



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9031/1
Permit Holder:	Shire of Upper Gascoyne
Duration of Permit:	From 15 October 2021 to 15 October 2026

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 road realignment and upgrades to associated infrastructure.

2. Land on which clearing is to be done

Lot 12 on Deposited Plan 220366, Gascoyne River

Lot 19 on Deposited Plan 220366, Gascoyne River

Lot 30 on Deposited Plan 220366, Gascoyne River

Un-named Road reserve (property identification number 11700334), Gascoyne River

3. Clearing authorised

The Permit Holder must not clear more than 8.12 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1a and Figure 1b of Schedule 1.

4. Type of clearing authorised

This Permit authorises the Permit Holder to clear *native vegetation* for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.

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.

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	<ol style="list-style-type: none">(a) the species composition, structure, and density of the cleared area;(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;(c) the date that the area was cleared;(d) the size of the area cleared (in hectares);(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5; and(f) actions taken to minimise the risk of the introduction and spread of weeds in accordance with condition 6.

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 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.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP act	<i>Environmental Protection Act 1986</i> (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 <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

 Ryan Mincham
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Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

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

22 September 2021

Schedule 1

The boundary of the area authorised to be cleared is shown in the maps below

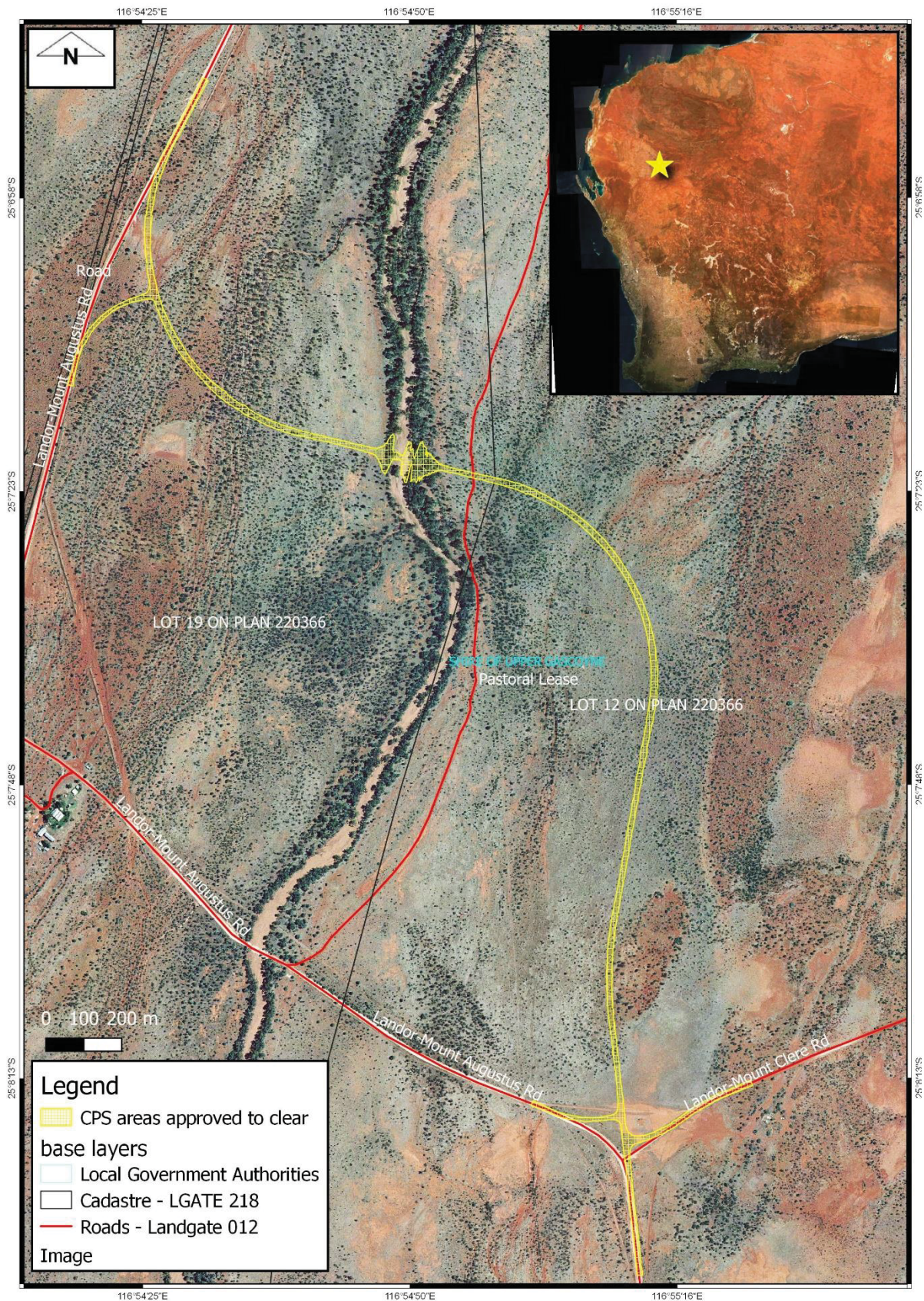


Figure 1a: Map of the boundary of the area (cross-hatched yellow) within which clearing may occur.

