GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9665/1
Permit Holder:	Arc Infrastructure
Duration of Permit:	From 03/09/2022 to 03/09/2027

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 building an Inter Modal Terminal.

2. Land on which clearing is to be done

Railway reserve (PIN 1103525), Leonora

3. Clearing authorised

The permit holder must not clear more than 5.51 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

4. 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.

5. 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.

6. Erosion management

The permit holder must commence the construction of the Inter Modal Terminal no later than three months after undertaking the authorized clearing activities to reduce the potential for wind and water erosion.

PART III - RECORD KEEPING AND REPORTING

7. 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 Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the date that construction activities commenced; (e) the size of the area cleared (in hectares); and (f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4; and (g) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 5.

8. Reporting

The permit holder must provide to the *CEO* the records required under condition 7 of this permit when requested by the *CEO*.

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 *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.
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)
fill	means material used to increase the ground level, or to fill a depression.
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.
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

C. Robertson
01.08.2022
11.46AM

Caron Robertson
A/Manager
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

1 August 2022

Schedule 1

Plan 9665/1

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

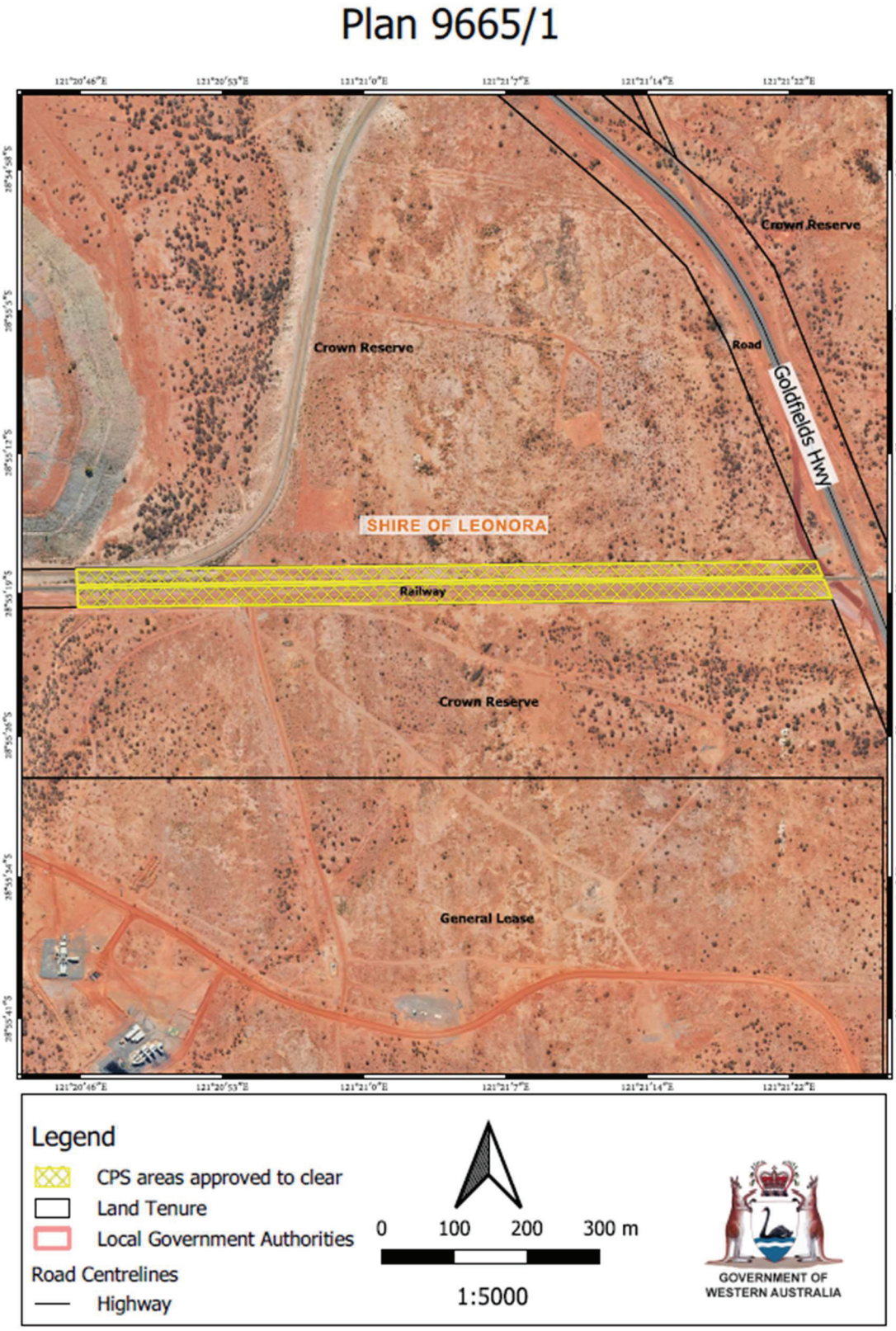

Figure 1: Map of the boundary of the area within which clearing may occur

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 9665/1
Permit type:	Purpose permit
Applicant name:	Arc Infrastructure Pty Ltd
Application received:	21 March 2022
Application area:	5.51 hectares of native vegetation
Purpose of clearing:	To build an inter modal terminal
Method of clearing:	Bobcat/Mulcher
Property:	Railway reserve (PIN 1103525)
Location (LGA area/s):	Shire of Leonora
Localities (suburb/s):	Leonora

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (see Figure 1, Section 1.5). The area is located at Railway reserve (PIN 1103525), Leonora. The removal and clearing of native vegetation is required to build an Inter Modal Terminal to allow the loading and offloading of commodities at a new site in South Leonora. The final area of the land use will be for an Inter Modal Terminal to be utilised by WATCO/QUBE and Arc Infrastructure.

