
Executive summary

The Everleigh Solar Park Project (the Project and the Proposed Action) plans to construct a solar park facility, a transmission line and associated infrastructure at 148 Clynes and Kogan-Condamine Roads, Crossroads, Queensland. The site is located on a greenfield site approximately 22 km south of Chinchilla and 77 km west of Dalby, in southern Queensland. The Project will consist of the installation of approximately 215,000 solar panels on the Project area and the installation of transmission line along a 'utility corridor' approximately 6.5 km in length. The Project will have a projected generation capacity of 139 megawatts (MW) over a projected minimum lifespan of 30 years.

The Project was originally referred on the 16th May 2022 and has been determined to be a controlled action. This Preliminary documentation has been prepared to address the additional information requirements set out by the Department of Climate Change, Energy, the Environment and Water. It consolidates and references:

- Information contained in the revised referral - EPBC referral application_submitted_26.08.2022
- The technical memo dated the 6th July 2023 that outlines the measures to avoid and mitigate potential impacts information contained in the original referral – this memo provide information to show how the proposed footprint final design has been positioned to avoid koala habitat and to show how impacts are to be mitigated through the provision of a Koala fauna corridor and revegetation area
- Att 1-Everleigh-EcologyReport_Rev0_final – Epic Environmental
- Att 2-ASLAT Quality Policy 2018
- Att 3- References
- Att. 4 CHMP_Crossroads solar parks
- Att. 5 Traffic Impact Assessment
- Att 6. Cultural Heritage Desktop Report

Technical Memo

Date:	6 July 2023
To:	Roberto Cebrian
From:	Ausecology Pty Ltd
Client name:	Everleigh Solar Park Pty Ltd
Project name:	Everleigh Solar Park
Subject:	Request for additional information - Everleigh Solar Park project

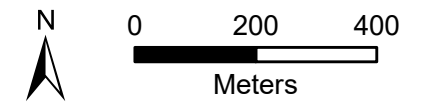
Ausecology Pty Ltd (Ausecology), on behalf of Everleigh Solar Park Pty Ltd, provides the following response to a request for additional information (RFI) from the Department of Climate Change, Environment, Energy and Water (DCCEEW) for the Everleigh Solar Park Project (the Project). Ausecology reviewed all previous information and reports and undertook a further ground survey of the site to assess the environmental matters within the proposed Everleigh Solar Park Project area in question by DCCEEW. The following was the focus of this assessment:

- Patches of vegetation outlined in email dated 24th January, 2023
- Mapping of all trees greater than 30 cm DBH in the Ground Truthed Regional Ecosystem mapping of 11.3.25 in northeast of the Project area
- Impacts on the greater glider (*Petauroides volans*) and opportunity to avoid and mitigate
- Impacts on the koala (*Phascolarctos cinereus*) and opportunity to avoid and mitigate
- Impact of recent uncontrolled fire that impacted the area recently including part of the Project area.

Summary

The Project lease area (excluding the utility corridor) covers an area of 202 ha, which is currently grazing country with 99% of the area mapped as Category X under the QLD *Vegetation Management Act 1999* with the other 1% mapped as High Value Regrowth. Ecological investigations have been undertaken across the lease area and the layout of the design has been adjusted to 164.8 ha to avoid and allow mitigation of the biodiversity values present within the Project area (Figure 1).

Figure 1:
 Leased Area, Proposed Footprint and PMAV
 Everleigh Solar Farm Ecological Assessment



Scale: 1:12,500
 Coordinate System: GDA 1994 MGA Zone 56
 Datum: GDA 1994

Legend

- Leased Area
- 8RP190982 Lot Plan Boundary
- Proposed Footprint (164.81 ha)

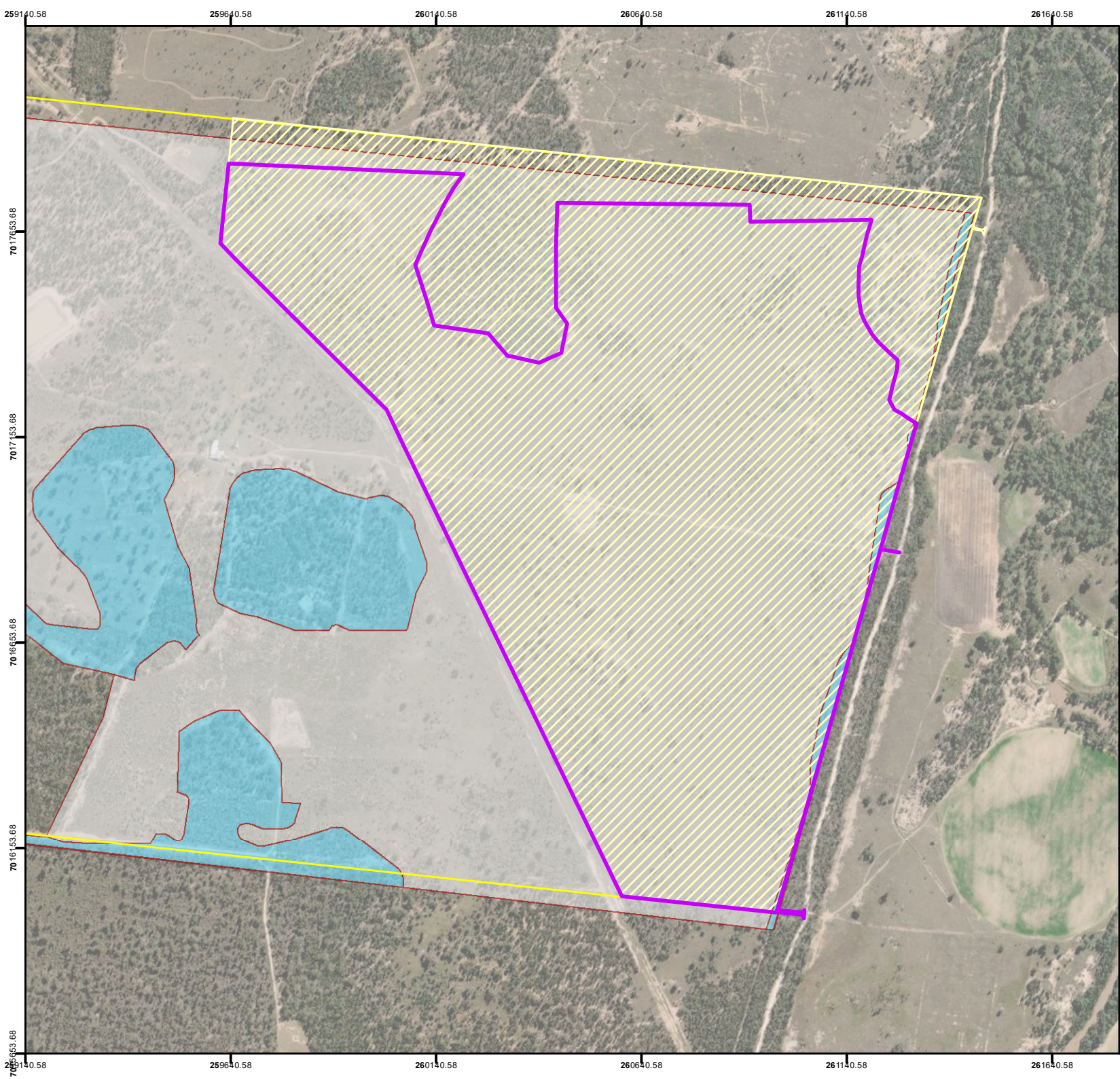
**Vegetation Management Act
 Property Maps of
 Assessable Vegetation**

- Category X area
- Category C area

Data sources:

Document History:

Rev	Reason for issue	Author	Approver	Date
1	Issued for Information	NC	RR	10/05/2023
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The transmission line (which will be underground) has been reduced from 15 m width to 9.2 m width and a portion of the line has been relocated into the already approved adjacent solar farm area within the existing firebreak to avoid clearing in the utility corridor. The development approval of the Edenvale Solar farm lot in which the transmission line is proposed to run through concluded that “that it is unlikely there will be a significant impact to local biodiversity values and formal assessment and approval under *the Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) determined the project a Non-controlled Action.”

