockman to construct a railway line and associated infrastructure is approved for implementation. These conditions are presented in Appendix 2.

Matters addressed in the conditions include:

1. Extent of authorised clearing being limited to 1588 ha for the proposal and no more than 88 ha within the boundaries of the Fortescue Marsh.
2. Surface water management – ensuring that areas of significant vegetation are identified and managed by the proponent, and that drainage controls are designed appropriately in consultation with the DoW and the DEC.

3. Rehabilitation – rehabilitation of disturbed areas on a progressive basis to native flora species. Rehabilitated areas are to be comparable to nearby reference sites established in areas not disturbed by the proposal.
4. Residual impacts – clearing of native vegetation in good to excellent condition and impacts on the Fortescue Marsh, Priority 1 PEC and Fortescue Valley Sand Dunes PEC.

6. Conclusions

The EPA has considered the proposal by Brockman to develop the Brockman Railway Infrastructure Project.

The proposal is to construct the railway line within a 200 m corridor over a distance of approximately 79 km, clearing a maximum 1588 ha of native vegetation, of which 88 ha will be within the Fortescue Marsh which supports a variety of significant environmental values.

The proponent has undertaken flora and fauna surveys to inform the proposed alignment. The EPA considers that based on the narrow width of the proposal area (clearing within a 200 m corridor) and noting that the final rail alignment is flexible in its placement within this corridor, the proposal is unlikely to significantly impact flora and vegetation, provided the final rail alignment within the proposal area minimises impacts to PECs. Fauna surveys show that all fauna habitats are well represented outside the study corridor envelope in the surrounding region

To ensure the proposal is implemented consistent with the extent of impacts detailed by the proponent, the EPA recommends that the extent of authorised clearing is limited to 1588 ha within the proposal area as described in Table 2 and spatially defined in the Figures of the recommended statement of approval (Appendix 2).

The EPA notes that other railway proposals in the Pilbara have demonstrated that surface water related impacts to significant vegetation can be managed through appropriate design and engineering. The EPA considers that impacts to the Fortescue Marsh and other significant vegetation, in particular Mulga, related to changes in surface water flows as a result of the proposal are unlikely to be significant, provided that the design of drainage controls for the railway is developed in consultation with relevant decision-making authorities and is constructed according to current best practice standards. The EPA has recommended a condition to ensure that areas of significant vegetation in the proposal area are identified and managed by the proponent, and that drainage controls are designed appropriately in consultation with the DEC and the DoW.

In relation to the Fortescue Marsh, the EPA supports the approach of the proponent to minimise potential impacts to the Marsh by locating the railway adjacent to the existing BHPBIO railway where it crosses the Marsh. As indicated, clearing within the Marsh will be limited to 88 ha.

The proposal has residual impacts on native vegetation in good to excellent condition; the Fortescue Marsh, Priority 1 PEC and the Fortescue Valley Sand Dunes PEC. The EPA has recommended a condition which addresses the residual impacts of the proposal and provides a contribution to the strategic regional conservation initiative.

The EPA has therefore concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 2.

7. Recommendations

The EPA submits the following recommendations to the Minister for Environment:

1. That the Minister notes that the proposal being assessed is for the development of the Brockman Railway Infrastructure Project.
2. That the Minister considers the report on the key environmental factors as set out in Section 3.
3. That the Minister notes the EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 2.
4. That the Minister imposes the conditions and procedures recommended in Appendix 2 of this report.

Appendix 1

References

ecologia Environment (2012). *Brockman Iron Pty Railway Infrastructure Project Assessment on Proponent Information*. Prepared by ecologia Environment for Brockman Iron Pty. October, 2012. Perth, WA.

Paczkowska, G. And Chapman, A.R. (2000). *The Western Australian Flora – A Descriptive Catalogue*. Wildflower Society of Western Australia (Inc.), the Western Australian Herbarium, CALM and the Botanic Gardens & Parks Authority, Perth, WA.