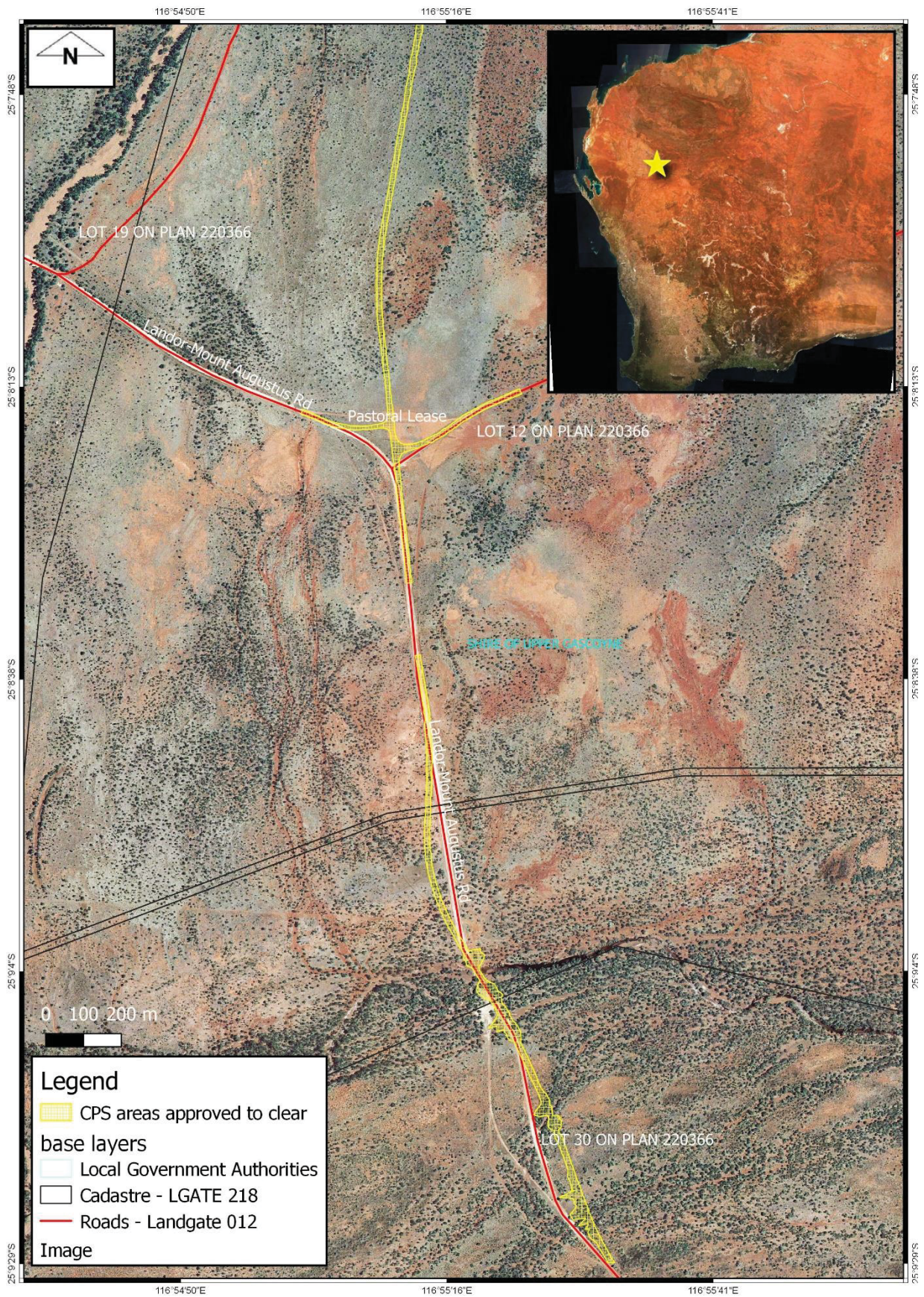


Figure 1b: Map of the boundary of the area (cross-hatched yellow) within which clearing may occur.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9031/1
Permit type:	Purpose permit
Applicant name:	Shire of Upper Gascoyne (hereafter referred to as the Shire)
Application received:	1 September 2020
Application area:	8.12 hectares of native vegetation
Purpose of clearing:	Road realignment and upgrades to associated infrastructure
Method of clearing:	Mechanical
Property:	Lots 12, 19 and 30 on Deposited Plan 220366 Un-named Road reserve (property identification number (PIN) 11700334)
Location (LGA area/s):	Shire of Upper Gascoyne
Localities (suburb/s):	Gascoyne River

1.2. Description of clearing activities

The application is to clear 8.12 hectares of native vegetation within an approximately 11.07-hectare footprint for the purpose of re-alignment of the existing Landor – Mount Augustus Road. The road currently runs in the proximity of Landor homestead. This results in a number of public safety and liability concerns for the Shire and the homestead. The road will also be re-aligned to improve safety for drivers across the existing Gascoyne River crossing which currently poses safety risks due to its deteriorated quality (Shire of Upper Gascoyne, 2020).

