



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 4806/1
Permit Holder:	Fortescue Metals Group Limited
Duration of Permit:	26 April 2012 – 26 April 2022

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

- 1. Purpose for which clearing may be done**
Clearing for the purpose of sourcing borrow material for railway formation
- 2. Land on which clearing is to be done**
Miscellaneous Licence for a Railway and Other Purposes - Miscellaneous Licence 1SA
Located within the following properties:
Lot 53 on Deposited Plan 220376, Mulga Downs 6751
Lot 45 on Deposited Plan 238216, Chichester 6751
Roebourne – Wittenoom Road Reserve, Chichester 6751 (PIN: 11731518)
- 3. Area of Clearing**
The Permit Holder must not clear more than 205 hectares of native vegetation within the area hatched yellow on attached Plan 4806/1.
- 4. Period in which clearing is authorised**
The Permit Holder shall not clear any native vegetation after 26 April 2017.
- 5. Application**
This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.
- 6. Type of clearing authorised**
This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the power to clear native vegetation for those activities under the, *Land Administration Act 1997* or any other written law.
- 7. Compliance with Assessment Sequence and Management Procedures**
Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

8. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

9. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) within 1 month following clearing authorised under this permit, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
 - (ii) ripping the ground on the contour to remove soil compaction; and
 - (iii) ripping the pit floor and contour batters within the extraction site; and
 - (iv) laying the vegetative material and topsoil retained under condition 9(a) on the cleared area(s)
- (c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 9(b) of this Permit:
 - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
 - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 9(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.
- (d) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 9(c)(ii) of this permit, the Permit Holder shall repeat condition 9(c)(i) and 9(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 9(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 9(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 9(c)(ii).

PART III - RECORD KEEPING AND REPORTING

10. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the species composition, structure and density of the cleared area;
 - (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (iii) the date that the area was cleared; and
 - (iv) the size of the area cleared (in hectares).

- (b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 9 of this Permit:
- (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
 - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares);
 - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*, and
 - (v) a copy of the environmental specialist's report.

11. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
- (i) of records required under condition 10 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 23 January 2022, the Permit Holder must provide to the CEO a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11(a) of this Permit.

DEFINITIONS

The following meanings are given to terms used in this Permit:

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

local provenance means native vegetation seeds and propagating material from natural sources within 50 kilometres of the area cleared.

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing *mulch*;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.

