GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8649/1
Permit Holder:	Regional Power Corporation T/A Horizon Power
Duration of Permit:	8 December 2019 to 8 December 2024

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 upgrading the existing overhead transmission line running from the Karratha power station to the Dampier substation.

2. Land on which clearing is to be done

Road reserve – 11736108, Burrup
Road reserve – 11441935, Gap Ridge
Road reserve - 11441936 , Maitland
Unallocated crown land – 1333873, Nickol
Lot 24 on Plan 241372, Burrup
Lot 284 on Plan 242018, Burrup
Lot 304 on Plan 93324, Dampier
Lot 331 on Plan 42639, Dampier
Lot 490 on Plan 194720, Dampier
Lot 643 on Plan 29300, Dampier
Lot 175 on Plan 26146, Gap Ridge
Lot 358 on Plan 215500, Gap Ridge
Lot 368 on Plan 215500, Gap Ridge
Lot 652 on Plan 29737, Gap Ridge
Lot 653 on Plan 29737, Gap Ridge
Lot 931 on Plan 76543, Gap Ridge
Lot 60 on Plan 241372, Maitland
Lot 465 on Plan 220671, Maitland
Lot 588 on Plan 77089, Stove Hill
Lot 2656 on Plan 215106, Stove Hill
Lot 4217 on Plan 217002, Stove Hill

3. Area of Clearing

The Permit Holder must not clear more than 26.8 hectares of native vegetation within the area hatched yellow on attached Plan 8649/1.

4. 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.

PART II – MANAGEMENT CONDITIONS

5. Avoid, minimise and reduce the impacts and extent of 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.

6. Weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
(b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III - RECORD KEEPING AND REPORTING

7. Records must be kept

The Permit Holder must maintain the following records:

(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;
  (iv) the size of the area cleared (in hectares);
  (v) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 5 of this Permit; and
  (vi) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 6 of this Permit.

8. Reporting

The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:

(a) of records required under condition 7 (records to be kept) of this Permit;
(b) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year;
(c) if no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year; and
(d) prior to 8 September 2024, the Permit Holder must provide to the CEO a written report of records required under condition 7 of this Permit where these records have not already been provided under condition 8(a) of this Permit.

DEFINITIONS

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

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

fill means material used to increase the ground level, or fill a hollow;

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;

weed/s means any plant -

(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
(b) published in a Department of Biodiversity, Conservation and Attractions Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned.

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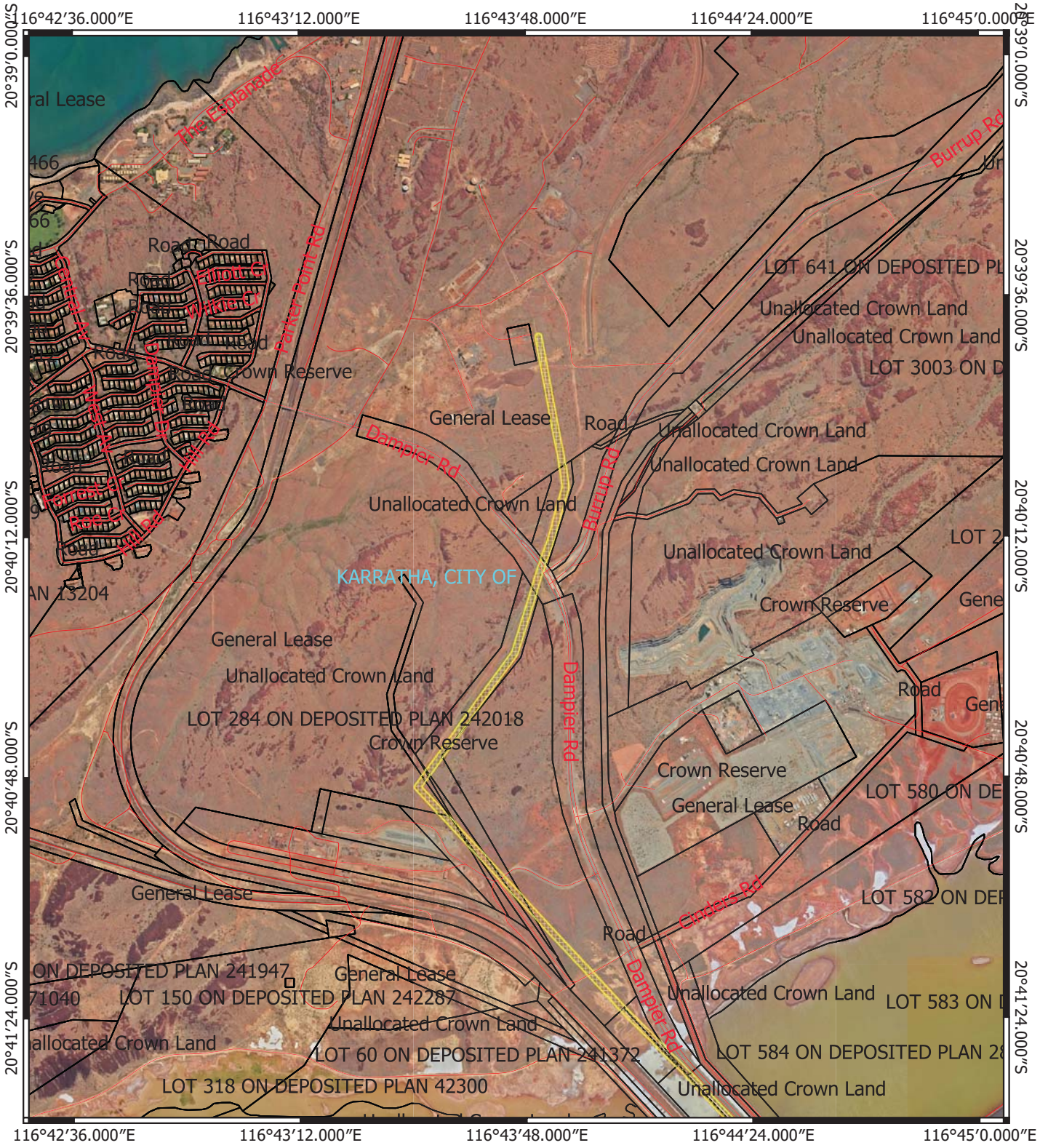
Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

