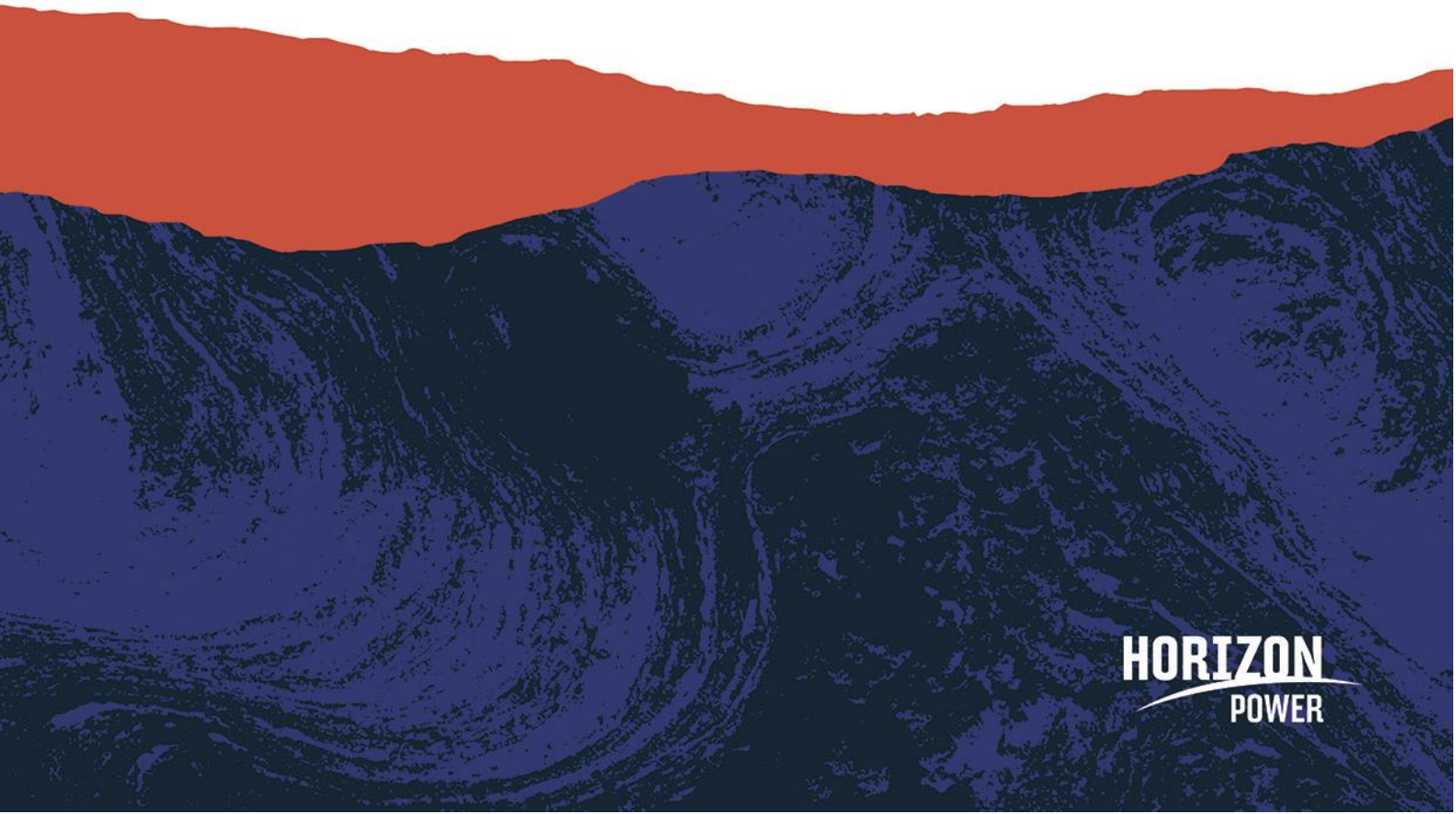
Camballin Renewable Energy Project - Native Vegetation Clearing Permit

Supporting Document

November 2024



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1 Introduction

1.1 Project Context

Horizon Power is a Western Australian (WA) Government Trading Enterprise (GTE) and the state's regional and remote energy utility. Horizon Power operates under the *Electricity Corporations Act 2005* and is governed by a Board of Directors accountable to the Minister for Energy. Horizon Power is an experienced asset manager undertaking active management of vast electricity networks and generation assets across WA, utilising mature and robust operational, health and safety, and environmental systems.

The power station in Camballin also provides power to Looma, with the Power Purchase Agreement for Looma/Camballin due to expire in 2028, and Horizon Power is seeking to deliver a cleaner and greener Future Energy System for the town. The aim is to balance the values and needs of the community and the State without compromising system reliability.

As part of the Kimberley Future Energy System project, Horizon Power is proposing to install a renewable energy facility in Looma/Camballin in WA (the Project). The Project will facilitate decarbonisation of the system with a combination of the development of a centralised renewable generation and increased consumer energy resources. Horizon Power has a target of 40% renewables, with the Project comprising geotechnical surveys, several solar arrays, battery storage, laydown and construction areas, access tracks, ancillary infrastructure and network connection infrastructure. The Project is expected to consist of several solar arrays connected to the existing power station. The clearing area required for the Project is up to 4.1 ha and the final design and footprint will be determined once geotechnical surveys are undertaken.

The Project will require the clearing of no more than 4.1 ha and will be contained within the Development Envelope (DE), which is shown in Figure 1 and is 5.1 ha in size. A Native Vegetation Clearing Permit (NVCP) will be required from the Department of Water and Environment Regulation (DWER).

1.2 Scope and Purpose

This document has been prepared to support a NVCP application for the Project. Specifically, this document provides further detail regarding the proposed activities (Section 2) and related clearing (Section 3).

To support environmental approvals for the Project, a biological survey was undertaken by GHD (2024). The results of these surveys, as relevant to the proposed clearing, are summarised in Section 4 of this document and have been taken into account when avoiding and mitigating project environmental impacts (Section 6).

An assessment of the 10 Clearing Principles as outlined in '*A guide to the assessment of applications to clear native vegetation*' (DER, 2014) has also been undertaken and is presented in Section 8.

A Construction Environment Management Plan (CEMP) has also been prepared in support of the NVCP Application and is provided in Appendix A.

2 Description of the Activity

2.1 Project Location

The Project is located off Camballin-Myroodah Road, approximately 1.4 km northeast of Looma. Land details of the DE are provided in Table 1 and the DE is shown in Figure 1.

Table 1 Development Envelope Location

Size of Development Envelope (ha)	Development Envelope location	Shire	Neighbouring land uses
5.1	Camballin-Myroodah Road reserve (Land ID: 3131768)	Shire of Derby/West Kimberley	Freehold regional land, the Liveringa pastoral lease and road reserve
	Pastoral Lease N049702 - Lot 1500 on DP75877, LR3025/643 Pastoral Lessee: Northern Australia Pastoral Properties Pty Ltd Parcel subject to easement J558030 (for Electricity Purposes)		
	Crown Grant in Trust (Conditional Freehold) - Lot 75 on DP213140, 1417/796 Registered Proprietor: Aboriginal Lands Trust		

Figure 1 Development Envelope

2.2 Activity Overview and Timelines

Geotechnical survey works will be required for the Project and will consist of mainly incidental clearing (driving over and parking on native vegetation) for vehicle / machinery access to test sites.

