



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9404/1
Permit Holder:	Regional Power Corporation TA Horizon Power
Duration of Permit:	From 8 January 2022 to 8 January 2032

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 installing an underground powerline.

2. Land on which clearing is to be done

Lot 9001 on Plan 404312, Port Hedland
Lot 6 on Plan 41870, Port Hedland
Lot 6133 on Plan 214106, Port Hedland
Lot 6133 on Plan 214106, Port Hedland
Lot 6049 on Plan 220990, Port Hedland
Lot 6048 on Plan 220990, Port Hedland
Lot 6047 on Plan 220990, Port Hedland
Lot 6046 on Plan 220990, Port Hedland
Lot 580 on Plan 409062, Port Hedland
Lot 304 on Plan 43181, Port Hedland
Lot 5974 on Plan 193773, Port Hedland
Unallocated Crown Land PIN 1278453, Port Hedland
Unallocated Crown Land PIN 11424434, Port Hedland
Unallocated Crown Land PIN 11424435, Port Hedland
Unallocated Crown Land PIN 699748, Port Hedland
Unknown Road Reserve PIN 11431980, Port Hedland
Unknown Road Reserve PIN 11431981, Port Hedland
Unknown Road Reserve PIN 11431979, Port Hedland

3. Clearing authorised

The permit holder must not clear more than 5 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 8 January 2027.

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. Retain vegetative material and topsoil, and rehabilitation

- (a) The Permit Holder must retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) The Permit Holder must within 12 months of undertaking clearing authorised under this Permit, *revegetate* and *rehabilitate* the areas that are no longer required for the purpose for which they were cleared under this Permit by:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land;
 - (ii) ripping the ground on the contour to remove soil compaction; and
 - (iii) laying the vegetative material and topsoil retained under Condition 7(a) on the cleared area.
- (c) The Permit Holder must within 18 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 7(b) of this Permit:
 - (i) engage an environmental specialist to determine the species composition, structure and density of the vegetation of area *revegetated* and *rehabilitated*; and
 - (ii) engage an environmental specialist to make a determination as to whether the composition, structure and density determined under condition 7(c)(i) of this Permit will, without further *revegetation*, result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area.

- (d) If the determination made by the environmental specialist under condition 7(c)(ii) is that the species composition, structure, and density determined under condition 7(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 deliberately planting and/or direct seeding *native vegetation* 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 planting or direct seeding of *native vegetation* is undertaken in accordance with condition 7(d), the Permit Holder must repeat the activities required by condition 7(c) and 7(d) within 12 months of undertaking the additional planting or direct seeding of native vegetation.
- (f) Where a determination is made by an environmental specialist under condition 7(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.

8. Erosion management

The Permit Holder must commence construction no later than three (3) months after undertaking clearing authorised under this Permit, to reduce the risk of soil erosion by minimising the exposure time of soils prior to construction.

PART III - RECORD KEEPING AND REPORTING

9. 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	<ul style="list-style-type: none"> (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 Geocentric Datum Australia 1994 (GDA94), 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); and (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5; (f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> in accordance with condition 6; and

No.	Relevant matter	Specifications
		(g) actions taken in accordance with condition 8.
2.	In relation to <i>revegetation</i> and <i>rehabilitation</i> of areas pursuant to condition 7 of this permit	(a) a description of the <i>revegetation</i> and <i>rehabilitation</i> activities undertaken; (b) the size of the areas <i>revegetated</i> and <i>rehabilitated</i> (in hectares); (c) the date when <i>revegetation</i> and <i>rehabilitation</i> works began; and (d) actions taken in accordance with condition 7(d) to ensure the environmental benefits of <i>revegetation</i> and <i>rehabilitation</i> are achieved.

10. Reporting

- (a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report:
- (i) of records required under condition 9 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding calendar year.
- (b) 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.
- (c) Prior to 8 October 2031, the Permit holder must provide to the *CEO* a written report of records required under condition 9 of this Permit, where these records have not already been provided under condition 10(a) of this Permit.