8 November 2019

Plan 8649/1a



Legend

- CPS areas approved to clear
- Road Centrelines
- Cadastre - LGATE 218
- Local Government Authorities
- Image

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Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Plan 8649/1b

Legend

- CPS areas approved to clear
- Road Centrelines
- Cadastre - LGATE 218
- Local Government Authorities

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GOVERNMENT OF WESTERN AUSTRALIA

Plan 8649/1c

Legend

- CPS areas approved to clear
- Road Centrelines
- Cadastre - LGATE 218
- Local Government Authorities

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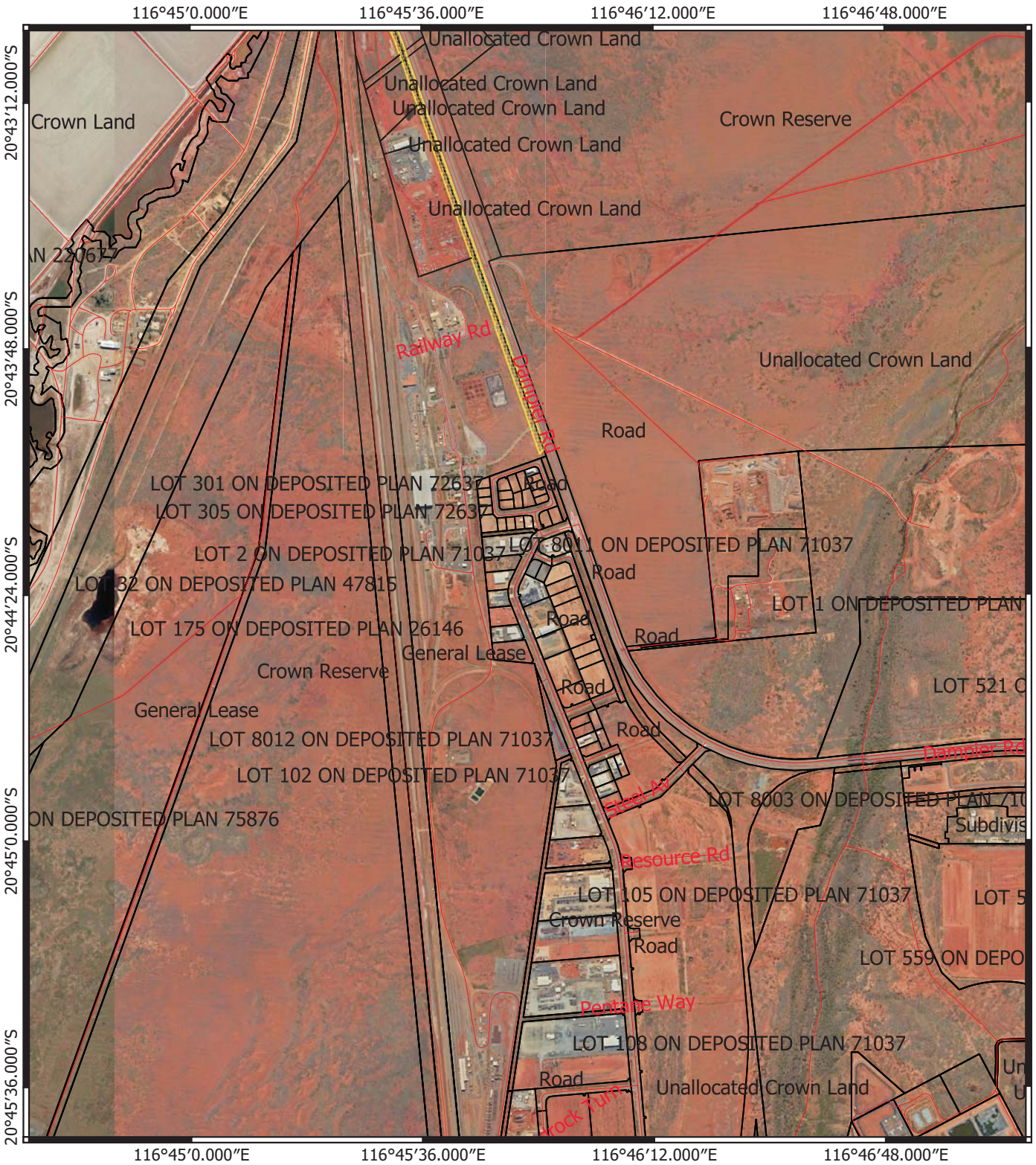
GOVERNMENT OF WESTERN AUSTRALIA

