



GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9797/2
Permit Holder:	Alinta DEWAP Pty Ltd and Alinta DEWAH Pty Ltd
Duration of Permit:	From 12 January 2023 to 12 January 2033

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 constructing a solar facility and transmission connection.

2. Land on which clearing is to be done.

Lot 1499 on Deposited Plan 404497, Boodarie

Lot 1505 on Deposited Plan 423425, Boodarie

Lot 273 on Deposited Plan 219540 (Reserve 33016), Boodarie

Lot 255 on Deposited Plan 192056, Boodarie

Great Northern Highway Road Reserve (PIN 11734365), Boodarie

3. Clearing authorised

The permit holder must not clear more than 200 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 12 January 2028.

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. Revegetation and rehabilitation - retention of vegetative material and topsoil

The permit holder shall:

- (a) At an *optimal time* within 12 months following the completion of works authorised under this Permit, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit by:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding five (5) metres of uncleared land; and
 - (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(s) no longer required for the purpose for which they were cleared under this Permit.
- (b) within 24 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 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.
- (c) 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 local provenance* propagating material and/or *direct seeding* of *local provenance* seeds that will result in a similar species composition, structure, and density of *native vegetation* to pre-clearing vegetation types in that area.
- (d) 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 two years of undertaking the additional *planting* or *direct seeding* of *local provenance native vegetation*.
- (e) 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*.

- (f) During the next *optimal time* occurring after receiving notice from the *CEO*:
 - (i) stating that the *CEO* disagrees with the determination submitted under condition 7(f); and
 - (ii) specifying the required further *planting of local provenance* propagating material and/or *direct seeding of local provenance* seeds that in the *CEO's* reasonable opinion are necessary to ensure that the *native vegetation* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the permit holder must carry out the further *planting* and/or *direct seeding* specified in the notice.

8. Vegetation management - watercourse and drainage line surface flow

The permit holder must:

- (a) avoid clearing riparian vegetation, where practicable; and
- (b) maintain the existing surface flow of any watercourse that is to be impacted by the authorised clearing.

9. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner from in one direction, i.e. from north to south, to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

10. Fauna management - backfilling

- (a) The permit holder must:
 - (i) backfill all excavations with excavated material on the day of excavating; or
 - (ii) fence all excavations on the day of excavating with fine mesh to prevent fauna access; or
 - (iii) cover all excavations on the day of excavating with a cover which prevents entry to the excavation by fauna species.
- (b) In areas where backfilling or fencing or covering of excavations in accordance with condition 10(a) is not possible for longer than 24 hours, the permit holder must:
 - (i) conduct a daily fauna inspection before 7am of any open, unfenced and uncovered excavations left for longer than 24 hours; and
 - (ii) ensure that fauna egress points appropriate for greater bilby and brush-tailed mulgara are installed every 500 metres at a minimum; and
 - (iii) if any trapped fauna is discovered, it is to be handled and relocated to an area of *native vegetation* outside of the disturbance footprint by a *fauna specialist*, and for any threatened fauna discovered, in accordance with a section 40 authorisation under the *Biodiversity Conservation Act 2016*.

11. Fauna management - pre-clearance surveys

- (a) *Immediately prior* to undertaking any clearing authorised under this permit, the permit holder shall engage a *fauna specialist* to undertake clearance surveys within the areas cross-hatched red on Figure 2 of Schedule 1 for the greater bilby (*Macrotis lagotis*) and brush-tailed mulgara (*Dasyercus blythi*), including the identification and inspection of burrows, and determination of whether burrows are being utilised.

- (b) Where evidence of recent burrow use is identified under condition 11(a) of this permit, the Permit holder shall;
 - (i) engage a *fauna specialist* to flag the location of the burrow/s showing signs of recent use;
 - (ii) not clear within five metres of the flagged burrow/s;
 - (iii) engage a *fauna specialist* to monitor with cameras, the flagged burrow/s for a maximum of five days, or until such time that greater bilby or brush-tailed mulgara have been observed to independently move on from the burrow/s; and
 - (iv) prior to clearing, engage a *fauna specialist* to re-inspect any flagged burrow/s for the presence of greater bilby or brush-tailed mulgara.
- (c) If greater bilby or brush-tailed mulgara are identified utilising any flagged burrow/s under condition 11(b)(iv) of this permit and cannot be avoided in accordance with condition 5 of this permit, the permit holder shall engage a *fauna specialist* to remove and relocate the identified greater bilby or brush-tailed mulgara to an area of *suitable habitat*, in accordance with a section 40 authorisation under the *Biodiversity Conservation Act 2016*.
- (d) Where active greater bilby or brush-tailed mulgara burrows are identified under condition 11(a) of this permit, and/or greater bilby or brush-tailed mulgara are relocated under condition 11(c) of this permit, the permit holder shall include the following in a report submitted to the *CEO* within two months of undertaking any *clearing* authorised under this permit:
 - (i) The location of any active greater bilby or brush-tailed mulgara burrows identified, using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) a description of the camera monitoring measures undertaken under condition 11(b)(iii) of this Permit;
 - (iii) the date and time of greater bilbies or brush-tailed mulgara are recorded as independently moving from a flagged burrow;
 - (iv) the gender of each greater bilby captured under condition 11(c) of this Permit;
 - (v) the location of any greater bilbies or brush-tailed mulgara, as referred to under condition 11(a) of this Permit, captured using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (vi) the date, time, vegetation type and weather conditions at each location where greater bilbies or brush-tailed mulgara are captured under condition 11(d)(v) of this permit;
 - (vii) the location of any greater bilbies or brush-tailed mulgara, identified in accordance with condition 11(a) of this permit, relocated using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (viii) the date, time, vegetation type and weather conditions at each location where greater bilbies or brush-tailed mulgara are relocated under condition 11(c) of this permit;
 - (ix) the name of the *fauna specialist* that relocated fauna under condition 11(c) of this permit; and
 - (x) a copy of the fauna licence authorising the relocation of fauna under condition 11(c) of this permit.