DEFINITIONS


In this permit, the terms in Table 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 <i>Environmental Protection Act 1986</i> .
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.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
direct seeding	means a method of re-establishing vegetation through 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

Term	Definition
	provide under this Permit, or who is approved by the <i>CEO</i> as a suitable environmental specialist.
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
fill	means material used to increase the ground level, or fill a hollow.
local provenance	means <i>native vegetation</i> seeds and propagating material from natural sources within 100 kilometres and the same Interim Biogeographic Regionalisation for Australia (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.
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired 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 <i>local provenance</i> 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
weeds	means any plant – <ul style="list-style-type: none"> (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; 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


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Ryan Mincham
 MANAGER
 NATIVE VEGETATION REGULATION

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

16 December 2021


Schedule 1

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

Plan 9404/1



CPS layers

 CPS areas approved to clear

base layers

Road Centrelines

— Highway

— Local Road (Sealed)



GOVERNMENT OF WESTERN AUSTRALIA

Figure 1: Map of the boundary of the area within which clearing may occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9404/1
Permit type:	Purpose permit
Applicant name:	Regional Power Corporation TA Horizon Power
Application received:	24 August 2021
Application area:	Five hectares of native vegetation
Purpose of clearing:	Clearing for the purpose of installing an underground powerline
Method of clearing:	Mechanical Removal
Property:	Lot 9001 on Plan 404312 Lot 6 on Plan 41870 Lot 6133 on Plan 214106 Lot 6133 on Plan 214106 Lot 6049 on Plan 220990 Lot 6048 on Plan 220990 Lot 6047 on Plan 220990 Lot 6046 on Plan 220990 Lot 580 on Plan 409062 Lot 304 on Plan 43181 Lot 5974 on Plan 193773 Unallocated Crown Land PIN 1278453 Unallocated Crown Land PIN 11424434 Unallocated Crown Land PIN 11424435 Unallocated Crown Land PIN 699748 Unknown Road Reserve PIN 11431980 Unknown Road Reserve PIN 11431981 Unknown Road Reserve PIN 11431979
Location (LGA area/s):	Town of Port Hedland
Localities (suburb/s):	Port Hedland

1.2. Description of clearing activities

The applicant proposes to clear five hectares of native vegetation distributed across four separate locations (see Figure 2, 3 and 4 - Appendix D), for the purpose of reinforcing a deteriorating existing overhead feeder by undergrounding ten kilometres of circuit. A plan of the application area can be found in Figure 1, section 1.5. The trench for the proposed clearing will be 0.5 metres wide. A wider disturbance footprint has been included to account for machinery movements.

Horizon Power is the utility provider for regional Australia, including the localities of Port Hedland, Wedgefield, and South Hedland. The East Pilbara network consists of approximately 793 kilometres of overhead and underground power lines. The Pilbara region is subject to significant weather events including tropical cyclones. During times of cyclonic winds, the power supply network is at a high risk of outages due to short circuiting of conductors (overhead wires) and fallen or damaged power poles. Following severe weather events, the reinstatement of supply may also be hampered by associated swampy or flooded conditions. Horizon Power is in the progress of gradually

undergrounding overhead assets to mitigate this issue. Mechanical methods of clearing will be employed within the application area.

1.3. Decision on application

Decision:	Granted
Decision date:	16 December 2021
Decision area:	Five 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 A), relevant datasets (see Appendix E.1), a previous biological survey that intersects part of the application area (GHD, 2016), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing would result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- potential wind erosion impacts from cleared sandy soils within the application area.

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 lead to appreciable land degradation or have long-term adverse impacts on environmental values. The potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values, can be minimised and managed to unlikely lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures (see Section 3).

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

- take hygiene steps to minimise the risk of the introduction and spread of weeds
- avoid, minimise, and reduce the impacts and extent of clearing
- revegetation and rehabilitation to restore the environmental values impacted by the clearing
- mitigate the risk of wind erosion.


The Delegated Officer considered that the impacts of the proposed clearing are unlikely to have any long-term adverse impacts on the environmental values in the local area and that the abovementioned management practices will mitigate any potential impacts.

1.5. Site map

Plan 9404/1



CPS layers

 CPS areas approved to clear

base layers

Road Centrelines

 Highway

 Local Road (Sealed)



Figure 1 Map of the application area

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

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 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)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC 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).

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

In relation to avoidance and mitigation measures, the applicant advised the following (Regional Power Corporation TA Horizon Power, 2021b):

In order to deliver a cost-effective solution whilst minimising the amount of native vegetation clearing required, Horizon Power will be using a combination of drilling and trenching to complete this project in its entirety. As detailed in the supporting document, the installation method selected is open trenching for an underground cable. As opposed to poles and overhead wire, underground installations do not require permanent clearing for maintenance or fire protection. Based on the narrow and linear nature of the clearing, and condition of surrounding vegetation, regrowth is expected to occur in the short-term.