Plan 8649/1d



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- CPS areas approved to clear
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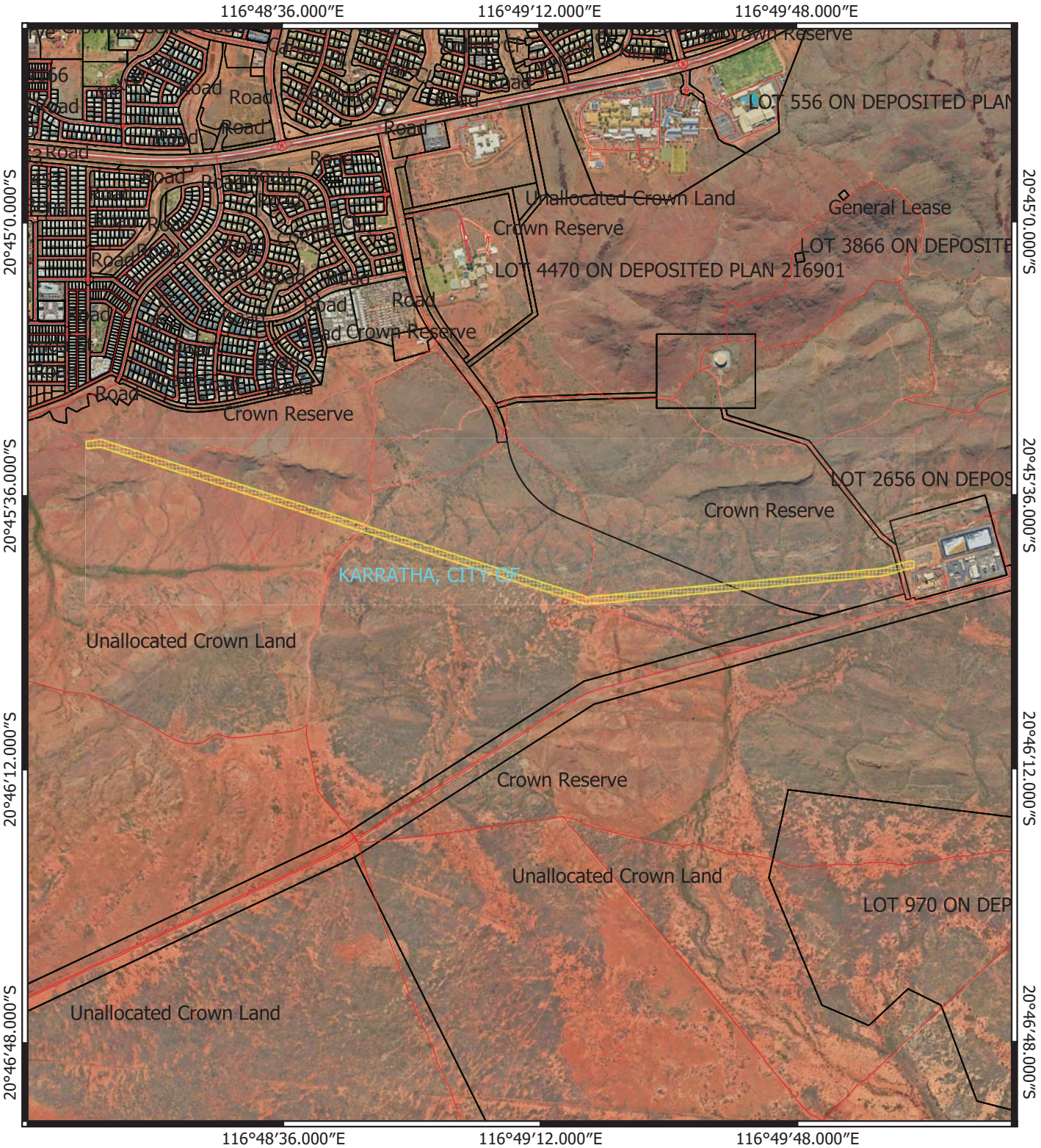
GOVERNMENT OF WESTERN AUSTRALIA