12. Vegetation management

- (a) Prior to undertaking any clearing authorised under this Permit, the permit holder must demarcate the locally significant vegetation type identified as EsPm within the report ‘Baseline flora and vegetation survey for the Port Hedland Solar Farm Project (Phoenix Environmental Sciences, January 2022)’ as cross-hatched red on Figure 3 of Schedule 1
- (b) The permit holder shall not cause or allow the clearing of the identified occurrences of this vegetation type as cross-hatched red on Figure 3 of Schedule 1

PART III - RECORD KEEPING AND REPORTING

13. 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 2020 GDA2020), expressing the geographical coordinates in Eastings and Northings;(c) the date that the area was cleared;(d) the size of the area cleared (in hectares);(e) 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;(g) actions taken in accordance with condition 8;(h) actions taken in accordance with condition 9; and(i) actions taken in accordance with condition 12.
2.	In relation to the <i>revegetation</i> and <i>rehabilitation</i> of areas of temporary clearing pursuant to condition 7	<ul style="list-style-type: none">(a) actions taken in accordance with condition 7 to <i>revegetate</i> and <i>rehabilitate</i> temporarily cleared areas;(b) the size of the area(s) <i>revegetated</i> and <i>rehabilitated</i>;(c) the date(s) on which the <i>revegetation</i> and <i>rehabilitation</i> was undertaken; and(d) the boundaries of the area(s) <i>revegetated</i> and <i>rehabilitated</i> (recorded digitally as a shapefile)

3.	In relation to fauna management pursuant to condition 10	<ul style="list-style-type: none"> (a) evidence of backfilling/fencing/covering all excavations; (b) records of daily inspections undertaken in accordance with condition 10(b)(i); (c) evidence of installing fauna egress points in accordance with condition 10(b)(ii); and (d) records of any fauna discovered and the fauna specialists report of any relocation actions undertaken in accordance with condition 10(b)(iii).
4.	In relation to fauna management pursuant to condition 11	<ul style="list-style-type: none"> (a) results of the pre-clearance surveys undertaken in accordance with condition 11 of this permit; and (b) a copy of the fauna specialist's report.

14. Reporting

The permit holder must provide to the *CEO* the records required under condition 13 of this permit when requested by the *CEO*.

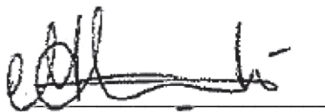
DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <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.
direct seeding	means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of 2 years work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the CEO as a suitable environmental specialist.
fauna specialist	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the <i>CEO</i> as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the <i>Biodiversity Conservation Act 2016</i> .
fill	means material used to increase the ground level, or to fill a depression.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the

Term	Definition
	administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
Immediately prior	immediately prior means the pre-clearance surveys must be undertaken within 72 hours prior to clearing
local provenance	means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same IBRA subregion of the area cleared.
optimal time	means the period from November December for undertaking seeding and planting
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
suitable habitat	means habitat known to support the greater bilby (<i>Macrotis lagotis</i>) and brush-tailed mulgara (<i>Dasyercus blythi</i>) within the known current distribution of the species.
rehabilitate/ed/ion	means actively managing an area containing native vegetation in order to improve the ecological function of that area
revegetate/ed/ion	means the re-establishment of a cover of local provenance native vegetation in an area using methods such as natural regeneration, direct seeding and/or planting, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area
temporary works	means access tracks, construction compound, site offices, storage areas, laydown areas, amenities, plant and vehicle parking areas, laydown areas and similar works associated with a project activity that are temporary in nature.
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.