The Project will consist of the construction of several solar arrays, battery storage, laydown and construction areas, access tracks, ancillary infrastructure and network connection infrastructure.

A five-year clearing permit is requested to accommodate supplier readiness, procurement of batteries and renewables technology with clearing undertaken within 3 months of construction.

2.3 Land Access

As an 'energy operator', Horizon Power has certain rights under Sections 46 and 49 of the *Energy Operators (Powers) Act 1979* which allow it to access and use land for the purpose of constructing, maintaining and operating electricity infrastructure. Horizon Power will utilise these powers for the geotechnical investigations. The site is currently leased by Horizon Power from the Aboriginal Lands Trust and sub-leased to the IPP. Horizon Power is seeking a partial surrender of the lease from the current sublease, to facilitate construction of the Project.

3 Description of Proposed Clearing

3.1 Proposed Clearing Area

The final design and footprint required for the Project will be determined once geotechnical survey works are undertaken and will also depend on the engineering and social constraints of the site. The Project will require 4.1 ha of clearing within the 5.1 ha DE (the remaining 1 ha within the DE has already been cleared for tracks and existing infrastructure, as shown in Figure 1). Clearing is required for the following:

- Geotechnical surveys
- Solar arrays, battery storage, laydown and construction areas, ancillary infrastructure
- Network connection infrastructure and access tracks.

3.2 Proposed Clearing Method

Geotechnical survey works will consist of mainly incidental clearing (driving over and parking on native vegetation) for vehicle / machinery access to test sites.

Clearing for the solar arrays, network connection and associated infrastructure will be undertaken via mechanical removal.

4 Biological Survey

To inform the Project, a detailed (single season) flora and vegetation survey and a basic and targeted fauna survey has been undertaken by GHD (2024) on 24 March 2024. The biological survey was undertaken in accordance with the Environmental Protection Authority (EPA) guidelines (EPA, 2016 and EPA, 2020) and is summarised in Table 2.

Table 2 Summary of Biological Surveys Relevant to the DE

Survey	Summary of Findings
Kimberley IRP Biological Survey (GHD, 2024) (IBSA Number: IBSA-2024-0323)	**Survey Dates:** 24 March 2024 **Survey Area:** Synonymous with the DE shown in Figure 1 (5.1 ha) **Flora / Vegetation Findings**: – 46 flora taxa were recorded during the survey. Dominant plant families were Fabaceae, Poaceae and Malvaceae, with *Acacia*, *Eriachne*, *Grevillea*, *Senna* and *Zornia* being the most frequently recorded genera – One Department of Biodiversity, Conservation and Attractions (DBCA) listed Priority 3 flora taxa *Polymeria* ?sp. Broome (K.F. Kenneally 9759) was tentatively recorded from the DE. The collection did not have flowers and therefore could not be confirmed to species level, however, has several other characters that align with this taxon. A total of eight individuals were recorded from two locations. – Two introduced flora taxa were recorded in the DE. Neither of them were declared pests or a weed of national significance. – One vegetation type was recorded - VT01 (Open woodland of *Corymbia zygophylla* over open shrubland of *Acacia tumida*, *Grevillea refracta* and *Grevillea wickhamii* subsp. *aprica* on red-orange sandplain) – No Threatened Ecological Communities (TECs) listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or *Biodiversity Conservation Act 2016* (BC Act) or Priority Ecological Communities (PECs) listed by DBCA were identified within the DE during the field survey. – The majority of the vegetation within the DE is in Excellent condition (3.54 ha (69.4%)) with limited signs of disturbances and typical vegetation structure and diversity recorded, with the main disturbance being the track and associated existing infrastructure. Presence of weeds such as **Cenchrus ciliaris* occurred opposite the track in low covers, which reduced the vegetation condition to Very Good (0.56 ha (11.0%)) in these areas. **Fauna / Fauna Habitat Findings**: – One fauna habitat was identified – Mixed tall open shubland plain (Open woodland of *Corymbia zygophylla* over open shrubland of *Acacia tumida*, *Grevillea refracta* and *Grevillea wickhamii* subsp. *aprica* on red-orange sandplain). – The survey identified 25 species (20 birds, 2 mammals and 3 reptiles). Of these, one species is an introduced species (the Donkey (*Equus asinus*)). – No conservation significant fauna were recorded in the DE. – Fauna species listed as Threatened under the BC Act or by the DBCA that are considered likely to occur are: • The Fork-tailed swift (*Apus pacificus*) – Migratory • Gouldian Finch (*Chloebia gouldiae*) – Priority 4 • Grey Falcon (*Falco hypoleucos*) – Vulnerable • Peregrine Falcon (*Falco peregrinus*) – Other specially protected fauna • Barn Swallow (*Hirundo rustica*) – Migratory • Princess Parrot (*Polytelis alexandrae*) – Priority 4 • Ghost Bat (*Macroderma gigas*) – Vulnerable • Bilby (*Macrotis lagotis*) – Vulnerable

Survey	Summary of Findings
	• Northern Short-tailed Mouse (*Leggadina lakedownensis*) – Priority 4 • West Kimberley Rock-wallaby (*Petrogale lateralis kimberleyensis*) – Endangered • Yellow-lipped Cave Bat (*Vespadelus douglasorum*) – Priority 2 – There are no conservation reserves within the DE – The nearest Environmentally Sensitive Area (ESA) is located approximately 4 km east of the DE, which is associated with the Camballin Floodplain (Le Livre Swamp System), a Nationally Important Wetland, and a major post-breeding refuge for waterbirds.

5 Existing Environment

The existing environment is summarised in Table 3.