In low lying/tidal areas, horizontal boring will be utilised to minimise potential environmental impacts. Whilst every effort will be made to minimise clearing where possible, under the Utility Providers Code of Practice (Western Australia) Horizon Power has a commitment to comply with allocated boundary alignments in relation to the installation of powerlines and other electrical infrastructure in the road reserve. This restricts where powerlines can be installed and as such determines the location / alignment of new powerline routes. Horizon Power will utilise existing access tracks and cleared areas where possible during construction.

Listed below are further avoidance and mitigation measures which the applicant has stated in supporting documents:

- in the unlikely event that horizontal boring is not able to be undertaken for any reason, open trenching will be used;
- no modification of surface water flows will occur;
- the risk of exposure and subsequent oxidation of potential acid sulphate soils is considered to have been mitigated using a horizontal boring installation technique. Surface soils will not be disturbed as would otherwise occur with traditional open trenching methods. There is likely to be no complete exposure pathway for the exposure of acid sulphate soils as a result of the project. In the unlikely event that horizontal boring is not able to be undertaken for any reason, open trenching will be used. In this instance soils will be managed as actual acid sulphate and management measures will be implemented (e.g., ensuring trenches are closed within specified time);
- vegetation cleared during the installation of the underground line will be allowed to regenerate. The trench will be 0.5 metres wide. A wider disturbance footprint has been included to account for machinery movements.

The Delegated Officer was satisfied with the measures to be implemented by the applicant to avoid and minimise potential impacts of the proposed clearing on environmental values. In addition to the measures detailed above, the

Delegated Officer has determined that a revegetation and rehabilitation condition be imposed on the permit to restore the environmental values impacted by the clearing.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) 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 I) identified that the impacts of the proposed clearing present a risk to biological values (fauna and adjacent flora) 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 Principles (a and c)

Assessment

According to available databases, there are 15 priority flora species and 1 threatened flora species recorded within the local area (50 kilometres). Of these, 12 flora species occur in the same soil system phase as the application area.

According to available databases and the previous biological survey conducted by GHD (2016), some portions of the application area comprise of hummock grasslands on sandy soils. This habitat type is widespread in the local area and common for conservation significant flora recorded within the local area. On this basis, the application area may provide habitat for conservation significant flora, however, is not considered significant habitat given the following:

- portion A of the application area is already significantly disturbed and in poor condition, therefore is not likely to contain preferred habitat for conservation significant flora
- portion D was cleared in 2018 for the installation of National Broadband Network and comprises only regrowth vegetation which is unlikely to provide significant habitat for conservation significant flora
- portion C and a section of Portion B, which appear to contain better quality flora habitat, were surveyed by GHD in 2016. The survey did not identify any individuals of conservation significant flora
- the un-surveyed section of Portion B, which appears to be in good condition, is mapped as 'bare areas, mudflats'. The section consists of four segregated, linear patches adjacent to existing infrastructure with a total area of approximately 1.3 hectares. Noting the shapes and extents of these patches and the mapped vegetation association, the unsurveyed section of Portion B is unlikely to provide significant habitat for threatened or priority flora. No conservation significant flora were identified within the section of Portion B that was partly surveyed by GHD in 2016.

Conclusion

The Delegated Officer determined that the proposed clearing is not likely to result in impacts to habitat which is significant for any conservation significant flora species.

Conditions

No flora management conditions required.

3.2.2. Biological values (fauna) - Clearing Principles (a and b)

Assessment

A desktop assessment of current databases was undertaken for the local area. The desktop assessment identified that a total of 67 individual conservation significant fauna species have been recorded within the local area. None of these records occur within the application area itself. With consideration of the site characteristics, relevant datasets and the habitat preferences and distribution of the species, five conservation significant fauna species previously recorded in the local area have the potential to occur within the application area:

- *Ctenotus angusticeps* (Airlie Island Ctenotus/Northwestern coastal Ctenotus) - Priority 3;
- *Dasyercus blythi* (Brush-tailed mulgara) - Priority 4;
- *Dasyercus cristicauda* (Crest-tailed mulgara, Minyiminyl) - Priority 4;
- *Macrotis lagotis* (bilby, dalgyte, ninu) - Vulnerable; and
- *Falco hypoleucos* (Grey falcon) - Vulnerable