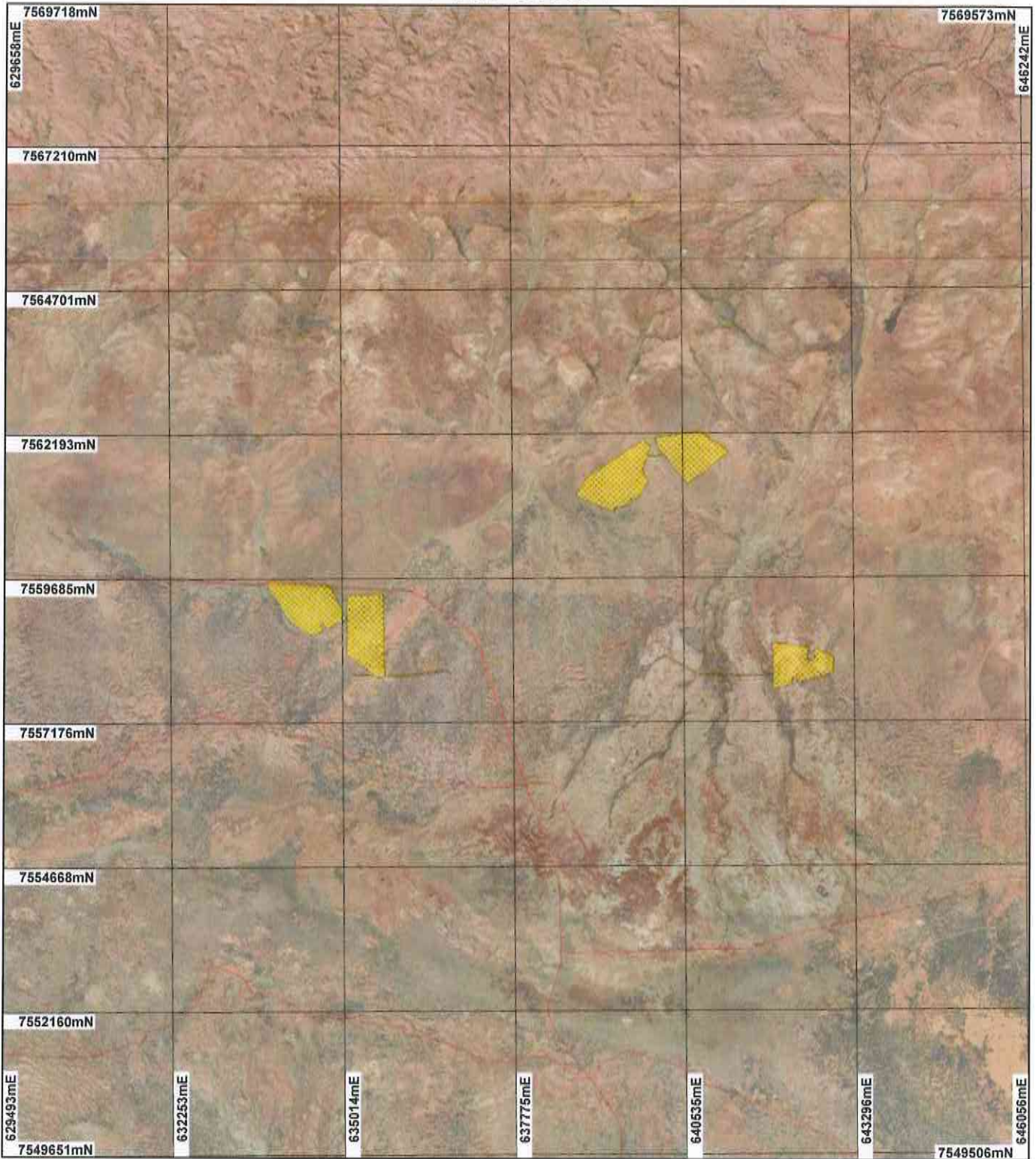


Matt Warnock
MANAGER, COMPLIANCE AND AUDIT SECTION
NATIVE VEGETATION CONSERVATION BRANCH

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

5 April 2012

Plan 4806/1



LEGEND

Clearing instruments

- Areas Approved to Clear
- Road Centrelines
- Cadastre
- Image Index (cont)

- Recently added
- Coverage

Wittenoom 50cm Orthomosaic - Landgate 2004
 Hooley 1.4m Orthomosaic - Landgate 2000



Scale 1:92150
 (Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

M. Warnock Date 5/4/2012

M. Warnock
 Officer with delegated authority under Section 20 of the Environmental Protection Act 1986
 Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



* Project Data. This data has not been quality assured. Please contact map author for details.



1. Application details

1.1. Permit application details

Permit application No.: 4806/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Fortescue Metals Group Limited

1.3. Property details

Property: LOT 53 ON PLAN 220376 (MULGA DOWNS 6751)
LOT 45 ON PLAN 238216 (CHICHESTER 6751)
Local Government Area: Shire of Ashburton

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
205		Mechanical Removal	Extractive Industry

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 5 April 2012

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Two Beard vegetation types are mapped within the applied area:	The application proposes to clear 205 ha of native vegetation for the purpose of sourcing borrows material for rail formation construction.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The description and condition of the vegetation under application was determined via the use of aerial imagery (Wittenoom 50cm Orthomosaic - Landgate 2004) and a Native Vegetation Clearing Permit Report provided by the application, Fortescue Metals Group (2011).
Mapped Beard vegetation association 562 is described as Mosaic: Low woodland; mulga in valleys / Hummock grasslands, open low tree-steppe; snappy gum over <i>Triodia wiseana</i> . (Shepherd, 2009).	The majority of the vegetation is in Very Good to Good (Keighery 1994) condition. Some localised areas within the southwest of the application area, mainly creek lines and adjacent to cleared areas, have been heavily degraded by weeds and grazing are in a degraded (Keighery 1994) condition. Patches of vegetation within the north-western corner of the area were burned by wildfire in the year preceding the 2008 flora survey (Fortescue Metals Group 2011).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	
Mapped Beard vegetation association 29 is described as Sparse low woodland; mulga, discontinuous in scattered groups. (Shepherd, 2009).		Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal is not likely to be at variance to this Principle