Decision:	Granted
Decision date:	22 September 2021
Decision area:	8.12 hectares of native vegetation, as depicted in Section 1.5, below.

1.3. Reasons for decision

In undertaking the assessment, the Delegated Officer had regard for:

- supporting information supplied by the Shire (see Appendix A)
- the application area site characteristics and an analysis of flora, fauna and ecological communities recorded/mapped within the local area (a 50-kilometre radius measured from the perimeter of the application area) (see Appendix B)
- the 10 Clearing Principles set out in Schedule 5 of the EP Act (see Appendix C)
- a summary of flora, vegetation and targeted flora surveys (the Flora survey) undertaken by Focused Vision Consulting (2021) (see Appendix E)
- relevant datasets available at the time of the assessment (Appendix F)
- actions taken by the Shire which resulted in the avoidance and minimisation of the extent of the clearing area and the mitigation of the impacts of clearing (see Section 3.1 of this report)
- other matters considered relevant to the assessment (see Section 3.3 of this report).

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

After consideration of the above information, the Delegated Officer determined that the proposed clearing is not likely to significantly impact on any environmental values. Given this, the Delegated Officer has decided to grant a clearing permit subject to the following conditions:

- avoid, minimise to reduce the impact and extent of clearing
- weed management to minimise the risk of introduction and spread of weeds.

1.4. Site maps

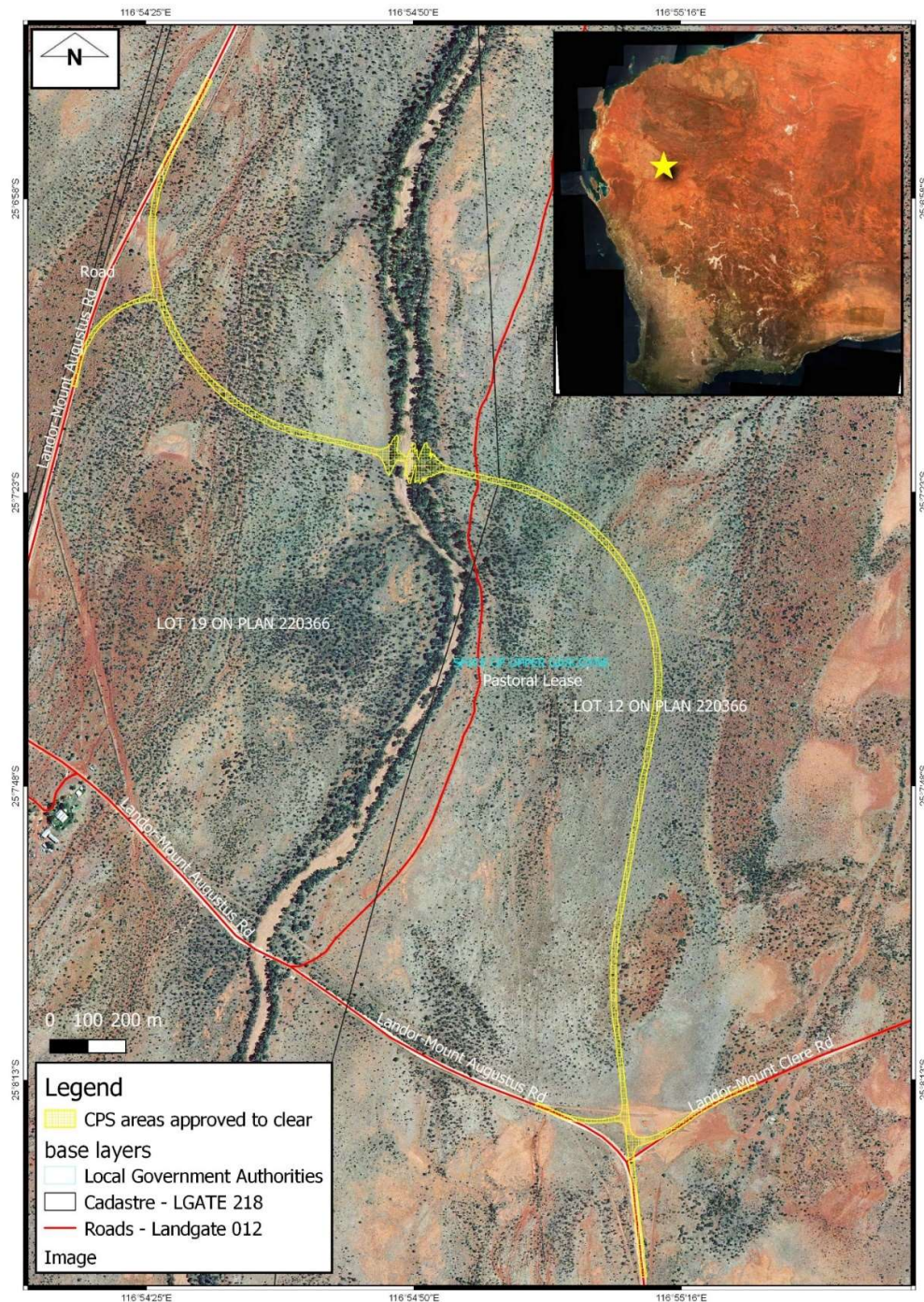


Figure 1a Map of the application area. The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

