GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10511/1
Permit Holder:	Regional Power trading as Horizon Power
Duration of Permit:	From 15 July 2024 to 15 July 2034

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of power supply expansion through overhead and underground transmission lines.

2. Land on which clearing is to be done

Lot 372 on Deposited Plan 35620 (Crown Reserve 29082), Boodarie
Lot 1199 on Deposited Plan 70562 (Crown Reserve 50892), Boodarie
Lot 1301 on Deposited Plan 70562 (Crown Reserve 50892), Boodarie
Lot 47 on Deposited Plan 404952, Boodarie
Lot 48 on Deposited Plan 404952, Boodarie
Lot 600 on Deposited Plan 407880 (Crown Reserve 29082), Boodarie
Lot 5275 on Deposited Plan 184651 (Crown Reserve 37373), Boodarie
Lot 5549 on Deposited Plan 216397 (Crown Reserve 29082), Boodarie
Lot 61 on Deposited Plan 404952 (Crown Reserve 50528), Boodarie
Lot 55 on Deposited Plan 404949 (Unallocated Crown Land), Boodarie
Lot 58 on Deposited Plan 404949 (Unallocated Crown Land), Boodarie
Lot 60 on Deposited Plan 404952 (Unallocated Crown Land), Boodarie
Lot 155 on Deposited Plan 404948 (Unallocated Crown Land), Boodarie
Lot 311 on Deposited Plan 194620 (Unallocated Crown Land), Boodarie
Lot 371 on Deposited Plan 37227 (Unallocated Crown Land), Boodarie
Lot 1497 on Deposited Plan 404497 (Unallocated Crown Land), Boodarie
Lot 321 on Deposited Plan 74344, Boodarie
Lot 322 on Deposited Plan 74344, Boodarie
Lot 323 on Deposited Plan 74344, Boodarie
Lot 555 on Deposited Plan 60836, Boodarie

3. Clearing authorised

The permit holder must not clear more than 4.55 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 15 July 2029.

PART II – MANAGEMENT CONDITIONS

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

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending 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 management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of 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 known *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.

7. Directional clearing

The permit holder must:

(a) restrict clearing activities to *daytime hours* to avoid the possibility of injury to fauna; and

(b) conduct clearing activities in a slow, progressive manner in a single direction towards adjacent *native vegetation* to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

8. Fauna management – pre-clearance survey

(a) Within seven (7) days prior to undertaking any clearing authorised under this permit, or as otherwise approved by the *CEO,* the permit holder shall engage a *fauna specialist* to undertake clearance surveys within the area cross hatched yellow in Figure 1 of Schedule 1 for the Greater Bilby *(Macrotis lagotis)* and Brush-tailed Mulgara (*Dasycerus blythi),* including the identification and inspection of burrows, and determination of whether burrows are being utilised.

(b) Where evidence of recent burrow use is identified under condition 8(a) of this permit, the permit holder shall;

(i) engage a *fauna specialist* to flag the location of the burrow/s showing signs of recent use;

(ii) not clear within five metres of the flagged burrow/s;

(iii) engage a *fauna specialist* to monitor with camera, the flagged burrow/s for

a maximum of five days, or until such time that Greater Bilby or Brush-tailed Mulgara have been observed to independently move on from the burrow/s; and

(iv) prior to clearing, engage a *fauna specialist* to reinspect any flagged burrow/s for the presence of Greater Bilby or Brush-tailed Mulgara.

(c) If Greater Bilby or Brush-tailed Mulgara are identified utilising any flagged burrow/s under condition 8(b)(iv) of this permit and cannot be avoided in accordance with condition 5 of this permit, the permit holder shall engage a *fauna specialist* to remove and relocate the identified Greater Bilby or Brush-tailed Mulgara to an area of suitable habitat, in accordance with a section 40 authorisation under the *Biodiversity and Conservation Act 2016.*

(d) Where active Greater Bilby or Brush-tailed Mulgara burrow/s are identified under condition 8(a) of this permit, and/or Greater Bilby or Brush-tailed Mulgara are relocated under condition 8(c) of this permit, the permit holder shall include the following in a report submitted to the *CEO* within two months of undertaking any *clearing* authorised under this permit:

(i) the location of any active Greater Bilby or Brush-tailed Mulgara burrows identified, using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

(ii) a description of the camera monitoring measures undertaken under condition 8(b)(iii) of this permit;

(iii) the date and time of Greater Bilbies or Brush-tailed Mulgara are recorded as independently moving from a flagged burrow;

(iv) the gender of each Greater Bilby captured under condition 8(c) of this permit;

(v) the location of any Greater Bilby or Brush-tailed Mulgara, as referred to under condition 8(a) of this permit, captured using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

(vi) the date, time, vegetation type and weather conditions at each location where Greater Bilbies or Brush-tailed Mulgara are captured under condition 8(d)(v) of this permit;

(vii) the location of any Greater Bilby or Brush-tailed Mulgara, identified in accordance with condition 8(a) of this permit, relocated using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

(viii) the date, time, vegetation type and weather conditions at each location where Greater Bilbies or Brush-tailed Mulgara are relocated under condition 8(c) of this permit; and

(ix) the name of the *fauna specialist* that relocated fauna under condition 8(c) of this permit; and

(x) a copy of the fauna licence authorising the relocation of fauna under condition 8(c) of this permit.

9. Flora management – avoidance of priority flora

Prior to undertaking any *clearing* authorised under this permit, the permit holder shall:

(a) Demarcate the *clearing* area authorised under this permit to avoid clearing of priority flora outside of the clearing area; and

(b) In relation to the area cross-hatched red in Figure 1 of Schedule 1, the permit holder must ensure that no *clearing* of native vegetation occurs within 10 metres of the known locations of *Tephrosia rosea var.* Port Hedland (A.S. George 1114) populations, by demarcating the 10 metre buffers.

10. Revegetation and rehabilitation (temporary works)

The permit holder must:

(a) Retain the vegetative material and topsoil removed by *clearing* authorised under this permit and stockpile the vegetative material and topsoil to one (1) metre in height in an area that has already been cleared:

(b) As soon as is practicable, and no later than 12 months following *clearing* authorised under this permit, *revegetate* and *rehabilitate* the areas that are no longer required for the construction (*temporary works*) activities by:

(i) Re-shaping the surface of the land so that it is consistent with the surrounding five metres land;
(ii) ripping the ground on the contour to remove soil compaction;
(iii) laying the vegetative material and topsoil retained under condition 10(a) on the cleared areas; and
(iv) undertake *weed* control activities on an 'as needed' basis to reduce *weed* cover within the cleared areas to no greater than the *weed* cover within the *adjacent vegetation.*

(c) Within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 10 (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 10 (c)(i) of this permit will not result in similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *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) if the determination made by the *environmental specialist* under condition 10(c)(ii) is that the species composition, structure, and density determined under condition 10(c)(i) will not, without further *revegetation*, result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the permit holder must *revegetate* the area by direct seeding of *local provenance* seeds that will result in a similar species composition, structure, and density of *native vegetation* to pre-clearing vegetation types in that area.