According to available databases and the previous biological survey conducted by GHD (2016), some portions of the application area comprise of hummock grasslands on sandy soils. This habitat type is widespread in the local area and common for conservation significant fauna recorded within the local area. On this basis, the application area may provide habitat for conservation significant fauna, however, the habitat is not considered significant given the following:

- portion A of the application area is already significantly disturbed and in poor condition, which would not provide preferred habitat for conservation significant fauna.
- portion D was cleared in 2018 for the installation of National Broadband Network and comprises only regrowth vegetation which is unlikely to provide significant habitat for conservation significant fauna.
- portion C and a section of Portion B, which appear to contain best quality flora and fauna habitat, were surveyed by GHD in 2016. The survey did not identify any individuals of conservation significant fauna.
- the un-surveyed section of Portion B, which appears to be in good condition, is mapped as 'bare areas, mudflats'. The section consists of four segregated, linear patches adjacent to existing infrastructure with a total area of approximately 1.3 hectares. Noting the shapes and extents of these patches and the mapped vegetation association, the unsurveyed section of Portion B is unlikely to provide significant habitat for conservation significant fauna. No conservation significant fauna were identified within the section of Portion B that was partly surveyed by GHD in 2016.

Conclusion

The GHD (2016) biological survey intersected part of the application area which contains better quality vegetation and habitat. Although no fauna species of conservation significance were recorded during the survey, it was determined that one of the above-mentioned fauna species of conservation significance (Brush-tailed mulgara) may occur within the survey area. The habitats within the survey area are well represented within the survey area and adjacent areas. It is most likely that the habitats within the survey area represent a portion of the overall habitat required by a population of this species, however, it is unlikely they represent an important component of habitat for a population of conservation significant fauna deemed likely to occur within the survey area. It is unlikely that a population of this species would rely on the habitats present within the survey area and clearing of habitat is considered unlikely to substantially impact on a population of this species (GHD, 2016).

The fauna habitats within the proposed area to be cleared are well represented elsewhere within the local and regional area, and no significant loss of habitat for fauna indigenous to Western Australia is expected. The area to be cleared does not represent a significant corridor for fauna movement and will not remove an ecological linkage that is necessary for the maintenance of habitat for any fauna species which have been previously recorded within the local area. Given the above, the Delegated Officer determined that the proposed clearing and assessment of impacts to fauna species is unlikely to result in significant impacts to conservation significant fauna species.

Conditions

No fauna management conditions required.

3.2.3. Land and water resources- Clearing Principles (f, g and i)

Assessment

In accordance with available datasets, the application area intersects a saline coastal flat, with the closest wetland being the Leslie (Port Hedland) Salt fields System, approximately 10 kilometres north-east of the application area. The application area is also mapped within the Pilbara Surface Water Area and the Pilbara Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). Given part of the application area is mapped within a saline coastal flat, the application area is considered likely to contain vegetation growing in, or in association with, an environment associated with a watercourse. The impacts to the saline coastal flat are not significant given the extent of the clearing, the proposed methods to be used by the applicant and the mitigation and avoidance measures the applicant will implement as part of the proposed clearing.

Groundwater salinity within the application area is mapped as 1000 to 3000 milligrams per litre total dissolved solids and it is not anticipated that clearing for installation of underground lines will require groundwater abstraction or result in direct or indirect impacts to groundwater resources. Given the above, the Delegated Officer determined that the clearing proposed is unlikely to result in significant impacts to the environmental values of riparian vegetation associated with a watercourse or wetland, or to surface or groundwater resources.

The mapped soil types within the application area may be susceptible to erosion along drainage lines but are generally not susceptible to erosion or significant land degradation (Van Vreeswyk et al., 2004). Given the purpose of the proposed clearing is installing underground lines, maintenance and associated activities, it is not considered likely that cleared areas will be exposed to weathering for long periods of time. Mean annual rainfall in the application area is also low (approximately 400 millimetres) and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to waterlogging. Given the above, the Delegated Officer determined that the clearing proposed is unlikely to result in appreciable land degradation or cause, or exacerbate, the incidence or intensity of waterlogging in the local area.