Table 3 Existing environment

<table>
<tr><th>Environmental value</th><th>Assessment</th></tr>
<tr><td>Vegetation associations and condition</td><td>The project is located within Pre-European Vegetation Associations 64 and 702. More than 99.9% of these vegetation associations remain at the state, bioregion, subregion and local government authority (LGA) scale.
<table>
<tr><th>Vegetation association</th><th>Scale</th><th>Pre-European extent (ha)</th><th>Current extent (ha)</th><th>% Remaining</th><th>% of current extent in all DBCA managed land (proportion of current extent)</th></tr>
<tr><td rowspan="4">64</td><td>State: WA</td><td>434,783.66</td><td>434,560.88</td><td>99.95</td><td>No data</td></tr>
<tr><td>Interim Biogeographic Regionalisation for Australia (IBRA) Bioregion: Dampierland</td><td>434,783.66</td><td>434,560.88</td><td>99.95</td><td>No data</td></tr>
<tr><td>IBRA Subregion: Fitzroy Trough</td><td>410,085.60</td><td>409,862.82</td><td>99.95</td><td>No data</td></tr>
<tr><td>LGA: Shire of Derby/West Kimberley</td><td>427,578.09</td><td>427,355.31</td><td>99.95</td><td>No data</td></tr>
<tr><td rowspan="4">702</td><td>State: WA</td><td>25,433.14</td><td>25,418.64</td><td>99.94</td><td>No data</td></tr>
<tr><td>IBRA Bioregion: Dampierland</td><td>25,433.14</td><td>25,418.64</td><td>99.94</td><td>No data</td></tr>
<tr><td>IBRA Subregion: Fitzroy Trough</td><td>25,433.06</td><td>25,418.56</td><td>99.94</td><td>No data</td></tr>
<tr><td>LGA: Shire of Derby/West Kimberley</td><td>25,433.14</td><td>25,418.64</td><td>99.94</td><td>No data</td></tr>
</table>
One vegetation type was identified in the DE, with the remainder of the DE recorded as cleared (GHD, 2024):
– VT01 – Open woodland of Corymbia zygophylla over open shrubland of Acacia tumida, Grevillea refracta and Grevillea wickhamii subsp. aprica on red-orange sandplain – 4.1 ha
– Cleared – 1 ha.
The majority of the vegetation within the DE is in Excellent condition (3.54 ha (69.4%)) with limited signs of disturbances and typical vegetation structure and diversity recorded. The main disturbance is the track and associated existing infrastructure. Presence of weeds such as *Cenchrus ciliaris occurred opposite the track in low covers, which reduced the vegetation condition to Very Good (11.06%) in these areas (GHD, 2024).
– Excellent – 3.54 ha (69.4%)
– Very Good – 0.56 ha (11.0%)
– Cleared –1 ha (19.6%)</td></tr>
<tr><td>Fauna habitat</td><td>GHD (2024) recorded the following fauna habitat within the DE:
– Mixed tall open shrubland plain – Open woodland of Corymbia zygophylla over open shrubland of Acacia tumida, Grevillea refracta and Grevillea wickhamii subsp. aprica on red-orange sandplain – 4.1 ha
– Cleared – 1 ha
The fauna habitat is considered to be of to ‘High’ value habitat for fauna (GHD, 2024).</td></tr>
<tr><td>Significant fauna</td><td>No fauna listed under the BC Act or by the DBCA were recorded in the DE during the GHD (2024) survey. A likelihood of occurrence assessment by GHD (2024) identified the following conservation significant species as likely to occur within the DE:
– The Fork-tailed Swift (Apus pacificus) – Migratory: The Fork-tailed Swift is likely to occur across the DE during the seasonal non-breeding period and forage aerially over the habitat.</td></tr>
</table>

Environmental value	Assessment
	– **Gouldian Finch (*Chloebia gouldiae*) – Priority 4**: The DE provides suitable foraging habitat, therefore the species is likely to occur at least on an occasional basis. – **Grey Falcon (*Falco hypoleucos*) – Vulnerable**: The DE provides suitable foraging habitat, therefore the species is likely to occur at least on an occasional basis. – **Peregrine Falcon (*Falco peregrinus*) – Other specially protected fauna:** The DE provides suitable foraging habitat, therefore the species is likely to occur at least on an occasional basis. – **Barn Swallow (*Hirundo rustica*) – Migratory:** The DE provides suitable foraging habitat, therefore the species is likely to occur at least on an occasional basis. – **Princess Parrot (*Polytelis alexandrae*) – Priority 4:** The DE provides suitable foraging habitat, therefore the species is likely to occur at least on an occasional basis. – **Ghost Bat (*Macroderma gigas*) – Vulnerable:** There is no suitable roost habitat for the Ghost Bat within the DE, however there is extensive potential roost habitat (rocky breakaway) in proximity to the DE. Therefore, the species is likely to forage within the DE, at least on an occasional basis. – **Bilby (*Macrotis lagotis*) – Vulnerable:** The DE provides suitable foraging habitat, therefore the species is likely to occur at least on an occasional basis. – **Northern Short-tailed Mouse (*Leggadina lakedownensis*) – Priority 4:** The habitat is suitable for the Northern Short-tailed mouse, in the form of sandplain with tussock and hummock grasses, and sparse shrubland on clayey soil. – **West Kimberley Rock-wallaby (*Petrogale lateralis kimberleyensis*) – Endangered:** There is suitable rocky habitat in proximity of the DE for the West Kimberley Rock-wallaby, and therefore the species may use the DE for foraging. – **Yellow-lipped Cave Bat (*Vespadelus douglasorum*) – Priority 2:** Yellow-lipped cave bat is likely to roost nearby and forage within DE as there is extensive rocky breakaway (possible roost habitat) located in close proximity of the DE.
Significant ecological linkage	The proposed area is not part of a significant ecological linkage.
Ecological communities	No State or Federally listed PECs or TECs were recorded within the DE by GHD (2024).
Significant flora	One DBCA listed Priority 3 flora taxa, *Polymeria* ?sp. Broome (K.F. Kenneally 9759) was tentatively recorded from the DE. The collection did not have flowers and therefore could not be confirmed to species level, however, has several other characters that align with this taxon. A total of eight individuals were recorded from two locations. *Polymeria* sp. Broome (K.F. Kenneally 9759) is known from the Dampierland bioregion, north and south of Broome near the coast and an historic outlier east near Fitzroy Crossing in the Great Sandy Desert bioregion (Western Australian Herbarium, 2024). This tentative record is the first collection in this area, however, not considered a range extension as this tentative record is within the known taxon range.
Wetlands and/or waterways	No *Rights in Water and Irrigation Act 1914* (RIWI Act) Rivers overlap the DE (GoWA, 2024a). The DE overlaps the draft RIWI Act Canning-Kimberley Groundwater Area, RIWI Act Proclaimed Surface Water Area (Fitzroy River and Tributaries) and a RIWI Act Proclaimed Irrigation District (Camballin Irrigation District) (GoWA, 2024a). There are no wetland features overlapping the DE. No permanent or semi-permanent watercourses or wetlands overlap the DE. No impacts to waterways and no water extraction from a waterway is proposed for the works.
Water resources	The DE does not overlap a mapped Public Drinking Water Source Areas (PDWSA) (GoWA, 2024a). No impacts to PDWSAs are anticipated in association with the proposed works as there will be no clearing or ground-breaking activities outside of the DE. The DE overlaps the draft RIWI Act Canning-Kimberley Groundwater Area. Depth to groundwater in bores around Looma indicates groundwater ranges from 10 m to 50 m. No extraction of groundwater is expected for the Project.
Conservation Reserves	The DE does not overlap any conservation reserves and none occur within 90 km of the DE (GoWA, 2024a). No impacts to conservation areas are anticipated in association with this project.
Environmentally Sensitive Areas (ESAs)	The nearest ESA is located approximately 4 km east of the DE, which is associated with the Camballin Floodplain (Le Livre Swamp System), a Nationally Important Wetland, and a major post-breeding refuge for waterbirds.