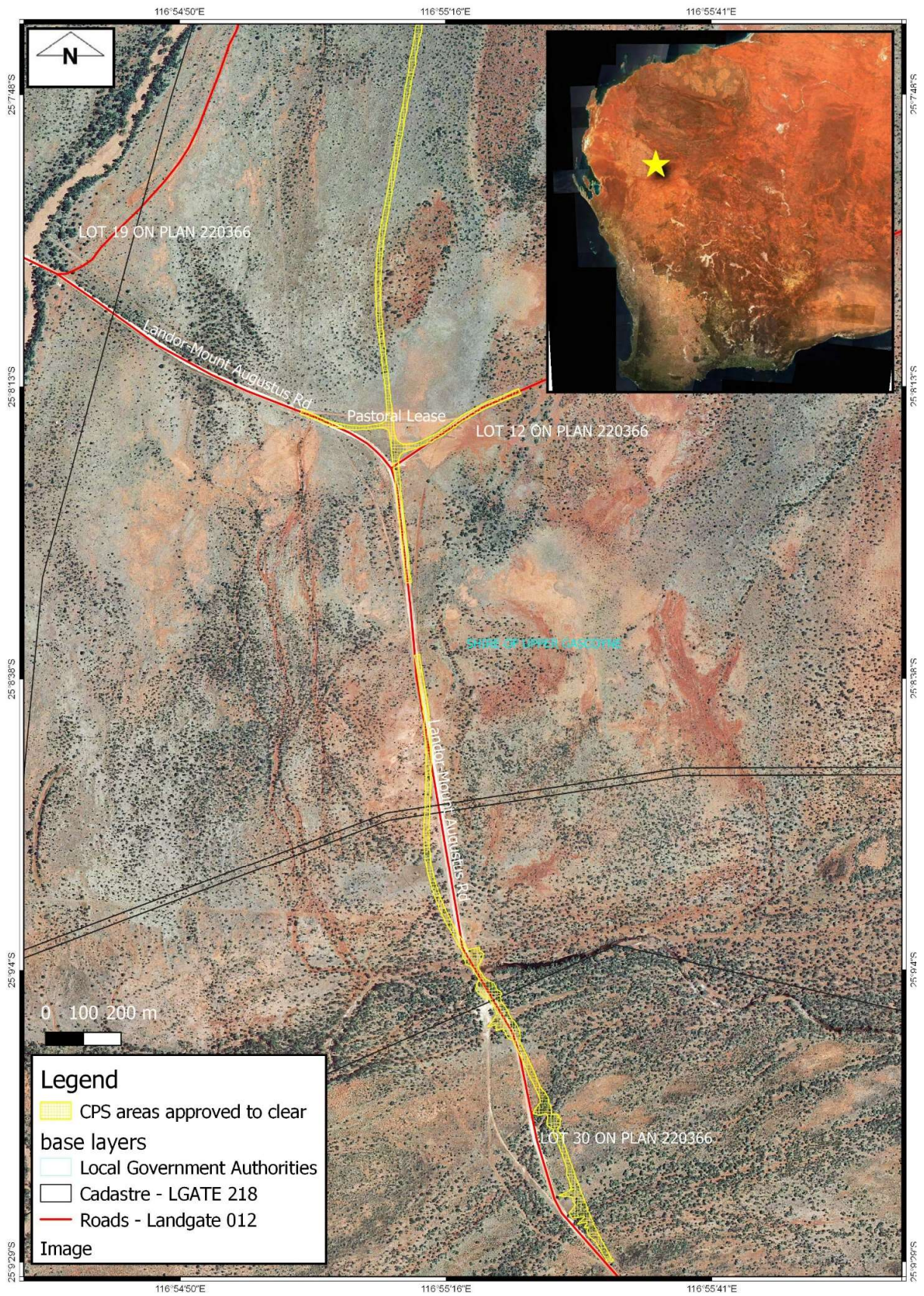


Figure 1b Map of the application area. The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Aboriginal Heritage Act 1972*
- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (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* (December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016).