1.3. Decision on application

Decision:	Granted
Decision date:	1 August 2022
Decision area:	5.51 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 G.1), the findings of a biological 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 potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values and
- potential land degradation in the form of wind and water erosion.

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 can be minimised and managed to unlikely lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures.

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
- commence construction of the facility within three months of undertaking clearing activities to minimise wind erosion.

1.5. Site map

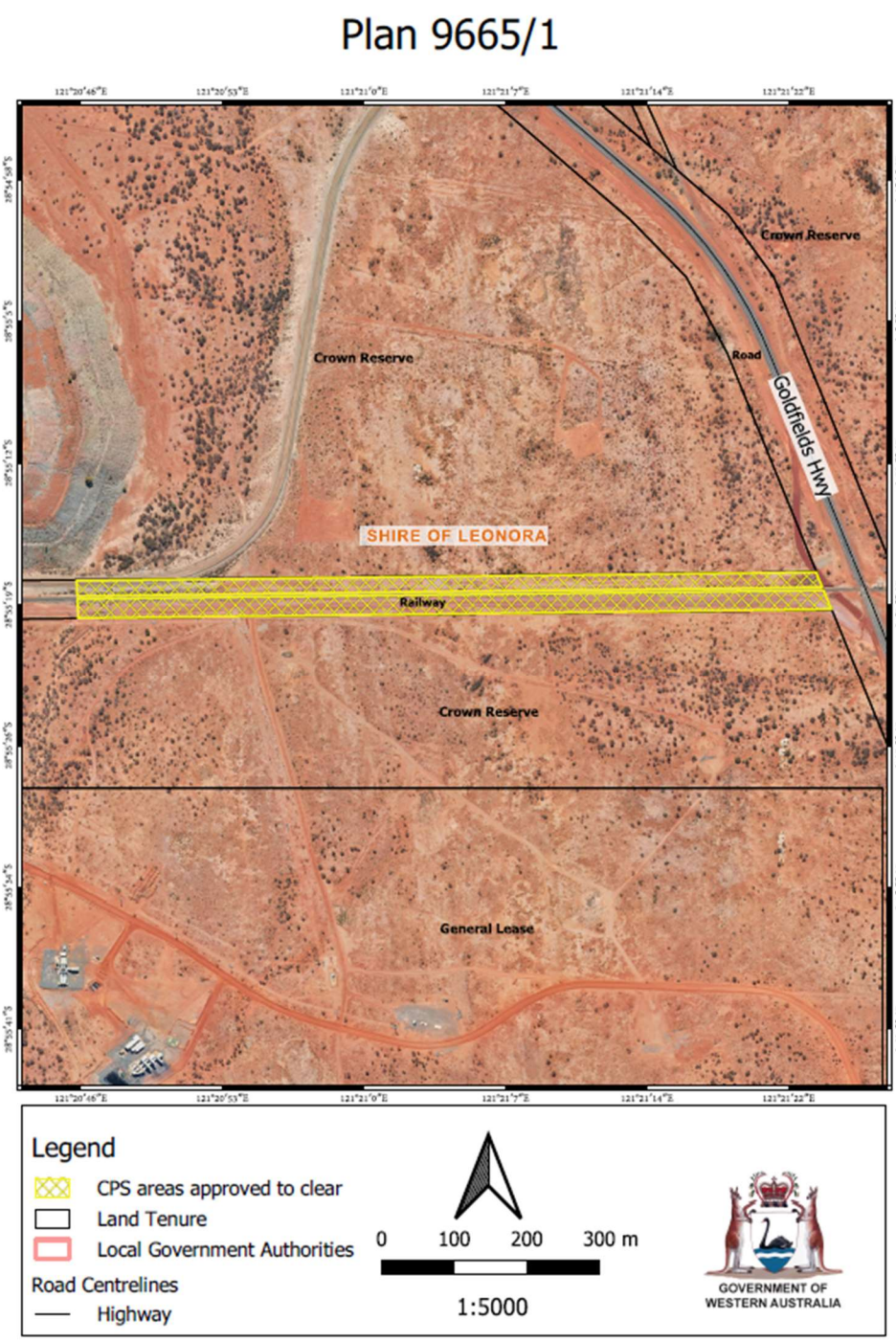

Figure 1 Map of the application area

The area crosshatched yellow indicate the area 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)
- *Contaminated Sites Act 2003* (CS 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

This location was chosen by the applicant due to the proximity of the use of the Inter Modal Terminal (IMT) by St. Barbara Mining, as well as the easy access off of Goldfields Hwy for access to the IMT. If another area were chosen, additional land would need to be cleared for access to this site, therefore this area was chosen to mitigate any further clearing and reduce the need to impact any waterways or significant vegetation

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 the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise, hygiene, and erosion management conditions. 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: Biodiversity - Clearing Principle (a)

Assessment

Biological survey findings (Spectrum Ecology, 2022):

> Spectrum Ecology (2022) undertook a comprehensive desktop assessment of the flora & vegetation, and terrestrial fauna (vertebrate and SRE invertebrate fauna) values of the Survey Area (See Figure 2); basic fauna survey; and a flora site visit. The areas surveyed include for distinct mining areas Gwalia, Tower Hill, Harbour Lights, Jaspers and two proposed railway corridors (See Appendix E, Figure 2).