Van Vreeswyk, A. M. E., A. L. Payne, et al. (2004). *An inventory and condition survey of the Pilbara region, Western Australia*. For the Department of Agriculture Technical Bulletin No. 92.

Appendix 2

Identified Decision-making Authorities
and
Recommended Environmental Conditions

Identified Decision-making Authorities

Section 44(2) of the EP Act specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This Appendix contains the EPA's recommended conditions and procedures.

Section 45(1) requires the Minister for Environment to consult with decision-making authorities, and if possible, agree on whether or not the proposal may be implemented, and if so, to what conditions and procedures, if any, that implementation should be subject.

The following decision-making authorities have been identified for this consultation:

Decision-making Authority	Approval
1. Minister for State Development	*State Agreement Act* – Railway
2. Minister for Water c/o DoW	Water Abstraction Licence and beds and banks permit – *Rights in Water and Irrigation Act 1914*
3. Minister for Lands	*Land Administrative Act 1997*
4. Minister for Indigenous Affairs	*Aboriginal Heritage Act 1972*
5. Pastoral Lands Board	*Land Administrative Act 1997* – Pastoral Lease
6. Mining Registrar or Warden	*Miscellaneous Licence*

Note: In this instance, agreement is only required with DMA #1 - #4 since these DMAs are Ministers.

Statement Number XXX

RECOMMENDED ENVIRONMENTAL CONDITIONS

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)

Brockman Railway Infrastructure Project

Proposal: The proposal is to construct a railway line and associated infrastructure connecting the Brockman Iron Ore Mine to an existing railway line.

Proponent: Brockman Iron Pty Ltd
Australian Company Number 122 652 886

Proponent Address: 1/117 Stirling Highway
NEDLANDS WA 6009

Assessment Number: 1883

Report of the Environmental Protection Authority Number: 1455

This Statement authorises the implementation of the Proposal described and documented in Columns 1 and 2 of Table 2 of Schedule 1. The implementation of the Proposal is subject to the following implementation conditions and procedures and Schedule 2 details definitions of terms and phrases used in the implementation conditions and procedures.

1 Proposal Implementation

1-1 When implementing the proposal, the proponent shall not exceed the authorised extent of the proposal as defined in Column 3 of Table 2 in Schedule 1, unless amendments to the proposal and the authorised extent of the Proposal has been approved under the EP Act.

2 Contact Details

2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within 28 days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

3 Time Limit for Proposal Implementation

3-1 The proponent shall not commence implementation of the proposal after the expiration of five years from the date of this statement, and any commencement, within this five year period, must be substantial.

3-2 Any commencement of implementation of the proposal, within five years from the date of this statement, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of five years from the date of this statement.

4 Compliance Reporting

4-1 The proponent shall prepare and maintain a compliance assessment plan to the satisfaction of the CEO.

4-2 The proponent shall submit to the CEO the compliance assessment plan required by Condition 4-1 at least six months prior to the first compliance assessment report required by Condition 4-6, or prior to implementation, whichever is sooner.

The compliance assessment plan shall indicate:

(1) the frequency of compliance reporting;

(2) the approach and timing of compliance assessments;

(3) the retention of compliance assessments;

(4) the method of reporting of potential non-compliances and corrective actions taken;

(5) the table of contents of compliance assessment reports; and

(6) public availability of compliance assessment reports.

4-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by Condition 4-1.

4-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by Condition 4-1, and shall make those reports available when requested by the CEO.

4-5 The proponent shall advise the CEO of any potential non-compliance within seven days of that non-compliance being known.

4-6 The proponent shall submit to the CEO the first compliance assessment report 15 months from the date of issue of this Statement, addressing the 12 month period from the date of issue of this Statement, and then annually from the date of submission of the first compliance assessment report.

The compliance assessment report shall:

(1) be endorsed by the proponent's General Manager or a person delegated to sign on the General Manager'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.

