GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9281/1
Permit Holder:	Shire of Tammin
Duration of Permit:	From 8 January 2022 to 8 January 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 improving sightlines around bends in the road

2. Land on which clearing is to be done

Charles Gardner Reserve (Lot 24441 on Deposited Plan 216064), South Tammin
Ralston Road reserve (PIN 1293564), South Tammin
Gardner Reserve road reserve (PIN 1309373), South Tammin

3. Clearing authorised

The permit holder must not clear more than 0.36 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 and dieback 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* and *dieback*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(b) ensure that no known *dieback* or *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. Directional clearing

When conducting clearing activities under this permit, the permit holder must conduct clearing in a slow, progressive manner to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

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 size of the area cleared (in hectares); and (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4; actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 5; (f) actions taken 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 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.
fill	means material used to increase the ground level, or to fill a depression.
dieback	means the effect of *Phytophthora* species on native vegetation.
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)
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

Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

16 December 2021

Schedule 1

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

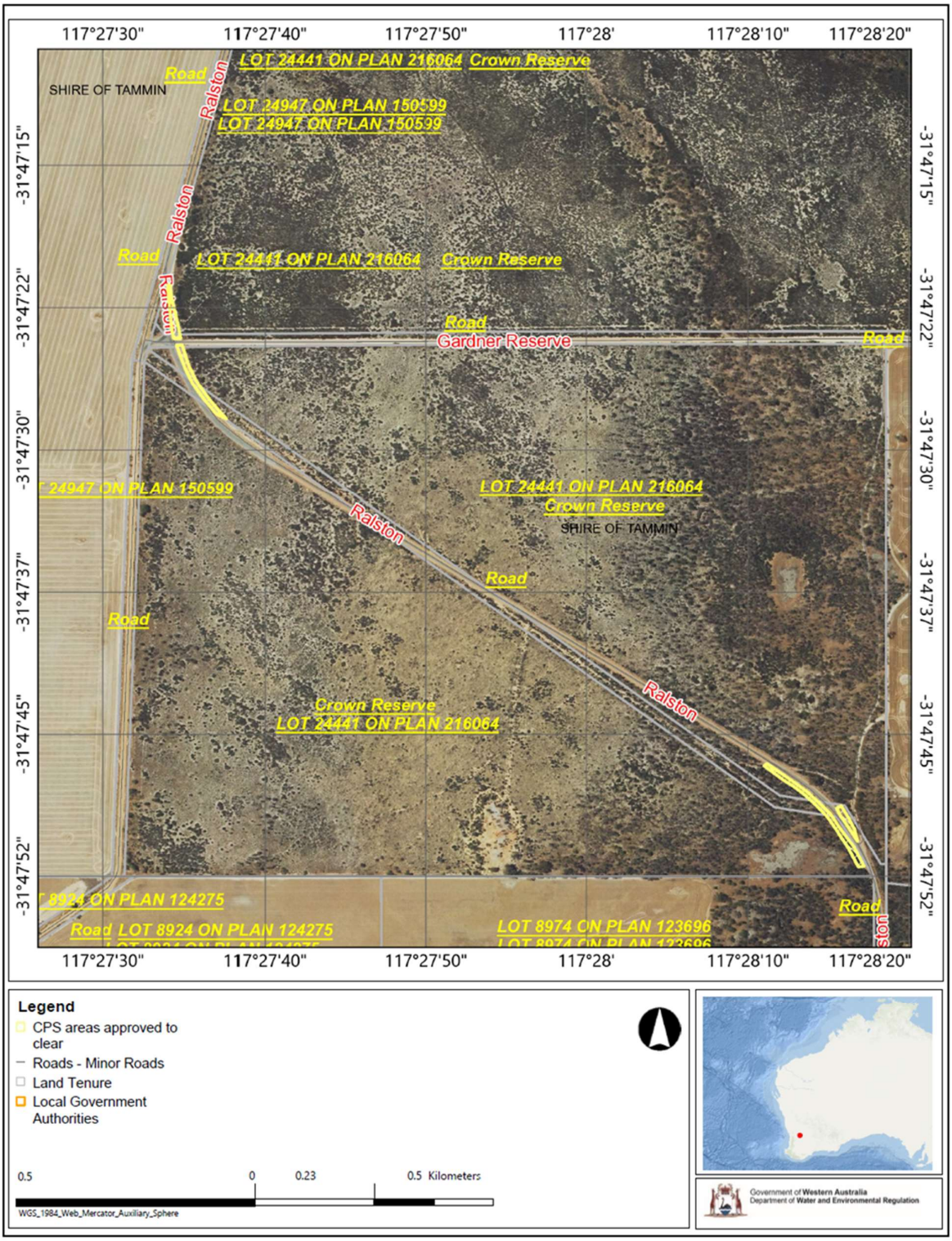

Figure 1: Map of the boundary of the area within which clearing may occur

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 9281/1
Permit type:	Purpose permit
Applicant name:	Shire of Tammin
Application received:	6 May 2021
Application area:	0.36 hectares of native vegetation
Purpose of clearing:	Improve sightlines around bends in the road
Method of clearing:	Mechanical removal
Property:	Charles Gardner Reserve (Lot 24441 on Deposited Plan 216064), Ralston Road reserve (PIN 1293564) and Gardner Reserve road reserve (PIN 1309373)
Location (LGA area/s):	Shire of Tammin
Localities (suburb/s):	South Tammin

1.2. Description of clearing activities

The vegetation proposed to be cleared is distributed across two separate areas along an existing road (see Figure 1, Section 1.5). The application is to clear trees and shrubs that are impacting sightlines around bends in the road.