The survey found out that the sites were dominated by Acacia shrubland. Five significant flora species known to occur in the local area are:

Taxon	Habitat
Frankenia georgei	Rocky slopes.
Stenanthemum patens	Rocky hillside.
Angianthus prostrates	Red clay or loamy soils. Saline depressions.
Acacia sp. Marshall Pool (G. Cockerton 3024)	Low basalt hill. Dry brown clayey sand.
Frankenia glomerata	White sand.

Considering the habitat of the above taxons, *Acacia* sp. Marshall Pool (G. Cockerton 3024) and *Angianthus prostrates* have suitable habitat within the application area. However, the history of ground disturbances and condition and extent of vegetation in the proposed application area, contribute to the determination that the likelihood of occurrence, for these species within the application area, is low.

No conservation significant vertebrate fauna were recorded during the survey. Seven species are identified as having a medium to high likelihood of occurrence in the Survey Area (See Appendix E, Figure 5).

Species	Likelihood of Occurrence
Malleefowl (*Leipoa ocellata*);	Low likelihood as the vegetation density is low, minimizing the favourable habitat for this species. In addition, the Survey Area is disturbed from historic and current mining activities.
Common Greenshank (*Tringa nebularia*);	Migratory shorebird with some local records using nearby wetlands and sewage ponds. May occasionally visit the limited freshwater artificial waterbodies associated with mining and sewage located within or near the Survey Area.
Common Sandpiper (*Tringa hypoleucos*);	Migratory shorebird with some local records using nearby wetlands and sewage ponds. May occasionally visit the visit the wetland areas associated with Lake Raeside drainage when inundated
Sharp-tailed Sandpiper (*Calidris acuminata*);	Migratory shorebird. May occasionally visit the wetland areas associated with Lake Raeside drainage when inundated
Wood Sandpiper (*Tringa glareola*);	Migratory shorebird with some local records using nearby wetlands and sewage ponds. May occasionally visit the limited freshwater artificial waterbodies associated with mining and sewage located within or near the Survey Area.
Long-tailed Dunnart (*Sminthopsis longicaudata*);	Some small areas of marginally suitable rocky habitat occurs within the Survey Area, with recent records less than 50 km away.
Peregrine Falcon (*Falco peregrinus*).	Several historical and recent records from the surrounding region. The species may use foraging habitat within the Survey Area sporadically.

Noting the extent of clearing, history of ground disturbances, vegetation condition and distance from watercourses, the likelihood of occurrence of these fauna in the proposed application area is low.

Desktop assessment:

No threatened flora are recorded within the local area (20km buffer) however, three priority flora taxa were identified locally.

Angianthus prostratus (P3) has been recorded approximately 17.5 kilometres from the application area within a different soil and vegetation type to those mapped within the application area. The vegetation within the application area is not likely to comprise significant habitat for this species. *Acacia sp. Marshall Pool* (G. Cockerton 3024) is a priority three taxa which may have the potential to occur within the application area due to the proximity of previous records and the presence of potentially suitable habitat. The habitat in which this

species has been recorded is the same as the habitat mapped within the application area (extensive, gently undulating calcareous stony plains supporting bluebush shrubland). There is a historical record in 1970 approximately 4.6 kilometres from the application area. Given the historical nature of the record and the degraded (Trudgen, 1991) vegetation condition, the application area is not likely to comprise significant habitat for this species. A historic record (1988) of *Calytrix praecipua* (P3) approximately 16.8 kilometres from the application area has also been recorded.

No Threatened Ecological Communities (TECs) are known to occur within the local area, and none are likely to occur within the application area based on known vegetation types within the application area (Appendix C). The nearest mapped conservation significant ecological community is the 'Melita calcrete groundwater assemblage type on Raeside palaeodrainage on Melita (Sons of Gwalia) Station', a Priority one, Priority Ecological Community (PEC) mapped approximately three kilometres southwest from the application area. This community is characterised as unique assemblages of invertebrates identified in groundwater calcretes (DBCA, 2020). Noting this PEC is associated with groundwater environments and the absence of a watercourse in the application area, the proposed clearing is not likely to impact this community.

Seven conservation significant fauna species were recorded in the local area, all of which are avian migratory species. Noting the absence of wetlands or watercourses within the application area, the proposed clearing is not likely to have a significant impact on the identified migratory species' habitat. *Falco peregrinus* (peregrine falcon), other specially protected (OS) species, was found to be as the closest record of fauna. Considering this species is a raptor overfly bird species, it may be a transient visitor to the application area. Therefore, clearing of the native vegetation within the application area is unlikely to impact on the survival of the peregrine falcon due to their distribution, wide range of habitat preference and high mobility (Barrett et al, 2003).

Conclusion
Based on the above desktop assessment and survey findings, the level of disturbance, condition of the vegetation within and surrounding the application area, the Delegated officer has determined that the proposed clearing is not likely to impact conservation significant flora, fauna or ecological communities and does not represent an area of high biodiversity. Adjacent native vegetation may be susceptible to weed invasion which the clearing process may exacerbate, thereby reducing the condition of adjacent remnant vegetation.