Sandy soils are highly susceptible to wind erosion and if left exposed for any length of time post-clearing, may result in appreciable land degradation. Given the high permeability of sandy soils, it is not likely that the proposed clearing will result in water erosion. The surrounding vegetation is moderately dense and natural recolonisation of the relatively small area of linear disturbance is expected to occur within a short period of time which will mitigate the risk of appreciable erosion impacts.

Acid sulphate soils (ASS) risk mapping indicates that the site is located within an area identified as representing a risk of ASS occurring within 3 metres of the natural soil surface. The applicant has stated mitigation measures they will take to avoid risk of exposure and subsequent oxidation of potential acid sulphate soils (see section 3.1). It is recommended that the applicant refers to DWER's ASS guidelines for information to assist with the management of ground and/or groundwater disturbing works.

Conclusion

Given the applicants mitigation measures, linear configuration of the clearing and capacity of cleared areas to regenerate, the Delegated Officer determined that the proposed clearing is unlikely to result in appreciable land degradation impacts or impacts to surface or groundwater quality. Given the high susceptibility of soils to wind erosion, a management condition has been imposed on the permit to mitigate the risks of erosion.

Conditions

The purpose for which the clearing is authorised must occur within three months of clearing to minimise wind erosion risks.

3.3. Relevant planning instruments and other matters

The Shire of Port Hedland advised DWER that local government approvals are not required and that the proposed clearing is consistent with the Shire's Local Planning Scheme. The Shire did not have any objections to the proposed clearing.

There are no Aboriginal sites of significance mapped within the application 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. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	<p>The application area is within the Pilbara IBRA region in the extensive land use zone of Western Australia.</p> <p>The application area is comprised of four non-contiguous parcels, the majority of the which have been previously disturbed, likely due to clearing for construction of roads and previous installation of network systems. These four locations are adjacent to current roads in use in the area.</p>

Characteristic	Details
	Spatial data indicates the local area (50 km radius from the centre of the area proposed to be cleared) retains approximately 95% of the original native vegetation cover.
Ecological linkage	There are no mapped ecological linkages within the application area or local area. The fauna habitats within the proposed area to be cleared are well represented elsewhere within the local and regional area. The area to be cleared does not represent a significant corridor for fauna movement and will not remove an ecological linkage that is necessary for the maintenance of habitat for any fauna species which has been previously recorded within the local area.
Conservation areas	There are no conservation areas located within application area or the local area. The closest conservation area is the North Turtle Island Nature Reserve which is located 58 km north-east and largely separated from the application area by the Indian Ocean.
Vegetation description	<p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of spinifex, hummock grassland and some scattered <i>Acacia</i> shrubs. Representative photos and maps are available in Appendix D.</p> <p>This is consistent with the mapped vegetation type(s):</p> <ul style="list-style-type: none"> • 127 Beard vegetation association, which is described as tidal mud flat ((Shepherd et al, 2001)) • 647, which is described as hummock grassland with scattered shrubs or mallee <i>Triodia</i> sp. <i>Acacia</i> sp., <i>Grevillea</i> sp. <i>Eucalyptus</i> sp. ((Shepherd et al, 2001)). <p>The mapped vegetation type 127 retains 90% and type 647 retains 98% of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Photographs supplied by the applicant indicates the vegetation within the proposed clearing area is in (Trudgen, 1991) condition, described as:</p> <ul style="list-style-type: none"> • Poor - Still retains basic vegetation structure or ability to regenerate it after obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires, or aggressive weeds; • 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. <p>The full Trudgen (1991) condition rating scale is provided in Appendix C. Representative photos are available in Appendix D.</p>
Climate and landform	<p>Rainfall: 400 mm Evapotranspiration: 400 mm Acid Sulphate Soil Risk: High to moderate risk for the southern part of the application area and moderate to low risk for the northern part of the application area. Groundwater Salinity (Total Dissolved Solids): 1000-3000 mg/L</p>
Soil description	<p>The soil is mapped as:</p> <p>Southern parts of application area fall within:</p> <ol style="list-style-type: none"> a) 281Ua Uaroo System- Broad sandy plains, pebbly plains and drainage tracts supporting hard and soft spinifex hummock grasslands with scattered acacia shrubs b) Uaroo land system: Sandplains and occasional dunes; Spinifex grasslands. <p>North-east parts of application area fall within:</p> <ol style="list-style-type: none"> c) 286Li Littoral System - Bare coastal mudflats (unvegetated), samphire flats, sandy islands, coastal dunes, and beaches, supporting samphire low shrublands, sparse acacia shrublands and mangrove forests d) Littoral System: Coastal plains, beaches, dunes, mudflats, and cliffs; Various coastal vegetation.