5 Public Availability of Data

5-1 Subject to Condition 5-2, within a reasonable time period approved by the CEO of the issue of this statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved

by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)) relevant to the assessment of this proposal and implementation of this Statement.

5-2 If any data referred to in Condition 5-1 contains particulars of:

(1) a secret formula or process; or

(2) confidential commercially sensitive information;

the proponent may submit a request for approval from the CEO to not make this data publically available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publically available.

6 Surface Water and Significant Vegetation

6-1 The proponent shall design the rail infrastructure to maintain the natural surface flows and flooding regime of the Fortescue Marsh, and ensure that the proposal does not adversely affect any significant vegetation community where the rail traverses the Fortescue Marsh identified as Clearing Area 1, as shown in Figure 1.

6-2 The proponent shall design the rail infrastructure to ensure that changes to surface water flows related to the proposal do not adversely affect significant drainage flows and vegetation communities in Clearing Area 2, as shown in Figure 1.

6-3 To verify that the requirements of conditions 6-1 and 6-2 are met the proponent shall, prior to clearing, prepare a plan that:

(1) identifies significant streams and drainage lines;

(2) identifies areas of significant vegetation potentially impacted by changes to surface water flows related to the proposal; and

(3) shows the design parameters and location of environmental culverts, to the satisfaction of the CEO in consultation with the DoW and the DEC.

6-4 The proponent shall implement the plan identified in Condition 6-3.

6-5 The railway may be divided into no more than four sections for the purpose of meeting the requirements of Condition 6-3.

7 Rehabilitation

7-1 The proponent shall undertake progressive rehabilitation of all areas not required for the operation of the rail line during and following construction, to achieve the following outcome:

(1) The percentage cover and species diversity of living self sustaining native vegetation in all rehabilitation areas shall be comparable to that of undisturbed natural analogue sites as demonstrated by Ecosystem Function Analysis, or other methodology acceptable to the CEO.

7-2 Rehabilitation activities shall continue until such time as the requirements of Condition 7-1 are met, and are demonstrated by inspections and reports to be met, for a minimum of five years following the completion of construction to the

approval of the CEO, and on advice of the DEC where the rail traverses the Fortescue marsh or the proposed Marillana Conservation Park.

8 Residual Impacts and Risk Management Measures

8-1 In view of the significant residual impacts and risks as a result of implementation of the proposal to construct the Railway Infrastructure, the proponent shall contribute to:

(1) funding for the impact to good-to-excellent condition native vegetation, calculated pursuant to Condition 8-2; and

(2) funding for the impact to the Fortescue Marsh PEC and Fortescue Valley Sand Dunes PEC, to the strategic regional conservation initiative for the Pilbara, calculated pursuant to Condition 8-3.

8-2 The proponent's contribution to the initiative identified in Condition 8-1(1) shall be paid in accordance with the approved Impact Reconciliation Procedure and relate to the total residual area impacted by the Railway Infrastructure as follows:

- $1,500 AUD (excluding GST) per hectare of good to excellent condition native vegetation cleared for "railway and related infrastructure" within the area delineated in Figure 1.

The proponent's payment is due by 31 May following the end of the first biennial period after completion of the Railway Infrastructure .

8-3 The proponent's contribution to the initiative identified in Condition 8-1(2) shall be paid in accordance with the Impact Reconciliation Procedure and relate to the total residual area impacted by the Railway Infrastructure as follows:

- $3,000 AUD (excluding GST) per hectare cleared within the area delineated in Figure 1 as Fortescue Marsh PEC and Fortescue Valley Sand Dunes PEC.

The proponent's payment is due by 31 May following the end of the first biennial period after completion of the Railway Infrastructure.

8-4 The proponent shall prepare an Impact Reconciliation Procedure and submit it for approval of the CEO prior to ground disturbance.