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The Shire advised that to avoid and minimise the need for clearing, alternative re-alignment options were considered. These options had limitations related to design geometry/speed and waterway crossings. On this basis, the Shire did not consider them as viable (Shire of Upper Gascoyne, 2020). The Delegated Officer was satisfied that the applicant had given reasonable consideration to alternate options 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 B) identified that the impacts of the proposed clearing present a risk to biological values (flora and vegetation) and water resources. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Environmental value: biological values (flora) – Clearing Principles (a) to (d)

Outcome:

Based on the findings of a reconnaissance flora and vegetation assessment and targeted conservation significant flora survey (Focused Vision Consulting 2021), the application area is unlikely to provide habitat for conservation significant flora.

Conditions:

The application area occurs adjacent to remnants of native vegetation. The Delegated Officer determined that adhering to weed management measures (as conditioned on the clearing permit) will minimise the risk of weeds being spread.

Assessment:

According to available databases, no threatened and 13 priority flora species have been recorded within the local area (DBCA, 2021a). Based on the similarities shared between the soil and vegetation types in habitats for these flora taxa and within the application area, it was determined that several priority flora species may occur within the application area (as detailed in Appendix B):

- *Acacia atopa* is a slender tree, up to 4.5 metre high, which typically occurs on red clay and red loam, sometimes in rock situations (Western Australian Herbarium, 1998-). There are 23 known records of this

species with the range of approximately 310 kilometres north-south and 235 kilometres east-west (DBCA, 2021a).

- *Acacia wilcoxii* is a much-branched shrub, 2-4 metre high which flowers between August and September and inhabits granitic soils along creeks and adjacent stony plains and granite outcrops (Western Australian Herbarium, 1998-). The species is known from eight populations with the distribution of approximately 130 kilometres north-south and 260 kilometres east-west (DBCA, 2021a).
- *Eremophila obliquisejala* is a spreading, rotund shrub, 0.5 metre high which flowers in May and occupies sandy, open hardpan plains (Western Australian Herbarium, 1998-). There are eight known records of this species with the range of approximately 190 kilometres north-south and 250 kilometres east-west (DBCA, 2021a).
- *Isotropis forrestii* is an erect shrub, 0.4 – 1.5 metre high which tends to grow on stony, clay loam and sandy alluvium along drainage lines. The species flowers from April to September or December (Western Australian Herbarium, 1998-). Five populations of this species are currently known. The distribution of these populations is approximately 210 kilometres north-south and 365 kilometres east-west (DBCA, 2021a).

To confirm the presence/absence of the above conservation significant flora species within the application area, the Shire commissioned Focused Vision Consulting to undertake a reconnaissance flora and vegetation assessment and targeted conservation significant flora survey of the application area. The targeted survey, which was undertaken within suitable habitat in the application area, did not identify any flora classified as priority by DBCA, or threatened flora species listed under the BC Act or EPBC Act.

The survey was undertaken outside the flowering periods of *Acacia wilcoxii* and *Eremophila obliquisejala*. However, given their characteristics, the species are likely to be detected at any time of the year. The application area is unlikely to provide habitat for these species.

3.2.2. Environmental value: water resources – Clearing Principles (f)

Outcome:

The Delegated Officer has determined that the proposed clearing will not significantly impact on this environmental value.

Conditions:

The impacts of the proposed clearing are unlikely to have any long-term adverse impacts on the hydrological and ecological values of watercourses. No clearing permit conditions are necessary in relation to this matter.

Assessment:

The application area intersects Gascoyne River and its tributaries. The proposed clearing will therefore impact on an environment associated with watercourses. However, the Gascoyne River and its tributaries have a great variation in runoff and duration of river flow and there are extended periods of time when there is no water flow (Leonhard, Burton and Milligan, 2013). Given this and the relatively small extent of native vegetation required to be cleared at the crossings of mapped watercourses, the proposed clearing is not likely to have a significant impact upon riparian vegetation or the environmental values of the watercourses.

3.3. Relevant planning instruments and other matters

No registered Aboriginal sites of significance have been mapped within the application area. The nearest Aboriginal Heritage Places are Registered Site 'Landor Station' located approximately 15.5 kilometres from the application area. Given the separation distance, the proposed clearing is unlikely to impact on this site. 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

On 20 November 2020, DWER contacted the Shire advising that the information provided with the application was insufficient for the requirements of the assessment and required the Shire to undertake a flora and vegetation survey for the areas proposed to be cleared.

On 29 June 2021, the Shire provided the Flora survey report prepared by Focused Vision Consulting (2021). Appendix E contains more details about the Flora surveys.