A picture of the fencing and Edenvale lot is provided below. This lot is now fully developed. It is our opinion that running the transmission line through this already developed, cleared and fenced lot within the existing firebreak is a good alternative to avoid the partial clearing of vegetation in the utility corridor.



The overall length of the transmission line has remained relatively the same at 6.7 km in length. From here the transmission line crosses into the designated utility corridor on the east of the road reserve and runs adjacent to the current transmission line (Figure 2 and Figure 2-1).

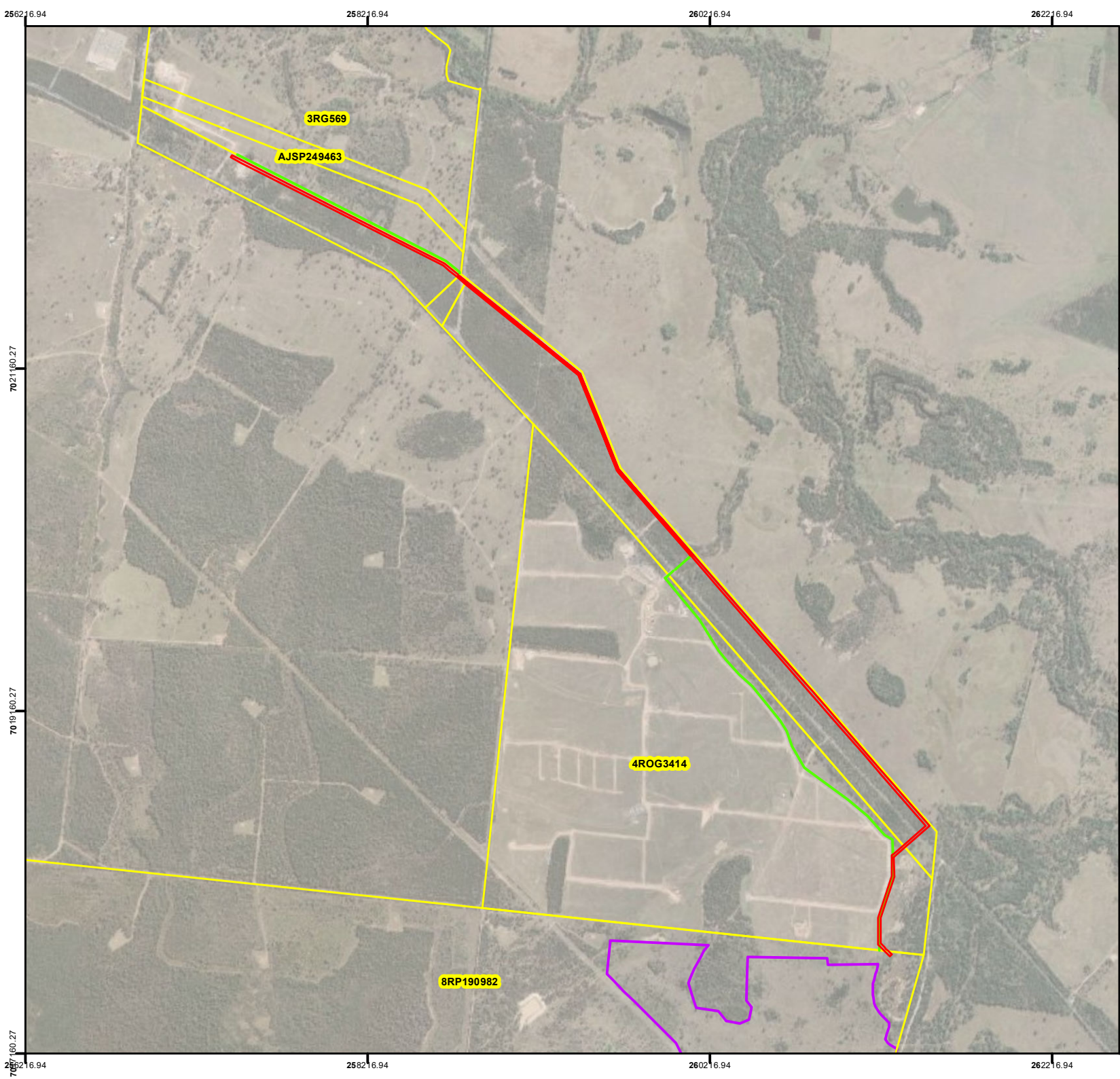
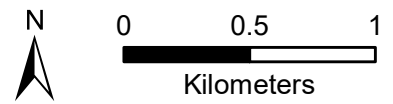






Figure 2:
Transmission Line Options
Everleigh Solar Farm Ecological Assessment



Scale: 1:30,000
Coordinate System: GDA 1994 MGA Zone 56
Datum: GDA 1994

Legend

-  Proposed Footprint
-  Cadastral Boundaries
- Transmission Line Options**
-  Initial Transmission Line (15m width) (Total 6.6km)
-  Proposed Transmission Line (9.2m width) (Total 6.7km)

Data sources:
Transmission Lines - DPI Group

Document History:

Rev	Reason for issue	Author	Approver	Date
1	Issued for Information	NC	LG	15/05/2023
2	Issued for Information	NC	LG	07/07/2023

