



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

ADVICE NOTE

The funds referred to in condition 7 of this permit are intended for contributing towards the purchase of 16 hectares of native vegetation with similar environmental values including Carnaby's cockatoo habitat within the South West or Wheatbelt South areas of Western Australia.

Purpose Permit number:	CPS 7879/1
Permit Holder:	Merredin Solar Farm Nominee Pty Ltd
Duration of Permit:	25 April 2018 – 25 April 2023

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of constructing a solar energy facility.

2. Land on which clearing is to be done

Lot 194 on Deposited Plan 72480, Merredin
Lot 19444 on Deposited Plan 229756, Merredin

3. Area of Clearing

The Permit Holder must not clear more than 4.32 hectares of native vegetation within the area hatched yellow on attached Plan 7879/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II – MANAGEMENT CONDITIONS

5. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

6. Fauna management

- (a) Prior to undertaking clearing authorised under this Permit, the Permit Holder must engage a *fauna specialist* to identify *habitat tree(s)* suitable to be utilised by Carnaby's cockatoo (*Calyptorhynchus latirostris*);
- (b) Prior to clearing any *habitat tree(s)* identified by condition 6(a), the *habitat tree(s)* shall be inspected by a *fauna specialist* for the presence of fauna listed in condition 6(a);
- (c) Where fauna are identified in relation to condition 6(b) of this Permit, the Permit Holder shall ensure that no clearing of the identified *habitat tree(s)* occurs until such time that the fauna listed in condition 6(a) are no longer utilising the *habitat tree(s)*, and that the CEO is notified.

7. Monetary contributions to a fund maintained for the purpose of establishing or maintaining vegetation (offset)

Prior to undertaking any clearing authorised under this Permit and no later than 23 June 2018, the Permit Holder shall provide documentary evidence to the CEO that funding of \$31, 200 has been transferred to the Department of Water and Environmental Regulation for the purpose of establishing or maintaining native vegetation.

PART III - RECORD KEEPING AND REPORTING

8. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, in relation to the clearing of native vegetation authorised under this Permit:

- (a) 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 or decimal degrees;
- (b) the date that the area was cleared;
- (c) the size of the area cleared (in hectares); and
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 5 of this Permit
- (e) fauna management measures in accordance with condition 6 of this Permit.

9. Reporting

The Permit Holder must provide to the CEO the records required under condition 8 of this Permit, when requested by the CEO.

DEFINITIONS

The following meanings are given to terms used in this Permit:

habitat tree/s: means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater, or 30 centimetres or greater for all *Eucalyptus wandoo* species;

fauna specialist: means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Wildlife Conservation Act 1950*.



Mathew Gannaway
MANAGER
CLEARING REGULATION

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

26 March 2018

Plan 7879/1



Legend

- Areas approved to clear
- Cadastre
- Local government area
- WANow_Imagery

500



500 m

MGA 94
Geocentric Datum of Australia 1994

Mathew GombreyDate 26/05/2018

Officer with delegated authority under Section 20
of the Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA



1. Application details

1.1. Permit application details

Permit application No.: 7879/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Merredin Solar Farm Nominee Pty Ltd
Application received date: 21 November 2017

1.3. Property details

Property: Lot 194 on Deposited Plan 72480, Merredin
Lot 19444 on Deposited Plan 229756, Merredin
Local Government Authority: Merredin, Shire of
Localities: Merredin

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
4.32		Mechanical Removal	Building or structure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 23 March 2018

Reasons for Decision: The clearing application, received on 21 November 2017, has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and was concluded that the proposed clearing is at variance to Principle (e) may be at variance to Principles (b) and (h) and is not likely to be at variance to the remaining clearing Principles.

Through assessment it has been determined that;

- the application area contains approximately 4.32 hectares of vegetation which comprises a significant remnant of native vegetation within an extensively cleared landscape;
- The application area is likely to facilitate landscape connectivity and contribute to fauna dispersal between larger isolated bushland fragments (and potentially conservation areas) in an extensively cleared landscape. The proposed clearing may cause a decline in the effectiveness of the linkage, contributing towards landscape fragmentation and limitations in fauna dispersal; and.
- The application area may contain significant breeding habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*).