(e) where additional *direct seeding* of *native vegetation* is undertaken in accordance with condition 10(d), the permit holder must repeat the activities required by condition 10(c) and 10(d) within two years of undertaking the additional *direct seeding* of *local provenance native vegetation*.

(f) where a determination is made by an *environmental specialist* under condition 10(c)(ii) 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, that determination shall be

submitted to the *CEO* within three months of the determination being made by the *environmental specialist*.

PART III - RECORD KEEPING AND REPORTING

11. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) the direction of the area cleared; (f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5; and (g) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 6.
2.	In relation to fauna management pursuant to condition 8.	(a) results of the pre-clearance surveys undertaken in accordance with condition 8 of this permit; and (b) a copy of the *fauna specialist's* report.
3.	In relation to flora management pursuant to condition 9.	(a) actions taken to demarcate each *priority flora* species recorded and their relevant buffers; and (b) actions taken to avoid the clearing of *priority flora* species.
4.	In relation to *revegetation* and *rehabilitation* of areas pursuant to condition 10 of the permit.	(a) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees; (b) a description of the *revegetation* and *rehabilitation* activities undertaken; (c) the date that the area was *revegetated* and *rehabilitated*; (d) the size of the area *revegetated* and *rehabilitated* (in hectares);

No.	Relevant matter	Specifications
		(e) any *weed* control activities undertaken within the area *revegetated* and *rehabilitated* (f) any remedial actions undertaken; and (g) a copy of any *environmental specialist's* report.

12. Reporting

The permit holder must provide to the *CEO* the records required under condition 11 of this permit when requested by the *CEO*.

DEFINITIONS

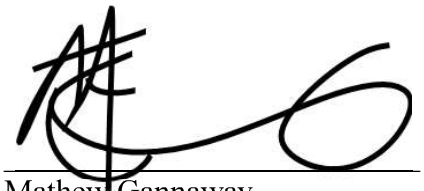
In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
daytime hours	Daytime hours means the duration starting half an hour before sunrise and ending half an hour after sunset.
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 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, or who is approved by the CEO as a suitable environmental specialist.
fauna specialist	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the *CEO* as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016*.
fill	means material used to increase the ground level, or to fill a depression.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	*Environmental Protection Act 1986* (WA)
local provenance	means native vegetation seeds and propagating material from natural sources within 100 kilometres and the same IBRA subregion 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.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.

Term	Definition
suitable habitat	means habitat known to support the Greater Bilby (*Macrotis lagotis*) and Brush tailed Mulgara *(Dasycercus blythi*) within the known current distribution of the species.
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
temporary works	means access tracks, spoil areas, side tracks, site offices, storage areas, laydown areas, extraction sites, camps, project surveys, pre-construction activities, and similar works associated with a project activity that are temporary in nature.
weeds	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 species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS



Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

21 June 2024

Schedule 1

The boundary of the area authorised to be cleared that is subject to conditions is shown in the map below (Figure 1).

Figure 1: Map of the boundary of the area within which clearing may occur (the area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit. The area crosshatched red indicates the area subject to conditions)

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10511/1
Permit type:	Purpose permit
Applicant name:	Regional Power Corporation, trading as Horizon Power
Application received:	6 February 2024
Application area:	4.55 hectares of native vegetation
Purpose of clearing:	Power supply expansion through overhead and underground transmission lines
Method of clearing:	Mechanical clearing
Property:	Lot 372 on Deposited Plan 35620 (Crown Reserve 29082), Boodarie Lot 1199 on Deposited Plan 70562 (Crown Reserve 50892), Boodarie Lot 1301 on Deposited Plan 70562 (Crown Reserve 50892), Boodarie Lot 47 on Deposited Plan 404952, Boodarie Lot 48 on Deposited Plan 404952, Boodarie Lot 600 on Deposited Plan 407880 (Crown Reserve 29082), Boodarie Lot 5275 on Deposited Plan 184651 (Crown Reserve 37373), Boodarie Lot 5549 on Deposited Plan 216397 (Crown Reserve 29082), Boodarie Lot 61 on Deposited Plan 404952 (Crown Reserve 50528), Boodarie Lot 55 on Deposited Plan 404949 (Unallocated Crown Land), Boodarie Lot 58 on Deposited Plan 404949 (Unallocated Crown Land), Boodarie Lot 60 on Deposited Plan 404952 (Unallocated Crown Land), Boodarie Lot 155 on Deposited Plan 404948 (Unallocated Crown Land), Boodarie Lot 311 on Deposited Plan 194620 (Unallocated Crown Land), Boodarie Lot 371 on Deposited Plan 37227 (Unallocated Crown Land), Boodarie Lot 1497 on Deposited Plan 404497 (Unallocated Crown Land), Boodarie Lot 321 on Deposited Plan 74344, Boodarie Lot 322 on Deposited Plan 74344, Boodarie Lot 323 on Deposited Plan 74344, Boodarie Lot 555 on Deposited Plan 60836, Boodarie
Location (LGA area/s):	Town of Port Hedland
Localities (suburb/s):	Boodarie

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single continuous area along existing road infrastructure (see Figure 1, Section 1.5). The purpose of the clearing is to construct overhead and underground transmission lines to supply the new load from the Hedland Distribution Terminal yard via the Southwest Creek substation. The area proposed for clearing is 4.55 hectares within a 100.75-hectare footprint. Of this, 2.2 hectares will be temporary clearing and the remaining 2.35 hectares will be permanent clearing (Horizon Power, 2024).

1.3. Decision on application

Decision:	Granted
Decision date:	21 June 2024
Decision area:	4.55 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F.1), the findings of a flora and fauna survey (see Appendix E), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in:

- the loss of native vegetation that is suitable habitat for Greater Bilby (*Macrotis lagotis*), crest-tailed mulgara *(Dasycercus cristicauda)*, Brush-tailed Mulgara (*Dasycercus blythi*), Northern quoll *(Dasyurus hallucatus*) and Osprey *(Pandion haliaetus*) and potential direct impacts to these fauna if utilising the application area during the time of clearing;
- the loss of native vegetation growing in, or in association with an environment associated with a watercourse or wetland; and
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

The Delegated Officer determined that whilst suitable habitat for conservation significant fauna will be cleared, it is not considered to be significant habitat in the context of the native vegetation remaining within the local area. The greatest potential impact may be to individuals that may be present at the time of clearing.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on habitat for conservation significant flora and fauna species or the ecological values of the riparian communities associated with the watercourses and wetlands within the application area. The Delegated Officer determined that the proposed clearing can be minimised and managed to unlikely lead to an unacceptable risk to these environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- conducting a pre-clearance survey for the bilbies and brush-tailed mulgara;
- to engage a fauna spotter to be present for the duration of clearing activities, where clearing must cease in any areas where conservation significant fauna are identified in particular, Greater Bilby and Brush-tailed mulgara until the individual/s have been trapped and relocated;
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- restricting the clearing activities to daylight hours;
- rehabilitation/revegetation of any temporary clearing areas; and

- undertake the construction of the power lines no later than three months after undertaking the authorised clearing.