This application proposes to clear up to 205 ha (within a larger footprint area of 359 ha) of native vegetation within Miscellaneous Licence 1SA for the purpose of sourcing additional borrow material to construct the Solomon railway.

In April 2008 Coffee Environments was commissioned by Fortescue Metals Group to undertake a detailed flora and vegetation survey of the Solomon Project and Investigator exploration areas (Coffee Environments, 2010). The areas proposed to be cleared under this application fall within the footprint area which was covered by this survey, however no quadrates appear to be located within the clearing areas.

A total of 467 species of terrestrial vascular flora from 158 genera belonging to 53 families were recorded during this survey (Coffee Environments, 2010). Six species of Priority 2 and 3 listed flora were recorded within the study area; *Acacia effusa* (P2), *Vigna* sp. Central (M.E Trudgen 1626) (P2), *Goodenia nuda* (P3), *ndigofera* sp. Bungaroo Creek (S. van Leeuwen) (P3), *Sida* sp. Barlee Ranges (S. van Leeuwen 1642) (P3) and *Tephrosia* sp (Coffee Environments, 2010).

Numerous records of each of these priority flora species have been identified at a number of sites within the surveyed area. Given the multitude of identified records of these priority species it is unlikely that the proposed clearing will alter the conservation status of the abovementioned priority flora.

No rare flora, threatened or priority ecological communities were recorded within the surveyed area (Coffey Environments, 2010).

Approximately 1ha of sheet flow dependant Mulga is proposed to be cleared to access borrow pits. The applicant has advised that sheet flow dependant Mulga will be managed in accordance with Fortescue's Mulga and Other Flora and Communities Management Plan. This Plan was developed to meet the requirements of Condition 6 (Mulga and Other Flora and Communities) of Ministerial Statements 707 and 721 (Fortescue Metals Group, 2009). This Management Plan states that impacts to Mulga communities will be managed through mitigating effects of altered drainage regimes, including: rock armouring, culverts, diversion drains, other measures as appropriate and action specifications detailed in the Chichester Operations Surface Water Management Plan (45-PL-EN-0015) (Fortescue Metals Group, 2009).

Numerous fauna species have been recorded within the local area (40 km radius), including *Dasyurus hallucatus* (Northern Quoll), *Liasis olivaceus* subsp. *Barroni*, *Ardeotis australis* (Australian Bustard), *Burhinus grallarius* (Bush-Stone-curlew), *Falco peregrinus* (Peregrine Falcon) and *Pseudomys chapmani* (Western Pebble-mound Mouse) (DEC, 2007-). The majority of the fauna habitats within the area proposed to be cleared are well represented elsewhere within the local and regional area, and no significant loss of habitat for fauna indigenous to Western Australia is expected.

Given the above, the clearing as proposed is not likely to be at variance to this principle.

Methodology

References:

Coffey Environments (2010)
Fortescue Metals Group (2009)
DEC (2007-)

GIS Databases:

- SAC Biodatasets - Accessed 6 February 2012)
- Pre European Vegetation
- Wittenoom 50cm Orthomosaic - Landgate 2004

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments

Proposal is not likely to be at variance to this Principle

Two fauna species considered rare or likely to become extinct have been recorded within the local area (40 km radius) of the application area, including *Dasyurus hallucatus* (Northern Quoll) and *Liasis olivaceus* subsp. *barroni* (DEC 2007-).