Meenu Vitarana
Manager
NATIVE VEGETATION REGULATION

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

12 September 2023

Schedule 1

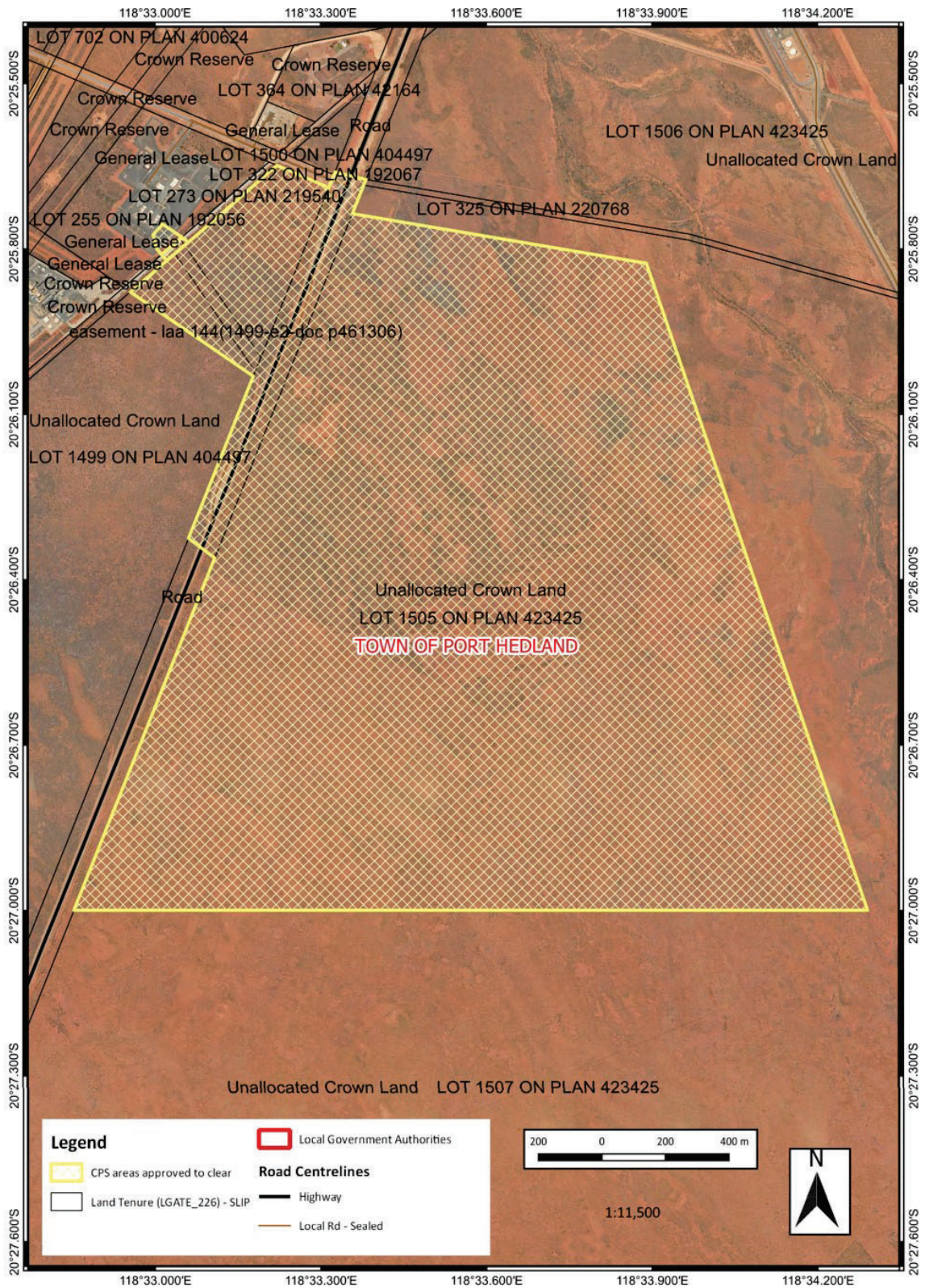


Figure 1: Map of the boundary of the area within which clearing may occur

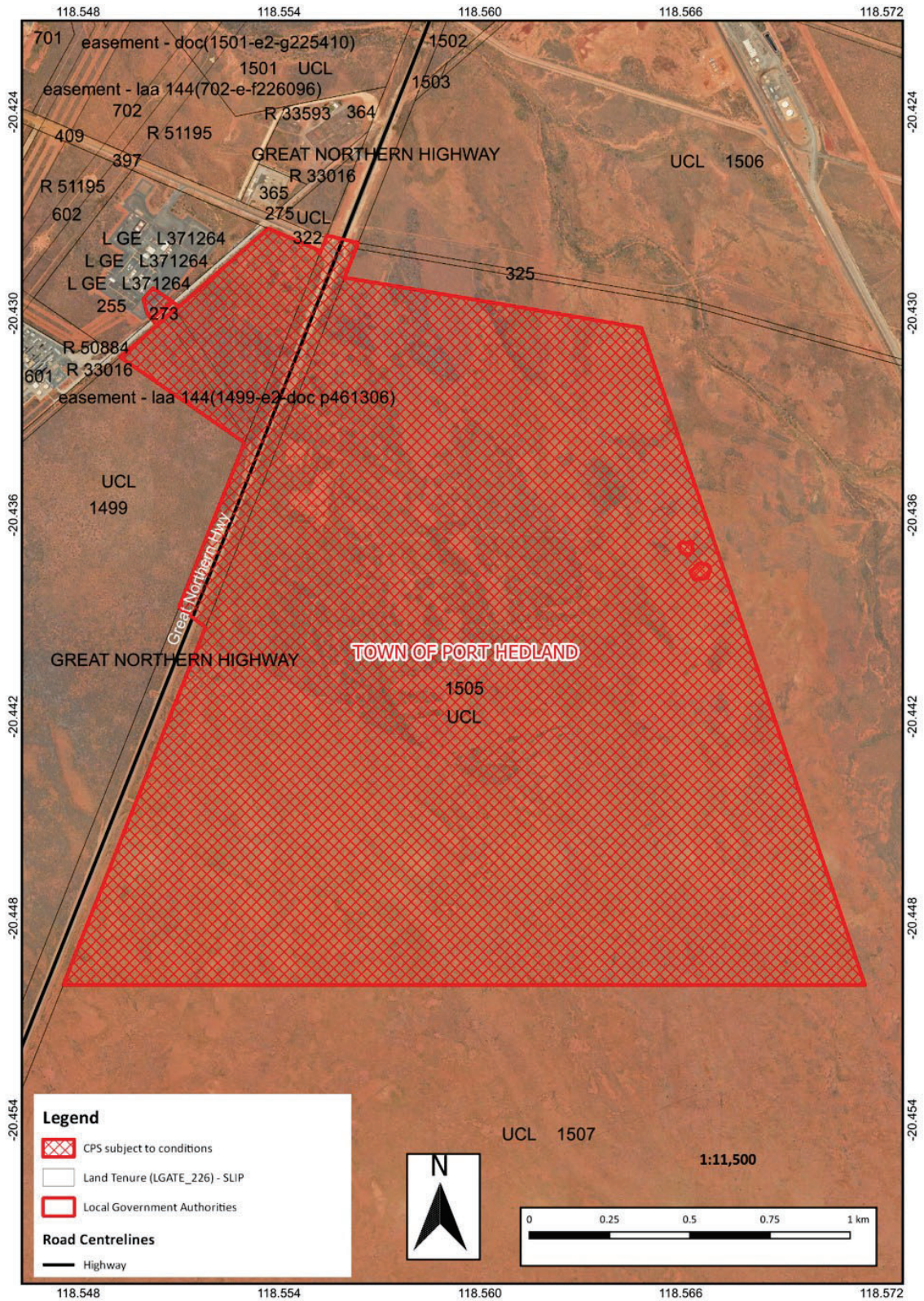


Figure 2: Map of the area subject to Condition 11

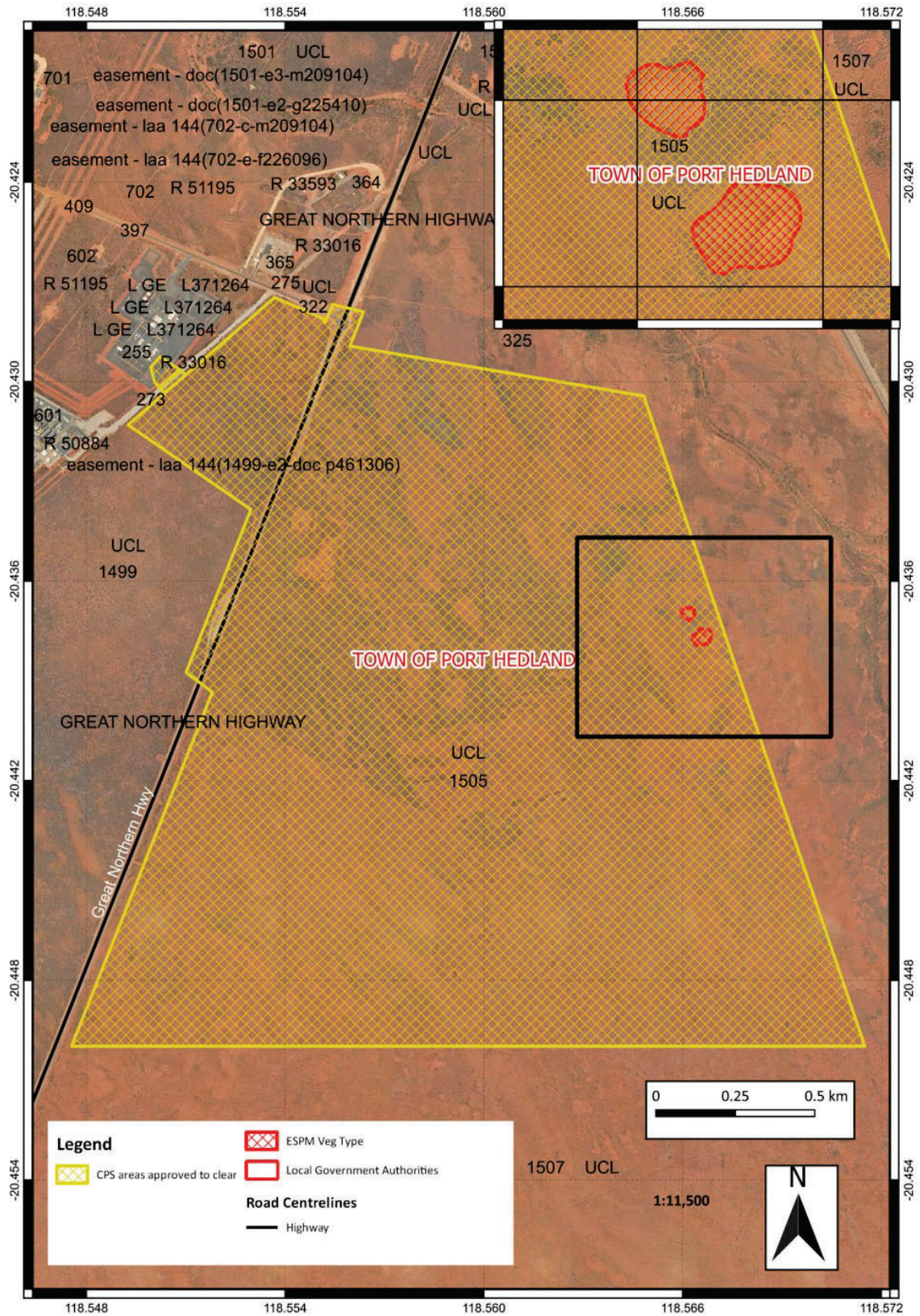


Figure 3: Map of the area subject to Condition 12 (ESPM vegetation type) cross hatched red



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9797/2
Permit type:	Purpose permit
Applicant name:	Alinta DEWAP Pty Ltd and Alinta DEWAH Pty Ltd
Application received:	17 July 2023
Application area:	200 hectares of native vegetation
Purpose of clearing:	Construction of a solar facility and transmission connection for a solar facility
Method of clearing:	Mechanical
Property:	Lot 1499 on Deposited Plan 404497, Boodarie Lot 1505 on Deposited Plan 423425, Boodarie Lot 255 on Deposited Plan 192056, Boodarie Lot 273 on Deposited Plan 219540 (Reserve 33016), Boodarie Great Northern Highway Road Reserve (PIN 11734365), Boodarie
Location (LGA area/s):	Town of Port Hedland
Localities (suburb/s):	Boodarie

1.2. Description of clearing activities

The purpose of this amendment is to add an additional land parcel into the purpose permit area. The Permit Area for CPS 9797/1 currently includes two discrete polygons. This amendment is to add a 0.22 ha area, predominantly previously disturbed by road infrastructure, to connect the two polygons (see Figure 1), which will allow direct access for an underground transmission line (cable) to the Port Hedland Power Station from the solar farm area. The 0.22ha was not originally included in the original NVCP footprint due to the land being a Reserve (R33016) managed by the Water Corporation (WC). Alinta has since received a letter of authority from WC for this reserve.