The Delegated Officer has considered the applicant's measures to avoid and minimise impacts, including the retention of vegetation and habitat trees within Lots 194 and 19444. Notwithstanding, the Delegated Officer is of the view that a significant residual environmental impact remains in the form of impacts to significant remnant vegetation within an extensively cleared landscape and requires the provision of an offset.

The Delegated Officer considered the quantification of the offset required in accordance with the Department of the Environment and Energy's (DotEE) Offset Assessment Guide. The conversion of the minimum spatial offset into a monetary contribution was calculated to be \$31,200. This figure is based on the calculated \$1,950.00 per hectare as average of unimproved value per ha (\$/ha) for a land parcel size of 10 hectares within the Shire of Merredin, where it is considered the offset site is to be purchased.

To mitigate the potential risks to individual black cockatoos within the application area, a condition requiring the Permit Holder to identify and check all habitat trees prior to clearing has been placed on the permit.

The Delegated Officer is satisfied that the environmental impacts associated with this project have been appropriately avoided and minimised, and the significant residual impact has been offset. The Delegated Officer has, therefore, decided to grant this clearing permit subject to conditions.

2. Site Information

Clearing Description

The application is to clear 4.32 hectares of native vegetation within Lot 194 on Deposited Plan 72480 and Lot 19444 on Deposited Plan 229756, Merredin, for the purpose of constructing a solar energy facility.

The applicant has advised that clearing of vegetation is required to reduce shading on the solar panels.

Vegetation Description

Two Beard vegetation associations are mapped within the application area (Shepherd et al., 2001):

- **36:** Shrublands; thicket, acacia-casuarina alliance; and
- **1055:** Shrublands; York gum & *Eucalyptus sheathiana* mallee scrub.

A flora and vegetation survey identified two vegetation communities within the application area (Del Botanics, 2017):

- ***Eucalyptus burracoppinensis* Forest with grass understorey (approximately one hectare):** Low Closed Forest of *Eucalyptus burracoppinensis* over very open grassland of introduced species; and
- ***Grevillea* Shrubland (approximately 3 hectares):** Tall shrubland of *Hakea francisiana* over open shrubland of *Acacia neurophylla* subsp. *erugata* over open grassland of *Amphipogon carcinus* var. *carcinus*.

Vegetation Condition

Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

To

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994)