1.5. Site map

Figure 1 Map of the application area

The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

The areas cross-hatched red indicates areas within which clearing activities must not be undertaken.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the polluter pays principle
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Supporting information was submitted by the applicant, demonstrating that initial avoidance and minimisation was undertaken during site selection, including placement of the project adjacent to existing infrastructure (road, rail and transmission line) and mainly within already cleared locations and existing access tracks. Application of avoidance measures, including careful project placement, has reduced the clearing footprint of the project by four hectares (Horizon Power, 2024).

Specific avoidance measures are detailed below (Horizon Power, 2024):

- The project has been placed on the northern side of the road so as to minimise vegetation clearing that would be required from a southern alignment.
- Priority flora will be avoided through the application of a 10 m buffer ('avoidance areas') as shown in Figure 7.
- The trenching proposed for the southern section of the project will follow the existing Horizon Power access track, so as to reduce clearing of Bilby habitat. Currently the track is overgrown from vegetation regrowing following past clearing of the track. A maximum clearing width of 8m will be applied during the trenching works, only 4m will be maintained for access in the future and therefore the remainder will be permitted to regrow. Less than 1.55 ha of clearing is proposed through this area (1 ha for trenching and 0.55 ha for jointing bay), of which less than 0.5 ha is permanent clearing.
- Laydown will be located at existing horizon power assets to reduce clearing of vegetation.
- The Whimbrel and Grey-tailed Tattler are migratory shorebirds that were found in the intertidal mudflat habitat. As shown in Figure 6, the intertidal mudflat habitat within the Development Envelope (DE) is intersected by a corridor of cleared land. The trenched transmission line will traverse this cleared area and therefore there will be no surplus clearing of the intertidal mudflat habitat for the Project.

Specific mitigation management measures are detailed below (Horizon Power, 2024):

Temporary Clearing
Key management measures detailed in the Construction Environmental Management Plan (CEMP) for temporary clearing include:

- Where possible, pre-existing access tracks will be used, and vehicles and machinery will exit the DE along the same route used for access
- Degraded, sparsely vegetated and/or previously cleared areas will be preferentially selected for the location of winch, laydown areas and access
- Works will be undertaken systematically to minimise re-run and compaction of access tracks
- Standard weed and hygiene management practices which will be applied to these works

- Clearing of native vegetation will be undertaken in a slow, progressive manner in one direction to allow fauna to move away from the clearing area.

Transmission infrastructure
Key management measures detailed in the CEMP for clearing for transmission infrastructure include:

- No clearing is permitted outside the DE
- Clearing will be minimised where possible through placement of assets and access tracks in existing cleared locations where possible
- The clearing locations are to be demarcated prior to clearing activities
- Clearing areas are to be checked by an Environmental Specialist or Site Supervisor prior to clearing to ensure no more than 4.55 ha of clearing is undertaken for the Project
- A pre-clearing toolbox will be held so all staff are aware of their responsibilities under the permit
- Clearing of native vegetation will be undertaken in a slow, progressive manner in one direction to allow fauna to move away from the clearing area.

Restoration of Cleared Areas
Restoration of temporarily cleared areas will include management of excavated fill and compaction (where applicable), as follows:

- Topsoil (i.e. the top 10 mm of soil) will be stockpiled separately to other excavated materials within the designated laydown and winch areas
- Stockpiles will be maintained at 1m height or less
- Vegetative material will be removed from cleared locations and stockpiled for respread once clearing is complete
- On completion of works, excavated materials will be placed back into the temporary cleared areas. Topsoil will then be respread over the surface.
- Recontouring and removal of compaction (e.g. ripping or scarification) of soil within the laydown and winch areas will be undertaken.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing present a risk to biological values (fauna, adjacent flora and vegetation), and land and water resources. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (flora) - Clearing Principle (a)

Assessment

A review of the site characteristics and habitat preferences of the conservation significant flora species recorded in the local area (See Appendix B) identified that the application area may provide suitable and potentially significant habitat for the following species:

- *Bulbostylis burbidgeae* (P4)
- *Tephrosia rosea var.* Port Hedland (A.S. George 1114 (P1)

The applicant arranged for an appropriately timed Detailed Flora Assessment for the Roy Hill Stockpile Project that included the application area (Phoenix, 2023). No threatened flora species were recorded during the survey. One priority flora species was recorded during the survey, *Tephrosia rosea var.* Port Hedland (A.S. George 1114) (P1).

Bulbostylis burbidgeae (Priority 4) is known from five records between Tom Price and Port Hedland (Western Australian Herbarium, 1998-). This species is described as a tufted and erect to spreading annual, grass-like or herb (sedge) which grows to 0.03-0.25 metres high. This flora is known to be growing in granitic soils and granite outcrops, in shrubland over hummock grassland associated with *Triodia spp*. and *Acacia spp*. No occurrences were recorded

within the survey area or in the vicinity of the desktop records in the study area (Phoenix, 2023). It is likely the plants were removed during the road construction (Horizon Power, 2024).

Tephrosia rosea var. Port Hedland (A.S. George 1114) (Priority 1) is known from 44 records between Karratha and Port Hedland (Western Australian Herbarium, 1998-). This species is described as an erect, spreading shrub with pink flowers in July to September. This flora is known to be growing in red to yellow coastal dune sands, associated with open shrubland of *Acacia* spp. and *Grevillea* spp., over hummock grassland including *Triodia* spp., *Whitechloa airoides, Eriachne aristidea* and **Cenchrus ciliaris* (Western Australian Herbarium, 1998-). A total of 305 individuals were recorded within three populations during a flora survey within vegetation community Te (see Appendix E for full vegetation community descriptions) (Phoenix, 2023). A 10-metre buffer avoidance area will be placed around all priority flora recorded during the survey while undertaking the proposed clearing activities (Horizon Power, 2024).

Five introduced species were recorded within the application area. None are listed as Declared Pests under the *Biosecurity and Agriculture Management Act 2007* or listed as a Weed of National Significance (Horizon Power, 2024). It is noted that weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition

No Threatened Ecological Communities (TECs) or Priority Ecological communities (PECs) are known to occur within the application area. No TECs or PECs were identified during the biological survey (Phoenix, 2023).