The area proposed to clear remains unchanged at 200 hectares, within a revised footprint of approximately 420.55 hectares (see Figure 1, Section 1.5). The proposed clearing is for the construction of a solar facility and a transmission connection for the solar facility.

The proposed activities under this application include the following (Alinta Energy Development Pty Ltd, 2022):

- formalised access to the site approximately 770 meters south of the intersection of Great Northern Highway and Boodarie Station Access Road
- a cyclone ready security fence around the solar panel equipment
- up to 220,000 solar panels. These panels will be fixed tilt, cyclone rated and mounted on steel piles
- up to 35 km of cabling connecting the solar panels
- site offices
- a 33 kV transmission line from the solar farm to the PHPS site
- approximately 9 km of access tracks and
- temporary construction compound including site office and amenities, vehicle and plant parking and laydown area.

To date, no clearing has been undertaken under CPS 9797/1.

1.3. Decision on application

Decision:	Granted
Decision date:	12 September 2023
Decision area:	200 hectares of native vegetation within a 420.55 ha Permit Area, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit amendment 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 amendment application on 25 August 2023 for 7 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), the findings of flora, fauna and vegetation surveys and 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 Delegated Officer also took into consideration the purpose of the clearing is for a solar farm at the location and that the area approved to clear remains unchanged as a result of the amendment.