Conditions
To address impacts to the adjacent native vegetation, weed management measures will be required as a condition on the clearing permit.

3.2.2. Environmental value: Watercourses and wetlands – Clearing Principle (f)

Assessment
The application area is located within the Raeside-Ponton Salt Lake basin sub-catchment. A minor drainage line is evident through aerial imagery, west of the application area. No other watercourses and wetlands are identified within the application area. Vegetation within the application area is in poor to completely degraded (Trudgen, 1991) condition.

Given the location of the minor drainage line, existing infrastructure (culvert), extent of clearing, and condition of vegetation, it is unlikely that the proposed clearing would contribute to, or cause, appreciable impact to vegetation growing in association with a watercourse.

Conclusion
Based on the above assessment, the Delegated officer has determined that the proposed clearing is not likely to impact vegetation growing within, or in association with, a wetland or watercourse.

3.2.3. Environmental value: land and water resources – Clearing Principle (g)

Assessment
The application area is situated within the Gundockerta soil-landscape system described as extensive, gently undulating calcareous stony plains supporting bluebush with abundant stony mantles, and less extensive lower alluvial plains with narrow central zones receiving more concentrated run-on, relief usually less than 15 metres. Saline plains and adjacent alluvial tracts area are susceptible to water erosion where the stony mantle is absent and/or vegetation cover is reduced (DPIRD, 2019). The vegetation of this land system is highly preferred for

grazing by introduced and native mammals, rendering it susceptible to overgrazing and consequent degradation (Pringle et al, 1994).

The soil landscape within the application area, may be susceptible to wind and water erosion. Given the condition of the vegetation ranges from poor to completely degraded (Trudgen, 1991), clearing of this vegetation may result in increased risk of wind and water erosion. To reduce increased wind and water erosion, the applicant will be required to undertake work immediately after the completion of clearing activities to avoid any significant impacts from wind erosion. During the clearing and construction of the rail infrastructure, methodologies such as dust control and drainage control will ameliorate the risk of land degradation.

Conclusion
Based on the above assessment, it is considered that the impacts of the proposed clearing can be managed by applying appropriate measures to minimise and mitigate risks associated with wind and water erosion.

Conditions
To address the above impacts, commencement of construction within three months of clearing to mitigate the risk of wind and water erosion will be required as a condition on the clearing permit.

3.3. Relevant planning instruments and other matters

As the application area intersects a contaminated site, advice was requested from DWER's Contaminated Sites branch on the implications of the contaminated site report for the proposed clearing. Advice received confirmed that areas impacted by asbestos and metals are spatially distant from the land proposed for clearing (DWER, 2022).

The application area falls within the Goldfields groundwater area, as proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). Advice was sought from DWER's Swan Avon Region confirmed that no permits are required, however, the applicant may require a 5c licence to take water for dust suppression and construction purposes (DWER, 2022).

The Shire of Leonora advised DWER that local government approvals are not required, and that the proposed clearing is consistent with the Shire's Town Planning Scheme. The Shire did not have any objections to the proposed clearing (Shire of Leonora, 2022).

No Aboriginal sites of significance have been 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. Additional information provided by applicant

Summary of comments	Consideration of comment
Area changes to application	Amended shapefiles reduced the clearing area (5.74 hectares to 5.51 hectares). Initial application area overlapped with other land tenures that the applicant does not have the authority to access. Amendments to the application are resolved these matters.
Biological Survey	Biological survey which includes basic fauna survey; and a flora site visit and desktop assessment of past surveys and data (Spectrum Ecology, 2022)
The applicant provided representative photographs of the vegetation within the application area, on 25 March 2022	The Delegated Officer considered the photographs provided as follows: The representative photographs of the vegetation communities within the application area were considered to provide context to the site characteristics (see Appendix B) and were used to inform the detailed assessment of impacts to biological and water resource values (see Section 3). The representative photographs are available at Appendix F

Appendix B. Site characteristics

B.1. Site characteristics

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. The proposed application area is a disturbed area adjacent to an existing rail infrastructure on one side and vast area of sparse vegetation on the other. The application area is surrounded by existing mining activities and intersects with Goldfields Highway to the east. Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 99 per cent of the original native vegetation cover (DPIRD, 2019).
Ecological linkage	The proposed application area does not form part of any significant mapped ecological linkages.
Conservation areas	No conservation covenants, regional parks and Department of Biodiversity Conservation and Attraction (DBCA) areas of interest and legislated lands are mapped within 20-kilometre of the application area.
Vegetation description	Spatial data indicate the vegetation within the proposed clearing area consists of Beard a1Lr, which is described as Low woodland, open low woodland; other acacia, banksia, peppermint, pine, casuarina, york gum *Acacia spp. Banksia spp. Agonis flexuosa, Calitris spp, Allocasuarina spp, E. loxophleba* (Shepherd et al, 2001) The mapped vegetation type retains approximately 98.35 per cent of the original extent (Government of Western Australia, 2019).
Vegetation condition	Photographs supplied by the applicant, the Vegetation survey (IBSA-2022-0126) and the aerial imagery indicate the vegetation within the proposed clearing area is in poor to completely degraded (Trudgen, 1991) condition, described as: • Poor: Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement,