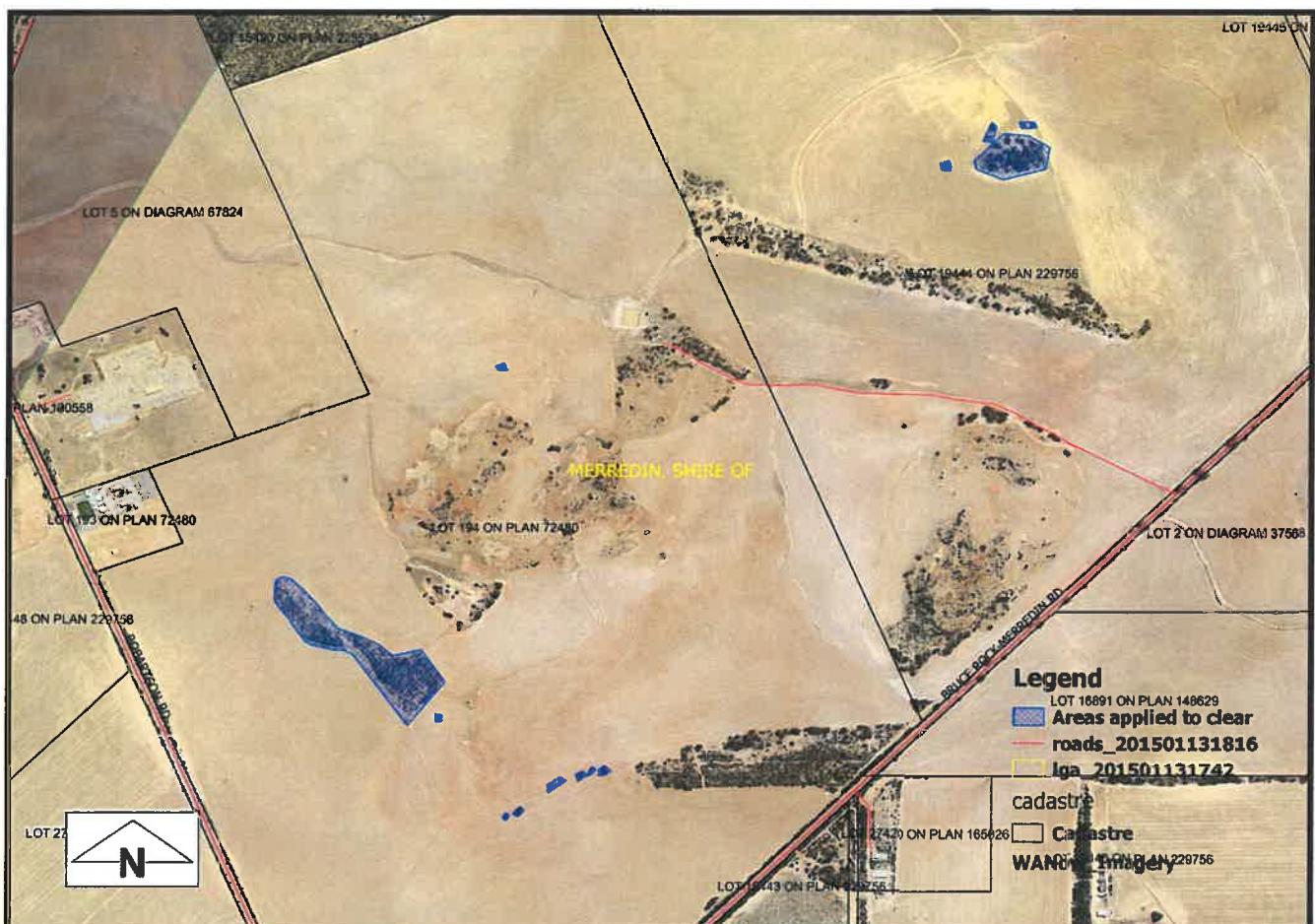


Figure 1: Application area

3. Minimisation and mitigation measures

The Design of the solar facility has retained two large areas of native vegetation and rock outcrops within Lots 194 and 19444. The applicant advised that possible alternatives, including not clearing, were considered. However this would result in less solar panels and infrastructure across the site and was not considered viable.

The applicant has advised that development has been designed to avoid and minimise impact to native vegetation as part of the design process. The areas identified for clearing are to allow for the establishment of solar panels on the site. It is not possible to avoid clearing these areas for the following reasons:

- To eliminate shade over the panels at different times of the day, taking into account that panels need to be in a north-south orientation. The small patches of vegetation to be cleared will not facilitate this arrangement.
- Other parts of the site cannot be used due to the rocky nature of the soil.
- Areas selected for development of solar panels are closer to the existing Merredin substation (voltage decreases by distance, meaning that additional panels would be required for the same overall output if located further away) (Landinsights, 2018).

The area being applied for is the smallest area possible to allow the development to occur. The size of the area being applied for is 4.32 hectares and the area of remnant vegetation remaining on the site is 46.10 hectares (Landinsights, 2018).

The areas proposed to be cleared also minimise disturbance of habitat for fauna including the Carnaby's cockatoo. Only six of the 14 habitat trees will be impacted by the proposed clearing. In addition it was noted in the flora and vegetation survey that a number of Wandoo trees with a diameter at breast height greater than 300mm are located within the areas to be retained, although not all were individually counted (Landinsights, 2018).

4. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Proposed clearing is not likely to be at variance to this Principle

According to available databases, six priority flora have been recorded within the local area (10 kilometre radius). A flora and vegetation assessment undertaken within the application area did not identify any rare or priority flora (Del Botanics, 2017). Therefore, the proposed clearing is not likely to impact upon any priority flora species.

As assessed under principle (b), the application area provides foraging and potential breeding habitat for the conservation significant Carnaby's cockatoo. The local area has been extensively cleared (refer to Principle (e)). The vegetation located within the application area is likely to function as linkage stepping stone between areas of remnant vegetation in the local area, and is likely to facilitate landscape connectivity and contribute to fauna dispersal between larger isolated bushland fragments in an extensively cleared landscape.

As assessed under principle (c), the proposed clearing is not likely to impact upon any rare flora.