1.3. Decision on application

Decision:	Granted
Decision date:	16 December 2021
Decision area:	0.36 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 one submission was received. Consideration of matters raised in the public submission is summarised in Appendix B.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix G.1), the findings of a flora and vegetation survey (see Appendix F), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), 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 to improve road safety for a school bus that uses the road regularly and for the wider community.

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,

including vegetation within Charles Gardner reserve. The application area may provide marginal habitat for malleefowl transient across the landscape.

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 and can be minimised and managed to be unlikely to 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,
- Undertake slow progressive clearing to allow fauna to move into adjacent vegetation.

1.5. Site map

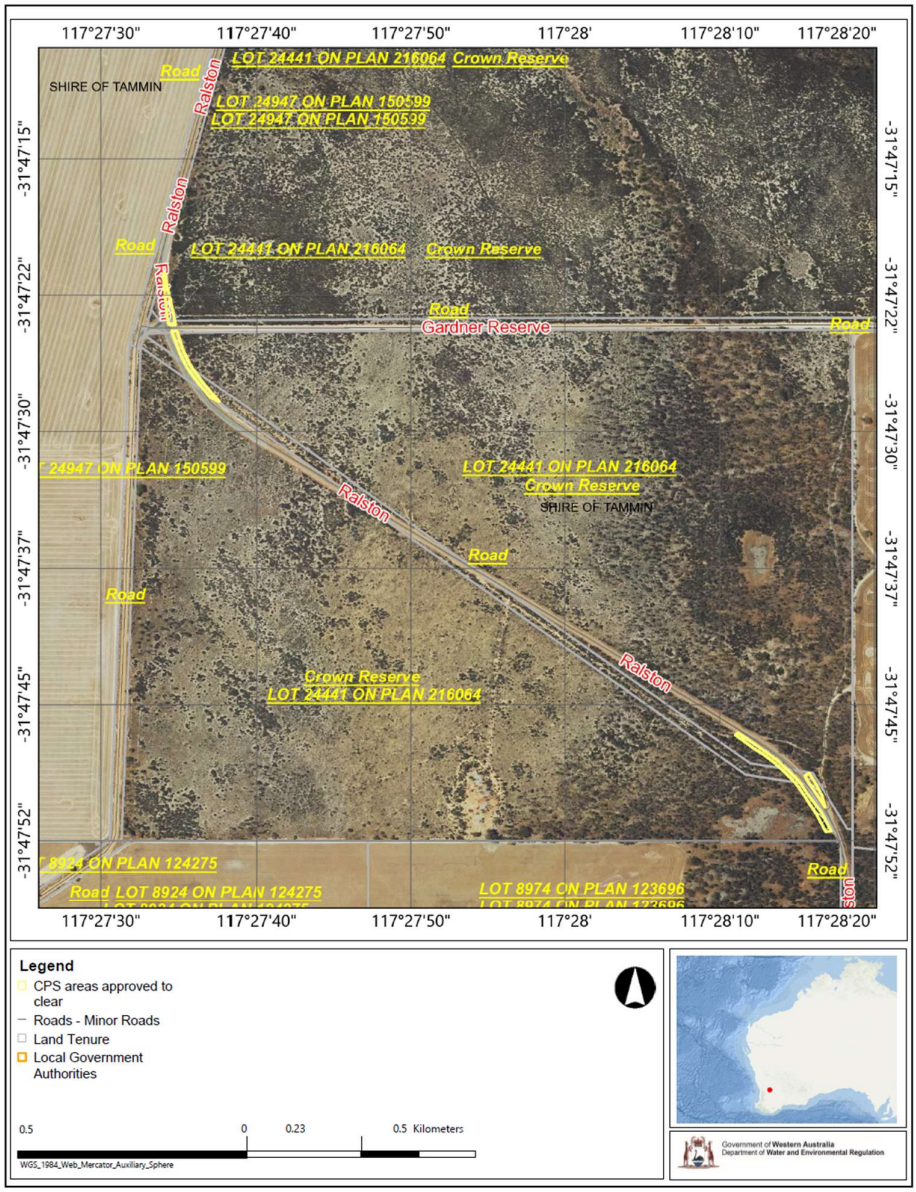

Figure 1 Map of the application area

The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the Shire of Tammin (the Shire), demonstrating that the proposed clearing is for the minimum area required to improve sightlines around the bends on Ralston road and will be predominantly limited to areas previously cleared by the Department of Biodiversity, Conservation and Attractions (DBCA) (owner of the land) and that they will be in contact with DBCA to ensure the maintenance of these areas are consistent with the DBCA requirements. DBCAs authority to access Charles Gardner nature reserve to undertake the proposed clearing requires the Shire is to contact the DBCA wheatbelt region office to arrange a site visit to the proposed clearing area with a DBCA conservation flora officer, to delineate the exact approved clearing area to avoid any errors on the day of clearing.