Conclusion
Based on the avoidance and minimisation measures proposed by the applicant, it is considered that the impacts of the proposed clearing on priority flora species can be managed through permit conditioning and by implementing appropriate weed control measures, as well as rehabilitating the site post clearing to ensure the habitat is not permanently lost.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- weed management condition to minimise the risk of introduction and spread of weeds into adjacent vegetation;
- 10 metre buffers will be placed around priority flora to mitigate impacts to individuals;
- revegetation and rehabilitation of any areas cleared for temporary works by returning vegetative material and topsoil removed by clearing.

3.2.2. Biological values (fauna) - Clearing Principle (b)

Assessment
Noting the findings of the Targeted and Basic Vertebrate Fauna Survey for the Roy Hill Stockpile Project (Phoenix, 2023), the site characteristics (Appendix B), and the habitat preferences of the conservation significant fauna species recorded in the local area (50-kilometre radius), the application area was considered to contain suitable habitat for the following fauna species:

- *Dasycercus blythi* (brush-tailed mulgara) P4
- *Dasycercus cristicauda* (crest-tailed mulgara) P4
- *Dasyurus hallucatus* (northern quoll) EN
- *Macrotis lagotis* (greater bilby) VU
- *Pandion haliaetus* (osprey) MI

Two fauna habitats were recorded within the survey area (Phoenix, 2023):

- Sandplain: Mixed *Acacia* dominant low shrubs over spinifex hummock grassland on predominantly sandy soils with some clay present. Some sections almost entirely degraded as they are reduced to small strips in-between railway and road (63.74 hectares)
- Intertidal mudflat: Intertidal zone forming a channel under road and rail infrastructure. Adjacent terrestrial habitats heavily disturbed and not suitable to support native fauna assemblages (2.62 hectares)
- Cleared: Infrastructure and access tracks (32.55 hectares)

Greater Bilby
Bilbies are omnivores that often dig for food, disturbing soil to a depth of 250 millimetres, and are known to emerge after dark to forage for food. They are highly mobile and can have large foraging ranges, although their home range

in many areas is still unknown (DCCEEW, 2023). The bilby is known from 49 records within the local area and largely occupies three major vegetation types: open tussock grassland on uplands and hills, mulga woodland or shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas. The distribution of the greater bilby is highly fragmented in Western Australia (Commonwealth of Australia, 2019). Bilbies are found in a range of habitats from arid rocky soils with little ground cover to semi-arid shrublands and woodlands (DCCEEW, 2023). The biological survey identified evidence of bilby activity (footprint, scats and digging) within the south west corner of the Sandplain habitat of the survey area (Phoenix, 2023). There were no active or inactive burrows recorded during the survey, however, the presence of recent foraging suggests that the development envelope forms part of the range of a currently active local population (Phoenix, 2023). The department notes, that the biological survey has described the fauna habitat within the application area as sandy plains, described as low open shrubland over low open hummock grassland and low sparse tussock grassland. Hummocks and tussocks provide habitat for birds, reptiles, and mammals and the soil is suitable for burrowing (DCCEEW, 2023). Therefore, the possibility that bilbies utilise the application area for burrowing cannot be eliminated as bilbies use the sandy plains habitat for foraging. The total bilby habitat proposed to be cleared is 1.55 hectares of which 0.5 hectares will be maintained as cleared vegetation and the remainder will be restored (Horizon Power, 2024). The habitat in which evidence of the Bilby was detected is in Good to Excellent vegetation condition, with the remainder of the Sandplain habitat in Poor to Degraded condition and directly adjacent to existing infrastructure and disturbance. As the most suitable Sandplain habitat for the Bilby in the DE only was found in the southern part, it is noted that this represents only the northern terminus of available bilby habitat within the local area. Spatial data indicates that Bilby habitat is widespread, with the DE representing approximately 0.02% of potential habitat within a 10 kilometre radius (Phoenix, 2023) To mitigate the possibility of mortality to bilby individuals and to ensure potential bilby borrows are not impacted, appropriate fauna management conditions have been imposed on the clearing permit.

Brush-tailed mulgara and Crest-tailed mulgara

Dasycercus blythi (Brush-tailed mulgara), occur in a range of habitat types within the Pilbara region and central Western Australia, but primarily occur in mature hummock grasslands of spinifex, especially associated with *Triodia basedowii* and *Triodia pungens* with overlapping home ranges of 1.0 to 14.4 hectares. The species occurrence may be influenced by the presence of better watered areas such as in paleo-drainage systems or drainage lines in sandplain/dune habitats. Brush-tailed mulgara is a nocturnal species, sheltering in burrows during the day (Woolley, 2016). This species was recorded 275 times within the local area. Although the survey did not record this species and the application area is unlikely to provide core habitat for this species (Phoenix, 2023), it is likely that the sandy plain habitat within the application area will be utilised by the Brush-tailed mulgara to traverse the landscape.

This species is often compared with its congener, the Crest-tailed mulgara (*Dasycercus. cristicauda*), as the two are sympatric over parts of their range (Van Dyck and Strahan, 2008). In general, the Brush-tailed mulgara is less closely associated with the dune fields than the Crest-tailed Mulgara (Woolley et al., 2013). Where the two co-occur, the Crest-tailed mulgara is restricted to sand ridges with an understorey dominated by spinifex (*Triodia*), whereas the Brush-tailed mulgara occupies sand plain and gibber plain (Pavey et al., 2011). This species was recorded three times within the local area. Although the survey did not record this species and the application area is unlikely to provide core habitat for this species (Phoenix, 2023), it is likely that the sandy plain habitat within the application area will be utilised by the Crest-tailed mulgara as it moves through the landscape.

Northern Quoll

The Northern Quoll occupies a diverse range of habitats including rocky areas, eucalypt forest and woodlands, shrubland and grassland (TSSC, 2005), but occurs predominantly in rocky habitat and often with gorges, breakaways and hills, with rugged rocky areas used for denning purposes, but can also occur along creek lines and beaches (van Dyck and Strahan, 2008). The Northern Quoll's habitat preferences were absent from the application area and greater survey area, with no individuals or other evidence of the Northern Quoll recorded during the fauna assessment (Phoenix, 2023). The closest record of this species was identified 12 kilometres from the application area (DBCA, 2007-).

Osprey

Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands (DCCEEW, 2023). They forage in fresh, brackish or saline water and frequent a variety of wetland habitats (Marchant and Higgins, 1993). The closest record of this species was identified 0.4 kilometres north of the application area. The osprey may utilise the application area as habitat, however given the extent of the application area, and the large home range of each individual along the coastline, the habitat types within the application area are not considered likely to be significant habitat types for the species.

Conclusion
It is determined that the Sandplain fauna habitat type identified within the application area is well connected and forms part of a largely contiguous landscape. The fauna habitat of the application area is part of a much larger area of similar habitats within the local area and the surrounding region.