Three level 1 vertebrate fauna assessments and numerous desktop surveys of the approved Solomon Rail Corridor and surrounding areas have been undertaken. Based on the information obtained from these surveys, three significant fauna species have been recorded to date including *Pseudomys chapmani* (Western Pebble-mound Mouse), *Ardeotis australis* (Australian Bustard), and *Merops ornatus* (Rainbow Bee-eater) (Fortescue Metals Group 2011). The applicant has compiled a Fauna Management Plan approved by the Environmental Protection Authority. Management of fauna species will be conducted in accordance with the Fauna Management Plan (Fortescue Metals Group (011).

The fauna habitats within the area proposed to be cleared are well represented elsewhere within the local and regional area, and no significant loss of habitat for fauna indigenous to Western Australia is expected.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

Reference:

DEC (2007-)

GIS Databases:

- Pre-European vegetation
- SAC Biodatasets - accessed 6 February 2012
- Wittenoom 50cm Orthomosaic - Landgate 2004

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments Proposal is not likely to be at variance to this Principle

No known records of Declared Rare Flora (DRF) have been located with the application area. The closest known record is *Lepidium catapycnon* located approximately 18 km south of the application on different vegetation and soil type.

Given the above, it is unlikely the vegetation under application will include or be necessary for the continued existence of DRF. Therefore the clearing as proposed is not likely to be at variance to this principle.

Methodology GIS Databases:
 - Pre-European vegetation
 - SAC Biodatasets - accessed 6 February 2012
 - Wittenoom 50cm Orthomosaic - Landgate 2004

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments Proposal is not likely to be at variance to this Principle

No known records of Threatened Ecological Communities are located within the application area.

Given the above, the clearing as proposed is not likely to be at variance to this principle.

Methodology GIS Databases:
 - Pre-European vegetation
 - SAC Biodatasets - accessed 6 February 2012
 - Wittenoom 50cm Orthomosaic - Landgate 2004

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is not likely to be at variance to this Principle

The area under application is located within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 100 per cent of its Pre European vegetation extent remaining (Shepherd, 2009).

The vegetation under application is mapped as Beard Vegetation Associations 29 and 562, both of which have approximately 100 per cent of their Pre European extent remaining in the Pilbara bioregion (Shepherd, 2009).

Digital imagery (Wittenoom 50cm Orthomosaic - Landgate 2004) indicates that the local area (20km radius) surrounding the area under application retains approximately 80 per cent vegetation cover.

Given the vegetation representation within the local area it is unlikely that the vegetation under application is significant as a remnant in an extensively cleared landscape.

Therefore, the clearing as proposed is not likely to be at variance to this principle.

	Pre-European (ha)	Current Extent Remaining (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Pilbara	17,804,193	17,785,001	100%	8%
Shire*				
Shire of Ashburton	10,086,659	10,050,099	100%	16%
Beard Vegetation Association in Bioregion*				
29	1,133,220	1,133,220	100%	2%
562	103,607	103,607	100%	0%

*Shepherd, 2009

Methodology References:
 Shepherd (2009)

GIS Database:
 - IBRA Australia
 - Local Government Authority

- Pre-European vegetation
- SAC Biodatasets - accessed 10 February 2012
- Wittenoom 50cm Orthomosaic - Landgate 2004

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments Proposal is at variance to this Principle

Numerous minor watercourses intersect the proposed clearing areas. The closest major watercourse is Fortescue River located approximately 2 km south of the application area.

An ANCA wetland 'the Fortescue Marshes' is located approximately 2.8 km south of the application area.

The applicant has advised that any potential surface water impacts will be managed in accordance with FMG PILBARA IRON ORE AND INFRASTRUCTURE PROJECT, Rail Corridor: Surface Water Management Plan, 30 October 2008, 204-60-EN-RP-0003 (Fortescue Metals Group, 2008). Section 5 of the management plan outlines the management commitments to be met through this plan. These commitments include but are not limited to, borrow pit surface water management. The management plan also commits to revegetation of borrow pits and performance indicators include, no significant impact on ecologically significant vegetation downstream of borrow pit areas as a result of surface water flow changes and no significant erosion or scouring on downstream receiving waterways or on downstream sheet flow areas as a result of Fortescue's operations. The management plan also outlines monitoring of water quality and flow as well as surface water dependent vegetation monitoring. Corrective actions are also outlined.