Plan 8649/1e



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- CPS areas approved to clear
- Cadastre - LGATE 218
- Road Centrelines
- Local Government Authorities

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Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8649/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Regional Power Corporation T/A Horizon Power
Application received date: 19 August 2019

1.3. Property details

Property:
Road reserve – 11736108, Burrup
Road reserve – 11441935, Gap Ridge
Road reserve - 11441936 , Maitland
Unallocated crown land – 1333873, Nickol
Lot 24 on Plan 241372, Burrup
Lot 284 on Plan 242018, Burrup
Lot 304 on Plan 93324, Dampier
Lot 331 on Plan 42639, Dampier
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Lot 60 on Plan 241372, Maitland
Lot 465 on Plan 220671, Maitland
Lot 588 on Plan 77089, Stove Hill
Lot 2656 on Plan 215106, Stove Hill
Lot 4217 on Plan 217002, Stove Hill

Local Government Authority: City of Karratha
Localities: Stove Hill, Dampier, Burrup, Gap Ridge, Nickol and Maitland

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
26.8		Mechanical Removal	Upgrade and realignment of existing overhead transmission line

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 8 November 2019
Reasons for Decision: The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). It has been concluded that the proposed clearing is at variance to principle (f), may be at variance to principle (a) and is not, or is not likely to be at variance to the remaining principles.

In determining to grant a clearing permit subject to conditions, the Delgetated Officer considered that the environmental impacts of the proposed clearing can be managed through onsite avoidance and mitigation measures.

2. Site Information

Clearing Description The application is to clear 26.8 hectares of native vegetation within a 39.36 hectare footprint within various properties in Burrup, Dampier, Gap Ridge, Maitland, Nickol and Stove Hill, for the purpose of upgrading the existing overhead transmission line running from the Karratha power station to the Dampier substation.

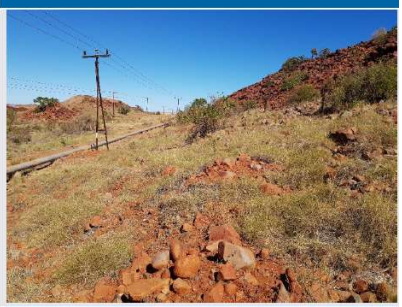
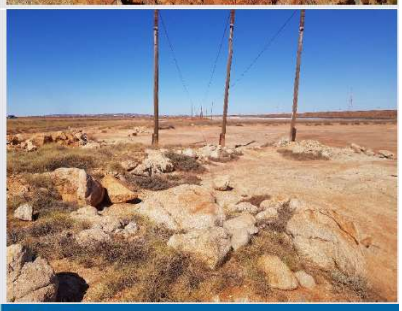
Vegetation Description The application area is mapped as four vegetation associations (Shepherd et al., 2001):

- 117: Hummock grasslands, grass steppe; soft spinifex
- 127: Bare areas; mudflats
- 589: Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex

- 157: Hummock grasslands, grass steppe; hard spinifex, *Triodia wiseana*

Nine vegetation units were described for the study area (39.36 hectare area including all of the 26.8 hectare application area (referred to as the Project area in GHD, 2019)). A description of each vegetation unit is provided below as an extract of the supporting documentation provided (GHD, 2019) with an additional 14.81 hectares described as clearing or highly disturbed (not included within the application area) (GHD, 2019).