According to the above assessment, the proposed clearing may impact on suitable habitat for brush-tailed mulgara and bilby. The habitat is not deemed significant for the survival of the species; however, individuals may be present at the time of clearing. The proposed clearing may result in injury or mortality of fauna individuals if present during the clearing activities. Undertaking a pre-clearing survey will mitigate any potential impacts to individuals that may be present at the time of clearing. A section 40 authorisation under the BC Act will be required for the take of bilbies, should burrows be located.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- to engage a fauna spotter to be present for the duration of clearing activities, where clearing must cease in any areas where conservation significant fauna are identified in particular, Greater Bilby and Brush-tailed mulgara until the individual/s have been trapped and relocated;
- undertake a targeted pre-clearance survey for Bilby and the Brush-tailed mulgara prior to any vegetation clearing.
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- restricting the clearing activities to daylight hours.

3.2.3. Land and water resources - Clearing Principle (f)

Assessment
As the application area intersects several minor, non-perennial tributaries, waterbodies, and drainage lines, some of the vegetation within the application area may be considered to be growing in, or in association with, an environment associated with a watercourse or wetland. It is also acknowledged that the application area contains *Tecticornia* shrublands in tidal mudflats and claypans that are indicative of wetland and riparian areas. As the application area is mapped within the Pilbara Surface Water Area, any clearing within the vicinity of these watercourses has the potential to impact surface water quality within a proclaimed water resource under the RIWI Act.

Given the extent of the proposed clearing across a linear footprint, the non-perennial nature of the waterbodies, the extensively vegetated local area, and the applicant's commitments to minimising erosion and maintaining natural surface water flows, it is not considered likely that the proposed clearing will result in any significant or long-term impacts to surface or underground water quality or to the ecological values of the vegetation communities associated with the watercourses and coastal flats within the application area.

Conclusion
Based on the above assessment, the proposed clearing may result in the loss of vegetation growing in, or in association with an environment associated with a watercourse or wetland and may facilitate the spread of invasive weeds into adjacent vegetation in the local area. The proposed clearing is unlikely to result in any significant or long-term impacts to the quality of surface or underground water or the ecological values of the riparian communities associated with the watercourses and wetlands within the application area.

It is considered that the impacts of the proposed clearing can be managed through permit conditioning to avoid clearing riparian vegetation where practicable and maintain surface hydrology through use of appropriate infrastructure, and by taking steps to minimise the risk of the introduction and spread of weeds.

Conditions
To address the above impacts, the following management measure will be required as a condition on the clearing permit:

- weed control, which ensures protocols are put in place to limit the introduction and transportation of weed affected materials.

3.3. Relevant planning instruments and other matters

Advice received from Contaminated Sites (DWER, 2024a) identified two contaminated sites within the application area. Contaminated Sites has no information suggesting that the reported contamination may extend beyond the

existing infrastructure to the areas proposed for clearing. Furthermore the clearing is proposed to be carried out using mechanical methods with minimal soil contact.

As an 'energy operator', Horizon Power has certain rights under Sections 46 and 49 of the *Energy Operators (Powers) Act 1979* which allow it to access and use land for the purpose of constructing, maintaining and operating electricity infrastructure. Horizon Power will utilise these powers for the project. No Development Approval or other access approvals are required (Horizon Power, 2024).

The proposed clearing occurs within the proclaimed Pilbara Groundwater and Surface Water Areas and are subject to licensing requirements under the RIWI Act. Advice was sought from the Northwest Planning team who advised that if the applicant needs to use groundwater or surface water for construction or any other purposes, the proponent will need to apply for a 5C licence to take water and a 26D licence to construct any new water supply bores. (DWER, 2024b). Horizon Power (2024) has advised the department that no ground or surface water will be required for the construction of the transmission lines. The Northwest region concluded that the proposal is unlikely to impact on the water quality of water resources (DWER, 2024b).

The Town of Port Hedland has provided no comment on this application.

Several Aboriginal sites of significance have been mapped within the local area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Shapefiles of the avoidance areas around priority flora (Horizon Power, 2024).	Refer to Section 3.2.1

Appendix B. Site characteristics

B.1 Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It spans sections of the length of the existing Utah Road. The proposed clearing area is surrounded by general industry, urban development and rural lots. Spatial data indicates the local area (50-kilometre radius from the centre of the area proposed to be cleared) retains approximately 99 per cent of the original native vegetation cover.
Ecological linkage	The application area does not intersect any formally mapped ecological linkages. Although, the vegetation may be providing some connectivity along the existing road infrastructure, it is not considered likely to be contributing significantly to vegetation connectivity or linkage values in the local area, noting the extensively vegetated region and adjacent expansive tracts of connected vegetation.
Conservation areas	The application area is not within a conservation area. In addition, there are no conservation areas adjacent to the application area and no conservation areas within the local area.
Vegetation description	Five vegetation types were recorded within the application area during a targeted flora and vegetation survey (Phoenix, 2023): • AmTspp: Variably present low to tall sparse shrubland of *Avicennia marina* subsp. *marina*, over low sparse to open shrubland of *Tecticornia spp.* (9.19 ha) • Ts: Isolated low shrubs of *Cynanchum viminale* subsp. *australe, Tecticornia indica* subsp. *leiostachya,* and *Neobassia astrocarpa*, over low hummock grassland of *Triodia secunda* and *Triodia epactia* (1.61 ha) • NaEm: Low isolated shrubs of *Neobassia astrocarpa*, with variably present *Tecticornia indica* subsp. *leiostachya* and *T. sp*. (sterile2), over low isolated tussock grasses of *Eriachne mucronata, Eragrostis falcata*, and **Chloris barbata* (5.65 ha) • Te: Low isolated shrubs of *Acacia stellaticeps*, *Corchorus incanus* subsp. *incanus*, and *Solanum cleistogamum*, over low sparse hummock grassland to hummock grassland of *Triodia epactia* and *T. secunda* variably with invading **Cenchrus ciliaris* (20.76 ha) • AsTe: Low sparse shrubland to shrubland of *Acacia stellaticeps, Solanum cleistogamum*, and *Pluchea tetranthera*, over low open hummock grassland to hummock grassland of *Triodia epactia, T. schinzii*, and occasionally *T. secunda* (29.14 ha) • The remainder of the Survey Area was cleared and devoid of vegetation (32.55 ha) The full survey descriptions and maps are available in Appendix E. This is consistent with the mapped Beard vegetation types: • Beard 127, which is described as bare areas, mud flats (Shepherd et al, 2001).