Characteristic	Details
Land degradation risk	Acid Sulfate Soil Risk: High to moderate risk for the southern part of the application area and Moderate to low risk for the northern part of the application area
Waterbodies	<p>Leslie (Port Hedland) Salt fields System is located approximately 10 km north-east from the application area. No impacts to this waterbody are anticipated given the separation distance and built-up environment between the application area and the waterbody.</p> <p>Saline coastal flats intersect a small part of the application area, however, no deleterious impacts are anticipated as a result of the clearing.</p>
Hydrogeography	<p>Proclaimed Groundwater Areas: RIWI Act – Pilbara Groundwater area.</p> <p>Proclaimed Surface water Areas: Pilbara Surface Water Area.</p> <p>PDWSA: Public Drinking Water Source Areas (DWER-033) not within application area but within 50 km buffer zone. ~39 km south-west of application area.</p>
Flora	<p>According to available databases, there are 15 priority flora species and 1 threatened flora species recorded within the local area (50 km).</p> <p>Of these, 12 flora species occur in the same soil system phase as the application area.</p> <p>The closest record of a conservation significant flora species is the record of <i>Tephrosia rosea</i> var. Port Hedland (A.S. George 1114) (P1) located approximately 1.6 km from the application area.</p>
Ecological communities	There are no PECs or TECs within the application area.
Fauna	<p>According to available databases, there are 67 fauna species of conservation significance previously recorded within the local area (50 km buffer).</p> <p>Available databases and the previous biological survey conducted by GHD (2016), indicate that some portions of the application area comprise of hummock grasslands on sandy soils. This habitat type is widespread in the local area and common for conservation significant fauna recorded within the local area. On this basis, the application area may provide habitat for conservation significant fauna, however, this habitat is not considered significant in a local or regional context.</p>

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> “Native vegetation should not be cleared if it comprises a high level of biodiversity.”</p> <p><u>Assessment:</u></p> <p>The application area comprises potentially suitable habitat for conservation significant flora species; <i>Gomphrena leptophylla</i>, <i>Seringia exastia</i> and <i>Tephrosia rosea</i> var. Port Hedland (A.S. George 1114).</p> <p>Considering the extent and linear configuration of the application area and the poor to degraded (Trudgen, 1991) vegetation condition, the application area is not likely to provide critical habitat for conservation significant flora. The application area does not comprise significant habitat for fauna and vegetation in the application area is not representative of threatened or</p>	Not likely to be at variance	<p>Yes</p> <p><i>Refer to Section 3.2.1 and 3.2.2, above</i></p>

Assessment against the clearing principles	Variance level	Is further consideration required?
priority ecological communities. The application area is not likely to comprise of a high level of biodiversity.		
<p><u>Principle (b):</u> <i>“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.”</i></p> <p><u>Assessment:</u> The application area comprises suitable habitat for the Airlie Island Ctenotus/Northwestern coastal Ctenotus, Brush-tailed mulgara, Crest-tailed mulgara, bilby and the Grey falcon.</p> <p>Noting the extent of the proposed clearing, previous disturbance and that the fauna habitats within the proposed area to be cleared are well represented elsewhere within the local and regional area, no significant loss of habitat for fauna indigenous to Western Australia is expected.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.2, above</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared is not likely to contain significant habitat for threatened flora species listed under the BC Act.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above</i>
<p><u>Principle (d):</u> <i>“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.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared does not contain species indicative of a threatened ecological community.</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u> The extent of the mapped vegetation types are consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“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.”</i></p> <p><u>Assessment:</u> Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of or nearby conservation areas.</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p>	At variance	Yes <i>Refer to Section 3.2.3, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
Saline coastal flats are intersected within the northern part of the area proposed to be cleared. The application area is separated from the vegetation adjoining this wetland by built roads. The proposed clearing is not likely to impact on the closest important wetland, that being Leslie (Port Hedland) Saltfields System located approximately 10 km north-east from the application area.		
<u>Principle (g):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."</i> <u>Assessment:</u> The mapped sandy soils are highly susceptible to wind erosion. Noting the extent of the application area and the condition of the vegetation, the proposed clearing is not likely to have an appreciable impact on land degradation. A staged clearing condition will be imposed on the permit stating that construction must occur within three months of clearing to minimise wind erosion risks.	Not likely to be at variance	Yes Refer to Section 3.2.3, above.
<u>Principle (i):</u> <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."</i> <u>Assessment:</u> Although the application area intersects a coastal saline flat, the proposed clearing is not likely to have detrimental impacts on surface or groundwater quality.	Not likely to be at variance	Yes Refer to Section 3.2.3, above.
<u>Principle (j):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</i> <u>Assessment:</u> Saline coastal flats are located within the northern most area proposed to be cleared. Considering the extent and linear configuration of the clearing, it is unlikely that the clearing will increase the risk of flooding.	Not likely to be at variance	No