Vegetation type code	Vegetation type description	Sample locations and extent (ha)	Photograph
VT_1	*Acacia inaequilatera, Acacia bivenosa* and *Hakea lorea* subsp. *lorea* open shrubland over *Eremophila longifolia, Senna glutinosa* subsp. *pruinosa* and *Solanum lasiophyllum* sparse shrubland over *Cymbopogon ambiguus* open tussock grassland over *Triodia wiseana* and *Triodia epactia* hummock grassland over *Fimbristylis ?dichotoma* and *Bulbostylis barbata* scattered forbs on low undulating rocky rises and slopes. Other associated species include *Acacia stellaticeps.*	KAR_01, KAR_02, KAR_03, KAR_05, KAR_06 Area: 5.91 ha	
VT_2	*Acacia pyrifolia* var. *pyrifolia* and *Acacia bivenosa* open shrubland over *Acacia arida, Senna glutinosa* subsp. *pruinosa* and *Indigofera monophylla* sparse shrubland over *Triodia wiseana* hummock grassland on rocky hill and slopes. Other associated species include *Acacia stellaticeps, Scaevola spinescens, Acacia maitlandii* and *Triumfetta clementii.*	KAR_07, KAR_08, KAR_21 Area: 2.95 ha	
VT_3	*Acacia xiphophylla* open shrubland over *Rhagodia preissii, Hibiscus sturtii* var. *?platychlamys* and *Gossypium australe* sparse shrubland over *Triodia wiseana* and *Triodia epactia* open hummock grassland and **Cenchrus ciliaris* sparse tussock grassland.	KAR_04 Area: 0.55 ha	
VT_4	*Grevillea pyramidalis* subsp. *pyramidalis, Hakea lorea* subsp. *lorea, Acacia inaequilatera* and *Ehretia saligna* var. *saligna* open shrubland over *Solanum lasiophyllum, Diplopeltis eriocarpa* and *Solanum lasiophyllum* scattered shrubs over *Triodia epactia* sparse hummock grassland on flat rocky sandy loam plains near rock piles. Associated species include *Indigofera monophylla, Triumfetta propinqua, Acacia orthocarpa, Trichodesma zeylanicum* var. *zeylanicum* and *Acacia ampliceps.*	KAR_09, KAR_14, KAR_23 Area: 9.01 ha	
VT_5	*Eucalyptus camaldulensis* and *Corymbia hamersleyana* open woodland over *Grevillea pyramidalis* subsp. *pyramidalis, Acacia sericophylla, Acacia sclerosperma* subsp. *sclerosperma* open shrubland over *Triodia epactia* and *Triodia wiseana* hummock grassland and **Cenchrus ciliaris* tussock grassland on minor drainage lines.	KAR_24 Area: 0.26 ha	

Vegetation type code	Vegetation type description	Sample locations and extent (ha)	Photograph
VT_6	*Terminalia circumalata* and *Brachychiton acuminatus* scattered low trees over *Grevillea pyramidalis* subsp. *pyramidalis*, *Flueggea virosa* subsp. *melanthesoides* and *Senna artemisioides* scattered shrubs over *Triodia epactia* open hummock grassland over *Cymbopogon ambiguus* and **Cenchrus ciliaris* open tussock grassland and *Tinospora smilacina* and *Ipomoea costata* open vineland on rock piles. Associated species include *Rhynchosia bungarensis* (P4). **Priority 1 PEC Burrup Peninsula rock pile communities.**	KAR_11, KAR_12, KAR_13, KAR_15, KAR_16 Area: 0.53 ha	
VT_7	*Triodia angusta* open hummock grassland and **Cenchrus ciliaris* open tussock grassland over *Tecticornia ?indica* subsp. *leiostachya*, *Tecticornia ?pterygosperma* and *Sclerolaena diacantha* open chenopod shrubland on saline flats with some rock outcrop.	KAR_22 Area: 0.53 ha	

Vegetation type code	Vegetation type description	Sample locations and extent (ha)	Photograph
VT_8	*Acacia bivenosa*, *Acacia synchronicia* and *Acacia ancistrocarpa* open *shrubland* over *Triodia wiseana* open hummock grassland and **Cenchrus ciliaris* sparse tussock grasses on disturbed sandy loam plains.	KAR_18, KAR_19 Area: 3.08 ha	
VT_9	*Acacia pyrifolia* var. *pyrifolia* scattered shrubs over *Eragrostis xerophila*, *Chrysopogon fallax* and *Eriachne benthamii* open tussock grassland and *Triodia epactia* isolated hummock grassland on deep cracking gilgai clay plains. Associated species include *Dactyloctenium radulans*, **Cenchrus setiger*, *Corchorus incanus* subsp. *incanus*, *Operculina aequisepala* and *Phyllanthus maderaspatensis*. **Priority 3 Horseflat land systems of the Roebourne Plains**	KAR_20 Area: 1.72 ha	