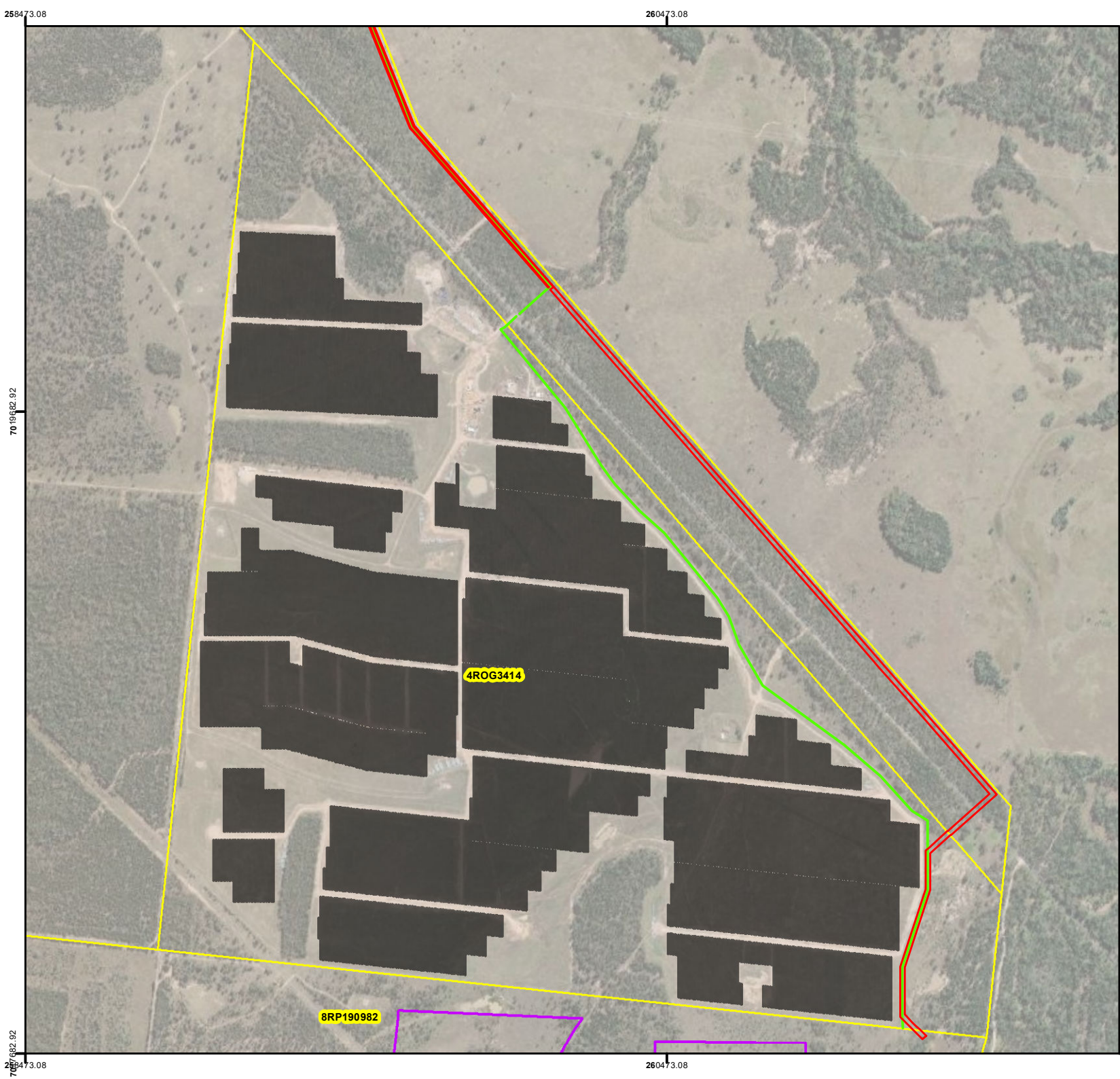
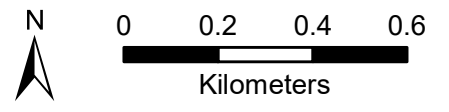


Figure 2:
 Transmission Line Options and Solar Panel Area on 4ROG3414
 Everleigh Solar Farm Ecological Assessment



Scale: 1:16,000
 Coordinate System: GDA 1994 MGA Zone 56
 Datum: GDA 1994

Legend

- Proposed Footprint
 - Cadastral Boundaries
 - Solar Panel Area
- Transmission Line Options**
- Initial Transmission Line (15m width)
 - Proposed Transmission Line (9.2m width)

Data sources:
 Transmission Lines - DPI Group

Document History:

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Vegetation patches

The Project area mainly consists of (sparse) regrowth dominated by beefwood (*Grevillea striata*) with a few denser vegetation patches mainly located in the northern section of the Project area. All vegetation patches located within the Project footprint (not previously assessed) were surveyed by Ausecology against the koala habitat definitions in the Conservation Advice “DAWE 2022, *National Recovery plan for the Koala: Phascolarctos cinereus (combined populations of Queensland, New South Wales and the Australian Capital Territory)*. Department of Agriculture, Water and the Environment, Canberra. March 2022 and as requested in the RFI email. All boundaries for vegetation patches were walked around and mapped using a GPS GNSS receiver for accuracy (Figure 3).

Koala habitat

No evidence of koalas or usage by koalas on the site was noted by Ausecology. Communications with the landholder confirmed no previous sightings of koala on the property. Although no populations of koala have been identified on or adjacent to the site previously (desktop and previous ecology surveys), Ausecology did map potential koala habitat on the site and impacts to this habitat could reduce connectivity between larger areas of habitat for Koalas, notably the state forest areas in the west and the riparian corridor to the east of the Project footprint.

The koala habitat mapped on site consisted of regrowth areas that could support koala movement and provide shelter through the landscape (Figure 3). These areas were generally smaller fragmented patches and while they would allow koala movement across the cleared areas, this movement could also increase the exposure of koalas to threats (mainly dogs) in this landscape.

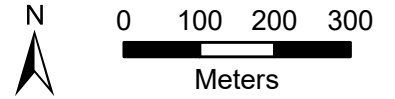
From a longer-term viability point of view, these smaller patches of habitat noted in the Project footprint are exposed to threats from grazing, harvesting of firewood, edge effects, clearing by the landholder (noting the PMAV) and fire over the longer term. The area has recently been burnt from an uncontrolled wildfire (March 2023) and it is uncertain whether some of the species burnt in these smaller patches will survive. Interestingly, larger patches on the site in the north remained largely untouched by the fire and it is assumed that it was a fast-moving grass fire that did not fully penetrate into the denser areas of vegetation in the north of the site. Details of each patch investigated has been provided in Table 2 and shown on Figure 3.

Given the information above, the proposed footprint final design has been positioned to avoid 22.13 ha of this koala habitat in the north. The total habitat that will be impacted is 14.47 ha of areas that may be utilised by the koala mainly for shelter and dispersal with occasional potential koala food trees present. To compensate for this impact, an area of 15.24 ha aligned in the north of the project area will be managed and revegetated to create a fauna corridor (Table 1) and as discussed more below.

Table 1 Summary of koala habitat

	Solar Park Site	Utility Corridor	Total Amount
Koala habitat present (ha)	36.6	8.9	45.5
Koala habitat avoided through design changes (ha)	22.1	6.8	28.9
Total impacted (ha)	14.5	2.1	16.6
Total area to be rehabilitated/revegetated (ha)	15.2	0	15.2

Figure 3:
Regrowth Vegetation Patches
Everleigh Solar Farm Ecological Assessment



Scale: 1:10,000

Coordinate System: GDA 1994 MGA Zone 56
Datum: GDA 1994

Legend

- Regrowth Patches
- Proposed Footprint
- 8RP190982 Lot Plan Boundary

Data sources:

GTRE - EPIC Environmental

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1	Issued for Information	NC	LG	11/05/2023
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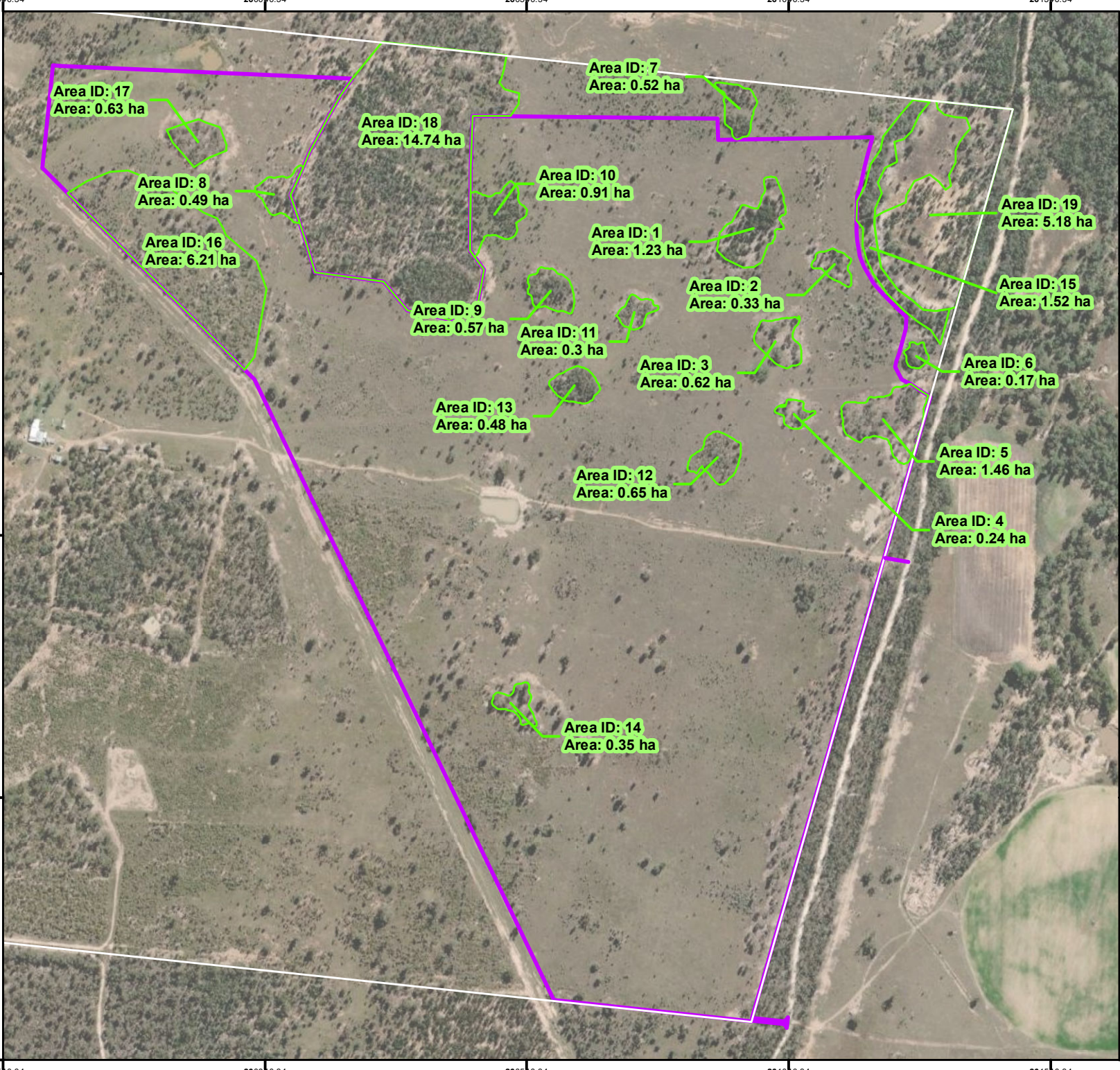













































Table 2 Investigated Koala habitat areas

Patch ID	Patch description	Regional Ecosystem	Status	Area	Recently burned	Koala habitat function	Representative Patch Image	Representative Patch Image	Drone imagery (where available)
1	<i>Casuarina cristata</i> regrowth to 10m, 40% coverage. No Eucalypt trees present.	11.3.1	Regrowth	1.23	No	Dispersal			
2	<i>Casuarina cristata</i> regrowth to 5m, 20% coverage. No Eucalypt trees present.	11.3.1	Regrowth	0.33	Yes	Dispersal			
3	<i>Eucalyptus populnea</i> regrowth to 13m, 10% coverage. Sparse shrub layer fully burned	11.5.1a	Regrowth	0.62	Yes	Dispersal, shelter and some foraging			
4	<i>Eucalyptus populnea</i> regrowth to 10.5m, 10% coverage. Other species present <i>C. glaucophylla</i> and <i>Allocasuarina leuhmannii</i>	11.5.1a	Regrowth	0.24	Yes	Dispersal, shelter and some foraging			
5	<i>Eucalyptus populnea</i> regrowth to 14m, 20% coverage. Other species present <i>C. glaucophylla</i> and <i>Allocasuarina leuhmannii</i>	11.5.1a	Regrowth	1.46	Yes	Dispersal, shelter and some foraging			

Patch ID	Patch description	Regional Ecosystem	Status	Area	Recently burned	Koala habitat function	Representative Patch Image	Representative Patch Image	Drone imagery (where available)
6	<i>Acacia harpophylla</i> and <i>Casuarina cristata</i> to 18m, 30% coverage. No Eucalypt trees present.	11.3.1	HVR	0.17	Yes	Dispersal (note area being retained)			
7	<i>A. leuhmannii</i> , <i>C. glaucophylla</i> , <i>G. striata</i> , <i>Eucalyptus populnea</i> ; cover 50%; height 9.5m. A few <i>Eucalyptus populnea</i> trees present in the south of this patch.	11.5.1a	Regrowth	0.52	No	Dispersal, shelter and some foraging (note area being retained in connectivity corridor)			
8	<i>Casuarina cristata</i> dominant. Other species present <i>C. glaucophylla</i> ; 60 % cover, 8m. No Eucalypt trees present.	11.3.1/11.5.1	Regrowth	0.49	No	Potential dispersal/shelter habitat			
9	<i>Eucalyptus populnea</i> with <i>Allocasuarina leuhmannii</i> and <i>Callitris glaucophylla</i> to 17m, 15% coverage.	11.5.1a	HVR	0.57	No	Dispersal, shelter and some foraging			
10	<i>C. glaucophylla</i> with <i>G. striata</i> and <i>A. leuhmannii</i> , 7-8m, 60% cover. No Eucalypt trees present.	11.5.1a	Regrowth	0.91	No	Potential dispersal/shelter habitat			

Patch ID	Patch description	Regional Ecosystem	Status	Area	Recently burned	Koala habitat function	Representative Patch Image	Representative Patch Image	Drone imagery (where available)
11	<i>Eucalyptus populnea</i> to 10m, 40% cover, with <i>A. leuhmannii</i> and <i>E. mitchellii</i> 5% cover, 2-4m.	11.5.1a	Regrowth	0.30	Part of the eastern edge was burned	Dispersal, shelter and some foraging			
12	<i>A. leuhmannii</i> , <i>C. glaucophylla</i> , <i>G. striata</i> to 5m, 20% cover, No Eucalypt trees.	11.5.1a	Regrowth	0.65	Yes	Potential dispersal/shelter habitat			
13	<i>Eucalyptus populnea</i> and <i>Eucalyptus woollsiana</i> with <i>A. leuhmannii</i> and <i>C. glaucophylla</i> T1 cover 15%, 16m; T2 cover 50% 10m	11.5.1a	HVR	0.48	No	Dispersal, shelter and potential foraging			
14	<i>Eucalyptus woollsiana</i> to 18m, 30% cover.	11.5.1	HVR	0.35	Yes	Dispersal, shelter and potential foraging			
15	<i>Eucalyptus camaldulensis</i> with <i>Callitris glaucophylla</i> to 16m, 50% coverage	11.3.25	Remnant	1.52	Yes	Foraging and potential breeding habitat (note area being retained)			

Patch ID	Patch description	Regional Ecosystem	Status	Area	Recently burned	Koala habitat function	Representative Patch Image	Representative Patch Image	Drone imagery (where available)
16	Very sparse <i>Eucalyptus crebra</i> / <i>Eucalyptus populnea</i> to 20m at 1% coverage; T2 layer consisting of <i>Grevillea striata</i> , <i>Eucalyptus crebra</i> , <i>Eucalyptus populnea</i> to 8m at 2% coverage	11.5.1	Regrowth	6.21	No	Dispersal, shelter and foraging			
17	Previously areas mapped by Epic as HVR RE11.3.18; not accessed again by Ausecology		HVR	0.63	No	Dispersal, shelter and foraging			
18	Previously areas mapped by Epic as HVR RE11.5.1 and 11.5.1a; not accessed again by Ausecology		HVR	14.74	No	Dispersal, shelter and foraging. Note area being retained.			
19	Previously areas mapped by Epic as non-remnant. Area dominated by <i>C. glaucophylla</i> regrowth		Non-rem	5.18	Yes	Potential dispersal/shelter habitat			