The Shire has confirmed that there is no anticipated design change for this section of road and are committed to maintaining road safety for the community while preserving the environmental values of the area (Shire of Tammin, 2021b).

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 had regard for the site characteristics (see Appendix C) and the extent to which the impacts of the proposed clearing presents a risk to biological, conservation, and land and water resource values.

The assessment against the clearing principles (see **Error! Reference source not found.**) identified that the impacts of the proposed clearing present a risk to remnant vegetation and conservation areas. 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. Significant remnant vegetation and conservation areas - Clearing Principles (e & h)

Assessment

As per section 3.1 the delegated officer was satisfied the shire has made reasonable efforts to avoid and minimise clearing. Spatial data and aerial imagery indicate the local area (10 kilometre) is approximately 6.57 per cent vegetated and the interim biogeographic regionalisation for Australia's Bioregion (IBRA) (Avon Wheatbelt) retains approximately 18.24 per cent. The vegetation within the application area is mapped as Beard vegetation association Katanning 694 and Katanning 1041 which retain 7.26 and 31.52 per cent respectively. The national objectives and

targets for biodiversity conservation in Australia have a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Although the local area and the mapped vegetation association falls below the 30 per cent mark, considering the minimal extent of the proposed clearing, the clearing would not significantly impact the percentage of remnant vegetation in the local area.

Considering the results from the flora and vegetation survey (Wheatbelt revegetation, 2021), the condition of the vegetation and that the application area is unlikely to provide significant habitat for flora or fauna of conservation significance, the application area is unlikely to represent a significant remnant of vegetation in the local area. Considering the applicants avoidance and minimisation measures (see section 3.1), impacts to the environmental values of Charles Gardner reserve are unlikely to be significant, as the reserve is host to 799 hectares of native vegetation with high biodiversity. The vegetation under application is unlikely to form part of a significant ecological corridor as the area is adjacent to Ranford road (Figure 1) and is subject to edge effects and majority of it is regrowth vegetation that has been cleared within the last ten years and is in a degraded condition (see Appendix F). The proposed clearing will not sever the linkage values within Charles Gardner reserve and the adjacent landscape. The introduction and spread of weeds and disease further into Charles Gardner reserve is likely to be the most significant impact on the conservation area (Wheatbelt revegetation, 2021).

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on remnant vegetation and the values of Charles Gardner reserve can be managed by taking steps to minimise the risk of the introduction and spread of weeds and disease and limiting the clearing of native vegetation to areas demarcated prior to the clearing by a DBCA flora officer.

3.3. Relevant planning instruments and other matters

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

DWER's requests for further information	Response from applicant
On 14 July 2021, DWER wrote to the applicant requesting a flora and vegetation survey for the proposed to be cleared.	On 16 November 2021, the Shire of Tammin provided the flora and vegetation survey.
On 17 November 2021, DWER wrote to the applicant requesting avoidance and minimisation measures.	On 17 November 2021, the shire provided information on the efforts to minimise and mitigate the extent of clearing.

Appendix B. Details of public submissions

Summary of comments	Consideration of comment
A public submission was received raising concerns on impacts to Charles Gardner reserve, which provides significant habitat to threatened flora and fauna and impacts to vegetation in an extensively cleared landscape. The submission stated that the following information should be requested before proceeding with the clearing permit: • mitigation and minimisation strategies • A flora survey, including a targeted survey for conservation significant species • Targeted flora survey, including a black cockatoo habitat assessment and a short-range endemic survey.	Minimisation and avoidance considerations and a targeted flora survey were requested and provided by the Shire. Due to the species composition and condition of the vegetation within the application area, the area is considered unlikely to provide significant breeding, foraging or roosting habitat for black cockatoos. No short range endemic species of conservation significance have been recorded in the local area. Impacts to short range endemic species are unlikely to be significantly impacted by the proposed clearing due to the surrounding 799 hectares of native vegetation within Charles Gardiner reserve and noting the proposed clearing will be predominately removing regrowth vegetation.

Appendix C. Site characteristics

C.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared consists of four sections of vegetation within the Road reserve on Ralston Road in the intensive land use zone of Western Australia. It is located within Charles Gardner Reserve, a significant remnant in the local area. The local area has been widely cleared for agricultural purposes. The proposed clearing area is a part of a large 799 hectare area in a highly cleared landscape. Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 6.57 per cent of the original native vegetation cover.
Ecological linkage	No mapped ecological linkages intersect the application area. However, Charles Gardner reserve is a significant remnant of native vegetation in the area and forms a significant ecological linkage for the area. The application area is mapped as an Environmentally Sensitive Area due it being within the Charles Gardner reserve, classified as an 'A' class conservation reserve.
Conservation areas	The application area occurs within a DBCA Legislated tenure nature reserve known as Charles Gardner Reserve.
Vegetation description	A flora and vegetation survey supplied by the applicant (Wheatbelt revegetation, 2021) indicate the primary species within the proposed clearing area consists of *Acacia lasioaclayx, Acacia acuminata* and *Allocasuarina huegeliana* with an understorey composed of agricultural weeds, *Austrostipa elegantissima, Dianella revoluta, Stackhousia sp*., and pink and white everlastings. The full survey descriptions are available in Appendix F. The survey results are consistent with the mapped vegetation type(s): • Beard Katanning 694, which is described as Shrublands; scrub-heath on yellow sandplain banksia-xylomelum alliance in the Avon-Wheatbelt regions (Shepherd et al, 2001) • Beard Katanning 1041, which is described as low woodland; *Allocasuarina huegeliana* & jam (Shepherd et al, 2001) The mapped vegetation types retain approximately 7.26 and 31.52 per cent of the original extent respectively (Government of Western Australia, 2019).
Vegetation condition	Photographs supplied by the applicant indicates the vegetation within the proposed clearing area is in degraded (Keighery, 1994) condition, described as: • Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing. The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos are available in Appendix F.
Climate and landform	Rainfall – 400 millimetres Evapotranspiration – 400 millimetres