Environmental value	Assessment
Land and soil quality	The DE is within the St George Soil-Landscape System, which is described as rocky sandstone plateaux and mountains supporting open spinifex with stunted trees; also lower sandplains with pindan vegetation of *Acacias* with curly spinifex and ribbon grass (GoWA, 2024a). The proposed clearing area is not within an area at risk of Acid Sulfate Soils and does not intersect any contaminated sites (GoWA, 2024a). No off-site impacts are anticipated in association with the Project. Land and soil quality within the DE is also not likely to be impacted by the Project.
Heritage-related values and native title matters	There are no National Heritage Area or World Heritage Areas mapped as overlapping the DE (DCCEEW, 2024). The West Kimberley National Heritage Place is located approximately 2.5 km from the DE. This National Heritage Place is not expected to be impacted by the Project as no impacts are expected outside of the DE.
Air quality	The proposed works are unlikely to contribute significantly to dust. Dust will be managed during construction in accordance with the CEMP. No significant receptors are directly adjacent to the project and no significant air emissions are expected that would impact the airshed.
Amenity values	The proposed construction is expected to generate typical construction noise, no sensitive receptors are directly adjacent to the DE, therefore no significant noise or vibration impacts are expected. No heritage buildings are present that may be impacted by vibration. Visual amenity will be impacted by the solar arrays; however, the Project is appropriate for the land use zoning and no sensitive receptors are adjacent.

6 Avoidance, Mitigation and Management Measures

6.1 Avoidance

Initial avoidance and minimisation was undertaken during site selection, including placement of the solar infrastructure adjacent to the existing power station to reduce the clearing associated with additional transmission infrastructure. Additionally, the decision was made to utilise the existing power station as opposed to construction of a new power station.

Sensitive environmental features will be considered prior to construction, in accordance with the CEMP to prevent impacts.

6.2 Mitigation and Management

A CEMP has been developed for the Project which lists the specific mitigation and management measures to be applied during construction of the Project (see Appendix A). Key management measures for the geotechnical works and project infrastructure include:

- No clearing is permitted outside the DE.
- Clearing will be minimised where possible through placement of assets and access tracks in existing cleared locations where possible.
- Works will be undertaken systematically to minimise re-run and compaction of access tracks.
- Areas of degraded, sparsely vegetated and/or previously cleared areas will be preferentially selected for the location of test pits and laydown areas.
- The clearing locations are to be demarcated with flagging tape, GPS or similar prior to clearing activities.
- Clearing areas are to be checked by an Environmental Specialist or Site Supervisor prior to clearing to ensure no more than 4.1 ha of clearing is undertaken for the Project.
- A pre-clearing environmental toolbox will be held so all staff are aware of their responsibilities under the permit.
- Clearing of native vegetation will be undertaken in a slow, progressive manner in one direction to allow fauna to move away from the clearing area.
- Movement of vehicles and machinery will be in convoy along access tracks/ routes and will not go into adjacent vegetation.

- Vehicles and machinery will arrive clean, and weed control will be undertaken at the site post-construction as required.

7 Stakeholder Engagement

Horizon Power has undertaken consultation with a number of key stakeholders including the Shire of Derby-West Kimberley, Walalakoo Aboriginal Corporation, Department of Communities, Department of Planning, Lands and Heritage, Water Corporation and local elders.

8 Assessment Against the 10 Clearing Principles

An assessment against the 10 Clearing Principles has been undertaken to support the NVCP application for the Project, as presented in Table 4. The assessment found that the proposed clearing of native vegetation for the Project will not be at variance with the 10 Clearing Principles.

Table 4 Assessment Against the 10 Clearing Principles

Principle	Assessment	Outcome
(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.	Up to 4.1 ha of native vegetation is proposed to be cleared for the Project within the DE. **Vegetation** The DE is located in the Dampierland bioregion and the Fitzroy Trough sub-region as described by IBRA. One vegetation type was identified in the DE during the GHD (2024) survey (VT01 - Open woodland of *Corymbia zygophylla* over open shrubland of *Acacia tumida*, *Grevillea refracta* and *Grevillea wickhamii* subsp. *aprica* on red-orange sandplain). The vegetation type was representative of the vegetation associations in the region, with over 99% of pre-European extent remaining. The vegetation within the DE is in Excellent and Very Good condition with very limited signs of disturbance. The main disturbance is the track and associated infrastructure within the DE (GHD, 2024). Weeds such as **Cenchrus ciliaris* occurred opposite the track in low covers, with the vegetation being in Very Good condition in these areas. No TECs listed under the EPBC Act or BC Act or PECs listed by DBCA were identified within the DE (GHD, 2024). **Flora** Forty-six (46) flora species representing 25 families and 40 genera were recorded from the DE during the field survey (GHD, 2024). This total comprised 44 native taxa and two introduced flora taxa. One DBCA listed Priority 3 flora taxa, *Polymeria* ?sp. Broome (K.F. Kenneally 9759) was tentatively recorded from the DE. The collection did not have flowers and therefore could not be confirmed to species level, however, has several other characters that align with this taxon. A total of eight individuals were recorded from two locations as shown in Figure 2. *Polymeria* sp. Broome (K.F. Kenneally 9759) is known from the Dampierland bioregion, north and south of Broome near the coast and a historic outlier east near Fitzroy Crossing in the Great Sandy Desert bioregion (Western Australian Herbarium, 2024). This tentative record is the first collection in this area, however, it is not considered a range extension as this tentative record is within the known taxon range. Advice from DBCA noted that this species is widely distributed within the West Kimberley and is not at immediate risk from limited local development (N. Godfrey, personal communication, 12 July 2024). A likelihood of occurrence assessment conducted by GHD (2024) identified no other Threatened or Priority flora species as likely to occur within the DE. Two introduced flora taxa were recorded in the DE (**Cenchrus ciliaris* and **Calotropis gigantea*). No Declared Pests or WoNS were recorded. **Fauna and fauna habitat** One fauna habitat type was recorded in the DE the GHD (2024) survey; Mixed tall open shubland plain (open woodland *of Corymbia zygophylla* over open shrubland of *Acacia tumida*, *Grevillea refracta* and *Grevillea wickhamii* subsp. *aprica* on red-orange sandplain). This habitat type is considered to have high value for fauna species. A total of 25 fauna species were identified in the DE (GHD, 2024). This total comprised 20 birds, 2 mammals and 3 reptiles and included one introduced species (the Donkey). No significant fauna species were recorded during the survey. Eleven conservation significant species are considered likely to occur in the DE due to potentially suitable habitat (GHD, 2024): – The Fork-tailed swift (*Apus pacificus*) – Migratory – Gouldian Finch (*Chloebia gouldiae*) – Priority 4	Unlikely to be at variance.