The assessment has not changed since the assessment for CPS 9797/1. The assessment for CPS 9797/1 identified that the proposed clearing will result in:

- the loss of native vegetation that is suitable habitat for conservation significant fauna species (bilby and brush-tailed mulgara)
- impacts to individual fauna if present at the time of clearing and impacts to individual fauna if excavation pits are left exposed
- 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 impacts to surface water if clearing is conducted within a watercourse

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on environmental values of fauna and their habitat and can be minimised and managed to unlikely lead to an unacceptable risk to environmental values.

The Delegated Officer determined to amend the permit to include Lot 273 on Deposited Plan 219540 within the clearing footprint (see Figure 2). No new conditions have been included in the amendment and are subject to the following conditions that were in CPS 9797/1:

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds
- revegetation/rehabilitation of any temporary works
- securing of any excavation pits at the end of each day, and where this is not possible for longer than 24 hours, undertaking of daily inspections for fauna within such areas and relocation of any trapped fauna
- conducting pre-clearance surveys for bilbies and brush-tailed mulgara, and the relocation of any individuals recorded during the pre-clearance surveys
- revegetation and rehabilitation of any temporary works
- avoid clearing riparian vegetation and maintain existing surface flow

1.5. Site maps

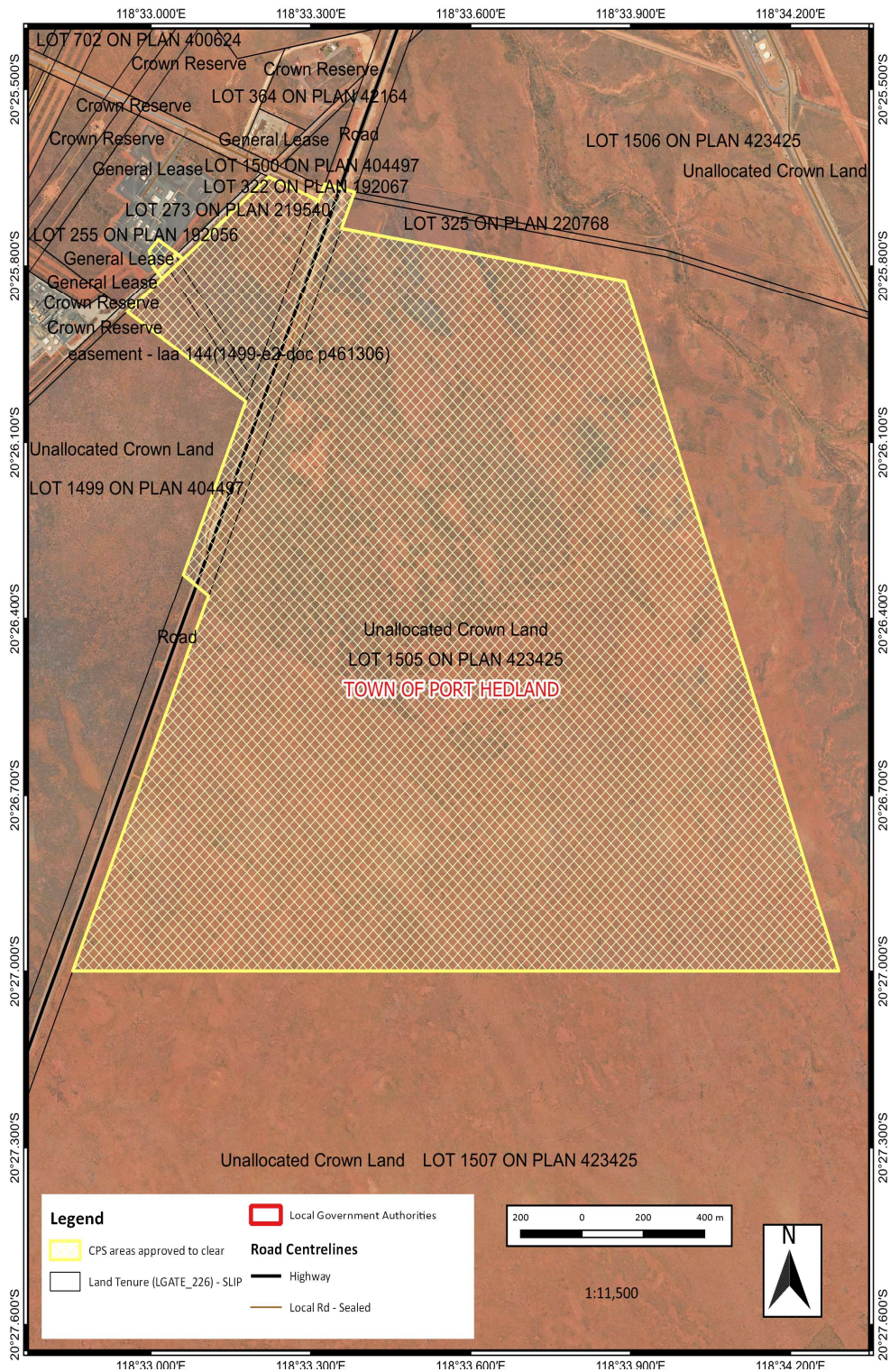


Figure 1 Map of the application area



Figure 2 The new land parcel included under CPS 9797/2 (shaded in yellow)

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D 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, 2020)
- *Technical Guidance – Sampling of short-range endemic invertebrate fauna* (EPA, 2016)

3 Detailed assessment of application

3.2. Avoidance and mitigation measures

Evidence was submitted by the applicant for CPS 9797/1, demonstrating that the following measures would be undertaken to avoid and minimise the extent of clearing:

- where possible the locally significant small claypan vegetation association (EsPm) will be avoided and/or impact minimised during clearing activities
- implementation of a Bilby Management Plan
- all clearing to be managed under a clearing contractor's Ground Disturbance Permit (or similar)
- the clearing areas will be identified using GPS coordinates
- all clearing kept to a minimum within the Permit Area and completed only when required; and
- all vehicles, equipment and personnel will be inspected and cleaned as required to prevent the incidental spread of weeds.

No further avoidance and minimisation measures have been proposed under CPS 9797/2. 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 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 Delegated Officer also considered that the previous assessment was undertaken in December 2022 and that no clearing had occurred under the permit to date.