Characteristic	Details
	• 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. The full Trudgen (1991) condition rating scale is provided in Appendix D. Representative photos are available in Appendix F.
Climate and landform	• Extensive gently undulating plains generally with abundant stony mantles, and less extensive lower alluvial plains with narrow central zones receiving more concentrated run-on, relief usually less than 15 metres. • The mean annual rainfall recorded in Leonora is 236.4 millimetres. • The mean maximum temperature recorded in Leonora is 27.9 degrees Celsius.
Soil description	The soil within the application area is described as sandy loam with a red, orange colour (Spectrum Ecology, 2022). The soil-landscape system in which the application area is located in is Gundockerta System. It is summarised as being extensive, gently undulating calcareous stony plains supporting bluebush shrubland.
Land degradation risk	Gundockerta landform system maybe susceptible to wind erosion and water erosion, particularly in areas where perennial shrub cover is substantially reduced and/or soil surface is disturbed (DPIRD, 2019).
Waterbodies	The application area is located within the Raeside-Ponton Salt Lake basin sub-catchment and within the Western plateau division. Lake Raeside is located approximately four kilometres from the application area. One minor, non-perennial waterline transects the western end of the application area.
Hydrogeography	The application area falls within the Goldfields groundwater area, as proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The mapped groundwater salinity within the application area is >35000 milligrams per litre.
Flora	The desktop assessment identified three threatened Priority three (P3) species of flora within the local area. The closest record found was of *Acacia sp. Marshall Pool* approximately 4.6 kilometres from the application area. The next closest record being an occurrence of *Angianthus prostratus* (P3) approximately 11.8 kilometres from the application area and within a different soil type.
Ecological communities	According to available databases, one Priority Ecological Community (PEC) (Priority 1) occurs approximately 3.5 kilometres to the southwest of the application area (Melita calcrete groundwater assemblage type on Raeside palaeodrainage on Melita (Sons of Gwalia) Station.
Fauna	During the desktop assessment, seven conservation significant fauna species were identified within the local area. All identified species were bird species including five migratory birds, one priority four bird and one other specially protected bird listed under the BC Act. The closest record was found of Peregrine falcon (*Falco peregrinus*) approximately 3.7 kilometres from the application area.

B.2. Flora analysis table

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

Species name	Conservation status	Suitable habitat features? [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]
Acacia sp. Marshall Pool (G. Cockerton 3024)	P3	Y	Y	4.6	1	Y

B.3. Fauna analysis table

Species name (Scientific)	Species name (Common)	Conservation status	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Tringa nebularia	Common greenshank	MI	6	7	Y
Actitis hypoleucos	Common Sandpiper	MI	6.04	6	Y
Thinornis rubricollis	Hooded plover, hooded dotterel	P4	9.67	1	Y
Pluvialis fulva	Pacific golden plover	MI	6	1	Y
Falco peregrinus	Peregrine falcon	OS	3.72	2	Y
Calidris acuminata	Sharp-tailed sandpiper	MI	6	1	Y
Tringa glareola	Wood sandpiper	MI	4.39	1	Y

B.4. Ecological community analysis table

Name	Conservation status	Area [hectares]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Melita calcrete groundwater assemblage type on Raeside palaeodrainage on Melita (Sons of Gwalia) Station.	P1	196	3.5	1	Y

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 may contain locally significant flora, fauna, habitats, assemblages of plants within the 20-kilometre radius of the application area. Three priority flora (P3) and one conservation significant ecological community (PEC) have been recorded within the local area (20 kilometres). The application area does not include a known PEC or a TEC.	Not likely to 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 does not contain foraging, roosting, breeding, critical, significant habitat for conservation significant fauna. Desktop assessment identified seven conservation significant fauna species, all birds, within the local area The area proposed to be cleared is part of an existing rail infrastructure. Considering the ground disturbances in the application area including tracks in the application area and the mobile nature	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
of the fauna species identified, it is unlikely for the proposed application area to contain significant habitat for conservation significant fauna.		
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 flora species listed under the BC Act.	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 does not contain species that can indicate a threatened ecological community. A threatened ecological community as defined in the *Biodiversity Conservation Act 2016* section 5(1); or (b) any other ecological community listed, designated or declared as threatened, endangered or vulnerable under or for the purposes of a written law; or (c) a listed threatened ecological community as defined in the Commonwealth *Environmental Protection and Biodiversity Conservation 1999* (EPBC) Act section 528**;** This community is listed as 'Endangered' (etc) under the BC Act;	Not likely to be 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 the mapped vegetation type in the local area is 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.	Not likely to be at variance	No
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 area.	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 no major water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality. A minor drainage line is located in the western edge within the application area. Noting the poor to completely degraded (Trudgen, 1991) vegetation condition and culvert in place for drainage, it is unlikely for the application area to support riparian vegetation.	Not likely to be at variance	Yes *Refer to Section 3.2.2, above.*

Assessment against the clearing principles	Variance level	Is further consideration required?
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 highly susceptible to wind and water erosion. Noting the extent and location of the application area and the condition of the vegetation, the proposed clearing may have an appreciable impact on land degradation.	May be at variance	Yes *Refer to Section 3.2.3, above.*
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: A minor drainage line intersects the western end of the application area. Considering that it is a minor nonperennial waterline, the proposed clearing is unlikely to impact surface or ground water quality. The application area falls within the Goldfields groundwater area, as proclaimed under the Rights in Water and Irrigation Act 1914 (RIWI Act). The mapped groundwater salinity within the application area is >35000 milligrams per litre. Noting that there are no major rivers, surface water areas or Public Drinking Water Sources intersecting the application area and therefore is unlikely to cause deterioration in the ground water.	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: 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. Given no significant water courses or wetlands are recorded within the application area and the purpose of the clearing, the proposed clearing is unlikely to contribute to waterlogging.	Not 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.