Principle	Assessment	Outcome
	– Grey Falcon (*Falco hypoleucos*) – Vulnerable – Peregrine Falcon (*Falco peregrinus*) – Other specially protected fauna – Barn Swallow (*Hirundo rustica*) – Migratory – Princess Parrot (*Polytelis alexandrae*) – Priority 4 – Ghost Bat (*Macroderma gigas*) – Vulnerable – Bilby (*Macrotis lagotis*) – Vulnerable – Northern Short-tailed Mouse (*Leggadina lakedownensis*) – Priority 4 – West Kimberley Rock-wallaby (*Petrogale lateralis kimberleyensis*) – Endangered – Yellow-lipped Cave Bat (*Vespadelus douglasorum*) – Priority 2 Up to 4.1 ha of native vegetation is proposed to be cleared for the Project. This vegetation is considered to be well represented locally and regionally. The native vegetation within the DE is not considered to comprise high levels of biological diversity compared to the surrounding region, and as such, the proposed clearing for this Project is not considered to be at variance with this principle.	
(b) Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous Western Australia.	One fauna habitat type was identified in the DE by GHD (2024): – Mixed tall open shrubland plain – Open woodland of *Corymbia zygophylla* over open shrubland of *Acacia tumida*, *Grevillea refracta* and *Grevillea wickhamii* subsp. *aprica* on red-orange sandplain – 4.1 ha Based on database searches (NatureMap, DBCA Database and Protected Matters Search Tool (PMST)), conducted by GHD (2024), 51 significant terrestrial vertebrate taxa were identified within 20 km of the DE. This total comprised 35 birds, seven reptiles, three freshwater species, one amphibian and 10 mammals. A total of 25 terrestrial vertebrate species were recorded within the DE during the GHD (2024) field survey. Of these, one species is an introduced species (the Donkey). No Threatened fauna listed under the EPBC Act or BC Act was recorded during the GHD (2024) survey. The DE supports habitat for eleven significant fauna species (that were identified as likely to occur post-survey), in the form of mostly dispersal and foraging habitat. The assessment was based on species' biology, habitat requirements, the quality and availability of suitable habitat and previous records of species in the DE and locality. The conservation significant species including habitat preferences are described below. **Fork-tailed Swift** The Fork-tailed Swift is common in coastal and sub-coastal areas including near and offshore islands. There are also scattered inland records. This species is known to occupy a wide range of habitats including inland open plains, coastal cliffs, beaches, urban areas and wooded areas. The species is almost exclusively aerial (DoE, 2024a). The Fork-tailed Swift is likely to occur across the DE during the seasonal non-breeding period and forage aerially over the mixed tall open shrubland plain habitat (GHD, 2024). Habitat critical to the survival of the Fork-tailed Swift is not defined, therefore this is considered supporting habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA 2024a) datasets, habitat for the Fork-tailed Swift is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.01% of potential habitat available within 10 km of the DE. **Gouldian Finch** The Gouldian Finch inhabits open woodlands that are dominated by *Eucalyptus* trees and support a ground cover of Sorghum and other grasses (Boekel, 1980). The species prefers grasses (especially Sorghum) that are nearby to water. In the breeding season they	Unlikely to be at variance.

Principle	Assessment	Outcome
	inhabit unburnt hollow-bearing *Eucalyptus* trees (Higgins et al., 2006). It is likely the Gouldian Finch will use the mixed tall open shrubland plain habitat within the DE for foraging on at least an occasional basis (GHD, 2024). The GHD (2024) survey did not identify any suitable breeding trees within the DE. Habitat critical to the survival of the Gouldian Finch is not defined, therefore this is considered supporting habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA, 2024a) datasets, habitat for the Gouldian Finch is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.02% of potential habitat available within 10 km of the DE. **Grey Falcon** The Grey Falcon is an Australian endemic, usually confined to the arid inland. It inhabits *Triodia* grassland, *Acacia* shrubland, and lightly timbered arid woodland especially stony, inland plains, gibber deserts, sandridges, pastoral lands, and timbered watercourses, but seldom in driest deserts (Morcombe, 2004). This species is known to occupy a wide range of habitats. It is likely this species will use the mixed tall open shrubland plain habitat within the DE for foraging on at least an occasional basis (GHD, 2024). Habitat critical to the survival of the Grey Falcon is not defined, therefore this is considered supporting habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA, 2024a) datasets, habitat for the Grey Falcon is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.01% of potential habitat available within 10 km of the DE. **Peregrine Falcon** The Peregrine Falcon is found on and near cliffs, gorges, timbered watercourses, riverine environments, wetlands, plains, open woodlands, and pylons and spires of buildings, though less frequently in desert regions (Morcombe, 2004; Pizzey & Knight, 2012). They are not common but can be found almost anywhere throughout WA. The Peregrine Falcon is likely to use the mixed tall open shrubland plain habitat within the DE on an opportunistic basis as foraging habitat (GHD, 2024). Habitat critical to the survival of the Peregrine Falcon is not defined, therefore this is considered supporting habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA, 2024a) datasets, habitat for the Peregrine Falcon is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.01% of potential habitat available within 10 km of the DE. **Barn Swallow** The Barn Swallow inhabits open country in coastal lowlands near water, towns and cities. They often occur on overhead wires, over freshwater wetlands, paperbark Melaleuca woodland, mesophyll shrub thickets and tussock grassland (Pizzey, 1980; Blakers et al., 1984; Schodde & Mason, 1999). The mixed tall open shrubland plain habitat in the DE provides suitable foraging habitat, therefore the species is likely to occur at least on an occasional basis. Habitat critical to the survival of the Barn Swallow is not defined, therefore this is considered supporting habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA, 2024a) datasets, habitat for the Barn Swallow is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.02% of potential habitat available within 10 km of the DE. **Princess Parrot** The Princess Parrot occurs in arid regions of WA, the Northern Territory and South Australia. It inhabits open savannah woodlands and shrublands, consisting of scattered stands of *Eucalyptus*, *Casuarina* or *Allocasuarina* trees, with an understorey of shrubs (DoE, 2024b). It also occurs in *Eucalyptus* or *Allocasuarina* trees in riverine or littoral areas. The Princess Parrot is likely to use the mixed tall	