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td>Soil description</td><td>The soil is mapped as:
Morbinning 1 Subsystem 256Mb, gently undulating gravelly sandplain remnants and area of reforming laterite with gravels and sandy gravels, vegetated by proteaceous heath with minor Powderbark Wandoo, Greenhills 3 granite Phase irregularly undulating terrain with granitic soils (gritty sands, sandy and loamy duplexes) under Wandoo, York Gum and Jam woodlands.
Greenhills 3 Granite Phase 256Gh_3g Irregularly undulating terrain with granitic soils (gritty sands, sandy and loamy duplexes) under Wandoo, York Gum and Jam woodlands
Greenhills 3 rock Phase 256Gh_3r crests and irregularly undulating slopes comprising rock outcrop and skeletal soils surrounding outcrops. Rock Sheoak and Jam vegetation (DPIRD, 2019).</td></tr>
<tr><td>Land degradation risk</td><td>
<table>
<tr><th>Risk Categories</th><th>256Mb_1 Morbinning 1 Subsystem</th><th>256Gh_3g Greenhills 3 granite Phase</th><th>256Gh_3r Greenhills 3 rock Phase</th></tr>
<tr><td>Wind Erosion</td><td>(H2) – more than 70 per cent of map unit has high to extreme wind erosion risk</td><td>(L2) – three to 10 per cent of map unit has a high to extreme wind erosion risk</td><td>(M1) – 10 to 30 per cent of map unit has a high to extreme wind erosion risk</td></tr>
<tr><td>Water Erosion</td><td>(L1) – less than three percent of map unit has a high to extreme water erosion risk.</td><td>(L2) – three to 10 per cent of map unit has a high to extreme water erosion risk</td><td>(L2) – three to 10 per cent of map unit has a high to extreme water erosion risk</td></tr>
<tr><td>Salinity</td><td>(L2) – three to 10 per cent of map unit has a moderate to high salinity risk or is presently saline</td><td>(L1) – less than three per cent of map unit has a moderate to high salinity risk or is presently saline</td><td>(L1) – less than three per cent of map unit has a moderate to high salinity risk or is presently saline</td></tr>
<tr><td>Subsurface Acidification</td><td>(H2) - more than 70 percent of map unit has a high subsurface acidification risk or is presently acid</td><td>(M2) – 30 to 50 per cent of map unit has a high subsurface acidification risk or is presently acid</td><td>(M2) – 30 to 50 per cent of map unit has a high subsurface acidification risk or is presently acid</td></tr>
<tr><td>Flood risk</td><td>(L1) – less than three percent of the map unit has a moderate to high flood risk</td><td>(L1) – less than three percent of the map unit has a moderate to high flood risk</td><td>(L1) – less than three percent of the map unit has a moderate to high flood risk</td></tr>
<tr><td>Water logging</td><td>(L1) – less than three percent of map unit has a moderate to very high waterlogging risk</td><td>(L1) – less than three percent of map unit has a moderate to very high waterlogging risk</td><td>(L1) – less than three percent of map unit has a moderate to very high waterlogging risk</td></tr>
<tr><td>Phosphorus export risk</td><td>(L2) - three to 10 per cent of the map unit has a high to extreme phosphorus export risk</td><td>(L2) - three to 10 per cent of the map unit has a high to extreme phosphorus export risk</td><td>(L2) - three to 10 per cent of the map unit has a high to extreme phosphorus export risk</td></tr>
</table>
</td></tr>
<tr><td>Waterbodies</td><td>The desktop assessment and aerial imagery indicated that there are no inland waters intersecting the application area. The nearest waterbody is approximately 650 metres east of the application area mapped as a salt river. The local topography ranges between 296 to 316 metres and slopes from south to north in the northern area and west to east in the southern area.</td></tr>
<tr><td>Hydrogeography</td><td>The application area falls within the Avon River System, Groundwater salinity is mapped as 14,000 to 35,000 milligrams per litre.</td></tr>
</table>

Characteristic	Details
Flora	Within the local area (10 kilometres) there are records of 24 conservation significant flora species that are found on the same soil type as the application area. Of these, 10 are recorded within one kilometre, two of which are threatened species, *Acacia ataxiphylla subsp. magna* and *Allocasuarina fibrosa.*
Ecological communities	No threatened or priority ecological communities are mapped within the application area. A Eucalypt woodland of the Western Australian Wheatbelt is a community mapped within 25 metres of the southern section of the application area, it is a state listed Priority 3 ecological community and federally listed as Critically Endangered. There are 200 mapped instances of threatened or priority Ecological communities in the local area.
Fauna	There are three records of conservation significant fauna within the local area. All of which are *Leipoa ocellata* (malleefowl) considered vulnerable under the BC Act. The nearest of these records is within 700 metres of the application area.