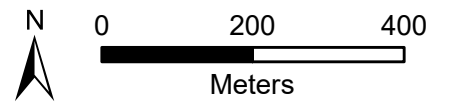
Avoidance and mitigation

To maintain connectivity and mitigate the loss of the smaller habitat patches that currently provide shelter and dispersal habitat for the koala, a connectivity corridor has been proposed in the north of the Project. Within the Project lease area, the following 37.37 ha is being proposed as a fauna corridor (Figure 4):

- Area 1 (10.07 ha) - North-eastern area of habitat consisting of remnant RE11.3.25 (Patch ID 15, Figure and Figure), non-remnant RE11.5.1a, and a patch of HVR RE11.3.1 (Patch ID 6, Figure and Figure).
- Area 2 (15.45 ha) - Northern fauna corridor with the widths displayed in Figure 4-1 (min width 78.8 m and max width 999.9 m) and a total length of 1.56 km. This area consists of regrowth vegetation dominated by *Callitris glaucophylla* and *Allocasuarina leuhmanii*, with sparse *Eucalyptus populnea* and *Grevillea striata* trees. One dense vegetation patch (Patch ID7 (Figure) and as shown in Figure and Figure 8) was mapped, the rest of the area consists of sparse regrowth (Figure and Figure).
- Area 3 (11.85 ha) – Previously surveyed and reported on by Epic Environmental, 2022 as HVR RE11.5.1 and HVR 11.5.1a, including additional regrowth (not mapped as HVR).

Additional area that will not be impacted is the remnant vegetation RE 11.5.1a along Clynes Road (Figure). This road reserve will serve as a north to south fauna corridor (Figure 2).

Figure 4:
Retained Areas
Everleigh Solar Farm Ecological Assessment



Scale: 1:10,000
Coordinate System: GDA 1994 MGA Zone 56
Datum: GDA 1994

Legend

- Corridor Areas (37.37 ha)
- Proposed Infill/ Planting Areas
- Proposed Footprint
- 8RP190982 Lot Plan Boundary

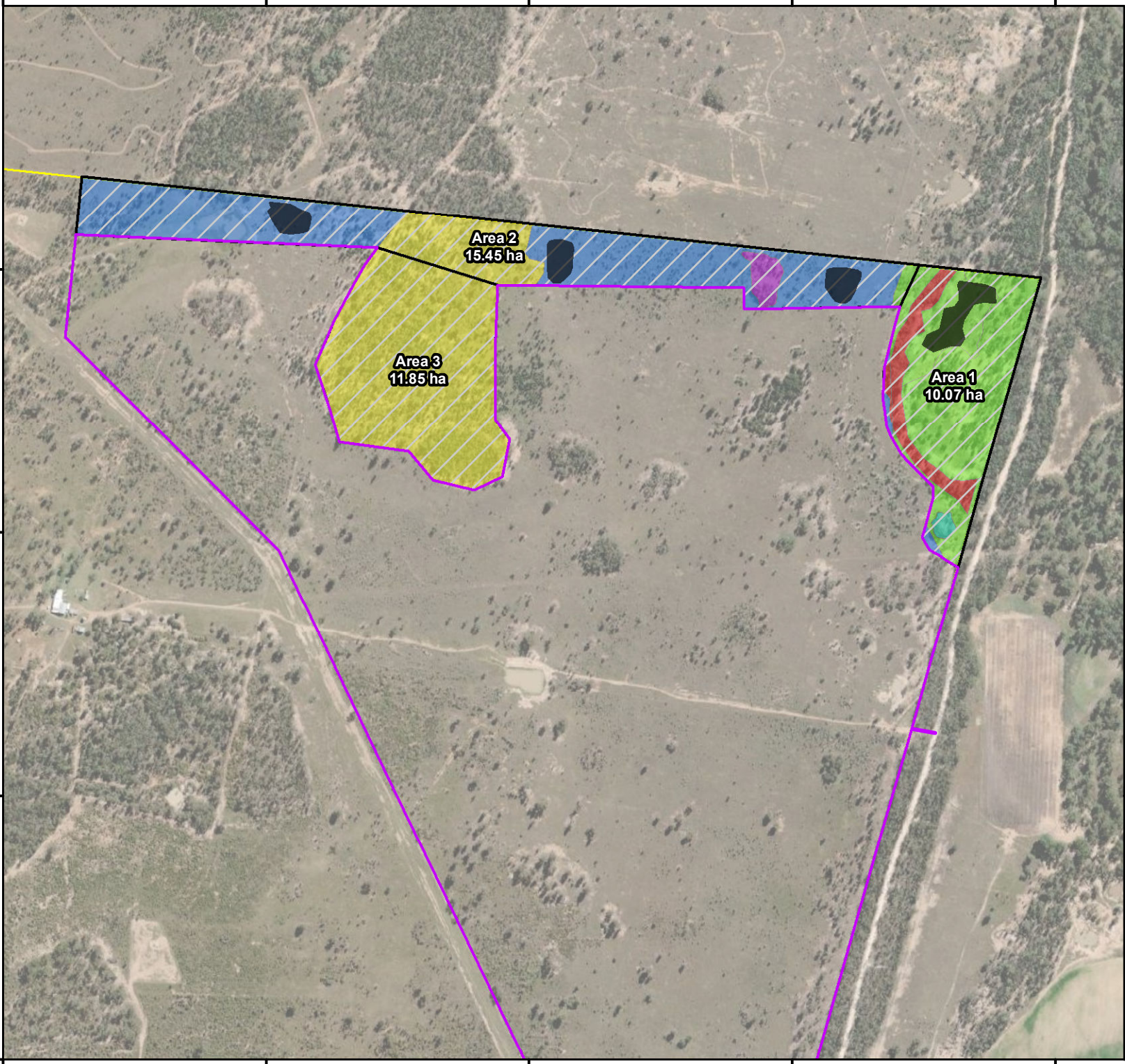
Regional Ecosystem

- 11.3.1
- 11.3.18/11.5.1/11.3.25
- 11.3.25
- 11.5.1
- 11.5.1a
- 11.5.1a/11.5.1

Data sources:

Document History:

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2	Issued for Information	NC	LG	15/05/2023
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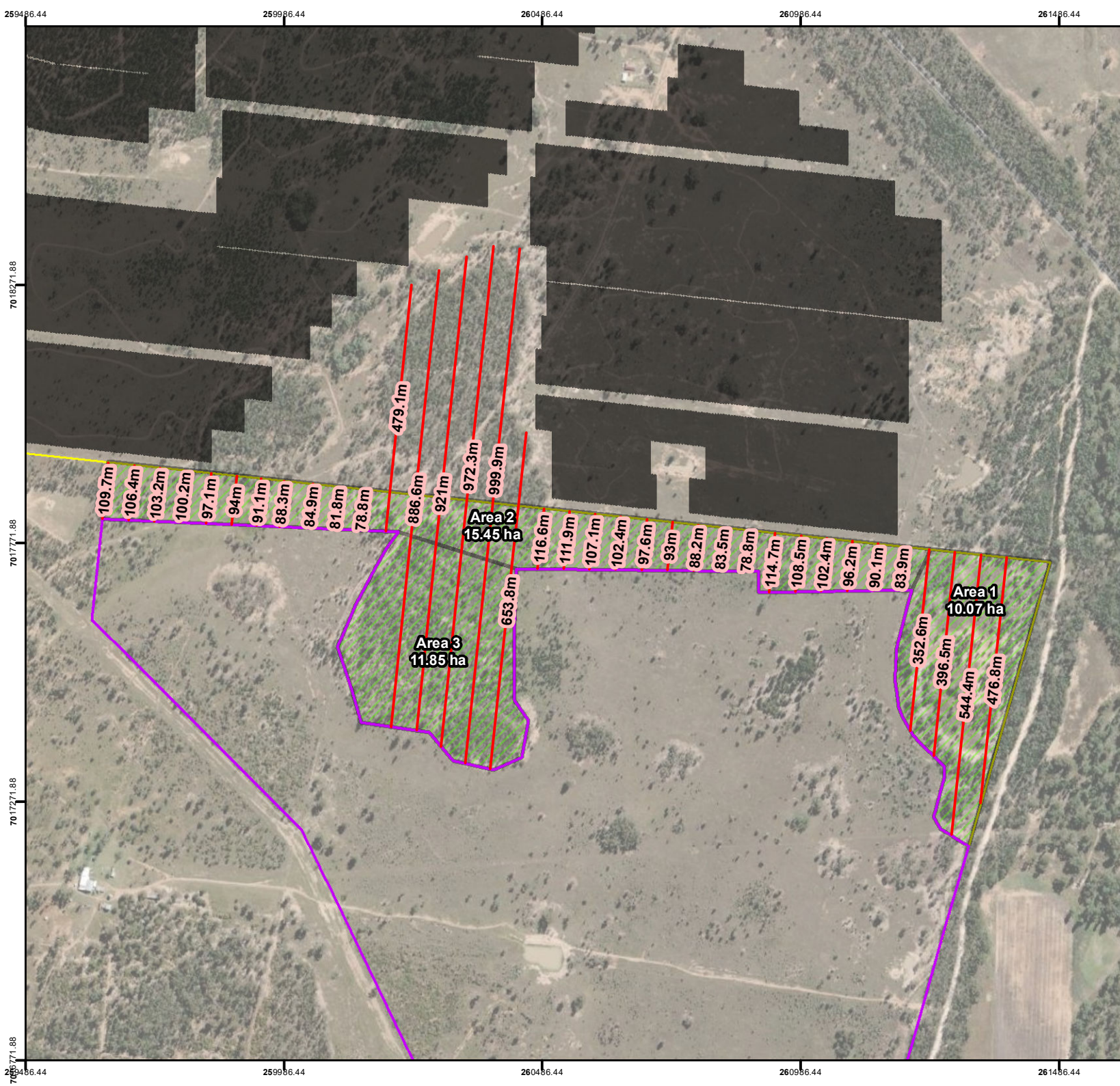
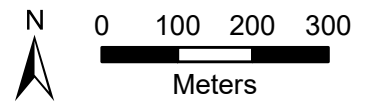


Figure 4-1:
Corridor Width
Everleigh Solar Farm Ecological Assessment



Scale: 1:10,000
Coordinate System: GDA 1994 MGA Zone 56
Datum: GDA 1994

Legend

- Solar Panel Area
- Corridor Areas (37.37 ha)
- Proposed Footprint
- 8RP190982 Lot Plan Boundary
- 50m Interval Corridor Width (Average Width 255.37m)

Data sources:

Document History:

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Figure 5 HVR RE11.3.1 avoided



Figure 6 Remnant RE 11.3.25 avoided



Figure 7 Small denser vegetation patch (Patch ID7) within the proposed fauna corridor on northern boundary avoided

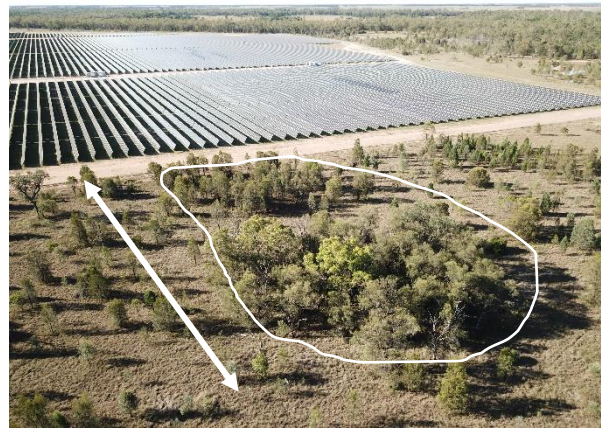


Figure 8 Small denser vegetation patch (Patch ID7) within the proposed fauna corridor on northern boundary. Arrow indicates approximate corridor width



Figure 9 Representative regrowth within proposed fauna corridor on the northern boundary



Figure 10 Representative regrowth within proposed fauna corridor on the northern boundary



Figure 11 Road reserve vegetation of remnant RE11.5.1a not being impacted



Figure 2 Road reserve vegetation of remnant RE11.5.1a

Mitigation - rehabilitation

Two main rehabilitation areas are proposed:

- In Area 1 in the north-eastern section where it is proposed to undertake infill planting of 0.67 ha (Figure 4 and 4-1). In addition, coarse woody debris from some of the tree clearing will be piled up in this area to provide additional fauna habitat to compensate for the coarse woody debris that was recently burned during the uncontrolled burn. It is also proposed to install nestboxes in RE11.3.25 to increase the potential of greater gliders to use this area for denning. A total of ten nestboxes will be installed consisting of five rear-entry greater glider boxes and five small glider boxes (to provide habitat for other glider species). This area was recently burned out and a couple of large dead stags were impacted (fallen down) and hence denning habitat for small gliders might have been impacted as well.
- The northern fauna corridor already contains a lot of regrowth. However, to increase the suitability of this area for fauna movement in particular for the koala, it is proposed to plant an additional three Eucalyptus nodes as shown in Area 2, Figure 4 and 4-1. These nodes will function as stepping stones through the landscape in an east to west direction, consisting of species from RE11.5.1/11.5.1a, with an emphasis on *Eucalyptus populnea*, *Eucalyptus crebra* and *Angophora leiocarpa*. The other main species that make up this Regional Ecosystem area already present as regrowth vegetation. The three planting nodes will be approximately 0.33-0.34 ha in size, and will provide the connectivity between the vegetation east and west of the Project area, totalling 1 ha of revegetation. It should be noted that to try and plant additional trees into this area would be detrimental to the good regrowth currently already in the proposed fauna corridor.

The HVR RE11.5.1/11.5.1a area (Area 3 in Figure 4 and 4-1) will be enhanced through undertaking weed control where required. Limited weed control will be required in this area overall, mainly focusing on *Opuntia* species. No evidence of significant pest species were identified. However, this will be monitored during the plant installation and maintenance.

The rehabilitation area will be secured through a Voluntary Declaration with the weed control and the rehabilitation (planting) work to be undertaken by a suitably qualified contractor. A 16-week initial establishment

phase is recommended with intense management including watering 1-2x per week for the first four weeks, followed by fortnightly watering for another four weeks, with monthly watering for another two months. The management of the rehabilitated area is estimated to require a five-year period. Although the respective Regional Ecosystem will not fully have established after five years, the vegetation is anticipated to be self-sustaining enough to reach remnant status in the future. It is anticipated that the protected areas will provide shelter and food for fauna species to move in an east-to-west direction (and vice versa).