Principle	Assessment	Outcome
	open shrubland plain habitat within the DE on an opportunistic basis as foraging habitat (GHD, 2024). Habitat critical to the survival of the Princess Parrot is not defined, therefore this is considered supporting habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA, 2024a) datasets, habitat for the Princess Parrot is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.02% of potential habitat available within 10 km of the DE. **Ghost Bat** The Ghost Bat occurs in a wide range of habitats ranging from the arid Pilbara to tropical savanna woodlands and rainforests (TSSC, 2016). They require an undisturbed cave, deep fissure or disused mine shaft to roost in. The species' range is discontinuous with geographically disjunct colonies in the Pilbara, Kimberley, north Northern Territory, Gulf of Carpentaria, coastal and near coastal eastern Queensland from Cape York to near Rockhampton, and Western Queensland (TSSC, 2016). The Ghost Bats in the Kimberley are distinct from all other Australian populations with genetic structure evident in the Kimberley populations (Worthington Wilmer, 1996). A targeted assessment was undertaken for the Ghost Bat during the GHD (2024) survey and the Ghost Bat was not recorded. There is no suitable roost habitat for the Ghost Bat within the DE, however there is extensive potential roost habitat (rocky breakaway) in proximity to DE. Therefore, the species is likely to forage within the DE, at least on an occasional basis (GHD, 2024). Habitat critical to the survival of the Ghost Bat is not defined, therefore this is considered supporting habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA, 2024a) datasets, habitat for the Ghost Bat is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.02% of potential habitat available within 10 km of the DE. **Bilby** The Bilby inhabits open tussock grassland on uplands and hills, mulga woodland/shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas (Woinarski et al., 2014; Skroblin et al., 2017). Bilby distribution is limited by the availability of soils suitable for burrowing, such as sandy areas, where burrow excavation is easier (Southgate, 1990; Moseby & O'Donnell, 2003). The Recovery Plan for the Greater Bilby (DCCEEW, 2023) defines suitable habitat for the Bilby in the north of WA as: *woodlands (<10 m) with Eucalyptus and Acacia spp., Pindan woodlands with hummock and tussock grass, on coarse sand to light medium clay; low shrub cover of Acacia spp. Over hummock and tussock grasses, on sandy soils, loams and red earth; spinifex grasslands with low shrub cover of Acacia and Melaleuca spp. on sandy and sandy loam soils* (Cramer et al. 2016). A targeted assessment was undertaken for the Bilby during the GHD (2024) survey, and the Bilby was not recorded. GHD (2024) recorded red-orange sand as the soil colour and type within the DE, which is suitable for the Bilby. The Bilby is likely to occur in the DE as the habitat is suitable for foraging and the species could occur at least on an occasional basis. The DE is considered to contain supporting habitat rather than critical habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA, 2024a) datasets, habitat for the Bilby is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.02% of potential habitat available within 10 km of the DE. **Northern Short-tailed Mouse** The Northern Short-tailed Mouse is known to occur on sandy soils and cracking clays in WA. They have also been recorded on tussock grasslands in northern Australia and stony clay hummock grasslands in the Pilbara (GHD, 2024). The habitat in the DE is suitable for the Northern Short-tailed mouse, in the form of sandplain with tussock and hummock grasses, and sparse shrubland on clayey soil.	

Principle	Assessment	Outcome
	Therefore, the species is likely to occur in the DE. Habitat critical to the survival of the Northern Short-tailed Mouse is not defined, therefore this is considered supporting habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA, 2024a) datasets, habitat for the Northern Short-tailed Mouse is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.02% of potential habitat available within 10 km of the DE. **West Kimberley Rock-wallaby** The West Kimberley Rock-wallaby is a subspecies that is restricted to the west Kimberley. It is adapted to inhabit steep rocks and is therefore restricted to sites with suitable rocky habitat with caves and crevices (GHD, 2024). There is suitable rocky habitat in proximity of the DE for the West Kimberley Rock-wallaby, and therefore the species may use the DE for foraging. Habitat critical to the survival of the West Kimberley Rock-wallaby is not defined, therefore this is considered supporting habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA, 2024a) datasets, habitat for the West Kimberley Rock-wallaby is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.02% of potential habitat available within 10 km of the DE. **Yellow-lipped Cave Bat** The Yellow-lipped Cave Bat is confined to the West Kimberley and mostly occurs in high rainfall areas (>800 mm). The species forages in woodlands, particularly riparian vegetation in proximity to rocky habitat where it will roost in caves and crevices (GHD, 2024). The Yellow-lipped Cave Bat is likely to forage within DE as there is extensive rocky breakaway (possible roost habitat) located in close proximity of the DE. Habitat critical to the survival of the Yellow-lipped Cave Bat is not defined, therefore this is considered supporting habitat. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA, 2024a) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA, 2024a) datasets, habitat for the Yellow-lipped Cave Bat is widespread within a 10 km radius of the DE. Clearing of up to 4.1 ha within the DE, represents approximately 0.02% of potential habitat available within 10 km of the DE. Overall, the fauna values of the DE is highly represented on a local and regional scale (GHD, 2024) and clearing of up to 4.1 ha of fauna habitat is not considered significant for biodiversity of any specific species. There will be no clearing of critical habitat for any of the conservation significant species that are considered likely to occur in the DE. There are no major habitat features such as water bodies, drainage lines or creeks, mature habitat trees or caves in the DE that might constitute breeding habitat for significant fauna. The Project is therefore unlikely to be at variance with this principle.	
(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.	GHD (2024) undertook a detailed assessment for flora and vegetation in March 2024. The survey timing is appropriate for the Northern botanical province (January to March). No flora species listed under the EPBC Act or BC Act were recorded during the survey. GHD (2024) undertook a likelihood of occurrence assessment post-field survey and concluded that no Threatened flora were considered likely to occur within the DE. Native vegetation necessary for the continued existence of rare flora is not considered to occur within the DE. The proposed clearing of native vegetation for the Project is therefore not considered to be at variance with this principle.	Unlikely to be at variance.

Principle	Assessment	Outcome
(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.	The survey by GHD (2024) did not record any ecological communities listed under the EPBC Act, BC Act or by DBCA within the DE. Therefore, the proposed clearing of native vegetation for the Project will not result in impacts to a TEC.	Unlikely to be at variance.
(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.	One vegetation type was recorded within the DE (GHD, 2024). The vegetation type was not identified as conservation significant and the vegetation structure and diversity is considered typical of the region (GHD, 2024). The pre-European vegetation associations mapped as overlapping the DE are: – 'Grasslands, tall bunch-grass low-tree savanna' (Vegetation Association 64) of which there is more than 99% remaining at the State; IBRA bioregion and subregion; and LGA scale. – 'Grass-steppe' (Vegetation Association 702) of which there is more than 99% remaining at the State; IBRA bioregion and subregion; and LGA scale. The DE is located within a rural and undisturbed area. The vegetation within the DE forms part of a large continuous tract of habitat and has a high degree of habitat connectivity with surrounding vegetation, which has similar or better condition vegetation. The vegetation type identified during the survey is not confined to the DE and is considered well represented in the local and regional area. Therefore, it is considered that the native vegetation proposed to be cleared for the Project is not significant as a remnant of native vegetation within an area that has been extensively cleared.	Unlikely to be at variance.
(f) Native vegetation should not be cleared if it is growing in or in association with a watercourse or wetland.	There are no watercourses or wetlands within the DE or within the immediate vicinity of the DE. The Camballin Floodplain (Le Livre Swamp System) is a Nationally Important Wetland located approximately 2.7 km east of the DE. No riparian vegetation was recorded in the DE and there will be no clearing outside the DE, therefore there will be no impacts to this wetland. Depth to groundwater in bores around Looma indicates groundwater ranges from 10 m to 50 m. No extraction of groundwater is expected for the Project. There will be no clearing of native vegetation associated with a watercourse or wetland and no indirect impacts are expected from the Project.	Unlikely to be at variance.
(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	GHD (2024) recorded red-orange sand as the soil colour and type within the DE. The DE is located within the North Fitzroy Plains Soil-Landscape Zone, which is described as floodplains and sandplains (with alluvial plains and undulating plains) on Permian sedimentary rocks of the Canning Basing with self-mulching cracking clays, red deep sands, red sandy earths and red/brown non-cracking clays (GoWA, 2024a). The DE is within the St George Soil-Landscape System, which is described as rocky sandstone plateaux and mountains supporting open spinifex with stunted trees; also lower sandplains with pindan vegetation of acacias with curly spinifex and ribbon grass (GoWA, 2024a). This land system is not susceptible to erosion (Payne and Schoknecht, 2011)	Unlikely to be at variance.