Appendix B - Site characteristics

C.1. Site characteristics

Characteristic	Details																												
Local context	<p>The application area occurs approximately 224 kilometres northwest of Meekatharra within Gascoyne Interim Biogeographic Regionalisation for Australia (IBRA) bioregion, Augustus subregion.</p> <p>Spatial data indicates the local area (approximately 841,276.4 hectares) retains approximately 99.9 per cent (approximately 841,275.6 hectares) of the original native vegetation.</p>																												
Ecological linkage	There are no ecological linkages mapped within the application area. Given the extent of native vegetation in the local area, the application area is unlikely to function as an ecological linkage.																												
Conservation areas	<p>The application area does not fall within a conservation area. The closest conservation area is an unnamed, unallocated Crown Land (PIN 1015685) which is mapped approximately 17 kilometres north of the application area.</p> <p>Approximately 19.37 per cent of the local area (approximately 162,963 hectares) occurs within DBCA managed estate.</p>																												
Vegetation description	<p>The Flora survey (Focus Vision Consulting, 2021) identified three vegetation units within the application area. The units are described in Table 1 below. Representative photos are available in Appendix E.</p> <p>Table 1 Vegetation units identified with the application area (Focus Vision Consulting, 2021)</p> <table border="1"> <thead> <tr> <th>Vegetation Unit Code</th> <th>Vegetation Unit Description</th> <th>Area (ha)</th> <th>Study area (%)</th> </tr> </thead> <tbody> <tr> <td>AcMgCc</td> <td><i>Acacia citrinoviridis</i>, <i>Eucalyptus camaldulensis</i> var. <i>obtusa</i> (and <i>A. distans</i>) Open Forest over <i>Melaleuca glomerata</i> and <i>Acacia</i> mixed species Tall Open Shrubland to Low Woodland over *<i>Cenchrus ciliaris</i> Very Open to Tussock Grassland.</td> <td>2.28</td> <td>20.61</td> </tr> <tr> <td>AspAspA?b/Ac</td> <td><i>Acacia citrinoviridis</i>, <i>Eucalyptus camaldulensis</i> var. <i>obtusa</i>, <i>A. tetragonophylla</i> Low Woodland over <i>Acacia</i> mixed species and <i>Grevillea striata</i> or <i>Eremophila ?galeata</i> Tall Open to Tall Shrubland over <i>Atriplex ?bunburyana</i> Shrubland or <i>Chrysopogon fallax</i>, <i>Aristida contorta</i> and <i>Iseilema membranaceum</i> Open Tussock Grassland.</td> <td>5.14</td> <td>46.47</td> </tr> <tr> <td>AspAspEh</td> <td><i>Acacia</i> sp., <i>Hakea lorea</i> subsp. <i>lorea</i> and <i>A. aptaneura</i> Low Woodland over <i>A. ramulosa</i> var. <i>linophylla</i>, <i>A. kempeana</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> Tall Shrubland over <i>Eremophila forrestii</i> subsp. <i>?forrestii</i> Open Shrubland over <i>Eriachne helmsii</i> and <i>Aristida holathera</i> var. <i>holathera</i> Open Tussock Grassland with <i>Arivela viscosa</i> Very Open Herbland.</td> <td>0.48</td> <td>4.33</td> </tr> <tr> <td>Bare Claypan</td> <td>No vegetation present at the time of the survey</td> <td>0.63</td> <td>5.69</td> </tr> <tr> <td>Cleared</td> <td>Roads, tracks and other areas completely devoid of vegetation</td> <td>2.53</td> <td>22.87</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total survey area</td> <td>11.06</td> <td>100</td> </tr> </tbody> </table> <p>This is consistent with the mapped Beard Vegetation associations:</p> <ul style="list-style-type: none"> 166, which is described as low woodland; mulga and <i>Acacia victoriae</i> (Shepherd et al., 2001); and 29, which is described as sparse low woodland; mulga, discontinuous in scattered groups (Shepherd et al., 2001). 	Vegetation Unit Code	Vegetation Unit Description	Area (ha)	Study area (%)	AcMgCc	<i>Acacia citrinoviridis</i> , <i>Eucalyptus camaldulensis</i> var. <i>obtusa</i> (and <i>A. distans</i>) Open Forest over <i>Melaleuca glomerata</i> and <i>Acacia</i> mixed species Tall Open Shrubland to Low Woodland over * <i>Cenchrus ciliaris</i> Very Open to Tussock Grassland.	2.28	20.61	AspAspA?b/Ac	<i>Acacia citrinoviridis</i> , <i>Eucalyptus camaldulensis</i> var. <i>obtusa</i> , <i>A. tetragonophylla</i> Low Woodland over <i>Acacia</i> mixed species and <i>Grevillea striata</i> or <i>Eremophila ?galeata</i> Tall Open to Tall Shrubland over <i>Atriplex ?bunburyana</i> Shrubland or <i>Chrysopogon fallax</i> , <i>Aristida contorta</i> and <i>Iseilema membranaceum</i> Open Tussock Grassland.	5.14	46.47	AspAspEh	<i>Acacia</i> sp., <i>Hakea lorea</i> subsp. <i>lorea</i> and <i>A. aptaneura</i> Low Woodland over <i>A. ramulosa</i> var. <i>linophylla</i> , <i>A. kempeana</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> Tall Shrubland over <i>Eremophila forrestii</i> subsp. <i>?forrestii</i> Open Shrubland over <i>Eriachne helmsii</i> and <i>Aristida holathera</i> var. <i>holathera</i> Open Tussock Grassland with <i>Arivela viscosa</i> Very Open Herbland.	0.48	4.33	Bare Claypan	No vegetation present at the time of the survey	0.63	5.69	Cleared	Roads, tracks and other areas completely devoid of vegetation	2.53	22.87	Total survey area		11.06	100