Temporary fencing/permanent fauna fencing

Friendly fauna fencing will be installed around the perimeter of the Project ie fence tops will avoid use of barbed-wire. Koala exclusion fencing will be installed along the eastern boundary of the Project area and along the fauna corridor to assist the movement of koalas through the fauna corridor where shelter, potential foraging and dispersal habitat will be available. The road reserve will function as a fauna corridor in a north to south direction based on the remnant vegetation that is present. In the northeast of the Project area the remnant vegetation RE 11.3.25 that is being retained will be open to fauna movement and the fence there will follow the proposed footprint and positioned on the southern side of the proposed northern fauna corridor.

Koala corridor design

There is preferred koala habitat present along Wambo Creek with *Eucalyptus tereticornis* as the dominant species. As discussed in the vegetation patches section, there are vegetation patches that contain Eucalyptus trees with the most dominant species present being *Eucalyptus populnea*. The other species of Eucalyptus that are present in the northern section of the Project area was *Eucalyptus crebra*. Both species are known to be used by koala's (OEH, 2018; Youngentob *et al.*, 2021).

In the southern section of the Project area, *Eucalyptus woollsiana* occurs as a vegetation patch (Patch ID 14, Figure 3) as standalone paddock trees. Other species present as paddock trees or very small clusters of trees include *Eucalyptus crebra* and *Eucalyptus populnea*. The latter two are listed as important koala trees (Youngentob *et al.*, 2021). However, *Eucalyptus woollsiana* is not referred to in "A review of koala habitat assessment criteria and methods (Youngentob *et al.*, 2021) nor in "A review of koala tree use across New South Wales (OEH, 2018), but with similarities of this species to *Eucalyptus microcarpa/Eucalyptus moluccana*, it is assumed that *Eucalyptus woollsiana* may be regarded as a food tree.

Nonetheless, in these western areas, koalas are often more predominantly associated with the creeklines. This could be based on the presence of one of their primary food trees *Eucalyptus tereticornis* and/or *Eucalyptus camaldulensis* and likely related to the higher moisture and nutrient content of these species in the landscape.

Given this the fauna corridor has been positioned to protect and enhance the Remnant RE11.3.25 and regrowth RE11.5.1a by introducing a planting node in this area (Figure 4). Further planting nodes in the corridor will favour species already in the area (*Eucalyptus populnea*, *Eucalyptus crebra*, *Eucalyptus tereticornis* and/or *Eucalyptus camaldulensis*, *Eucalyptus woollsiana*).

Koala-sensitive Design Guideline (The Department of Environment and Science, 2022) recommends that koala habitat corridors are at least 100 m wide to ensure the protection and enhancement of koala habitat values and habitat connectivity. This is consistent with Redcliffe City Council (n.d) Wildlife Connection Plan 2018-2028 and Queensland Department of Main Roads (2000) Fauna Sensitive Road Design. The latter states that the general recommendation for SE QLD is to avoid having corridors less than 100 m in width. However, Queensland Department of Main Roads (2000) notes that research from Harris and Scheck (1991) suggests that it may be

inadequate to use general recommendations in determining dimension of corridors unless in a homogeneous landscape. Otherwise, the cited author suggested that considering landform, topography and the native vegetation present (including composition, structure and significance) would be more effective. Russ et al. (2020) found that patch connectivity has a substantial influence on koala movement and space usage and wherein they are sensitive to changes in functional connectivity between habitat patches. Koala movement in better connected habitats were found to be more tortuous, indicating that the koalas are spending more time in utilising resources that are located closer together. Additionally, Russ et al. (2020) inferred from their results that koalas did not show a strong boundary response as this species is willing to travel between patches.

Habitat fragmentation is a major threatening process for koalas (Ashman et al., 2019). Undertaking revegetation/regeneration to increase the connectivity between larger areas of forest or woodland in an open mainly cleared landscape is beneficial. As per Beale et al. (2022): “Even narrow corridors of vegetation or tree lines are often used by koalas and can facilitate movement between larger vegetation patches. However, it is important to recognise that koalas can easily move 100–200 metres between trees provided there are no barriers (for example fences, buildings, water bodies, other structures) or threats (for example predators) and disperse for longer distances across open ground, which suggests that movement is not entirely reliant on corridor systems.” And: “Any reduction in distance between habitat patches provided by corridors or even scattered trees as stepping-stones can help koalas move more safely through the landscape and increase the overall carrying capacity of a landscape for koalas when more food trees are planted. In addition to providing food, trees planted in open space to improve connectivity also provide shelter from elements and offer safe refuge from most predators.”

In context of the Everleigh Solar Farm project, the current vegetation patches are relatively small and dispersed throughout the property in an otherwise cleared open landscape. Although they provide shelter and to some extent a food resource (Eucalypt tree density varied between the patches), the proposed northern fauna corridor will provide a corridor that on average is approximately 94 m wide, with good existing regrowth. Increasing the availability of Eucalyptus trees within this corridor through the planting of the three “Eucalyptus” nodes will provide further steppingstones through the regrowth and connecting the preferred creek line habitat in the east with the large tract of remnant vegetation in the west. The regrowth that is already present will be managed to provide the connectivity and the shelter which can function as a refuge from most predators.

The National Recovery Plan for the Koala (DAWE, 2022) refers to the importance of corridors, however, it does not provide guidance to any minimal width requirements. It states that:”

“While precise requirements vary regionally and locally, koala habitat can be considered in terms of the following multi-scale resource requirements in space and time:

- patch size, form and context of home ranges within the landscape, including patches of forest, riparian, linear and roadside vegetation associations, open ground, **corridors** and scattered paddock trees used for breeding or dispersal (sections 27.3 and 28) “

It also states that : “Crucial habitat elements include patches and corridors for gene flow” (DAWE, 2022)

Hence, based on the above, the proposed fauna corridor will provide a corridor that could be used by the koala (and other fauna). The road reserve on either side of Clynes Road could also function as a corridor, in a north-to-south direction).

Greater Glider

As per the Epic Environmental (Epic) Environmental Assessment report dated 9th May 2022, the greater glider was not recorded on site during the March 2022 survey. However, during 2018 surveys greater gliders were identified along Wambo Creek, approximately 2-2.5km north of the Project site. This creek system is also present to the east of the Project area with similar vegetation based on Regional Ecosystem mapping and aerial imagery interpretation. It is therefore likely that greater gliders will be present along this section of the creek. These creek systems (RE 11.3.25) are often regarded as preferred habitat for the species based on the Eucalyptus species present, and potentially the higher moisture content of the leaves of these creek system Eucalyptus species. As per the "Guide to greater glider habitat in Queensland (Eyre *et al.*, 2022) (the Guide), Regional Ecosystem RE11.3.25 is regarded as habitat for the greater glider.

A small strip of remnant RE11.3.25 was mapped by Epic in the northeast of the Project area and confirmed by Ausecology consisting of mainly *Eucalyptus camaldulensis* trees. All trees >30cm and >50cm diameter at breast (DBH) height were mapped in this area (Figure). As per the Guide, generally Eucalyptus trees greater than 30cm DBH are regarded as foraging trees and trees greater than 50cm as potential denning trees. A total of 75 trees were mapped in the RE11.3.25 section (or immediate vicinity) consisting of 59 trees >30-50cm (foraging trees) and 16 trees >50cm (potential denning trees). Visual assessment of all these trees determined that no hollows are present.