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*					
Avon Wheatbelt	9,517,109	1,736,214	18.24	165,058.52	1.73
Vegetation complex					
Beard vegetation association Katanning 694*	173,921.55	12,637.35	7.26	1,820.1	1.04
Beard vegetation association Katanning 1041*	4,781.12	1,507.46	31.52	318.43	6.6
Local area					
10 Kilometre buffer	31,601.83	2,078.11	6.57	-	-

*Government of Western Australia (2019a)

C.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), 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 (m)	Number of known records (local areal)	Are surveys adequate to identify? [Y, N, N/A]
Acacia ataxiphylla subsp. magna	T	Y	Y	701.6	9	Y
Acacia campylophylla	3	Y	Y	398.7	4	Y
Acacia phaeocalyx	3	Y	Y	1904.6	5	Y
Acacia subflexuosa subsp. capillata	T	Y	Y	6900.9	10	Y
Allocasuarina fibrosa	T	Y	Y	948.2	9	Y
Baeckea sp. Tammin (R. Coveny 8319 & B. Habberley)	3	Y	Y	1611.2	8	Y
Banksia horrida	3	Y	Y	2655.8	3	Y
Banksia splendida subsp. splendida	2	Y	Y	907.3	7	Y
Calothamnus brevifolius	4	Y	Y	135.7	2	Y
Conospermum eatoniae	3	Y	Y	714.4	2	Y
Conospermum galeatum	T	Y	Y	2825.6	1	Y
Cryptandra dielsii	3	Y	Y	7260.7	1	Y
Daviesia oxylobium	4	Y	Y	6996.7	3	Y
Daviesia uncinata	3	Y	Y	1904.6	2	Y
Drosera albonotata	2	Y	Y	7204.1	1	Y
Guichenotia seorsiflora	T	Y	Y	8526.4	1	Y
Hakea aculeata	T	Y	Y	4839.2	5	Y
Jacksonia rubra	2	Y	Y	948.2	4	Y
Melaleuca manglesii	1	Y	Y	1670.8	4	Y
Scholtzia eatoniana	1	Y	Y	5764.1	1	Y
Stylidium pseudosacculatum	2	Y	Y	108.5	5	Y
Synaphea tamminensis	2	Y	Y	948.2	1	Y
Thomasia glabripetala	T	Y	Y	9926.1	1	Y
Thysanotus tenuis	3	Y	Y	608.6	1	Y

Appendix D. 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: A total of 24 priority flora species and seven threatened flora species have been recorded within 10 kilometres of the application area. Of the 31 flora species of conservation significance, 24 species have been recorded in the same mapped soil type as the application area. A targeted flora survey of the application area did not record any threatened or priority flora species (Wheatbelt revegetation, 2021). Noting the survey results, the degraded condition of the vegetation, that the area has been previously cleared, the application area is unlikely to provide suitable habitat for conservation significant flora. A portion of the clearing is within 25 metres of a mapped occurrence of the Eucalypt Woodlands of the Western Australian Wheatbelt Threatened Ecological Community, federally listed as Critically Endangered and state listed as Priority 3. The vegetation within this area is not representative of the mapped ecological community as the vegetation is dominated by *Allocasuarina* and *Acacia* species (Wheatbelt revegetation, 2021). The application area falls within Carnaby's cockatoo breeding range, however photographs of the application area indicate the vegetation is unlikely to contain potential breeding hollows as the tree species are not preferred as they are primarily *Allocasuarina sp*. and it is unlikely any of the trees are above the suitable 500 mm Diameter at Breast Height (DBH). Noting the extent of the vegetation adjacent to the application area within Charles Gardner reserve, the proposed clearing is not likely to have a significant impact on foraging habitat for black cockatoos.	Not likely to be at variance	No
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: There are three threatened fauna records in the local area all being of *Leipoa ocellata* (malleefowl) occurring within 800 metres of the application area. The species *Leipoa ocellata* is a ground dwelling species found in semi-arid to arid shrublands and low woodlands, especially those dominated by mallee eucalypts on sandy soils (Department of Parks and Wildlife 2016). The application area is unlikely to provide habitat for this species or habitat that facilitates the movement of this species as the historical clearing has removed understorey and middle storey vegetation which has degraded the ecological linkage values of the area. The most recent record of malleefowl in the local area is from 2004, considering the age of the record and that majority of the application area has been cleared within the last ten years, the proposed clearing is unlikely to have a significant impact to malleefowl habitat. Malleefowl are likely to be transient across the application area, however noting the unvegetated areas adjacent to the application area, and a condition placed on the permit to undertake slow, progressive clearing, impacts to any individuals that are transient are likely to be minimal.	May be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Calyptorhynchus latirostris (Carnaby's cockatoo) have not been recorded within the local area, however the application area is located within their known distribution. The vegetation within the application area does not contain trees with a suitable diameter at breast height (DBH) to be considered black cockatoo breeding habitat. Photos supplied by the applicant indicate the vegetation is dominated by *Allocasuarina sp* which is supported by the flora and vegetation survey (Wheatbelt revegetation, 2021). Foraging habitat may occur as indicated by the occurrence of *Grevillea hookeriana* within the application area (Wheatbelt revegetation, 2021). Considering the 'degraded' condition of the vegetation within the application area and the occurrence of high quality vegetation within Charles Gardiner Reserve, the proposed clearing is unlikely to represent significant foraging habitat for *Calyptorhynchus latirostris*.		
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: There are records of seven species of threatened flora within the local area (10 kilometres) that occur on the same soil systems as the soils mapped within the application area. The area proposed to be cleared is regrowth with the exception of approximately 0.04 ha of older vegetation in the southern section labelled as area 4 in figure 2 (Appendix F). The majority of the threatened species identified that may occur in the area would occur below waist height, of which there are very few species in the regrowth areas (Wheatbelt revegetation, 2021). In the older vegetation the understorey is predominantly agricultural weeds and the taller vegetation is overwhelmingly *Acacia lasioaclayx*, *Acacia acuminata* and *Allocasuarina huegeliana*. Wheatbelt revegetation carried out a targeted flora survey within the application area and the surrounding areas, and the survey found no occurrence of threatened species within the study area (Wheatbelt revegetation, 2021).	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 southern most point of the application area is within 25 metres of a mapped threatened ecological community (TEC) Eucalypt Woodlands of the Western Australian Wheatbelt, considered Critically Endangered under the *Environmental Protection and Biodiversity Conservation Act.* As per the flora and vegetation survey carried out by wheatbelt revegetation, the vegetation found within the application area is not representative of this TEC, as the vegetation is dominated by *Allocasuarina* and *Acacia* species.	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 native vegetation in the local area has been extensively cleared with only 6.57 per cent remaining. This is inconsistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is partly within Charles Gardiner reserve which is a significant remnant of native vegetation in the local area.	At variance	Yes *Refer to Section 3.2.1, above.*