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Characteristic	Details																
	The mapped vegetation associations 166 and 29 retain approximately 99.99 and 99.93 per cent of their original extent (Government of Western Australia, 2019).																
Vegetation condition	<p>The Flora survey (Focused Vision Consulting, 2021) indicates the vegetation within the proposed clearing area ranges from 'Good' (Trudgen, 1991) to 'Completely Degraded' (Trudgen, 1991) condition.</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix D.</p>																
Climate and landform	<p>Rainfall: 300 millimetres Evapotranspiration: 300 millimetres Groundwater Salinity (Total Dissolved Solids): 500-1000 milligrams per litre total dissolved solids. This level of salinity is classified as marginal by Mayer et al., (2009).</p>																
Soil description	<p>The soils within the application area are mapped by the Department of Primary Industries and Regional Development (DPIRD) (2021) as the systems described in Table 2.</p> <p>Table 2 Soils systems mapped within the application area (DPIRD, 2021)</p> <table border="1"> <thead> <tr> <th>Soil system</th> <th>Brief description (Northcote et al., 1968)</th> <th>Area in ha</th> <th>% of the application area</th> </tr> </thead> <tbody> <tr> <td>Gascoyne</td> <td>River channels and associated narrow alluvial plains and inclusions, supporting river redgum fringing woodlands, also mulga and other acacias, Senna spp. and buffel grass.</td> <td>9.16</td> <td>83</td> </tr> <tr> <td>Flood</td> <td>Hardpan wash plains with long, interconnected wanderrie banks supporting mulga shrubland and wanderrie grasses.</td> <td>1.92</td> <td>17</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total</td> <td>11.07</td> <td>100</td> </tr> </tbody> </table>	Soil system	Brief description (Northcote et al., 1968)	Area in ha	% of the application area	Gascoyne	River channels and associated narrow alluvial plains and inclusions, supporting river redgum fringing woodlands, also mulga and other acacias, Senna spp. and buffel grass.	9.16	83	Flood	Hardpan wash plains with long, interconnected wanderrie banks supporting mulga shrubland and wanderrie grasses.	1.92	17	Total		11.07	100
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Total		11.07	100														
Land degradation risk	The mapped soils within the application area have moderate risks of acidification and sub-surface compaction. Land degradation risks in form of soil erosion (water or wind erosion), salinity, eutrophication and flooding (including waterlogging) are low.																
Waterbodies	The application area intersects Gascoyne River and its tributaries. No wetlands are mapped within the local area.																
Hydrogeography	The application area falls within Gascoyne River and Tributaries and Gascoyne Groundwater Area which are proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act).																
Flora	According to available databases, 13 flora species listed as Priority by DBCA have been recorded within the local area. Based on the similarities shared between the soil and vegetation types in habitats for these flora taxa and within the application area, several flora species as detailed in Appendix B may occur within the application area.																
Ecological communities	<p>Two state listed priority ecological communities (PEC) have been mapped within the local area:</p> <ul style="list-style-type: none"> • Dalgety Downs and Landor calcrete groundwater assemblage type on Gascoyne palaeodrainage on Dalgety Downs and Landor Stations (Priority 1) • Invertebrate assemblages of Erong Springs (Priority 4). <p>The Flora survey did not identify species which would represent these PECs (Focused Vision Consulting, 2021).</p>																
Fauna	According to available databases, four conservation significant fauna species have been recorded within the local area (DBCA, 2021b). Noting the habitat requirements, distribution of the recorded species, the mapped vegetation type and the condition of the vegetation within the application area, the application area is likely to comprise suitable habitat for peregrine falcon.																