As assessed under principle (d), the application area is not likely to be representative of or impact upon any threatened ecological communities (TEC). A flora and vegetation assessment undertaken within the application area did not identify any vegetation representative of a priority ecological community (PEC) (Del Botanics, 2017).

The application area may provide significant habitat for fauna, and contains vegetation in very good to good (Keighley, 1994) condition. However, the application does not contain rare or priority flora, a TEC or a PEC and therefore is not considered to comprise a high biological diversity.

Given the above, the application area is not likely to be at variance to this 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 indigenous to Western Australia.

Proposed clearing may be at variance to this Principle

According to available databases, three fauna species listed as rare or likely to become extinct have been recorded within the local area (10 kilometre radius) being, Carnaby's Cockatoo, malleefowl (*Leipoa ocellata*) and numbat (*Myrmecobius fasciatus*) (DBCA, 2007-).

Carnaby's cockatoo have been given the status of endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Carnaby's cockatoo nest in large hollows of *Eucalyptus* trees and forage on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea* and *Grevillea*), as well as *Allocasuarina* and *Eucalyptus* species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008). The application area contains suitable foraging habitat for Carnaby's cockatoo within both the *Eucalyptus burracoppinensis* Forest and *Grevillea* Shrubland.

To be suitable as a black cockatoo breeding site, trees require a suitable nest hollow or be of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, a suitable DBH is 500 millimetres. For salmon gum and wandoo, suitable DBH is 300 mm (Commonwealth of Australia, 2012). The flora and vegetation survey undertaken within the application area identified six trees of suitable size to be considered breeding habitat, three of which were identified as containing hollows (Del Botanic's, 2017). Therefore, the application area may contain suitable breeding habitat for the Carnaby's cockatoo. Fauna management practices requiring the applicant to inspect all habitat trees prior to clearing will ensure no direct impacts to Carnaby's cockatoo occurs.

The malleefowl is found in semi-arid to arid shrublands and low woodlands, especially those dominated by mallee and/or acacias. A sandy substrate and abundance of leaf litter are required for breeding (Benshemesh, 2007). The application area

may provide suitable habitat for this species, however no malleefowl mounds were observed during the flora and vegetation assessment and therefore it is unlikely that the proposed clearing will impact upon this species.

One record of the numbat, in 1932, has been recorded with the local area. Given the low number and age of records of this species it is unlikely that this species will occur within the application area.

The local area has been extensively cleared (refer to Principle (e)). The vegetation located within the application area is likely to function as a stepping stone between areas of remnant vegetation in the local area, and is likely to facilitate landscape connectivity and contribute to fauna dispersal between larger isolated bushland fragments in an extensively cleared landscape. While it is noted that a portion of the vegetation proposed to be cleared is in a completely degraded to degraded (Keighery, 1994) condition, given the highly cleared landscape it is considered that the application area may be critical for the survival of fauna species within the local area and broader region.

Given the above, the proposed clearing may be at variance to this principle.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Proposed clearing is not likely to be at variance to this Principle

According to available databases, no rare flora have been recorded within the local area (10 kilometre radius). The closest being recorded approximately 14.5 kilometres south east of the application area. This species grows in light brown sandy loam soils over granite in rocky situations, in thicket or scrub with acacias and sheoaks (Brown et al., 1998).

A Flora and Vegetation survey undertaken in September 2017, did not identify any rare flora within the application area (Del Botanicus, 2017). Suitable habitat for the abovementioned flora was not identified within the application area (Del Botanicus, 2017).

Given the above, the application area is not likely to include or be necessary for the continued existence of rare flora and the proposed clearing is not likely to be at variance to this 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.

Proposed clearing is not likely to be at variance to this Principle

One TEC, 'Eucalypt woodlands of the Western Australian Wheatbelt' has been mapped approximately 1.2 kilometres south from the application area. The *Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt* states that these woodlands are dominated by a complex mosaic of eucalypt species with a tree or mallet form over an understorey that is highly variable in structure and composition (Threatened Species Scientific Committee [TSSC], 2015).

The flora and vegetation assessment did not identify any TECs located within the application area (Del Botanicus, 2017). Del Botanicus advised that although there are areas that contain Eucalypt woodland in good condition within the subject area, there is no area that is greater than two hectares, with an intact understorey. Most areas were dominated by woodland dominated by mallee trees, non-eucalypt woodlands and very small remnants and patches that are degraded in condition (Del Botanicus, 2017).