Assessment against the clearing principles	Variance level	Is further consideration required?
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: The application area is within Charles Gardiner Reserve. Area 4 as pictured in figure 1 (Appendix F) falls outside the Department of Biodiversity, Conservation and Attraction's legislated tenure. Considering the clearing areas are located along Ralston road and that majority of the vegetation under application is regrowth, has been cleared before and is in 'degraded' condition, environmental values within Charles Gardiner reserve are unlikely to be significantly impacted by the clearing. A weed and dieback management condition will be placed on the permit to manage impacts to the conservation area.	May 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 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.	Not likely to be at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are moderately susceptible to wind and water erosion. Noting the extent of the application area and the condition of the vegetation, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Given no underground water courses, public drinking water sources or wetlands are recorded within the application, the proposed clearing is unlikely to impact surface or ground water quality.	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The mapped soils and topographic contours indicate less than three percent of map unit has a moderate to very high flood risk in the surrounding area. This indicates the proposed clearing is not likely to contribute to increased incidence or intensity of flooding (DPIRD, 2019).	Not likely to be at variance	No

Appendix E. 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

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix F. Biological survey information excerpts and photographs of the vegetation

Figure 2. Proposed Clearing Areas and Survey Area

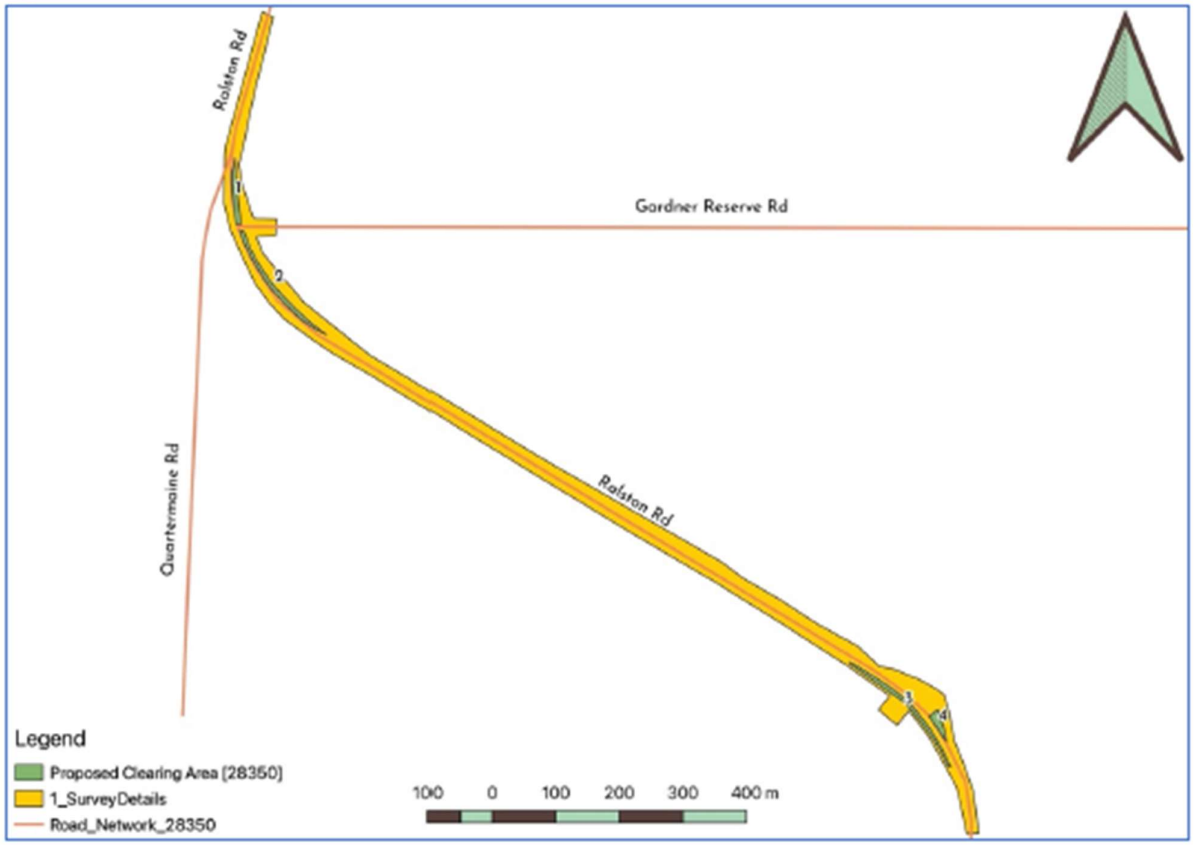

Figure 2 Proposed clearing areas and Survey area

Rare and Priority Flora

Correspondence from DWER to the Shire of Tammin listed several Declared Rare Flora species. These are listed in two tables in the appendices (one for "Threatened" and one for "Priority" flora species). Also included in the tables are some brief notes on the characteristics of each species that were used as identification aids in the field. All information in these tables, unless otherwise noted, was obtained from FloraBase.

TECs

The Federal Government's Protected Matters Search Tool indicates that the "Eucalypt Woodlands of the Western Australian Wheatbelt" TEC is likely to occur within 10 kilometres. As mentioned above, the Pre-European Vegetation layer indicates that the south-eastern edge could support vegetation representative of this TEC, however that is contra-indicated by the aerial imagery and the soil type mapping.

Environmentally Sensitive Areas

The only identified Environmentally Sensitive Areas (ESAs) are likely to be related to the presence of DRF.