Principle	Assessment	Outcome
	A review of acid sulfate soil (ASS) risk mapping (spatial dataset DWER-048; GoWA, 2024a) indicates the DE has a low risk of ASS occurrence. The DE does not intersect any contaminated sites (spatial dataset DWER-059; GoWA, 2024a). No known contaminated sites are recorded within 20 km of the DE. The DE contains soil that is not susceptible to erosion. It is expected that hydrological regimes will be maintained through design and that standard management practices will be implemented to prevent erosion / sedimentation. Additionally, the DE is located in an area which has previous disturbance, next to the existing power station and access track. The Project will incorporate standard construction management measures to reduce the risk of soil erosion and sedimentation as a result of ground disturbance and clearing (Attachment B). Any dust produced during construction will also be managed through the implementation of a CEMP. Given the small area to be cleared for the solar farm and the linear nature of the connection corridor, it is not likely that the clearing will cause appreciable land degradation that will affect the present or future use of the land. Based on the above, the proposed clearing of native vegetation for the Project is not considered to be at variance with 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.	There are no conservation areas overlapping the DE or within 90 km of the DE. No impacts to conservation areas are anticipated in association with the Project. No off-site impacts are anticipated as a result of the proposed clearing of native vegetation within the DE. It is noted that management measures regarding weeds and disease will be implemented to ensure that weeds are not spread as a result of clearing activities (Appendix A). The proposed clearing is not expected to impact any adjacent conservation areas.	Unlikely to be at variance.
(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.	No RIWI Act Rivers overlap the DE (GoWA, 2024a). The DE does overlap the draft RIWI Act Canning-Kimberley Groundwater Area, RIWI Act Proclaimed Surface Water Area (Fitzroy River and Tributaries) and a RIWI Act Proclaimed Irrigation District (Camballin Irrigation District) (GoWA, 2024a). Depth to groundwater in bores around Looma indicates groundwater ranges from 10 m to 50 m. No extraction of groundwater is expected for the Project. There are no wetland features overlapping the DE. No permanent or semi-permanent watercourses or wetlands overlap the DE. No impacts to waterways and no water extraction from a waterway is proposed for the Project. The DE does not overlap a mapped Public Drinking Water Source Area (PDWSA) (GoWA, 2024a). No impacts to PDWSAs are anticipated in association with the Project as there will be no clearing or ground-breaking activities outside of the DE. Ground-breaking activities for the Project will also be limited to a depth of ~3 m for the installation of the solar array frame, and therefore no impacts to groundwater are expected. It is not expected that the Project will require dewatering or groundwater abstraction within the DE. Potential impacts to surface water quality from erosion / sedimentation / hydrocarbons will be managed. Clearing within the DE is unlikely to cause deterioration in the quality of surface or underground water, therefore the proposal is unlikely to be at variance to this principle.	Unlikely to be at variance.
(j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate,	Climate data obtained from the Camballin meteorological station (station number 003040; approximately 5 km northeast of DE) indicates that mean annual rainfall for the area is 630.6 mm (BoM, 2024). Rainfall is generally received in late summer, with downpours and cyclonic events typical of the region. Camballin is known to be susceptible to flooding associated with storms and cyclones.	Unlikely to be at variance.

Principle	Assessment	Outcome
the intensity of flooding.	The scale of the DE and clearing required is not likely to have an impact on the flood regimes or increase intensity of flooding in the region. It is expected that the hydrological regimes of landforms will be maintained through design and therefore unlikely to incur flooding. Additionally, given the abundance of vegetation within the surrounding region, with over 99% pre-European vegetation remaining, the proposed clearing is not expected to increase the risk of flooding. Standard management measures for construction will be in place to mitigate against / manage erosion and associated environmental aspects. Therefore, the proposed clearing of native vegetation for the Project is not considered to be at variance with this principle.	

Figure 2 Environmental Constraints in the DE

9 Other matters

9.1 Land Planning

The project will be considered Public Works and is expected to be exempt from development approval under Section 6 of the *Planning and Development Act 2005*, however, due regard is required with respect to:

- The purpose and intent of any planning scheme that has effect in the locality where, and at the time when, the right is exercised;
- The orderly and proper planning, and the preservation of the amenity, of that locality at that time; and
- Any advice provided by the responsible authority in the course of the consultation required.

Horizon Power has engaged with the Local Government Authority in the selection of the DE.

9.2 Other Approvals

In considering a clearing matter under section 51O of the *Environmental Protection Act 1986* (EP Act), the Department of Water and Environmental Regulation (DWER) CEO shall have regard to any planning instrument and other relevant matters when making decisions as to clearing permits. 'Other matters' are not defined in the *Environmental Protection Act 1986* (EP Act), and consequently are any matters the CEO considers relevant. Other matters are generally environmental issues not directly within the scope of the clearing principles, but within the object and principles of the Act. Other approvals that may apply to this Project are detailed Table 5. Land access is detailed in Section 2.3.

Table 5 Other approvals

Other approvals	Assessment
Referral to Environmental Protection Authority	Due to the small scale of the Project in a remote location, it is considered that all environmental impacts can be managed under Part V of the EP Act and referral to the EPA is not considered necessary.
Referral to Department of Climate Change, Energy, the Environment and Water (DCCEEW)	*Threatened flora, fauna and ecological communities* A search of the DCCEEW PMST identified 19 Threatened fauna species within 20 km of the DE. Habitat for the West Kimberley Rock-wallaby, Gouldian Finch, Grey Falcon, Bilby, Princess Parrot, Northern Blue-Tongue Skink and Ghost Bat is present in the DE. No TECs were recorded in the DE or within 20 km. Based on aerial imagery and the Soil Landscape Mapping (spatial dataset DPIRD-027, GoWA 2022) and Pre-European Vegetation (spatial dataset DPIRD-006, GoWA 2022) datasets, habitat for the Threatened fauna is widespread within a 10 km radius of the DEs. Overall, the fauna values of the DE are highly represented on a local and regional scale (GHD, 2024) and clearing of fauna habitat for the Project is not considered significant for biodiversity of any specific species and unlikely to trigger a significant impact under the Significant Impact 1.1 Guidelines (DoE, 2013). Given the abundance of alternative habitat, no significant impacts are expected to Threatened fauna, and referral to DCCEEW is not considered to be required. *Migratory fauna* A search of the DCCEEW PMST identified 17 Migratory species within 20 km of the DE. Habitat for the Fork-tailed Swift and Barn Swallow was recorded in the DE. These species have a wide-ranging habitat and no significant habitat for Migratory species is likely to be removed. *National and World heritage* No World Heritage places overlap the DE or are within 20 km of the DE. No National Heritage Places are occur within the DE, however the West Kimberley National Heritage Place is located approximately 2.5 km from the DE. This National Heritage Place is not expected to be impacted by the Project as no impacts are expected outside of the DE. *Wetlands of international importance* No Ramsar Wetlands overlap the DE, with the closest Ramsar Wetland to the DE being Roebuck Bay, located approximately 185 km west. This Ramsar Wetland is not expected to be impacted by the Project as no impacts are expected outside of the DE. Based on the above, the Project is unlikely to result in a significant impact to Matters of National Environmental Significance (MNES).