Condition	Description
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 (Spectrum Ecology, 2022)

Spectrum Ecology undertook a comprehensive desktop assessment of the flora and vegetation, and a basic fauna survey; and a flora site visit. Survey sites were located at of four distinct mining areas: Gwalia, Tower Hill, Harbour Lights and Jaspers. In addition, two areas are required for rail loading facilities (temporary and permanent) near the existing rail corridor. The application area lies within the railway corridor (see Figure 2).

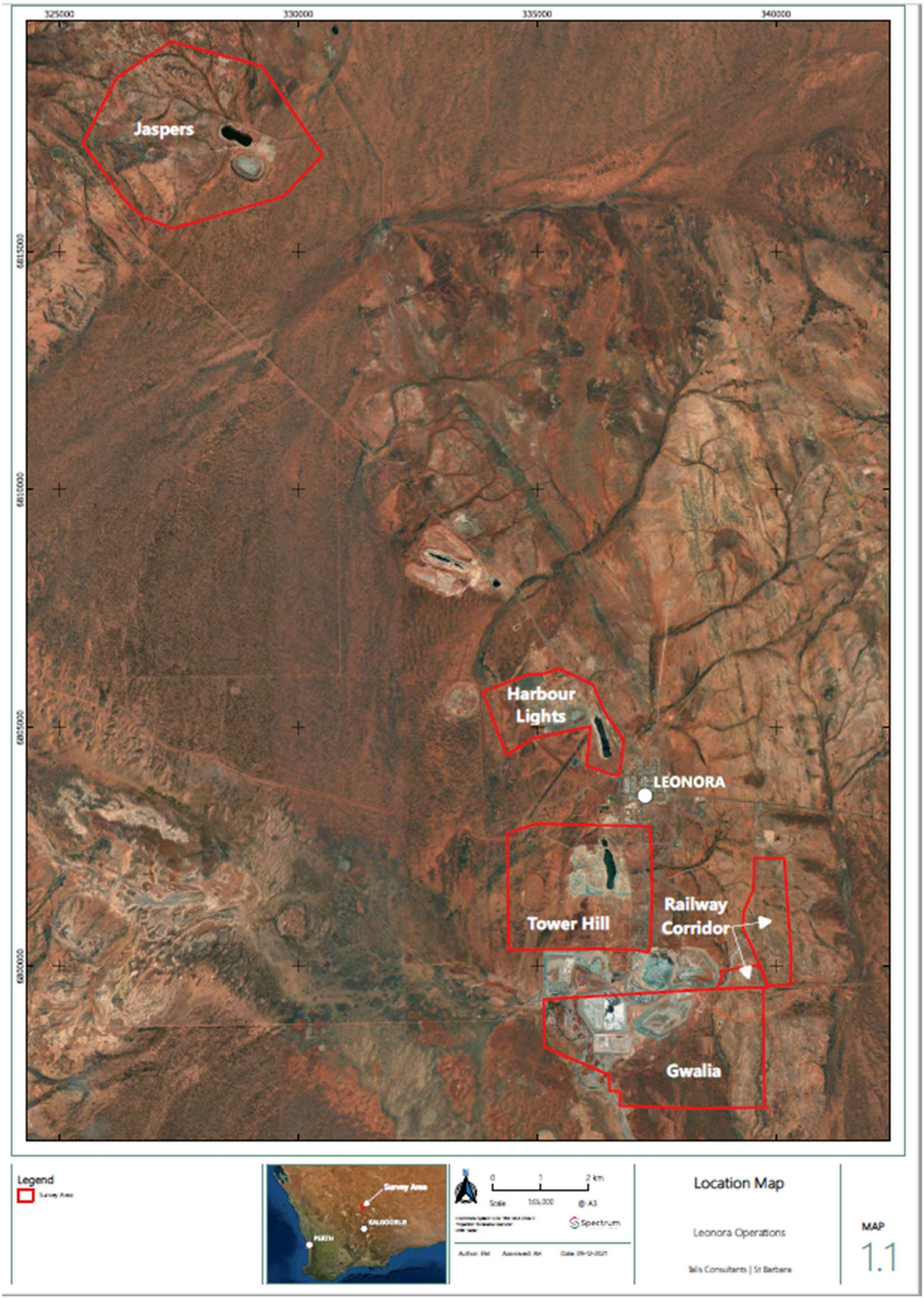

Figure 2: Survey areas for the biological survey (Spectrum Ecology, 2022)