Field Flora Survey

Rare and Priority Flora

No rare or priority flora were observed.

TECs

No TECs were observed. The desktop survey indicated that the south-eastern end of the survey area had the potential to include vegetation representative of the "Eucalypt Woodlands of the Western Australian Wheatbelt" TEC, but the vegetation is dominated by *Allocasuarina* and *Acacia* species.

Environmentally Sensitive Areas

The only likely ESAs would be in relation to DRF, and no DRF were observed.

Discussion

The area proposed to be cleared is regrowth, with the exception of area 4 (as identified in *Figure 1*), although the vegetation immediately along the roadside is regrowth. Most of the specified DRF species that are likely to occur in this area would be below waist height, of which there are very few species in the regrowth areas.

In the older vegetation of area 4, the understorey is predominantly agricultural weeds, including *Briza maxima* (blowfly grass). The native understorey species include *Austrostipa elegantissima, Dianella revoluta*, *Stackhousia* sp., and pink and white everlastings (*Lawrencella rosea*?).

The taller vegetation is overwhelmingly *Acacia lasioaclayx*, *Acacia acuminata*, and *Allocasuarina huegeliana*. There are several *Grevillea hookeriana*. On balance, areas 3 and 4 show a similar species breakdown, but 3 probably has more *A. lasiocalyx* than *A. acuminata*, and vice versa for 4.

The surveyors located one *Guichenotia* although it was identified in the field as being definitively not *Guichenotia seorsiflora* by having more than one flower per inflorescence.

Photograph 1. Guichenotia micrantha

The surveyors also located two *Conospermum* plants, although neither were in the proposed clearing areas. Neither were an example of *C. eatoniae* as the examples had white flowers, not blue. The northern-most example (*Photograph 3*) was nearly 1.8 m tall—taller than the "ca 0.9 m" listed on the FloraBase entry for *Conospermum galeatum*. The flowers of the second example (*Photograph 4*) are also solely white, not "predominantly white with a blue upper lip. . . [However] The leaves distinguish it from other local *Conospermum* species and are about 30 to 60 mm long by 0.2 to 0.8 mm wide, slender, thread-like and slightly incurved."[4] Unfortunately, the below photographs are not perfect for the purpose, but it can still be discerned that the leaves are the longer and thicker ones occurring on *Conospermum stoechadis*.

The regrowth in areas 1 and 2 is dominated by *Leptospermum erubescens*. Several examples of *Acacia merinthophora* and *Grevillea hookeriana* were evident, along with native grasses (*Austrostipa* sp.) and agricultural weeds.

Photograph 2. Leptospermum erubescens at the Gardner Reserve Road intersection

[4] Department of Biodiversity, Conservation and Attractions, "*Conospermum galeatum* Interim Recovery Plan. Interim Recovery Plan No. 389" (Western Australia: Department of Biodiversity, Conservation and Attractions, 2020), 7.