Appendix C. 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 several 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.

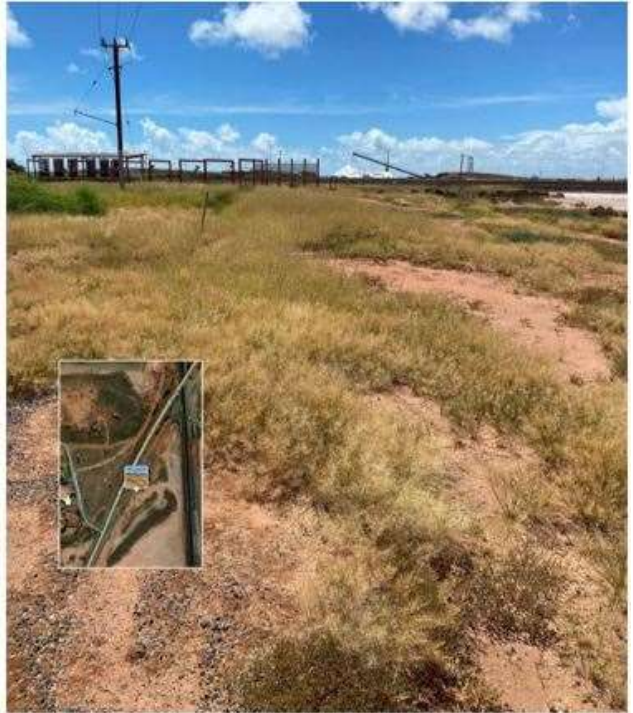
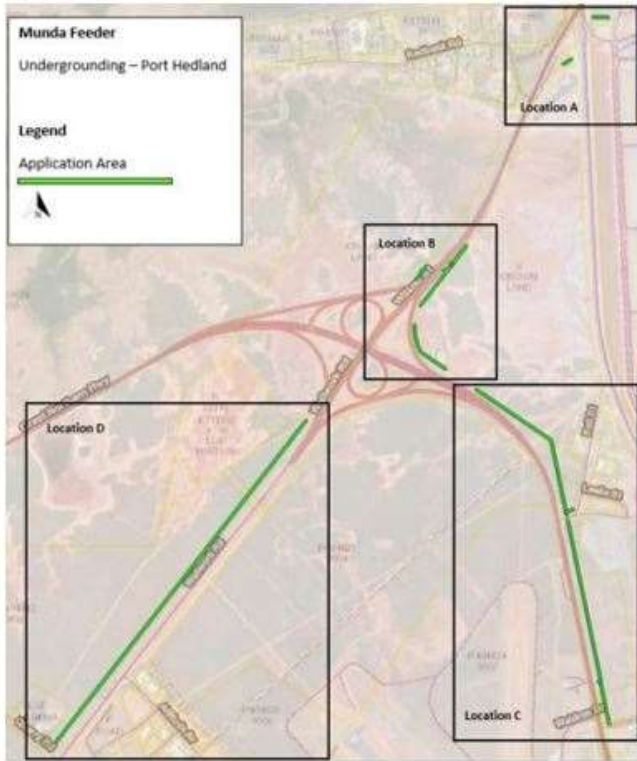
Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

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.