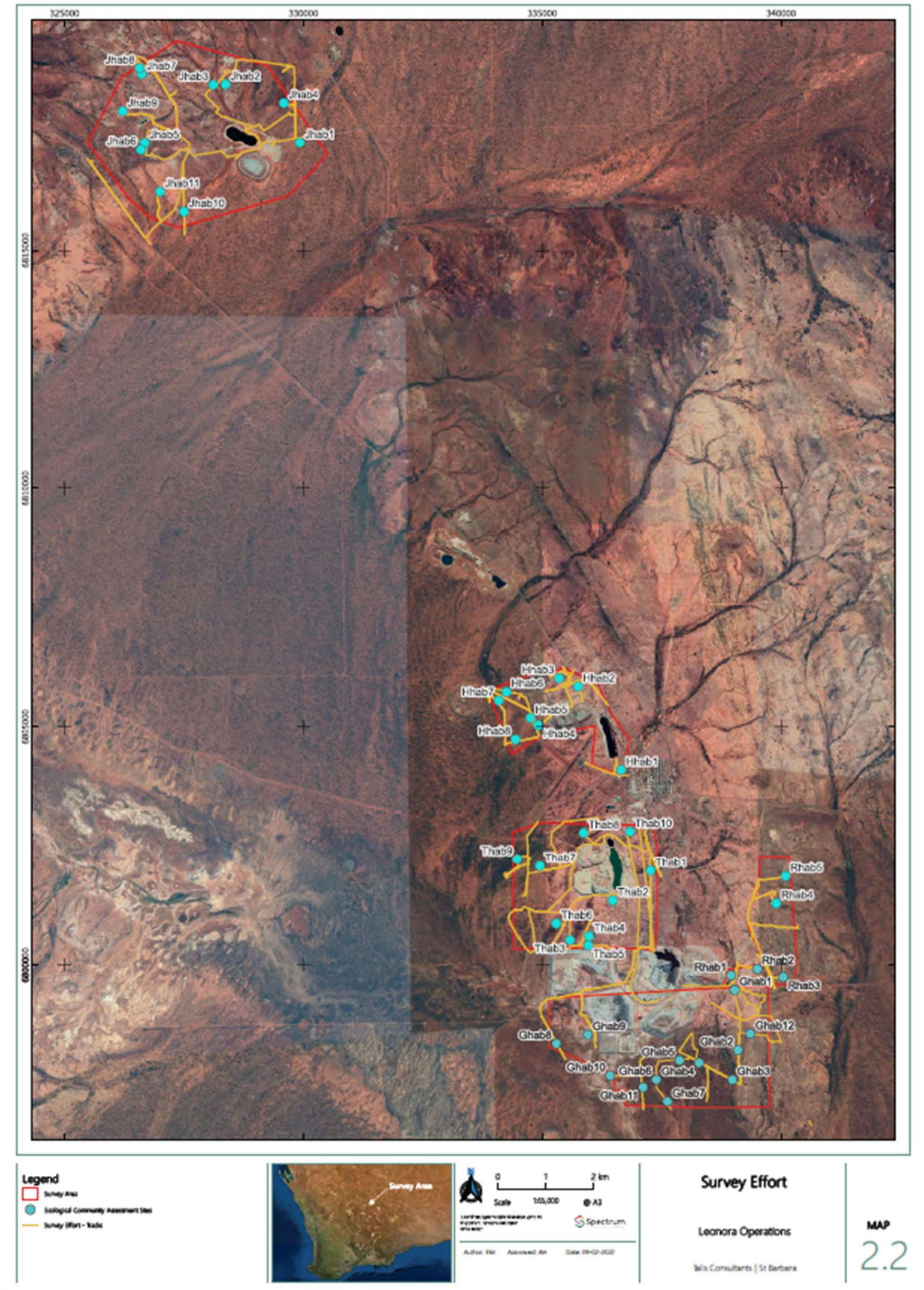

Figure 3: Survey sites in the survey area (Spectrum Ecology, 2022). Ghab 1 and Rhab 1 are the closest sites to the application area CPS 9665/1.

Site ID	Easting	Northing	EC No.	Ecological Community	Landform, Soil & Geology	Photograph
Ghab1	339026	6799482	EC03	Open shrubland of *Acacia* spp (Mulga). over mixed chenopods with pebbles and quartz on flats and lower slopes	Flat plain, red-orange sandy loam, quartz/granite/ Ironstone	
Rhab1	338955	6799785	EC01	Woodland of *Acacia* (Mulga) spp. over sparse shrubs and grasses on sandy-loams on flats and flowlines	Minor drainage line, red-orange, sandy-clay-loam, quartz/granite	

Figure 4: Vegetation type and condition within survey sites at Rhab 1 and Ghab 1 (Spectrum Ecology, 2022)