8-5 The Impact Reconciliation Procedure required pursuant to Condition 8-4 shall:

(1) include details of a methodology to identify clearing of good-to-excellent condition native vegetation;

(2) include a methodology for calculating the amount of clearing undertaken during each biennial time period;

(3) include a methodology for calculating the amount of temporary clearing that has commenced rehabilitation in accordance with Condition 7-1 during each biennial time period;

(4) state the biennial time period commences on the 1 March prior to commencing ground disturbance and the due date for submitting the results of the Procedure for approval of the CEO as 31 March following the end of the first biennial period; and

(5) identify that any areas cleared that have not commenced rehabilitation in accordance with Condition 7-1 at the end of construction of the rail line are to be considered part of the “railway and related infrastructure” and must be offset in accordance with Condition 8-2.

8-6 Should the proponent provide evidence that they have undertaken a land management program or paid the offset funds of $390,000 AUD in fulfilling conditions 15, 16, 17 and 18 of the Australian Government approval EPBC 2011/5833 the total amount of funding required by Condition 8-2 shall be reduced by no more than $390,000 AUD.

Schedule 1

Table 1: Summary of the Proposal

Proposal Title	Brockman Railway Infrastructure Project
Short Description	Construct a railway line and associated infrastructure connecting the Brockman Marillana Iron Ore Mine to an existing railway including: • communication equipment; • rail crossings; • signalling equipment; • roads; • borrow pits; • laydown areas; and • temporary construction camp.

Table 2: Location and authorised extent of physical and operational elements

Column 1	**Column 2**	**Column 3**
Element	**Location**	**Authorised Extent**
Disturbance Area	Figure 1	• Up to 1500 hectares within Clearing Area 1; and • up to 88 hectares within Clearing Area 2.