Condition	Description
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 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 several 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 D. Photographs of the vegetation

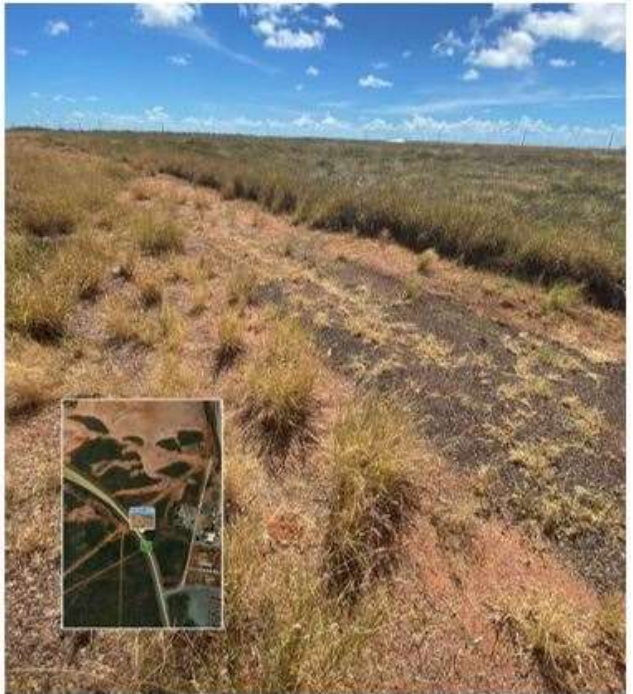
Representative photographs of the vegetation and location of areas to be cleared (Regional Power Corporation TA Horizon Power, 2021b).



Photograph 1: Location A - East side of Wilson Street facing North East. Lat: -20.6823° Long 116.7315°



Photograph 2: Location B - East side of Wilson Street facing North East. Lat: -20.3564° Long 118.6244°



Photograph 3: Location C: Great Northern Highway facing North West. Lat -20.36213° Long 118.63036°

Figure 2. Location map and images of locations A, B and C (Regional Power Corporation TA Horizon Power, 2021b).



Photograph 4: Location C: Great Northern Highway facing South. Lat -20.3686° Long 118.6320°.



Photograph 5: Location C: Great Northern Highway facing East. Lat -20.36858° Long 118.6321°.



Photograph 6: Location D: Wallwork Road facing North East. Lat -20.37429° Long 118.608°.



Photograph 7: Location D: Wallwork Road facing North East. Lat -20.37007° Long 118.6118°.

Figure 3. - Vegetation images of location C and D (Regional Power Corporation TA Horizon Power, 2021b).



Photograph 8: Location D: Wallwork Road facing North East. Lat -20.3641° Long 118.6167°.

Figure 4. - Vegetation images of location C and D (Regional Power Corporation TA Horizon Power, 2021b).

Appendix E. Sources of information

E.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- 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)
- 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)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas, and Irrigation Districts (DWER-037)
- Acid Sulphate Soil Risk Map, Pilbara Coastline (DWER-053)
- 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)

E.2. References

- Department of Environment Regulation (DER) (2014). *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 the Environment and Water Resources (2007) A Directory of Important Wetlands in Australia, Leslie (Port Hedland) Saltfields System y WA068, <http://www.environment.gov.au>
- Department of Water and Environmental Regulation (DWER) (2021). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: [Clearing permits - Department of Water and Environmental Regulation \(der.wa.gov.au\)](http://www.der.wa.gov.au).
- 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.
- GHD Pty Ltd (GHD) 2016, Great Northern Highway Realignment, Port Hedland Airport, Biological Survey, draft document prepared for Main Roads WA, January 2016.
- Government of Western Australia. (2019) *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report)*. Current as of April 2019. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Regional Power Corporation TA Horizon Power (2021a) *Clearing permit application CPS 9404/1*, received 24 August 2021 (DWER Ref: DWERDT494603).
- Regional Power Corporation TA Horizon Power (2021b) *Supporting information for clearing permit application CPS 9404/1*, received 24 August 2021 (DWER Ref: DWERDT494603).
- 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.
- Shire of Port Hedland (2021) *Advice for clearing permit application CPS 9404/1*, received 12 October 2021 (DWER Ref: A2053509).
- 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 Vreeswyk, A.M.E., Payne, A.L, Leighton, K.A., and Henning, P. (2004) An inventory and condition survey of the Pilbara region, Western Australia, Technical Bulletin No.92, South Perth, Western Australia
- Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed November 2021).