Noting the condition and composition of the vegetation within the application area, the application area does not meet the condition thresholds required to be representative of this TEC. Therefore, the application area is not likely to include or be necessary for the maintenance of a TEC.

Given the above, the proposed clearing is not likely to be at variance to this 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.

Proposed clearing is at variance to this Principle

The national objectives and targets for biodiversity conservation in Australia has 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).

The local area (10 kilometre radius) retains approximately 8 per cent native vegetation. The application area is located within the Avon Wheatbelt Interim Biogeographic Regionalisation for Australia (IBRA) bioregion and within the Shire of Merredin which retain approximately 19 per cent and 13 per cent of their pre-European vegetation extents respectively (Government of Western Australia, 2018).

The application area is mapped as Beard vegetation associations 36 and 1055 of which retain 24 and 13 per cent of their pre-European vegetation extents within the Avon Wheatbelt IBRA bioregion respectively (Government of Western Australia, 2018).

Noting the current vegetation extents for the bioregion, Shire of Merredin, mapped Beard vegetation associations within the bioregion and local area, which are all well below the 30 per cent threshold, the application area is considered to be within an extensively cleared area.

As discussed under principle (b), the vegetation within the application area is likely to function as a stepping stone to facilitate landscape connectivity and contribute to fauna dispersal between larger isolated bushland fragments in an extensively cleared landscape and contains suitable breeding habitat for the Carnaby's cockatoo. Therefore the vegetation within the application area is considered to be significant as a remnant with an extensively cleared area.

Given the above, the proposed clearing is at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DBCA Managed Lands (%)
IBRA Bioregion				
Avon Wheatbelt	9,517,110	1,761,227	19	10
Local government authority				
Shire of Merredin	329,349	43,192	13	15
Beard Vegetation Association in Bioregion*				
36	300,997	72,745	24	13
1055	136,169	18,160	13	7

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Proposed clearing is not likely to be at variance to this Principle

According to available databases no watercourses or wetlands have been recorded within the application area. A minor watercourse is mapped within Lot 194 and Lot 19444 located approximately 170 metres from the application area. Three drains are mapped within close proximity of the application area, one located adjacent to the most north eastern application area.

A wetland, 'granite outcrop' is mapped within Lot 194 and is located 90 metres from the application area.

A vegetation survey did not identify any riparian vegetation within the area proposed to be cleared. Given this and that no watercourses and wetlands are located within the application area the vegetation proposed to be cleared is not likely to be growing in association with a watercourse or wetland.

The proposed clearing is not likely to be at variance to this principle.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Proposed clearing is not likely to be at variance to this Principle

The application area has been mapped within the following Department of Primary Industry and Regional Development (DPIRD) land sub systems (map units):

- Tandegin, Booraan Subsystem: hillslopes predominantly containing hardsetting, grey to brownish sandy loam over clay soils; and
- Tandegin, Ulva Subsystem: yellow sandplain and gravel plain of the Eastern wheatbelt. This unit contains small areas of pale sand.

The application area has been mapped within the land degradation risk categories outlined in Table 2.

Table 2: Land degradation risk categories (DPIRD, 2017).

Risk categories	- Tandegin, Booraan Subsystem	- Tandegin, Ulva Subsystem
Wind erosion	3-10% of map unit has a high to extreme wind erosion risk	30-50% of map unit has a high to extreme wind erosion risk
Water erosion	<3% of map unit has a high to extreme water erosion risk	<3% of map unit has a high to extreme water erosion risk
Salinity	30-50% of map unit has a moderate to high salinity risk or is presently saline	30-50% of map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	10-30% of map unit has a high subsurface acidification risk or is presently acid	30-50% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	<3% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk
Water logging	10-30% of map unit has a moderate to very high waterlogging risk	<3% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	<3% of map unit has a high to extreme phosphorus export risk	3-10% of map unit has a high to extreme phosphorus export risk

The proposed clearing is not likely to directly impact upon any watercourses and therefore, the proposed clearing is not likely to cause water erosion.