Characteristic	Details
	• Beard 647, which is described as hummock grasslands, dwarf shrub steppe; *Acacia translucens* over soft spinifex (Shepherd et al, 2001). The mapped vegetation types retain approximately 89.79 per cent and 97.88 per cent respectively of their original extent (Government of Western Australia, 2019).
Vegetation condition	Photographs supplied by the applicant and a vegetation survey (Phoenix, 2023) indicate the vegetation within the proposed clearing area is in Excellent to Poor (Trudgen, 1991 –) condition. The full Trudgen (1991) condition rating scale is provided in Appendix D. Representative photos and the full survey descriptions are available in Appendix E.
Climate and landform	The application area is within a flat landscape with Australian Hight Datum mapped at 10 metres (DPIRD, 2019). The annual average rainfall is 317.7 millimetres (taken from Port Hedland Airport) (BOM, 2022)
Soil description	The soil within the application area is mapped as the following systems (DPIRD, 2023): • Littoral System (286Li), described as bare coastal mudflats (unvegetated), samphire flats, sandy islands, coastal dunes and beaches, supporting samphire low shrublands, sparse acacia shrublands and mangrove forests; • Uaroo System (281Ua), described as broad sandy plains, pebbly plains and drainage tracts supporting hard and soft spinifex hummock grasslands with scattered acacia shrubs.
Land degradation risk	The mapped soil types in the application area are mapped as having a high risk of wind erosion and surface salinity (DPIRD, 2023).
Waterbodies and hydrogeography	The desktop assessment and aerial imagery indicated that the application area transects several non-perennial lakes and non-perennial tributaries. The application area is mapped within the Pilbara Surface Water Area and the Pilbara Groundwater Area proclaimed under the RIWI Act but does not transect any water resources proclaimed under the Country Areas Water Supply Act 1947 (CAWS Act). Groundwater salinity within the application area is mapped at 1000 to 3000 milligrams per litre total dissolved solids
Flora	The desktop assessment identified that a total of 13 conservation significant flora species have been recorded within the local area, comprising of two Priority 4 (P4) flora, eight Priority 3 (P3) flora, one Priority 2 (P2) flora and two Priority 1 (P1) flora species (Western Australian Herbarium, 1998-). Two of these existing records occur within the application area, being *Bulbostylis burbidgeae* and *Tephrosia rosea var.* Port Hedland (A.S. George 1114). With consideration for the relevant datasets (see Appendix F.1), the habitat preferences and conservation statuses of the aforementioned species, the distribution and extent of existing records, and biological survey information (Phoenix, 2023), the application area may provide habitat for conservation significant flora species and impacts to these flora species required further consideration (see Section 3.2.1).
Ecological communities	The desktop assessment identified that there are no conservation significant ecological communities within the application area. The closest mapped PEC is the Eighty Mile Land System which is located 35 kilometres northeast of the application area. No TEC's or PEC's have been recorded within the application area (Phoenix, 2023).
Fauna	The desktop assessment identified that a total of 68 conservation significant fauna species have been recorded within the local area including 19 threatened species, six priority species, one specially protected species and 42 migratory species. None of these existing records occur within the application area, with the closest being an

Characteristic	Details
	occurrence of *Dasycercus cristicauda* approximately 44 metres south of the application area (DBCA, 2007-). With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), the habitat preferences of the aforementioned species, and biological survey information (Phoenix, 2023), the application area is likely to provide habitat for conservation significant fauna species and impacts to these fauna species required further consideration (see Section 3.2.2).

B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Pilbara	17808657.04	17731764.88	99	1801714.98	10.12
Vegetation complex					
Beard vegetation association 127*	177749.75	159595.04	89.79	3703.79	2.08
Beard vegetation association 647*	195859.95	191710.92	97.88	-	-
Local area					
50km radius	491018.74	486520.33	99.1	-	-

*Government of Western Australia (2019)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), and biological survey information, impacts to the following conservation significant flora required further consideration.

Species name	Conservation status (WA)	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Bulbostylis burbidgeae	P4	Y	Y	Y	0.01	5	Y
Tephrosia rosea var. Port Hedland (A.S. George 1114)	P1	Y	Y	Y	0.01	24	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

B.4. Fauna analysis table

Species name	Conservation status (WA)	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Dasycercus blythi (brush-tailed mulgara)	P4	Y	Y	2.41	275	Y
Dasycercus cristicauda (crest-tailed mulgara, minyiminyi)	P4	Y	Y	0.44	3	Y
Dasyurus hallucatus (northern quoll)	EN	Y	Y	1.22	723	Y
Macrotis lagotis (bilby, dalgyte, ninu)	VU	Y	Y	6.1	49	Y
Pandion haliaetus (osprey)	MI	Y	Y	0.39	80	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared does not contain locally or regionally significant flora, fauna, habitats or assemblages of plants. Priority flora have been recorded adjacent to the clearing area (Phoenix, 2023)	May be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (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."* Assessment: The area proposed to be cleared contains habitat for conservation significant fauna species and based on the habitat present, it is likely to be utilised by conservation significant fauna species identified in the local area.	At variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The area proposed to be cleared is unlikely to contain habitat for Threatened flora species. A detailed flora assessment conducted by Phoenix (2023) did not identify any threatened flora species.	Not likely to be at variance	No
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."* Assessment: The area proposed to be cleared is unlikely to be representative of any TEC. A detailed vegetation assessment conducted by Phoenix (2023) did not identify any TEC's.	Not at variance	No
Environmental value: significant remnant vegetation and conservation areas		
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."* Assessment: The extent of native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in	Not at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.		
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."* Assessment: Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: Given the application area transects several non-perennial watercourses, the vegetation is considered to be growing in, or in association with, an environment associated with a watercourse or wetland.	At variance	Yes *Refer to Section 3.2.2, above.*
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are moderately susceptible to wind erosion and salinity. Noting the long linear nature and extent of the application area and the condition of the vegetation in the surrounding area, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	No
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."* Assessment: Given several non-perennial water courses are recorded within the application area, the proposed clearing has the potential to impact surface or ground water quality. However, noting the long, linear nature of the application area, and the extent of the proposed clearing in the context of the extensively vegetated area, the proposed clearing is not considered likely to impact on surface or ground water quality.	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: Given the application area includes intertidal mudflat and claypan vegetation, portions of the application area may be seasonally inundated. However, the mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding or waterlogging. Further, noting the long, linear nature of the application area, and the extent of the proposed clearing in the context of the extensively vegetated area, the proposed clearing is not considered likely to cause, or exacerbate, the incidence of flooding.	Not likely to be at variance	No

Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from

Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or ‘parkland cleared’ with their flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E. Biological survey information excerpts and photographs of the vegetation (Phoenix, 2023)

Vegetation type	Site/s	Vegetation description	Extent in study area (ha) and % of study area	Representative photograph
AmTspp	RSP001R, RSP003, RSP009	Variably present low to tall sparse shrubland of *Avicennia marina* subsp. *marina*, over low sparse to open shrubland of *Tecticornia* spp.	9.19, 9.3%	
Ts	RSP002	Isolated low shrubs of *Cynanchum viminale* subsp. australe, *Tecticornia indica* subsp. *leiostachya*, and *Neobassia astrocarpa*, over low hummock grassland of *Triodia secunda* and *T. epactia*.	1.61, 1.6%	