A review of current environmental information (Appendix C) reveals that the assessment against the clearing principles has not changed from the Clearing Permit Decision Report CPS 9797/1 (DWER, 2022).

The Delegate Officer determined that the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values remains unchanged from the previous assessment of the permit and can be found in the Decision Report prepared for Clearing Permit CPS 9797/1 (DWER, 2022).

3.3. Relevant planning instruments and other matters

The assessment against planning instruments and other relevant matters is unchanged and can be found in the Clearing Permit Decision Report CPS 9797/1 (DWER, 2022).

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is a part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is adjacent to a power station to the west, is bordered by the Great Northern Highway along the western border and surrounds by remnant vegetation in other directions.</p> <p>Spatial data indicates the local area (50-kilometre radius from the centre of the area proposed to be cleared) retains approximately 95 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The application area is not within any mapped linkages and is unlikely to be part of any local ecological linkage.</p>
Conservation areas	<p>The application area is not within a conservation area. There are no conservation areas adjacent to the application area and no conservation areas within the local area.</p>
Vegetation description	<p>The vegetation survey (Phoenix, 2021) indicates the vegetation within the proposed clearing area consists of the following vegetation types:</p> <ul style="list-style-type: none"> • Open mid shrubland of <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>A. sericophylla</i> over a low shrubland of <i>Acacia stellaticeps</i>, <i>Corchorus incanus</i> subsp. <i>incanus</i> and <i>Bonamia erecta</i>, over mid to low grassland of <i>Triodia epactia</i>, <i>Chrysopogon fallax</i> and <i>Triodia schinzii</i> • Mid sparse shrubland of <i>Acacia tumida</i> var. <i>pilbarensis</i> over low isolated shrubs of <i>Acacia stellaticeps</i>, <i>Senna notabilis</i> and <i>Bonamia erecta</i>, over mid to low open grassland of <i>Triodia epactia</i>, <i>Chrysopogon fallax</i> and <i>Aristida holathera</i> • Mid isolated shrubs of <i>Acacia stellaticeps</i> over a mixed grassland of <i>Triodia epactia</i>, <i>Eriachne obtusa</i> and <i>Fimbristylis dichotoma</i>. • Low grassland of <i>Triodia epactia</i>, <i>Triodia secunda</i> and <i>Eriachne obtusa</i>. • Low sparse tussock grassland of <i>Eriachne sulcata</i>, occasionally with <i>E. obtusa</i>, over low mixed herbs including <i>Peplidium muelleri</i>, <i>Marsilea hirsuta</i> and <i>Byblis liniflora</i> <p>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"> • Beard vegetation association 589 which is described as short bunch-grass savanna / Grass-steppe (Shepherd et al, 2001) <p>The mapped vegetation type retains approximately 99 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>The vegetation survey (Phoenix, 2021) indicates the vegetation within the proposed clearing area is in very good to excellent (Trudgen, 1991) condition, described as:</p> <ul style="list-style-type: none"> • Very good: Some relatively slight signs of damage caused by human activities since European settlement • Excellent: Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement <p>A minor area of completely degraded vegetation runs through the application area and is aligned with a track.</p> <p>The full (Trudgen, 1991) condition rating scale is provided in Appendix C. The full survey descriptions and mapping are available in Appendix D.</p>
Climate and landform	<p>The application area is within a flat landscape with Australian Hight Datum mapped at 10 meters.</p> <p>The annual average rainfall is 317.7 millimetres (taken from Port Hedland Airport) (BOM, 2022).</p>

Characteristic	Details
Soil description	The soil is mapped as the Uaroo System, which is described as broad sandy plains, pebbly plains and drainage tracts supporting hard and soft spinifex hummock grasslands with scattered acacia shrubs.
Land degradation risk	The mapped soil type has a low risk of the various forms of land degradation risk.
Waterbodies	The desktop assessment and aerial imagery indicated that a minor perennial watercourse intersects the application area.
Hydrogeography	The application area is within the Pilbara Groundwater area and the Pilbara Surface Water area as proclaimed under the RIWI Act 1914. The mapped groundwater salinity is 1000-3000 milligrams per litre total dissolved solids which is described as brackish to saline.
Flora	According to available databases, there are 16 conservation significant flora species within the local area. The most frequently recorded species is <i>Heliotropium muticum</i> which is more recently known as <i>Euploca mutica</i> and is a Priority 3 species. The closest recorded species is <i>Goodenia nuda</i> which is a Priority 4 species.
Ecological communities	The application area is not within any mapped conservation significant ecological communities. There are no mapped conservation significant ecological communities within the local area.
Fauna	According to available databases, 67 species of conservation significant fauna species have been recorded within the local area. The species recorded include several migratory bird species.

A.2. Land degradation risk table

Risk categories	Uaroo System
Wind erosion	-99% of map unit has a high to extreme hazard
Water erosion	-99% of map unit has a very high to extreme hazard
Salinity	0% of map unit has a moderate to extreme risk
Subsurface Acidification	0% of map unit has a high susceptibility
Flood risk	-99% of the map unit has a moderate to high hazard
Water logging	-99% of the map unit has a moderate to very high risk of waterlogging and Inundation Risk
Phosphorus export risk	-99% of map unit has a high to extreme hazard

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> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared does not contain locally or regionally significant flora, fauna, habitats, or assemblages of plants.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 9797/1)</p>	<p>No</p>
<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 area proposed to be cleared contains habitat for conservation significant fauna, in particular the greater bilby and the brush-tailed mulgara. However noting the presence of similar habitat in abundance in the local area, the proposed clearing will not have a significant impact on the greater bilby and the brush-tailed mulgara.</p>	<p>May be at variance</p> <p>(as per CPS 9797/1)</p>	<p>No</p>
<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 unlikely to contain habitat for flora species listed under the BC Act. A flora survey undertaken in May 2021 (Phoenix, 2021) did not observe any threatened flora species.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 9797/1)</p>	<p>No</p>
<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 that can indicate a threatened ecological community.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 9797/1)</p>	<p>No</p>
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 type and the native vegetation 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.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 9797/1)</p>	<p>No</p>
<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 conservation areas.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 9797/1)</p>	<p>No</p>
Environmental value: land and water resources		