Vegetation Condition

A survey of the application area by GHD (2019) identified the vegetation within the study area as having the following condition ratings:

Vegetation Condition (EPA 2016a)	Extent mapped (ha)
Very Good	10.30 ha
Good	7.31 ha
Poor	4.55 ha
Degraded	1.14 ha
Completely Degraded	1.23 ha
Cleared	14.81 ha

Most of the 14.81 hectares of cleared vegetation was removed from the clearing permit application area. However, a discrepancy of 2.27 hectares (between the application area and the vegetation not mapped as cleared) is apparent. It is expected that the discrepancy between this value and the application area covers areas designated as highly degraded within the definition of 'cleared' but still retain scattered vegetation and therefore require a clearing permit. As such, this area of 2.27 hectares of the application area (currently designated as cleared) is also considered to be in completely degraded (Keighery, 1994) condition.

Local Area

The local area is defined as 10 kilometres from the boundary of the application areas.

Figure 1: CPS 8649/1 Application area

Figure 2: CPS 8649/1 Context map

3. Minimisation and mitigation measures

The applicant advised that the design and alignment of the transmission line upgrades are subject to infrastructure and heritage restrictions. Further clarification of the exact placement of the poles and transmission lines is not possible until closer to construction.

The applicant has committed to avoiding and minimising clearing, particularly those areas associated with significant environmental values such as Priority Ecological Communities (PEC's) and priority flora, however, cannot quantify the impact to these environmental values until the final placement of infrastructure can be determined (Horizon Power, 2019).

4. Assessment of application against clearing principles

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

Proposed clearing may be at variance to this Principle

The proposed clearing may be at variance to this clearing principle as the application area includes priority flora and PEC's which represent a higher level of biodiversity than other vegetation within the local area (10 kilometre radius).

As assessed within Principle (e), the local area is highly vegetated retaining approximately 45.82 per cent native vegetation.

A vegetation, flora and fauna assessment undertaken by GHD (2019) determined that two PEC's occur within the application area; Burrup Peninsula rock pile communities (Priority 1) and Horseflat land system of the Roebourne Plains (Priority 3). The applicant advised that up to 0.53 hectares of the Burrup Peninsula rock pile community and up to 1.2 hectares of the Horseflat land system of the Roebourne Plains PEC's will be impacted by clearing (GHD, 2019; Horizon Power, 2019).

A survey undertaken by GHD (2019) identified that vegetation type 6 (VT_6) is considered to be representative of the Burrup Peninsula rock pile communities PEC. This vegetation type includes scattered low trees of *Brachychiton acuminatus, Terminalia circumalata, Ficus aculeata var. indecora* and *Flueggea virosa subsp. melanthesoides*, scattered patches of *Cymbopogon ambiguus* tussock grasses and *Tinospora smilacina* and *Ipomoea costata* vines on rock piles. There is approximately 0.53 ha of this PEC occurring within the survey area of which all is in Very Good (Keighery, 1994) condition.

A survey undertaken by GHD (2019) identified that vegetation type 9 (VT_09) is considered to be representative of the Horseflat land system of the Roebourne Plains PEC. Vegetation type 9 is situated on the Horseflat land system and is dominated by an *Eragrostis xerophila, Chrysopogon fallax* and *Eriachne benthamii* open tussock grassland on deep cracking gilgai clay plains. Associated species include *Dactyloctenium radulans, *Cenchrus setiger, Corchorus incanus subsp. incanus, Operculina aequisepala* and *Phyllanthus maderaspatensis*. There is approximately 1.72 ha of this PEC occurring within the survey area which ranged from Poor to Good (Keighery, 1994) condition (GHD, 2019). The applicant has advised that up to 1.2 hectares of this PEC will be impacted by clearing (Horizon Power, 2019)

One species of Priority flora has been recorded within the application area: *Rhynchosia bungarensis* (Priority 4). Taxa that may be threatened or near threatened, but are data deficient or have not yet been adequately surveyed to be listed under the Rare Flora Notice, are added to the Priority Flora List under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status, so that consideration can be given to their declaration as threatened flora. Priority three – poorly known species are species that are known from several locations, and the species do not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations, but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

Rhynchosia bungarensis is listed Priority 4 and is a compact, prostrate shrub, to 0.5 m high with yellow flowers. It is known to occur on pebbly, shingly coarse sand amongst boulders and banks of flow line in the mouth of a gully wall (Western Australian Herbarium 1998–). According to NatureMap there are 110 records of this species, with a large number of records concentrated on the Burrup Peninsula. A total of 48 plants from 14 locations were recorded in the survey area. This species was typically recorded along the bases of rockpiles on the Burrup Peninsula.