Vegetation type	Site/s	Vegetation description	Extent in study area (ha) and % of study area	Representative photograph
NaEm	RSP006R, RSP008R	Low isolated shrubs of *Neobassia astrocarpa*, with variably present *Tecticornia indica* subsp. *leiostachya* and *T.* sp. (sterile2), over low isolated tussock grasses of *Eriachne mucronata*, *Eragrostis falcata*, and **Chloris barbata*.	5.65, 5.7%	
Te	RSP004R, RSP005, RSP007, RSP011	Low isolated shrubs of *Acacia stellaticeps*, *Corchorus incanus* subsp. *incanus*, and *Solanum cleistogamum*, over low sparse hummock grassland to hummock grassland of *Triodia epactia* and *T. secunda* variably with invading **Cenchrus ciliaris*.	20.76, 21%	

Vegetation type	Site/s	Vegetation description	Extent in study area (ha) and % of study area	Representative photograph
AsTe	RSP010, RSP012, RSP013, RSP014, RSP015	Low sparse shrubland to shrubland of *Acacia stellaticeps*, *Solanum cleistogamum*, and *Pluchea tetranthera*, over low open hummock grassland to hummock grassland of *Triodia epactia*, *T. schinzii*, and occasionally *T. secunda*.	29.14, 29.5%	

Figure 2. Vegetation types within the survey area (Phoenix, 2023).

Habitat type	Site/s	Description	Extent in study area and % of study area	Representative photograph
Sandplain	RHP01, RHP02, RHP03, RHP04, RHP06	Mixed *Acacia* dominant low shrubs over spinifex hummock grassland on predominantly sandy soils with some clay present. Some sections almost entirely Degraded as they are reduced to small strips in-between railway and road. **Suitable habitat for Bilby and Mulgara present.**	68.34	
Intertidal mudflat	RHP05	Intertidal zone forming a channel under road and rail infrastructure. Adjacent terrestrial habitats heavily disturbed and not suitable to support native fauna assemblages. **Suitable habitat for Migratory shorebirds present.**	2.81	
Cleared	-	Infrastructure and access tracks.	34.89	

Figure 3. Fauna habitat types identified within the survey area (Phoenix, 2023).

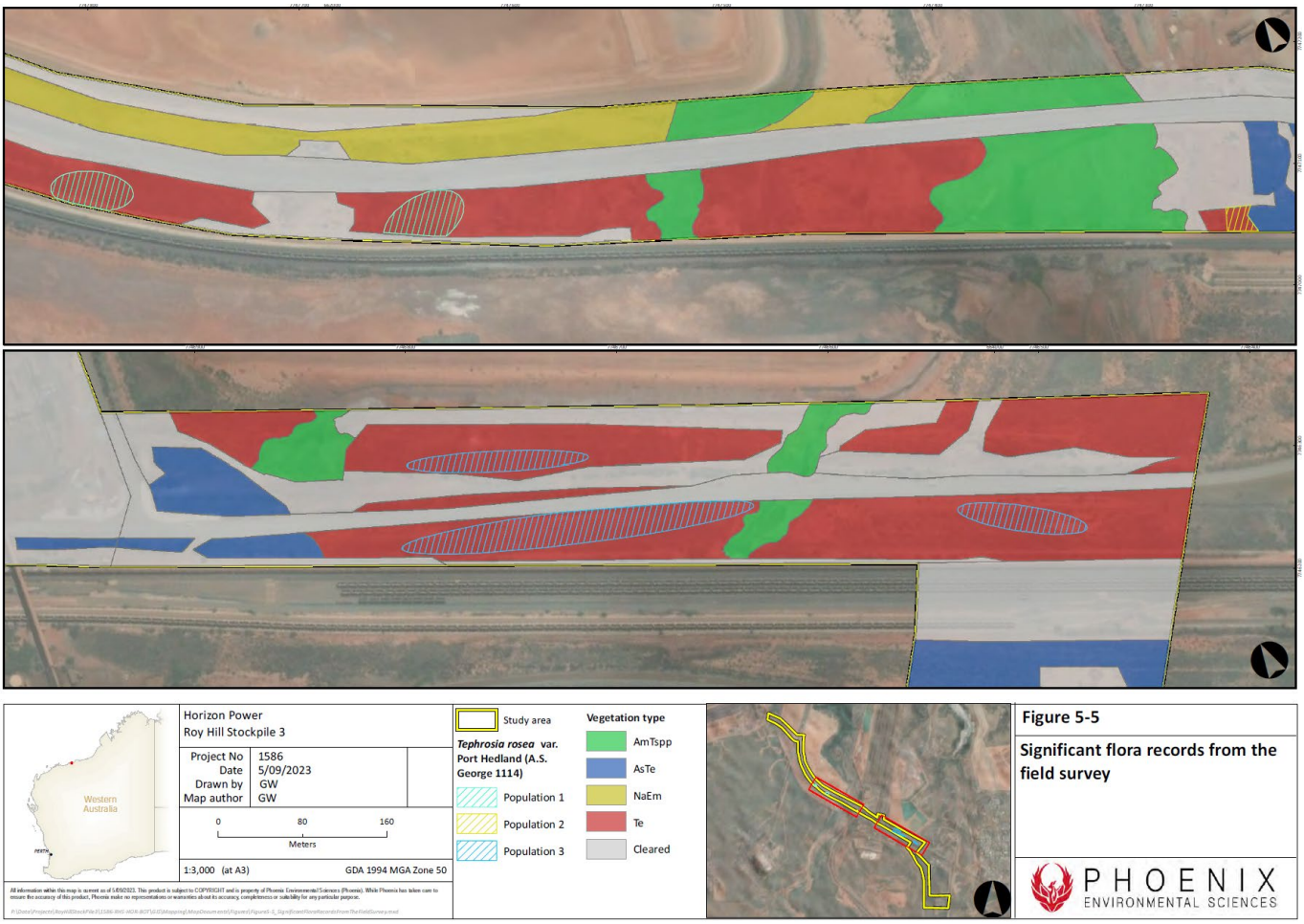


Figure 4. Significant flora records from the field survey (Phoenix, 2023).