Photograph 3. Common smokebush 1

Photograph 4. Common smokebush 2

CONCLUSION

Charles Gardner Reserve is a significant remnant in a highly cleared area. The reserve is rich in biodiversity. However, the previously cleared areas relating to road reserves lack the richness of species to be found only a few metres away. The same few pioneer species were seen time and again, i.e., *Acacia acuminata*, *Acacia lasiocalyx*, *Allocasuarina huegeliana*, and *Leptospermum erubescens*.

The proposed clearing is restrained and modest, proposing to mostly clear regrowth, with a small, triangular section of vegetation wedged between Ralston Road and a well-defined track entering the reserve.

There were no DRF species observed in the survey area, neither in the proposed clearing areas themselves nor in any adjacent areas. The authors conclude that the proposed clearing is extremely unlikely to affect any DRF species.

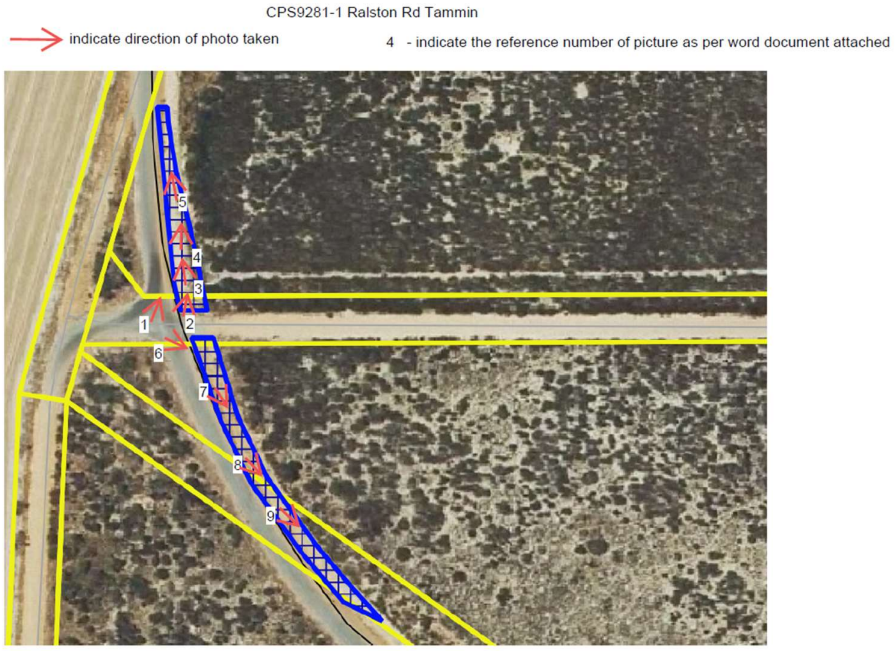

Figure 3 Locations and directions of photographs taken in northern section

Figure 4 Locations and directions of photographs taken in southern section

CPS 9281/1 Southern area of intersection Ralston Rd and Gardner Reserve Rd

Photo 6 Lat: 31,472445 Long: 117,273446 Alt: 297.44

Photo 7 Lat: 31,472494 Long: 117,273490 Alt: 297.81

Photo 8 Lat: 31,472560 Long: 117,273539 Alt: 298.00

Photo 9 Lat: 31,472617 Long: 117,273575 Alt: 298.25

CPS 9281/1 Ralston Rd and Gardner Reserve Access track

Photo 10 Lat: 31,475103 Long: 117,281722 Alt: 312.62

Photo 11 Lat: 31,474949 Long: 117,281585 Alt: 314.54

Photo 12 Lat: 31,475004 Long: 117,281659 Alt: 313.75

Photo 13 Lat: 31,474969 Long: 117,281634 Alt: 314.08

CPS 9281/1 Ralston Rd South West road curve

Photo 14 Lat: 31,474993 Long: 117,281659 Alt: 313.92

Photo 15 Lat: 31,474994 Long: 117,281659 Alt: 313.87

Photo 16 Lat: 31,475130 Long: 117,281706 Alt: 312.44

Photo 17 Lat:31,475019 Long: 117,281632 Alt: 313.58

Photo 18 Lat: 31,474959 Long: 117,281601 Alt:314.22

Photo 19 Lat: 31,474810 Long: 117,281417 Alt: 317.59

Appendix G. Sources of information

G.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- 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)

G.2. References

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 30 June 2021).

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.

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.

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

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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.

Shah, B. (2006) *Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia*. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, 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 Tammin (2021a) *Clearing permit application CPS 9281/1*, received 6 May 2021 (DWER Ref: DWERDT448605).

Shire of Tammin (2021b) Additional information on avoidance and minimisation measures provided by the applicant, received 17 November 2021 (DWER Ref: A2067076).

Submission (2021) *Public submission in relation to clearing permit application CPS 9281/1,* received 3 June 2021 (DWER Ref: DWERDT460541).

Valentine, L.E. and Stock, W. (2008) *Food Resources of Carnaby's Black Cockatoo (Calyptorhynchus latirostris) in the Gnangara Sustainability Strategy Study Area*. Edith Cowan University and Department of Environment and Conservation. December 2008.

Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed 21 June 2021)

Wheatbelt revegetation (2021) Ralston Road Survey report flora and vegetation survey, received 16 November 2021 (DWER Ref: DWERDT527359).