The applicant advises that:

> *As the vegetation in this area is low lying, the only intentional clearing that is required will be around the base of poles (fire prevention) and minor access tracks. Clearing beneath the lines is not required following installation as vegetation is not expected to interfere with the overhead lines. Clearing of vegetation on or at the base of rock piles is not required.*
>
> *Incidental clearing in the area may occur during construction from heavy vehicles, plant, equipment and laydown, but is not expected to impact on the rock piles. There is an existing access track in this area, as such new access tracks will only be required as a connection to any newly installed poles. With the use of the proposed management measures below, clearing within the Burrup Peninsula Rock Pile Community and associated Rhynchosia bungarensis is considered to be negligible* (Horizon Power, 2019)

Given that the majority of the proposed clearing is temporary (access track and installation of transmission lines) and that vegetation will be allowed to re-grow beneath the transmission lines (to a certain height) once clearing has been undertaken, it is unlikely that the temporary clearing will significantly impact on the conservation values of either PEC. Further populations of *R. burgarensis* recorded within the application area do not represent a range extent or otherwise significant population of this species and occurrences are known to be associated with rock piles of the Burrup peninsula which the applicant has committed to avoiding where possible. Given this, the impact to this flora species is likely to be significantly less than the 48 individuals recorded within the survey area and the proposed clearing is unlikely to impact the conservation status of this species.

Six conservation listed fauna species were considered 'likely' to utilise habitats present within the study area (Peregrine Falcon (*Falco peregrinus*), Osprey (*Pandion haliaetus*), Northern Quoll (*Dasyurus hallucatus*), Water-rat (*Hydromys chrysogaster*), Pilbara Olive Python (*Liasis olivaceus subsp. barroni*) and Lined soil-crevice skink (Dampier) (*Notoscincus butleri*), however, fauna surveys did not identify any conservation listed fauna species within the application area (GHD, 2019). Six broad fauna habitats are considered to occur within the application area (GHD, 2019). None of these fauna habitats are considered to be restricted at a local or regional level or are considered to be critical habitat for conservation significant fauna.

Given the above, the vegetation proposed to be cleared may represent high biodiversity given the presence of priority flora and PEC's and therefore may be at variance with this principle. The impact of clearing these biological values is not likely to impact on the conservation status of PEC's or priority flora and therefore the proposed clearing is not likely to have a significant impact on biodiversity within the local area.

(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.

Proposed clearing is not likely to be at variance to this Principle

The proposed clearing is not likely to be at variance to this principle as the vegetation within the application area does not comprise the whole, or part of and is not necessary for the maintenance of significant habitat for fauna.

As assessed under Principle (a) above, six conservation listed fauna species were considered 'likely' to utilise habitats present within the study area; Peregrine Falcon (*Falco peregrinus*), Osprey (*Pandion haliaetus*), Northern Quoll (*Dasyurus hallucatus*), Water-rat (*Hydromys chrysogaster*), Pilbara Olive Python (*Liasis olivaceus subsp. barroni*) and Lined soil-crevice skink (Dampier) (*Notoscincus butleri*)) however, fauna surveys did not identify any conservation listed fauna species within the application area (GHD, 2019). Six broad fauna habitats are considered to occur within the application area (GHD, 2019). None of these fauna habitats are considered to be restricted at a local or regional level or are considered to be critical habitat for conservation significant fauna.

As assessed within Principle (e), the local area is highly vegetated retaining approximately 45.82 per cent native vegetation.

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

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

Proposed clearing is not likely to be at variance to this Principle

No threatened flora have been recorded within the application area. A flora survey of the application area did not identify any threatened flora (GHD, 2019).

Given the above, the proposed clearing is not likely to be at variance with this Principle.

(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.

Proposed clearing is not likely to be at variance to this Principle

No State listed threatened ecological communities have been recorded within the local area. A survey of the application area did not identify any vegetation consistent with a known threatened ecological community within the application area (GHD, 2019).

Given the above, the proposed clearing is not likely to be at variance with this Principle.

(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.

Proposed clearing is not at variance to this Principle

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The mapped Interim Biogeographic Regionalisation for Australia (IBRA) bioregion, Pilbara, retains 99.89 per cent native vegetation. Mapped Beard vegetation associations, 117, 127, 157 and 589 all retain above 98 per cent native vegetation within the Pilbara IBRA Bioregion. The local area retains approximately 45.82 per cent native vegetation. As the mapped vegetation associations and the extent of vegetation within the local area are above the 30 per cent threshold, the proposed clearing does not occur within a highly cleared landscape.