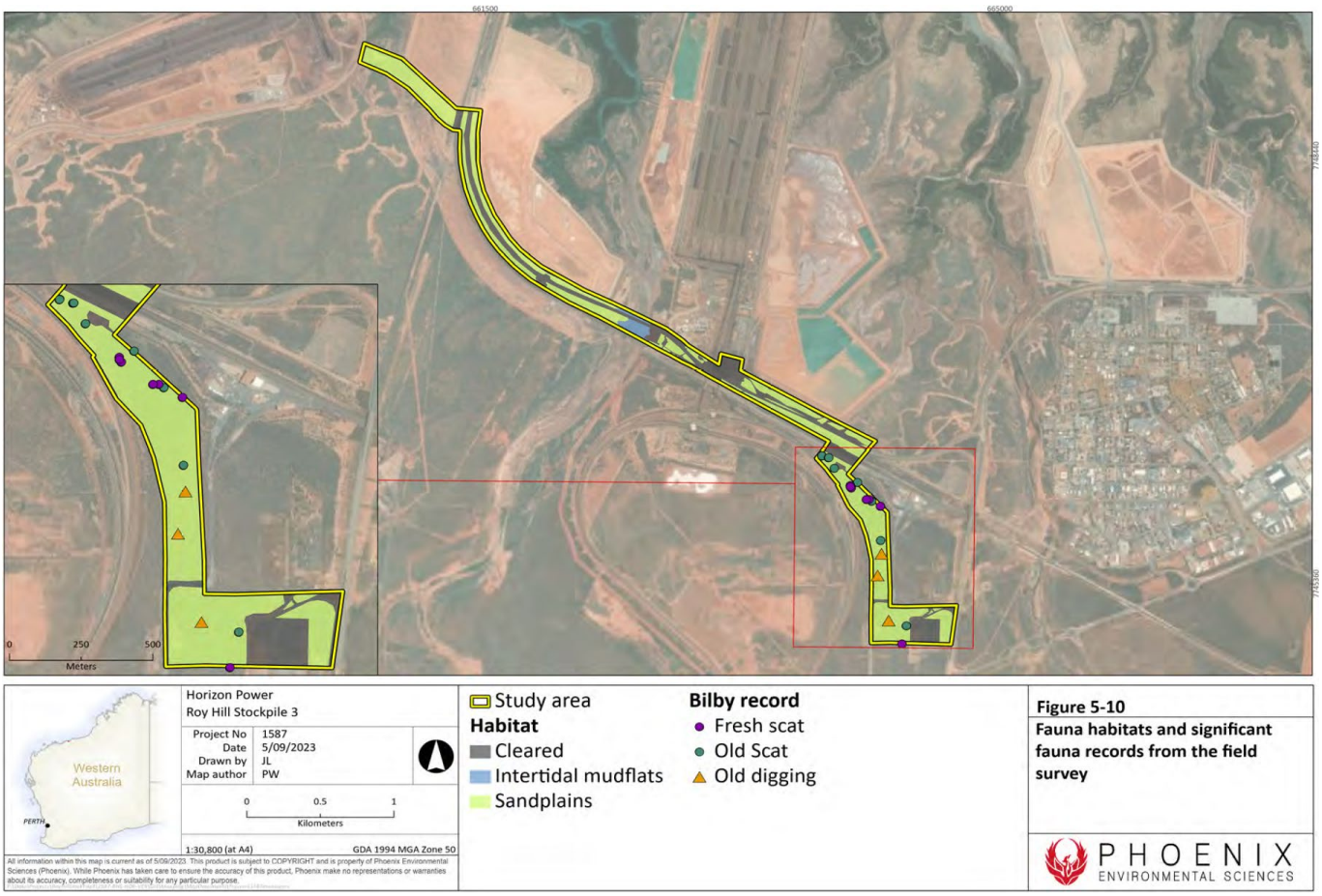


Figure 5. Fauna habitats and significant fauna records from the field survey (Phoenix, 2023).

Figure 6. Evidence of Bilby (*Macrotis lagotis)* within the survey area (Phoenix, 2023).

Figure 7. Avoidance area (10 metre buffer around Priority flora). (Phoenix, 2023).

Appendix F. Sources of information

F.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)

- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

F.2. References

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

Commonwealth of Australia (2023) *Recovery Plan for the Greater Bilby*, Available from Recovery Plan for the Greater Bilby (Macrotis lagotis) (dcceew.gov.au) (accessed April 2024)

Department of Climate Change, Energy, the Environment and Water (DCCEEW) (n.d). Species Profile and Threats Database (SPRAT). Government of Western Australia. URL: https://www.environment.gov.au/cgibin/sprat/public/sprat.pl (accessed April 2024).

Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf.

Department of Primary Industries and Regional Development (DPIRD) (2019). *NRInfo Digital Mapping. Department of Primary Industries and Regional Development.* Government of Western Australia. URL: https://maps.agric.wa.gov.au/nrm-info/ (accessed 17 April 2024).

Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF.

Department of Water and Environmental Regulation (DWER) (Contaminated Sites) (2024a) *Contaminated sites advice for clearing permit CPS 10511/1,* received 11 April 2024 DWERDT934697

Department of Water and Environmental Regulation (DWER) (Regulatory Services- Water) (2024b) *Rights in Water and Irrigation Act 1914, advice for clearing permit CPS 10511/1,* received 7 May 2024 DWERDT944100

Environmental Protection Authority (EPA) (2016). *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment*. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf.

Environmental Protection Authority (EPA) (2016). *Technical Guidance – Terrestrial Fauna Surveys.* Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf.

Government of Western Australia. (2019) *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019.* WA Department of Biodiversity, Conservation and Attractions. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics

Horizon Power (2024) *Clearing permit application and supporting information for CPS 10511/1*, received 6 February 2024 (DWER Ref: DWERVT14555).

Marchant, S. and Higgins, P.J. (Eds), 1993) 'Handbook of Australian, New Zealand and Antarctic Birds. Volume 2: Raptors to lapwings (Oxford University Press: Melbourne).

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.

Pavey, C. R., Nano, C. E. M., Cooper, S. J. B., Cole, J. R. and McDonald, P. J. (2011). Habitat use, population dynamics and species identification of mulgara, *Dasycercus blythi and D. cristicauda*, in a zone of sympatry in central Australia. Australian Journal of Zoology 59: 156-169.

Phoenix Environmental Sciences (2023) Targeted and basic vertebrate fauna survey and Detailed flora assessment for the Roy Hill Stockpile Project. Received 6 February 2024 DWERDT922756

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.

Threatened Species Scientific Committee (TSSC) (2005) Commonwealth Listing Advice on Northern Quoll (*Dasyurus hallucatus*). Available from: http://www.environment.gov.au/biodiversity/threatened/species/dasyurushallucatus.html

Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Van Dyck, S. and Strahan, R. (Eds). (2008). Mammals of Australia. New Holland Publishers, Sydney, New South Wales.

Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed 16 April 2024)

Woolley, P. 2016. *Dasycercus blythi*. The IUCN Red List of Threatened Species 2016: e.T6267A21945900. https://dx.doi.org/10.2305/IUCN.UK.2016-2.RLTS.T6267A21945900.en. Accessed April 2024