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Gascoyne	18,075,219.48	18,067,441.44	99.96	1,855,508.22	10.27
Vegetation complex					
29	3,802,459.63	3,799,635.88	99.93	297,087.90	7.81
166	309,650.30	309,645.58	99.99	3,888.77	1.26
Local area					
50km radius	841,276.4	841,275.6	99.99	-	-

*Government of Western Australia (2019a)

C.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix H.1), and biological survey information (Focused Vision Consulting, 2021), impacts to the following environmental values require further consideration.

Species name	Conservation status	Suitable habitat features?	Suitable vegetation type?	Suitable soil type?	Distance of closest record to application area (m)	Number of known records (total)*	Are surveys adequate to identify?
<i>Acacia atopa</i>	3	Yes	Yes	Yes	1,644	23	Yes
<i>Acacia wilcoxii</i>	1	Yes	Yes	Yes	1,485	8	Yes
<i>Eremophila obliquisejala</i>	3	Yes	Yes	Yes	7,905	8	Yes
<i>Isotropis forrestii</i>	1	Yes	Yes	Yes	1,644	5	Yes

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

*The table may include duplicate records. The total number of each species is indicative only.

C.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features?	Distance of closest record to application area (m)	Are surveys adequate to identify?
Peregrine falcon	OS	Yes	26,955	No

CR: critically endangered, EN: endangered, VU: vulnerable, EX: Presumed extinct species, IA (M) Migratory birds protected under an international agreement, CD: Conservation dependent fauna, OS: Other specially protected fauna

Appendix C - 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></p> <p>Based on the review of the biological databases and the Flora survey report, the application area does not comprise a high level of biodiversity as it does not contain:</p> <ul style="list-style-type: none"> • habitat for conservation significant flora • significant habitat for conservation significant fauna • native vegetation which represents federally listed TECs or state listed PECs. 	Not likely to be at variance	Yes Refer to Section 3.2.1 above
<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></p> <p>Four conservation significant fauna species were recorded in the local area. Black-flanked rock wallaby and brush-tailed mulgara typically occupy rocky habitats and spinifex grasslands, respectively (DBCA, 2017 and 2021c). Golden gudgeon is a fish which inhabits freshwater pools. None of these habitats are present within the application area.</p> <p>The application area provides habitat for peregrine falcon which is found in a variety of habitats (Australian Museum, 2020). This species is widespread and highly mobile. Noting habitat preferences and the extent of remaining vegetation in the local area, the application area is unlikely to comprise a significant habitat for this species.</p>	Not likely to be at variance	No
<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></p> <p>Given the findings of the Flora survey (Focused Vision Consulting, 2021), the application area is unlikely to contain habitat for flora species listed as threatened under the BC Act.</p>	Not likely to be at variance	No
<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></p> <p>The proposed clearing area does not contain species composition indicative of a TEC listed by the Western Australian Minister for Environment.</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extent of the mapped vegetation associations and native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The local area retains approximately 99.9 per cent of its original vegetation extent. The vegetation proposed to be</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
cleared is not considered to be part of a significant ecological linkage in the local area.		
<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></p> <p>Given the separation distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing includes vegetation growing in an environment associated with the Gascoyne River and its tributaries. No significant impacts to the environmental values of these waterbodies are expected given the relatively minimal extent of clearing required at their crossings.</p>	At variance	Yes Refer to Section 3.2.2 above
<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></p> <p>The mapped soils are not susceptible to land degradation in the form of soil erosion, salinity and eutrophication. Noting the extent of the application area and native vegetation within the local area, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	Not likely to be at variance	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></p> <p>Given the abundance of native vegetation in the local area and marginal (Mayer et al., 2005) level of salinity mapped within the application area, the proposed clearing will unlikely lead to a perceptible rise in the water table and an increase in groundwater salinity levels.</p> <p>The clearing at the crossings associated with mapped non-perennial watercourses may increase sediment loads if water is flowing at the time of clearing activities. Given the relatively small extent of vegetation proposed to be cleared at the crossings, the sediment increase is considered to be minor and temporary only if water is present within the watercourses. No long-term impacts on quality of surface and underground water are anticipated.</p>	May be at variance	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></p> <p>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.</p>	Not likely to be at variance	No

Appendix D - Vegetation condition rating scale

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

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

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

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

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

Appendix E - Biological survey information excerpts and representative photographs

The Shire commissioned Focused Vision Consulting to undertake a reconnaissance flora and vegetation assessment and targeted conservation significant flora survey of the application area. The total size of the survey area was 11.06 hectares which encompassed the application area (Figure 2). The survey was undertaken by experienced personnel between 27 to 29 April 2021



Figure 2 Flora survey boundaries (Focused Vision Consulting, 2021)

Based on the field survey, the authors concluded that:

- the seasonal timing of the field survey was sub-optimal
- further surveys during spring were considered unlikely to be necessary
- the survey effort was considered adequate for a narrow linear corridor of proposed clearing, within an area that is degraded from pastoral activities and dry conditions
- no Threatened or Priority flora listed under the BC Act or under the EPBC Act were recorded
- three vegetation units were defined within the study area from six relevés. The survey authors considered the suite of vegetation units to be adequately sampled to accurately represent the vegetation on site
- the vegetation observed was considered unlikely to represent state listed PECs
- the vegetation in the application area ranges from good (Trudgen, 1991) to completely degraded (Trudgen, 1991) condition. The degraded vegetation in the application area is likely due to clearing and grazing which has resulted in loss of vegetation structure, poor diversity and high proportion of weeds.

A full copy of the survey report is available at the DWER's website: <https://ftp.dwer.wa.gov.au/permit/9031/>.



Figure 3a Vegetation unit AcMgCc observed in the application area (Focused Vision Consulting, 2021)



Figure 3b Vegetation unit AcMgCc observed in the application area (Focused Vision Consulting, 2021)



Figure 3c Vegetation unit AspAspEh observed in the application area (Focused Vision Consulting, 2021)

Appendix F - Sources of information

H.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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