Even though this area does not contain suitable denning habitat for the greater glider, and consists of *Eucalyptus camaldulensis*, not regarded as a preferred foraging tree in the Guide, due to its proximity to the creek and the contiguous connectivity to other remnant vegetation patches, this area could be used by greater glider for foraging. This habitat is being retained and will be further enhanced through infill planting and the installation of nestboxes (see rehabilitation area section). However, due to the similarity between *Eucalyptus tereticornis* and *Eucalyptus camaldulensis*, the reference to the latter not being regarded as a foraging or denning tree seems incorrect. Based on Ausecology's greater glider survey experience, we have previously found Greater Gliders in *Eucalyptus camaldulensis*.

The rest of the Project area however consists of regrowth and HVR of Regional Ecosystem 11.5.1, 11.5.1a and 11.3.18. Regional Ecosystem 11.5.1 is listed as potential habitat for the greater glider in the Guide. However, RE11.3.18 is not listed as habitat for the greater glider. The most dominant Eucalypt species (in particular in the northern half) present within the Project area is *Eucalyptus populnea*, which as per the Guide is generally not regarded as a feed or denning tree. Although greater gliders have been identified in *Eucalyptus populnea* trees, this has been in areas in close proximity to creek lines of RE11.3.25 (Ausecology, other project observations). Other Eucalypt species present within the Project area are *Eucalyptus crebra* (very sparsely distributed throughout the Project area, with greater density present with the large HVR vegetation patch of RE11.5.1 in the north-western section of the Project area) and *Eucalyptus woollsiana* (mainly within patch 14 and very sparsely distributed in the southern part of the Project area). In the Guide, *Eucalyptus crebra* is regarded as both a feed and denning tree. No evidence however of greater glider feeding and denning in *Eucalyptus woollsiana* is presented within the Guide.

The small vegetation patches (0.17-5.31 ha) present within the Project area are too small to sustain greater gliders, given the patch size is small and the number of suitable foraging and denning trees within each patch is low to non-existent. In addition, these patches are too isolated and greater gliders will most likely not move in between the patches due to the open non-remnant country around them with the distance between patches ranging from 51m minimum to 114m (with an average of 81m).

In conclusion, the Project area is not regarded as greater glider habitat except for the RE11.3.25 area in the northeast that could function as foraging habitat due to its connectivity and proximity to the creek system where greater gliders have been identified. It is proposed to protect and enhance this area. Therefore, there is no direct impact on the greater glider based on the new proposed footprint that avoids this area.

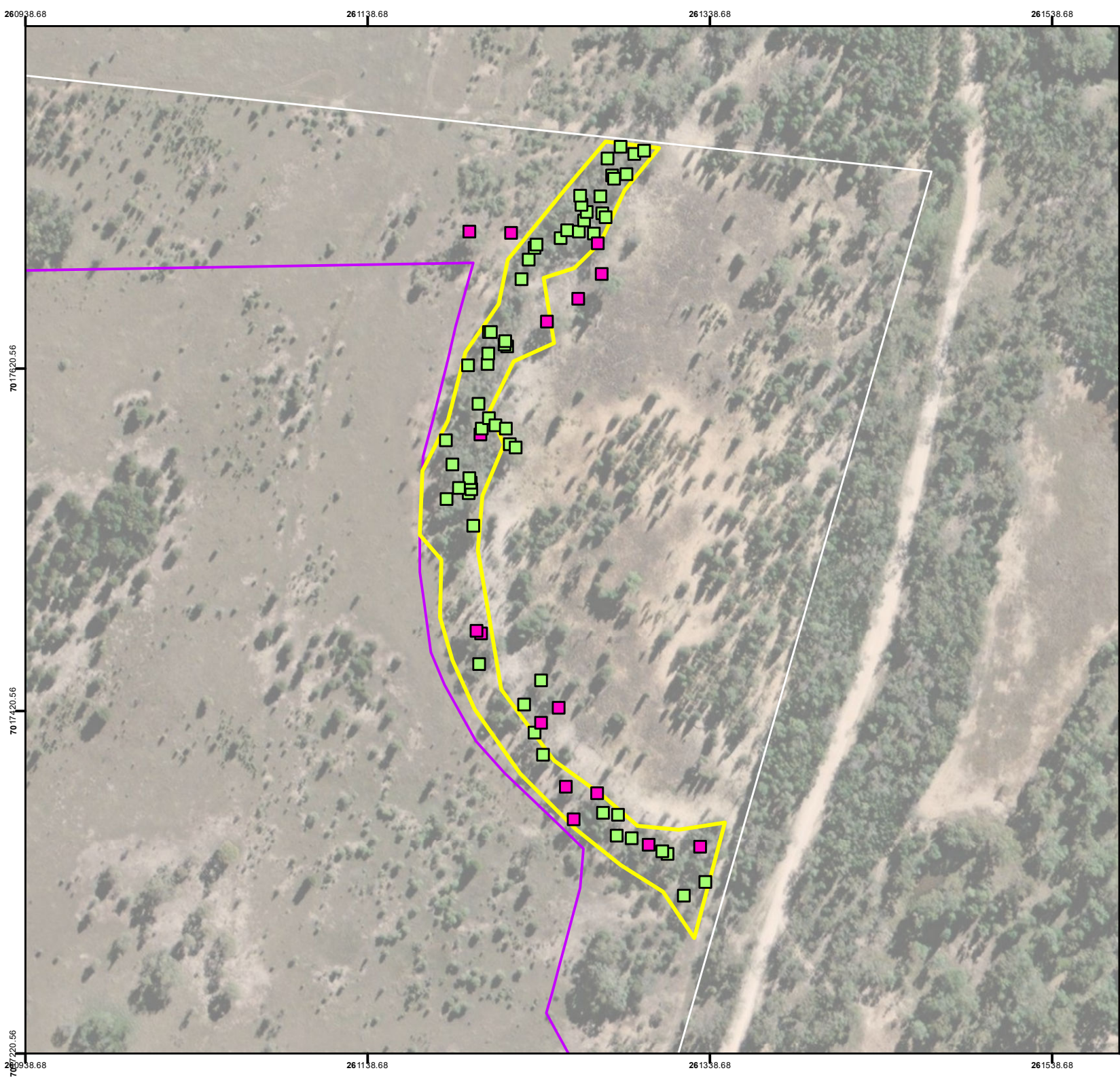
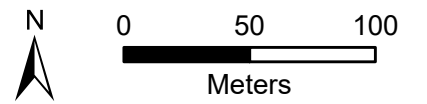


Figure 13:
 Habitat Trees - North-East Area
 Everleigh Solar Farm Ecological Assessment



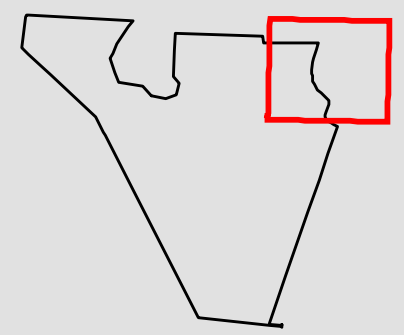
Scale: 1:3,000
 Coordinate System: GDA 1994 MGA Zone 56
 Datum: GDA 1994

Legend

- Regrowth Patch (RE11.3.25)
- Proposed Footprint 8
- RP190982 Lot Plan Boundary

Habitat Tree (75 Trees)

- Breeding Habitat (>50cm) - 16 trees
- Foraging Habitat (>30 - 50cm) - 59 trees



Data sources:
 Habitat Trees - Ausecology

Document History:

Rev	Reason for issue	Author	Approver	Date
0	Issued for Information	NC	RR	02/05/2023
1	Issued for Information	NC	RR	11/05/2023

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