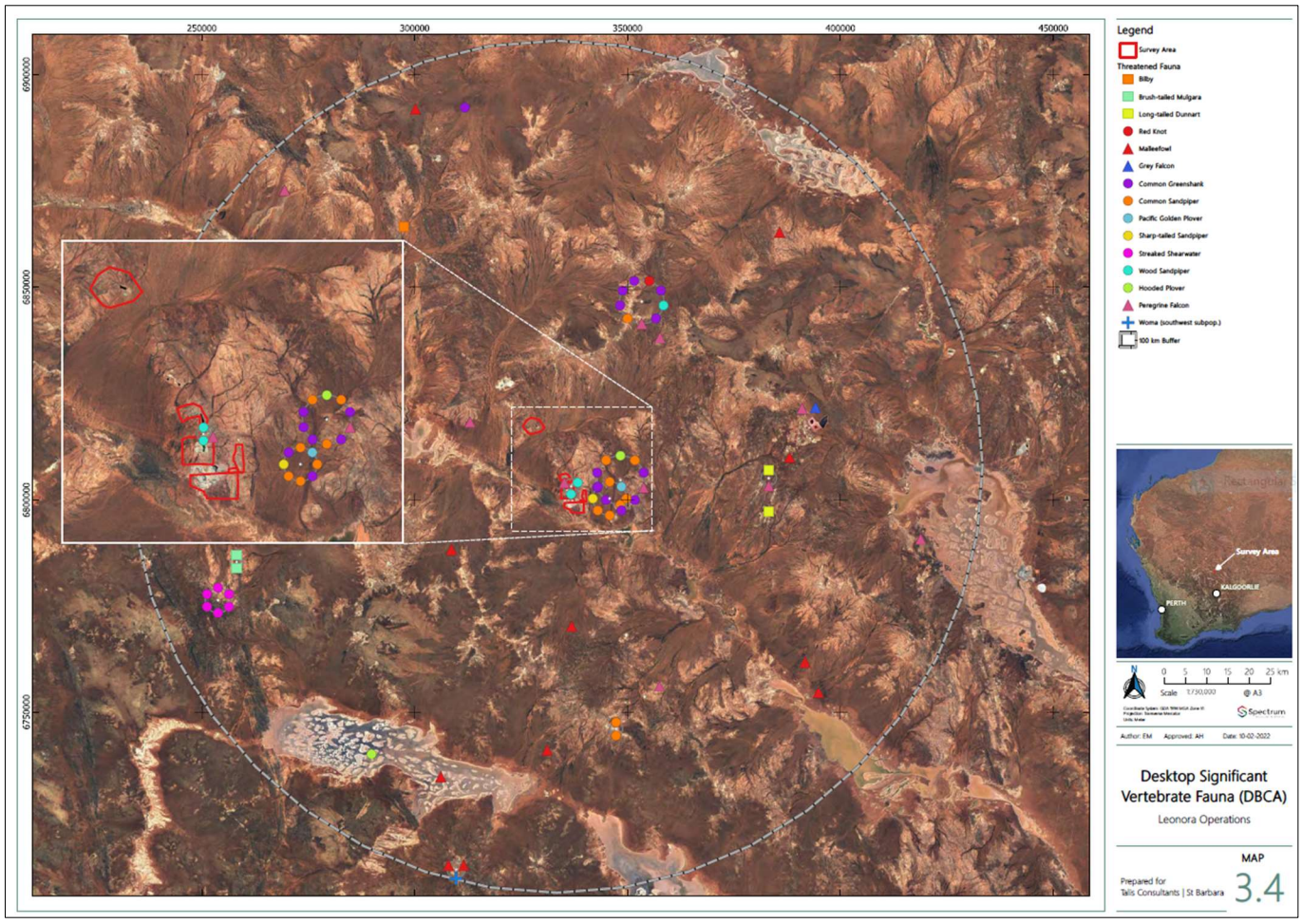

Figure 5: Significant vertebrate fauna (DBCA) extracted from desktop assessment (Spectrum Ecology, 2022)

Appendix F. Photographs of the vegetation

Photograph 1 (Arc Infrastructure Pty Ltd, 2022)

Photograph 2 (Arc Infrastructure Pty Ltd, 2022)

Photograph 3 (Arc Infrastructure Pty Ltd, 2022)

Photograph 4 (Arc Infrastructure Pty Ltd, 2022)

Appendix G. Sources of information

G.1. GIS databases

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

- 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)
- Offsets Register – Offsets (DWER-078)
- 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)
- 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
- Wheatbelt Wetlands Stage 1 (DBCA-021)

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)

G.2. References

Arc Infrastructure (2022) *Clearing permit application CPS 9665/1*, received 21 March 2022 (DWER Ref: DWERDT579699).

Arc Infrastructure (2022) *Supporting information - Photographs of proposed clearing area CPS 9665/1,* received 1 April 2022 (DWER Ref: DWERDT585846).

Barrett, G. et al. (2003) The new atlas of Australian birds. Melbourne, Australia: Royal Australasian Ornithologists Union.

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

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 28 June 2022).

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) (Regulatory Services – Water) (2022) *Rights in Water and Irrigation Act 1914 advice for clearing permit application CPS 9665/1*, received 14 April 2022 (DWER Ref: DWERDT591379).

Department of Water and Environmental Regulation (DWER) (Science and Planning – Contaminated Sites) (2022) *Contaminated Sites Act 2003 advice for clearing permit application CPS 9665/1*, received 27 April 2022 (DWER Ref: DWERDT594950).

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

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.

Pringle, H.J.R., Van Vreeswyk, A.M.E. and Gilligan, S.A. (1994). An inventory and condition survey of the north-eastern Goldfields, Western Australia. Technical Bulletin No. 87. Department of Agriculture Western Australia.

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

Shire of Leonora (2022) *Advice for clearing permit application CPS 9665/1*, received 12 April 2022 (DWER Ref: DWERDT590477).

Spectrum Ecology (2022) Supporting information - Flora and Vegetation Site Visit and Basic Terrestrial Fauna Assessment CPS 9665/1, received 7 April 2022 (DWER Ref: DWERDT587678)

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.

Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed 8 July 2022)