Assessment against the clearing principles	Variance level	Is further consideration required?
<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> Given a minor perennial water courses is recorded the application area; the proposed clearing may impact on- or off-site hydrology and water quality.</p>	<p>May be at variance</p> <p>(as per CPS 9797/1)</p>	No
<p><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></p> <p><u>Assessment:</u> The mapped soils are not highly susceptible to forms of land degradation. Noting the location of the application area and the condition of the remaining vegetation, the proposed clearing is not likely to cause appreciable land degradation.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 9797/1)</p>	No
<p><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></p> <p><u>Assessment:</u> Given a minor non-perennial watercourse is mapped within the application area, the proposed clearing may impact surface water quality if water is present at the time of clearing. A condition on the permit to avoid the clearing of riparian vegetation where practicable and maintain water flow of the watercourse if intersecting, will mitigate any potential impacts.</p>	<p>May be at variance</p> <p>(as per CPS 9797/1)</p>	No
<p><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></p> <p><u>Assessment:</u> 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. A minor perennial watercourse is recorded within the application area, however noting the mapped soil types, the proposed clearing is unlikely to contribute to waterlogging.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 9797/1)</p>	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 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 D. Biological survey information excerpts

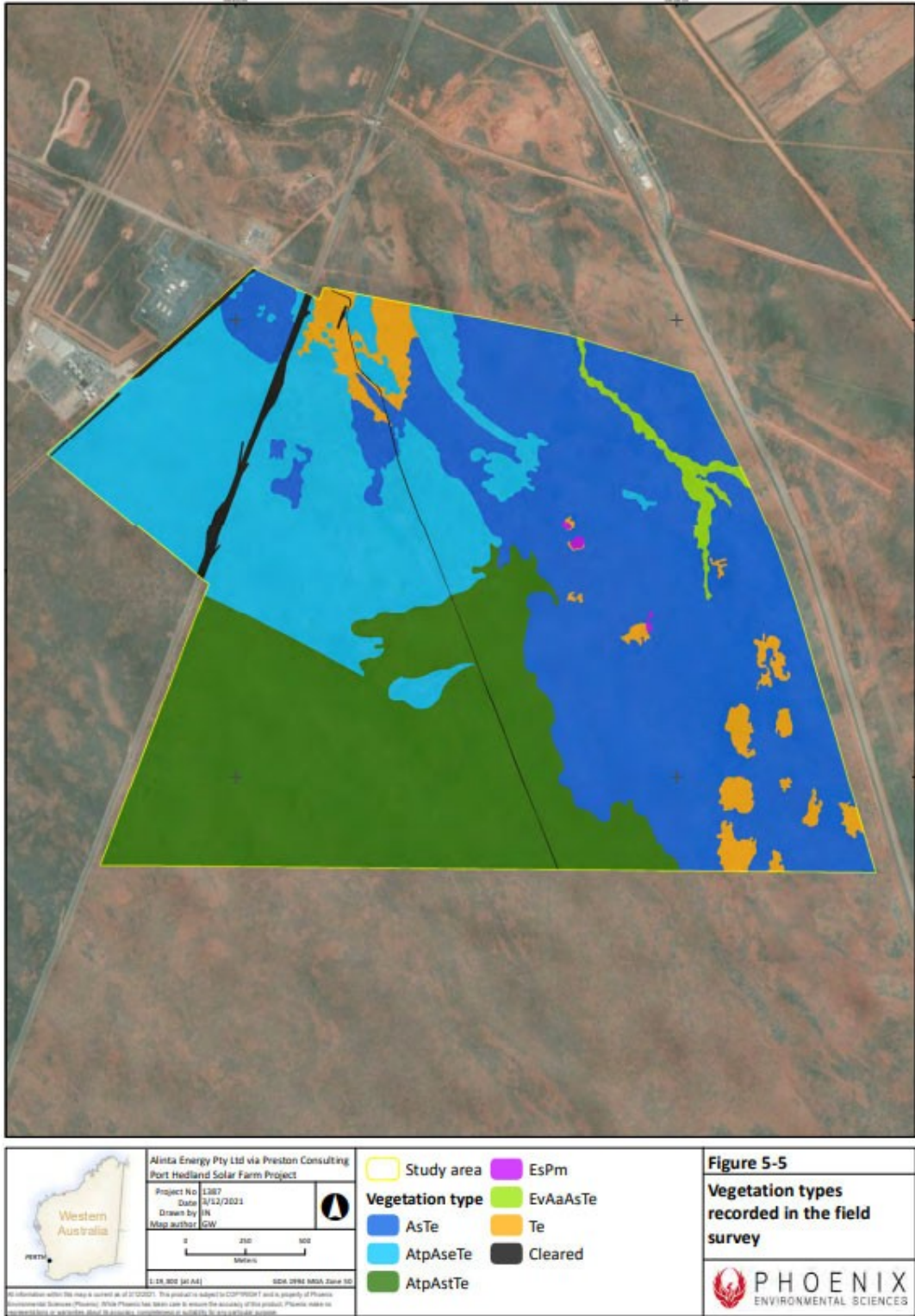


Figure 3: Mapped vegetation types within the Survey Area (Phoenix, 2021)



Vegetation type	Site/s	Vegetation description	Extent in study area (ha) and % of study area	Representative photograph
AtpAsTe	SF001, SF004, SF005, SF0014, SF0015, SF019	Open mid shrubland of <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>A. sericophylla</i> over a low shrubland of <i>Acacia stellaticeps</i> , <i>Corchorus incanus</i> subsp. <i>incanus</i> and <i>Bonamia erecta</i> , over mid to low grassland of <i>Triodia epactia</i> , <i>Chrysopogon fallax</i> and <i>Triodia schinzii</i>	157 ha, 25.1%	
AtpAsTe	SF002, SF003, SF016, SF021	Mid sparse shrubland of <i>Acacia tumida</i> var. <i>pilbarensis</i> over low isolated shrubs of <i>Acacia stellaticeps</i> , <i>Senna notabilis</i> and <i>Bonamia erecta</i> , over mid to low open grassland of <i>Triodia epactia</i> , <i>Chrysopogon fallax</i> and <i>Aristida holathera</i>	186.9 ha, 29.9%	