Given the above, the proposed clearing is not at variance with this Principle.

Table 1: Vegetation extents.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DBCA Managed Lands (%)
IBRA Bioregion*				
Pilbara	17804193.01	17,785,000.81	99.89	8.3
Beard vegetation association in Bioregion*				
117	82,705.78	78,096.64	94.43	22.54
127	177,749.75	159,595.04	89.79	2.32
157	199,832.17	198,409.23	99.29	5.84
589	728,768.20	724,695.82	99.44	2.11
Local Area				
10 kilometre radius	49, 475.63	22,672.53	45.82	-

* Government of Western Australia (2019)

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

Proposed clearing is at variance to this Principle

The application area includes native vegetation growing in, and in association with several watercourses and is therefore at variance to this principle.

Several hydrography features are mapped within the application area including a lake, watercourse, drain and area subject to inundation. A survey of the application area identified that Vegetation type 5 (VT_5) represents riparian vegetation (GHD, 2019).

Given the above, the proposed clearing is at variance with this principle. The proposed clearing is predominately for temporary purposes and clearing will be spread over a large area, minimising the impact at any one location. The impact of clearing riparian vegetation is not likely to be significant.

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

Proposed clearing is not likely to be at variance to this Principle

The application area is mapped within the following rangeland soil systems:

Granitic Land System	Hills and ranges; Spinifex grasslands
Cheerawarra Land System	Coastal plains, beaches, dunes, mudflats and cliffs; Various coastal vegetation
Horseflat Land System	Alluvial plains; Tussock grasslands Ruth Land System Hills and ranges; Spinifex grasslands
Littoral Land System	Coastal plains, beaches, dunes, mudflats and cliffs; Various coastal vegetation

As assessed under Principle (f) above, several hydrographical features are mapped within the application area. Rainfall is mapped as 300 millimetres per year with an evapotranspiration rate of 300 millimetres per year.

The proposed clearing is predominately for temporary purposes and it is unlikely that the clearing will leave large areas of exposed soils. Given the above, the proposed clearing is not likely to be at variance with this Principle.

(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.

Proposed clearing not likely to be at variance to this Principle
The application area is not within, or adjacent to any conservation areas. The northern end of the application area is located approximately 350 metres east of Murujuga National Park managed by the Department of Biodiversity, Conservation and Attractions.

Given the separation distance between the application area and the closest conservation area it is not likely that the proposed clearing will impact on the environmental values of a conservation area and therefore is not likely to be at variance with this principle.

(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.

Proposed clearing is not likely to be at variance to this Principle
As assessed within Principle (e), the local area is extensively vegetated retaining approximately 99 per cent native vegetation. As assessed within Principle (f), several hydrographical features are present within the application area.

Given the extent of native vegetation within the local area and taking into consideration that the proposed clearing is predominately for temporary purposes, it is not likely to deteriorate the quality of surface or underground water.

Given the above, the proposed clearing is not likely to be at variance with this clearing Principle.

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

Proposed clearing is not likely to be at variance to this Principle
As assessed within Principles (e), (f) and (g), the local area is extensively vegetated retaining approximately 99 per cent native vegetation, with major rivers and tributaries managing the flow of significant rainfall. Average rainfall within the region is low at 300 millimetres per year.

Given the above, the proposed clearing is not likely to be at variance with this Principle.

Planning instruments and other relevant matters.

The clearing permit application was advertised on the DWER website on 19 September 2019 with a 21 day submission period. No public submissions were received in relation to this application.

There are 25 Aboriginal sites of significance mapped within the application area. It is the responsibility of the applicant to ensure all heritage requirements are complied with prior to undertaking clearing of native vegetation.

5. References

GHD (2019) Flora and fauna survey of application area CPS 8649/1 undertaken by GHD Consultancy 10 -14 June 2019 A1815773.

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Government of Western Australia (2018) 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of February 2018. WA Department of Parks and Wildlife, Perth.

Horizon Power (2019) Application form, supporting information and supplementary information for CPS 8649/1. A1815773, A1818161, DWERDT212566 and DWERDT216176.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. http://florabase.dpaw.wa.gov.au/ (Accessed February 2019).

GIS Database List
- SAC Bio datasets (September 2019)
- Hydrography, linear
- Aboriginal Sites of Significance
- PDWSA Areas
- Hydrography, linear
- Groundwater Salinity

- Pre-European vegetation
- DBCA Estate
- Soils, statewide
- Salinity Risk
- Rainfall, Areal Actual
- Evapotranspiration