Given the above, the soils within the application area may be prone to wind erosion. However, the applicant has advised that following clearing, solar panels will be established across the site, along with any other associated infrastructure. The ground will continue to be covered in pasture and will be grazed by sheep following construction of the solar panels (Land Insights, 2017). Therefore, wind erosion is likely to be minimal and short term, and the proposed clearing is not likely to cause appreciable land degradation.

The soils within the application area may be prone to salinity and subsurface acidification. However, the applicant intends to retain some vegetation present within Lot 194 and Lot 19444 and comprises of vegetation ranging from a completely degraded to very good (Keighery, 1994) condition. The clearing of 4.32 hectares of native vegetation within a property that has been highly impacted by previous agricultural activities is not likely to cause appreciable land degradation in the form of salinity or subsurface acidification.

Given the above, the proposed clearing is not likely to be at variance to this 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.

Proposed clearing may be at variance to this Principle

According to available databases, four conservation areas are located within the local area (10 kilometre radius). The closest being Merredin Nature Reserve located approximately 920 metres north of the application area located adjacent to Lot 194 and Lot 19444. Totadgin Conservation Park is located 2.2 kilometres south west of the application area.

Given the distance to the closest conservation area, the proposed clearing is not likely to have a direct impact on the environmental values of any nearby conservation areas.

As discussed within principles (b) and (e), the application area is likely to function as a stepping stone between areas of remnant vegetation in the landscape. Given the extent to which the local area, Shire of Merredin and Bioregion have been previously cleared, the application area may contribute towards fauna dispersal between the abovementioned conservation area and remnant vegetation located within the local area, and the proposed clearing may therefore impact on the environmental values of these areas.

Given the above, the proposed clearing may be at variance to this 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.

Proposed clearing is not likely to be at variance to this Principle

According to available databases, no watercourses or wetlands have been recorded within the application area. A minor watercourse is mapped within Lot 194 and Lot 19444 located approximately 170 metres from the application area. Three drains are mapped within close proximity of the application area, one located adjacent to the most north eastern application area. A wetland, 'granite outcrop' is mapped within Lot 194 and is located 90 metres from the application area.

The applicant has advised that 'there are a few minor drainage channels which run through the site which direct water from the rock outcrops towards low-lying areas. The largest drainage channel flows from east to west through the south-west corner of Lot 19444 and through the northern end of Lot 194. The water from this drainage line is captured in a small dam on Lot 194. Over flow water from the dam flows in a north-west direction into the adjoining property to the north west. Another drainage channel flows north from the rocky outcrop on Lot 194 into Lot 5. Two drainage channels flow south from the rocky outcrop.

The abovementioned drainage lines are not vegetated and are simply channels which offer the path of least resistance to water flow. Historic clearing and modification of the property for agriculture has most likely resulted in the alteration of natural watercourses and the formation of the existing drainage channels.

The proposed clearing may increase runoff and sedimentation into the nearby drains and therefore onto the mapped watercourses, however impacts are likely to be minimal and short term and the proposed clearing is not likely to cause deterioration in the quality of surface water.

Groundwater salinity is mapped as more than 35000 milligrams per litre total dissolved solids which is considered to be brine. Areas of vegetation will be retained within Lot 194 and Lot 19444 and therefore the clearing of 4.32 hectares of native vegetation, within an area that has been impacted by previous agriculture activities is not likely to cause deterioration to groundwater and lead to a perceptible rise in the water table.

Given the above, the proposed clearing is not likely to be at variance to this principle.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not likely to be at variance to this Principle

The land sub systems covering the application area have been mapped as 'less than three per cent of the map unit has a moderate to high flood risk', which is the lowest risk category (DPIRD, 2017).

A preliminary flood assessment undertaken within Lot 194 and Lot 19444 determined that the existing and post development hydrology (flows) are similar therefore the proposed solar development will have no significant impact on the depth and extent of flooding in the area (Advisian, 2017).

Given the above, the proposed clearing is not likely to be at variance to this principle.

Planning instruments and other relevant matters.

On 22 June 2017, the Mid-west/Wheatbelt Joint Development Assessment Panel (JDAP) approved planning approval within Lot 195 and Lot 19444 for the purpose of a solar farm.

On 2 February 2018, the DotEE determined that the proposal is not a controlled action (DotEE, 2018).