Figure 5: Mapped vegetation types within the Survey Area (Phoenix, 2021)



Vegetation type	Site/s	Vegetation description	Extent in study area (ha) and % of study area	Representative photograph
EvAaAsTe	SF007, SF008, SF009, SF030	Low isolated trees of <i>Eucalyptus victrix</i> over isolated tall shrubs of <i>Acacia ampliceps</i> and variably present <i>A. colei</i> over low isolated shrubs of <i>Acacia stellaticeps</i> , <i>Sesbania cannabina</i> and <i>Pluchea ferdinandi-muelleri</i> over a mid to low grassland of <i>Triodia epactia</i> , * <i>Cenchrus ciliaris</i> and <i>Chrysopogon fallax</i>	6.3 ha, 1%	
AsTe	SF012, SF013, SF020, SF031, SF032, SF026, SF028	Mid isolated shrubs of <i>Acacia stellaticeps</i> over a mixed grassland of <i>Triodia epactia</i> , <i>Eriachne obtusa</i> and <i>Fimbristylis dichotoma</i> .	243.9 ha, 39%	

Figure 4: Mapped vegetation types within the Survey Area (Phoenix, 2021)



Vegetation type	Site/s	Vegetation description	Extent in study area (ha) and % of study area	Representative photograph
Te	SF011, SF017, SF018, SF022, SF024, SF033	Low grassland of <i>Triodia epactia</i> , <i>Triodia secunda</i> and <i>Eriachne obtusa</i> .	22.6 ha, 3.6%	
EsPm	SF034, SF035, SF036	Low sparse tussock grassland of <i>Eriachne sulcata</i> , occasionally with <i>E. obtusa</i> , over low mixed herbs including <i>Peplidium muelleri</i> , <i>Marsilea hirsuta</i> and <i>Byblis liniflora</i>	0.5 ha, 0.1%	

Figure 5: Mapped vegetation types within the Survey Area (Phoenix, 2021)

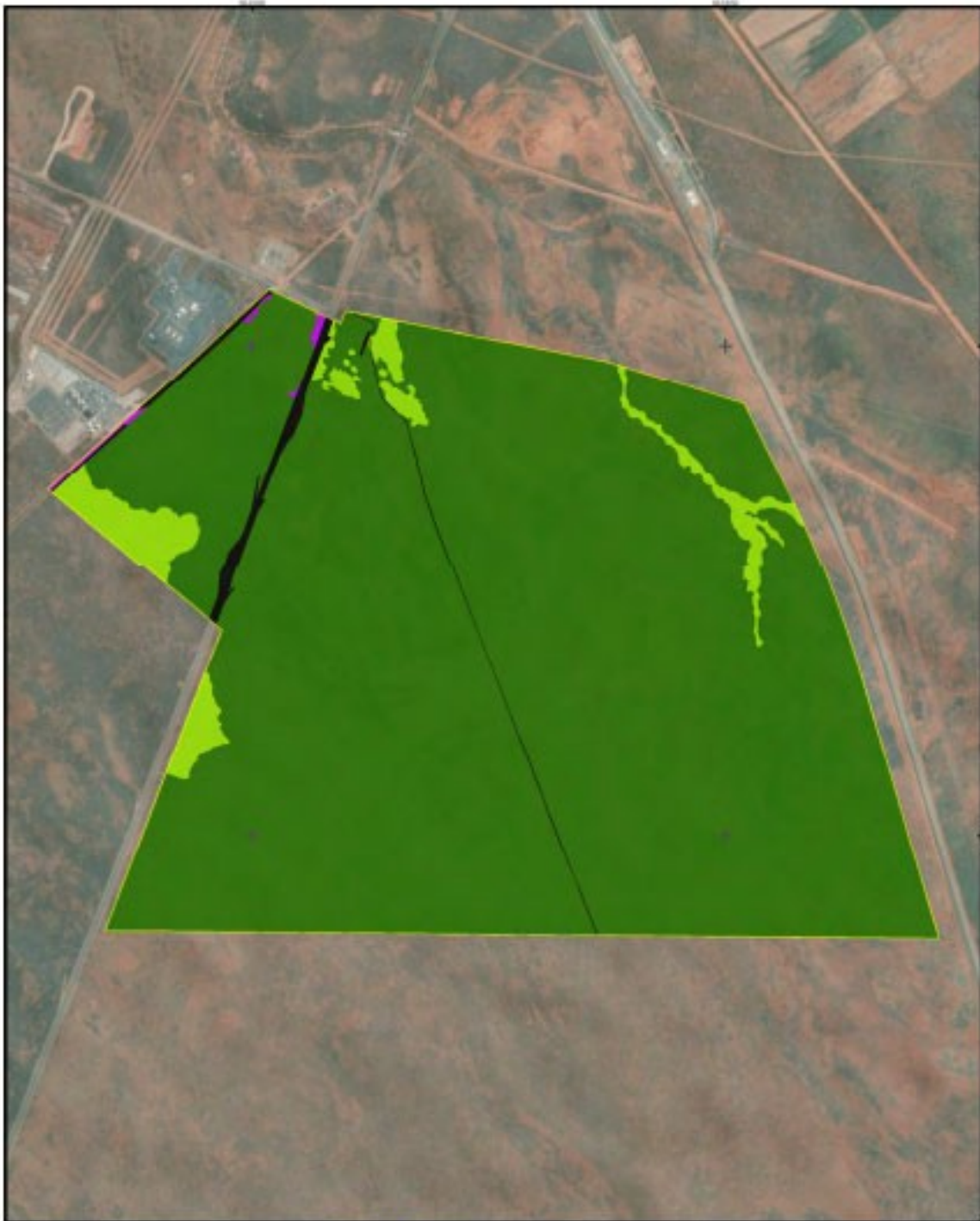


Figure 6: Mapped vegetation types within the Survey Area (Phoenix, 2021)

Appendix E. Sources of information

E.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- 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)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas, and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- 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)

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