Table 3: Abbreviations

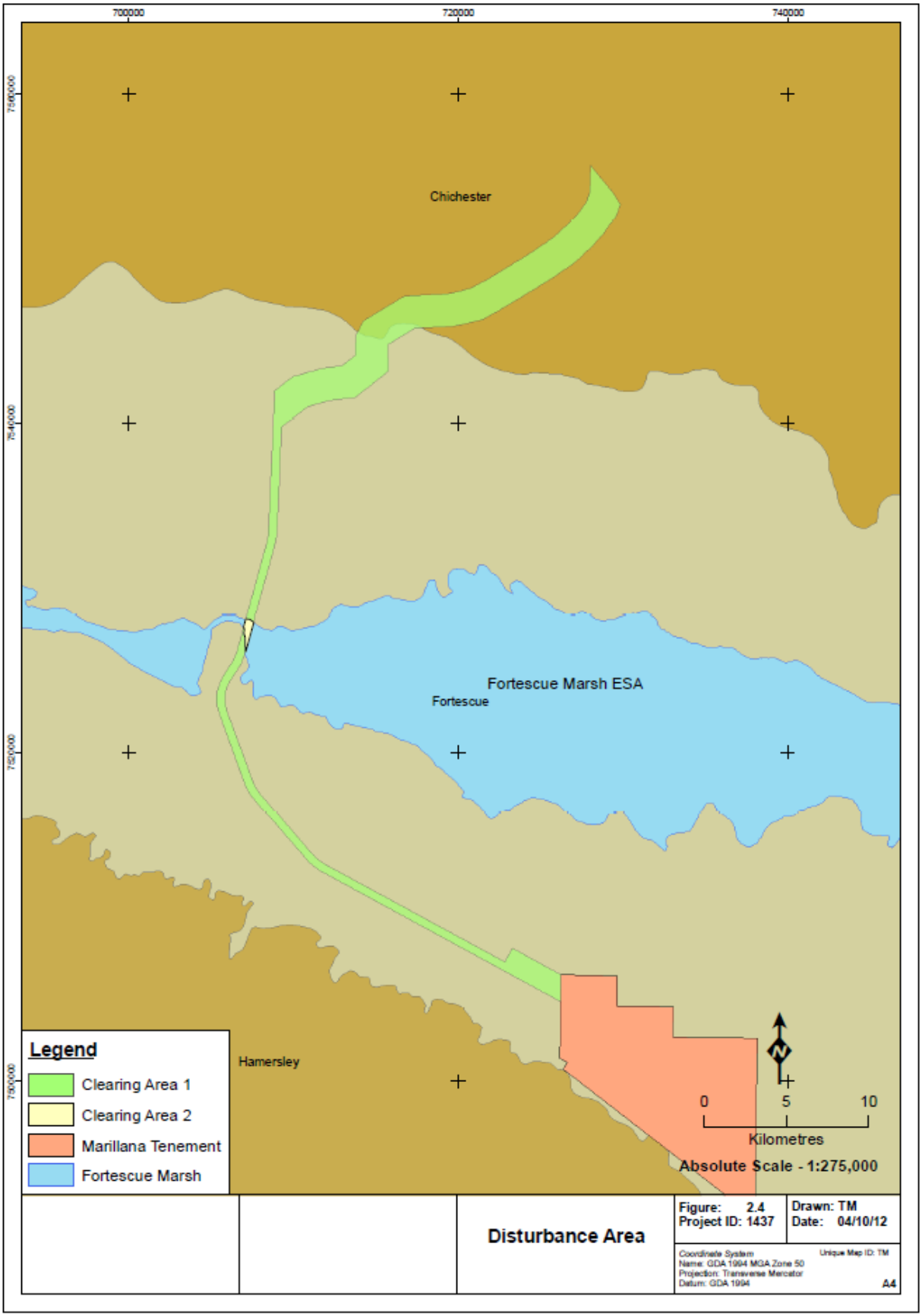
Term or Phrase	**Definition**
Approved Impact Reconciliation Procedure	The Impact Reconciliation Procedure for which the proponent has received written notification from the CEO that it meets the requirements of Condition 8-5
AUD	Australian Dollar
Biennial	Every two years
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *Environmental Protection Act 1986*, or his delegate
EP Act	*Environmental Protection Act 1986*
DEC	Department of Environment and Conservation
DoW	Department of Water
GST	Goods and Services Tax
ha	Hectares
PEC	Priority Ecological Community
Strategic Regional Conservation Initiative	An initiative to be undertaken by a body that has the strategic objective of improving environmental values and conservation outcomes in the Pilbara Interim Biogeographic Regionalisation of Australia bioregion by recommending management and other measures to address threatening processes to flora fauna and other environmental values.

Notes

The following notes are provided for information and do not form a part of the implementation conditions of the Statement:

- The proponent for the time being nominated by the Minister for Environment under section 38(6) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal unless and until that nomination has been revoked and another person is nominated.
- If the person nominated by the Minister, ceases to have responsibility for the proposal, that person is required to provide written notice to the Environmental Protection Authority of its intention to relinquish responsibility for the proposal and the name of the person to whom responsibility for the proposal will pass or has passed. The Minister for Environment may revoke a nomination made under section 38(6) of the *Environmental Protection Act 1986* and nominate another person.
- To initiate a change of proponent, the nominated proponent and proposed proponent are required to complete and submit *Post Assessment Form 1 – Application to Change Nominated Proponent*.
- The General Manager of the Office of the Environmental Protection Authority was the Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *Environmental Protection Act 1986* at the time the Statement was signed by the Minister for Environment.

Figure 1


700000
720000
740000
7560000
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Chichester
Fortescue Marsh ESA
Fortescue
Hamersley
Legend
Clearing Area 1
Clearing Area 2
Marillana Tenement
Fortescue Marsh
0
5
10
Kilometres
Absolute Scale - 1:275,000
Disturbance Area
Figure: 2.4
Project ID: 1437
Drawn: TM
Date: 04/10/12
Coordinate System
Name: GDA 1994 MGA Zone 50
Projection: Transverse Mercator
Datum: GDA 1994
Unique Map ID: TM
A4