Shire of Merredin advised that council recommended planning consent for the construction of a solar energy facility in May 2017, as granted by the Mid-west/Wheatbelt JDAP in June 2017, and is aware this application for clearing relates to a portion of that development and has no objection to the proposed clearing (Shire of Merredin, 2017).

No Aboriginal sites of significance have been mapped within the application area.

The clearing permit application was advertised on the Department of Water and Environmental Regulation website on 22 December 2017 with a 21 day submission period. No public submissions have been received in relation to this application.

5. Applicant's Submissions

On 9 March 2018, a DWER Delegated Officer wrote to the applicant, outlining the environmental impacts identified during the preliminary assessment and inviting the applicant to provide advice addressing these issues and information on how the applicant intends to avoid or minimise the impacts and offset unavoidable impacts, within 30 days. The issues outlined in the letter included:

- the application area is located within an extensively cleared area with approximately 8 per cent native vegetation cover remaining in the local area (10 kilometre radius) and 24 and 13 per cent of the mapped Beard Vegetation Associations (36 and 1055) remaining in the Bioregion. In addition, approximately 24 per cent pre-European vegetation remains within the Shire of Merredin and approximately 19 per cent pre-European vegetation remains within the Avon Wheatbelt Bioregion;
- the application area is likely to facilitate landscape connectivity and contribute to fauna dispersal between larger isolated bushland fragments (and potentially conservation areas) in an extensively cleared landscape. The proposed clearing may cause a decline in the effectiveness of the linkage, contributing towards landscape fragmentation and limitations in fauna dispersal; and
- the application area may contain significant breeding habitat for Carnaby's cockatoo.

On 12 March 2018, a meeting was held with the applicant to discuss the identified environmental impacts, avoidance and minimisation measures and offset requirements.

On 13 March 2018, the applicant wrote to DWER in response to the Delegated Officers letter of 9 March 2018 (DWER Ref: A1630991). The applicant advised:

- measures taken to avoid and minimise clearing native vegetation as discussed in section 3;
- that significant trees identified for clearing can be checked by a fauna specialist prior to clearing to ensure that they are not in use at the time of clearing; and
- proposed an offset to address principle (b), (e) and (h) involving a monetary contribution to a fund maintained for the purpose of maintaining vegetation.

On 15 March 2018, a DWER officer emailed the applicant and advised that a monetary contribution for the acquisition and conservation of 16 hectares of remnant native vegetation is appropriate to counterbalance the residual significant identified in DWER's preliminary assessment report.

On 19 March 2018, the applicant confirmed that they would like to proceed with the application and provide a monetary contribution for the acquisition and conservation of 16 hectares of remnant native vegetation.

6. Suitability of Proposed Offset

After taking into account the applicant's avoidance and mitigation measures, the significant residual environmental impact to native vegetation identified through this assessment is:

- the application area contains approximately 4.32 hectares of native vegetation in which is considered significant as a remnant of native vegetation within and extensively cleared area; and
- the application area is likely to facilitate landscape connectivity and contribute to fauna dispersal between larger isolated bushland fragments (and potentially conservation areas) in an extensively cleared landscape.

To counterbalance the residual environmental impact of the proposed clearing, the applicant proposed an offset comprising a financial contribution towards the purchase of remnant vegetation in 'Very Good' condition within the Shire of Merredin.

Assessment of the suitability of the applicant's proposed offset was undertaken using the DotEE's Offset Assessment Guide. This calculation indicated that the minimum spatial offset to be achieved through land acquisition is approximately 16 hectares.

The conversion of the minimum spatial offset into a monetary contribution was calculated to be \$31,200. This figure is based on the calculated \$1,950.00 per hectare as average of unimproved value per ha (\$/ha) for a land parcel size of 10 hectares within the Shire of Merredin. The Delegated Officer considered that the proposed offset is suitable to counterbalance the residual environmental impact of the proposed clearing.

7. References

- Advisian (2017) Merredin Solar Farm – Flood modelling and Assessment. Western Australia. (DWER Ref: A1629631)
- Benshemesh, J. (2007). National Recovery Plan for Malleefowl. Department for Environment and Heritage, South Australia.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Del Botainics (2017) Flora and Vegetation Assessment Proposed Solar Facility Merredin. Western Australia (DWER Ref: A1584694).
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