Considering numerous watercourses are located within the application area the clearing as proposed is at variance to this principle. The commitment to manage surface water as outlined in FMG Rail Corridor Surface Water Management Plan (Fortescue Metals Group, 2008) will minimise and mitigate impacts.

Methodology References:
Fortescue Metals Group (2008)

GIS Databases:
- ANCA Wetlands
- Hydrography, linear

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments Proposal may be at variance to this Principle

There are three soil types mapped within the application area which Northcote (1960-68) describes as:

Oc71: Outwash plains with much coarse surface gravel: chief soils are hard alkaline red soils.

MM19: High-level gently undulating plain flanked by areas of basaltic ranges of unit

Ja1: Extensive valley plains largely associated with the Fortescue River: chief soils are earthy clays.

Given the large area and cyclone events occurring within the Pilbara region, water erosion as a result of removing native vegetation may occur if not managed. The applicant has advised that any potential surface water impacts will be managed in accordance with FMG Rail Corridor Surface Water Management Plan (Fortescue Metals Group, 2008). Section 5 of the management plan outlines the management commitment to be met through this plan. These commitments include but are not limited to borrow pit surface water management. The management plan also commits to revegetation of borrow pits and performance indicators include, no significant impact on ecologically significant vegetation downstream of borrow pit areas as a result of surface water flow changes and no significant erosion or scouring on downstream receiving waterways or on downstream sheet flow areas as a result of Fortescue's operations. The management plan also outlines monitoring of water quality and flow as well as surface water dependent vegetation monitoring. Corrective actions are also outlined

Given the above, the clearing as proposed may be at variance to this principle. The commitment to manage surface water as outlined in FMG Rail Corridor Surface Water Management Plan (2008) will minimise and mitigate impacts.

Methodology References:
Fortescue Metals Group (2008)
Northcote et al. (1960 - 1968)

GIS Database:
- Rainfall, Mean Annual

- Soils, Statewide

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments Proposal is not likely to be at variance to this Principle

The closest known conservation reserves are Mungaroon Range Nature Reserve and Karajini National Park which are located approximately 16 km north and 20 km south respectively of the area under application.

A large proportion of the vegetation in the Pilbara bioregion remains uncleared, approximately 100 per cent (Shepherd, 2009). Therefore, it is unlikely that the application area provides an important buffer or ecological linkage to either Mungaroon Range Nature Reserve or Karajini National Park.

Therefore, the clearing as proposed is not likely to be at variance to this principle.

Methodology

Reference:

-Shepherd (2009)

GIS Databases:

- DEC Tenure

- Pre-European vegetation

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments Proposal may be at variance to this Principle

The groundwater salinity within the application area is approximately 500 - 1,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). Given the size of the area to be cleared (205 hectares) compared to the size of the Hamersley Groundwater Province (10 166 833 hectares), the proposed clearing is not likely to cause salinity levels to alter.

Clearing of riparian vegetation around minor drainage lines may cause deterioration to surface water from increased sedimentation and runoff.

The Department of Water (2012) advised the application to clear 205 ha of native vegetation for the purpose of borrow material for rail formation construction is unlikely to have an impact on the quantity or quality of groundwater, provided clearing activities are conducted in accordance with DoW guidelines and advice.

The applicant has advised that any potential surface water impacts will be managed in accordance with FMG Rail Corridor Surface Water Management Plan (Fortescue Metals Group, 2008). Section 5 of the management plan outlines the management commitment to be met through this plan. These commitments include but are not limited to borrow pit surface water management and minimising turbidity in surface waters. The management plan also commits to revegetation of borrow pits and performance indicators include, no significant impact on ecologically significant vegetation downstream of borrow pit areas as a result of surface water flow changes and no significant erosion or scouring on downstream receiving waterways or on downstream sheet flow areas as a result of Fortescue's operations. The management plan also outlines monitoring of water quality and flow as well as surface water dependent vegetation monitoring. Corrective actions are also outlined.

Given the above, the clearing as proposed may be at variance to this principle. The commitment to manage surface water as outlined in FMG Rail Corridor Surface Water Management Plan (Fortescue Metals Group, 2008) will minimise and mitigate impacts.

Methodology

Reference:

-Fortescue Metals Group (2008)

-DoW (2012)

GIS Databases:

-Soils, Statewide

-Pre-European vegetation

-Rainfall, Mean Annual

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments Proposal is not likely to be at variance to this Principle

Natural flood events do occur in the Pilbara region following cyclonic activity. However, the proposed clearing is not expected to increase the incidence or intensity of such events.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Database:
- Rainfall, Mean Annual

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

The Shire of Ashburton (2012) advised they have no objections to the application to clear native vegetation within Lot 45 on Plan 238216, Chichester and Lot 53 on Plan 220376, Mulga Downs.

Application area falls within Pilbara Groundwater Area under the Rights in Water Irrigation Act 1914.

Application area falls within the Pilbara Surface Water Area under the Rights in Water Irrigation Act 1914

The Department of Water (2012) advised the application to clear 205 ha of native vegetation for the purpose of Borrow material for rail formation construction is unlikely to have an impact on the quantity or quality of groundwater, provided clearing activities are conducted in accordance with DoW guidelines and advice.

The proposed clearing for additional borrow areas is required as part of the Solomon Rail Spur component of the part of the Solomon Iron Ore Project which has been formally assessed through a Public Environmental Review under Part IV of the Environmental Protection Act 1986 (EP Act) and approved on the 20 April 2011 under Ministerial Statement 862. (Fortescue Metals Group 2011). Additional disturbance for the construction of the rail formation has been approved through Section 45C of the Environmental Protection Act 1986 by the Environmental Authority.

No Aboriginal Sites of Significance have been recorded within the application area. The applicant has advised that surveys and assessments have been undertaken for the proposed clearing areas and have been specifically located to avoid know heritage sites however, if required, the proposed works will be undertaken in accordance with approvals granted under Section 18 of the Aboriginal Heritage Act 1972.

The applicant has advised the borrow pits will be constructed in accordance with Fortescue's Borrow Pit Management Plan. (Fortescue 2011)

The applicant provided DEC with the following management plans – Fortescue's Rail Corridor: Surface Water Management Plan(Fortescue Metals Group Limited 2008), Vegetation Clearing and Topsoil Management Procedure (Fortescue Metals Group Limited 2011) and Fortescue's Mulga and other Flora and Communities Management Plan (Fortescue Metals Group Limited 2009)

No public submissions have been received in relation to this proposal.

Methodology Reference:
Department of Water (2012)
Fortescue Metals Group (2011).
Shire of Ashburton (2012)

GIS Databases:
-Aboriginal Sites of Significants
-RIWI ACT, Groundwater Areas
-RIWI ACT, Surface Water Areas, Irrigation Districts

4. References

- Coffey Environments Pty Ltd (2010b) Flora and Vegetation Assessment, Solomon Rail Project and Investigator. Volume 1. Prepared for Fortescue Metals Group Pty Ltd. Western Australia. (DEC Ref: A488149).
- DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed February 2012.
- Department of Water (2012) Advice for clearing permit application CPS 2806/1. Western Australia (DEC Ref: A481487)
- Fortescue Metals Group (2008) Pilbara Iron Ore and Infrastructure Project. Rail Corridor: Surface Water Management Plan. 30 October 2008. 204-60-EN-RP-0003 (DEC Ref:A488149).
- Fortescue Metals Group (2009) Pilbara Iron Ore and Infrastructure Project. Mulga and Other Flora and Communities Management Plan. 6 November 2009. 45-PL-EN-0017 (DEC Ref: A488149).
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- Shire of Ashburton (2012) Advice for clearing permit application CPS 4806/1. Western Australia (DEC Ref: A475847)

5. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)