Other approvals	Assessment
Works Approval or Licence under EP Act	No works approvals or licences are required for this project.
Groundwater or surface water licence under the *Rights in Water and Irrigation Act 1914*	Horizon Power is permitted to access water under Section 42 and 49 of the *Electricity Operator (Powers) Act 1979*. Any licences required for construction water will be acquired by the construction contractor.
Notice of Intent to Clear system under the *Soil and Land Conservation Act 1945*	Not Applicable.
State and municipal heritage	There are no known municipal or State heritage sites within or adjacent to the DE (GoWA, 2024a, GoWA, 2024b). The Project is not expected to impact municipal or State heritage.
Native title	The DE is within the Nyikina Mangala and the Nyikina Mangala #2 Native Title determination and the Shire of Derby-West Kimberley (SDWK) Nyikina and Mangala Native Title International Land Use Agreement (ILUA) area.
Aboriginal Sites of Significance under the *Aboriginal Heritage Act 1972*	A search of the Aboriginal Cultural Heritage Inquiry System shows that the following Aboriginal Heritage sites overlap the DE: – Registered site Langka-Langka (13182) – Creation / Dreaming Narrative – Registered Site Liveringa (13183, 13184) – Burial – Registered site Walangari (13185) – Ritual / Ceremonial – Lodged site Libirrin-Birrin (13377) – Creation / Dreaming Narrative – Historic site Walangari Camp (13186) – Camp; Ritual/ Ceremonial Engagement with the Traditional Owners has commenced and an Aboriginal heritage survey will be conducted. Horizon Power has an external Aboriginal Cultural Heritage Management Policy, that details our commitment to *avoid impacting on Aboriginal Cultural Heritage whenever and wherever possible*. An Aboriginal heritage protection plan will be developed if required, in consultation with the knowledge holders. As appropriate, management measures will be implemented during activities, such as the engagement of cultural heritage monitors during ground disturbing works.

10 References

Blakers, M., S.J.J.F. Davies & P.N. Reilly (1984). The Atlas of Australian Birds. Melbourne, Victoria: Melbourne University Press.

Boekel, C. (1980). Birds of Victoria River Downs Sattion and of Yarralin, Northern Territory Part 2. Australian Bird Watcher. 8:205-211.

Bureau of Meteorology (BoM) (2024) Climate statistics for Australian locations. Monthly climate statistics. Summary statistics Camballin, http://www.bom.gov.au/climate/averages/tables/cw_003040.shtml, Accessed May 2024.

Bureau of Meteorology (2024) Australian Groundwater Explorer, http://www.bom.gov.au/water/groundwater/explorer/map.shtml

Cramer VA, Dziminski MA, Southgate R, Carpenter F, Ellis RJ & van Leeuwen S (2017) A conceptual framework for habitat use and research priorities for the greater bilby (Macrotis lagotis) in the north of Western Australia. Australian Mammalogy 39, 137–151.

Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2023). Recovery Plan for the Greater Bilby (Macrotis lagotis). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: http://www.dcceew.gov.au/environment/biodiversity/threatened/publications/recovery/greater-bilby-2023.

DCCEEW (2024) Protected Matters Search Tool. Canberra, ACT. Available at: <https://pmst.awe.gov.au/#/map?lng=131.52832031250003&lat=-28.671310915880834&zoom=5&baseLayers=Imagery,ImageryLabels> Accessed May 2024

Department of Environment Regulation (DER) (2014), *A guide to the assessment of applications to clear native vegetation. Under Part V Division 2 of the Environmental Protection Act 1986*. Available at: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf

Department of Planning, Land and Heritage (DPLH) (2024). Aboriginal Cultural Heritage Inquiry System. Available at: https://espatial.dplh.wa.gov.au/ACHIS/index.html?viewer=ACHIS, Accessed October 2024

Department of the Environment (DoE) (2013). Matters of National Environmental Significance Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999.

DoE (2024a). Apus pacificus in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: https://www.environment.gov.au/sprat.

DoE (2024b). Polytelis alexandrae in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: https://www.environment.gov.au/sprat.

Environmental Protection Authority (EPA) (2016), Technical Guidance – Flora and vegetation Surveys for Environmental Impact Assessment, EPA, Western Australia.

EPA (2020), Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment, EPA, Western Australia.

GHD (2024), *Kimberley IRP Biological Survey.* Report prepared for Horizon Power. 25 July 2024.

Government of Western Australia (GoWA) (2024a), *Data WA.* Available at: <https://data.wa.gov.au/> Accessed May 2024.

Contaminated Sites Database (DWER-059)

RIWI Act, Groundwater Areas (DWER-034)

Public Drinking Water Source Areas (DWER-033)

RIWI Act, Rivers (DWER-036)

RIWI Act Surface Water and Irrigation District (DWER-037)

DBCA Legislated Lands and Waters (DBCA-011)

Acid Sulfate Soil Risk Map 100K (DWER-048)

Soil Landscape Mapping – Systems (DPIRD-064)

Soil Landscape Land Quality – Zones (DPIRD-017)

Heritage Council WA - State Register (DPLH-006)

Soil Landscape Mapping - Best Available (DPIRD-027)

Pre-European Vegetation (DPIRD-006)

GoWA (2024b), Inherit database, Available at: <http://www.inherit.stateheritage.wa.gov.au/Public/Search/Results?newSearch=True&placeNameContains=&streetNameContains=&suburbOrTownContains=exmouth&lgaContains=&isCurrentlyStateRegistered=false#>, Accessed May 2024.

Higgins, P. J., Peter, J. M., and Cowling, S. J. (Eds.) (2006). 'Handbook of Australian, New Zealand & Antarctic Birds. Volume 7. Boatbill to Starlings.' (Oxford University Press: South Melbourne.)

Moseby KE & O'Donnell E (2003) Reintroduction of the greater bilby, Macrotis lagotis (Reid) (Marsupialia: Thylacomyidae), to northern South Australia: survival, ecology and notes on reintroduction protocols. Wildlife Research 30, 15–27.

Morcombe, M (2004), Field Guide to Australian Birds. Steve Parish Publishing Archer Field Queensland Australia.

Payne, A.L. and Schoknecht, N. (2011). Land systems of the Kimberley Region, Western Australia. Technical Bulletin 98, Department of Primary Industries and Regional Development.

Pizzey, G. (1980). A Field Guide to the Birds of Australia. Collins, Sydney.

Pizzey, G. & Knight, F. (2012). The field guide to the birds of Australia. Harper Collins, Sydney, NSW.

Schodde, R. & I.J. Mason (1999). The Directory of Australian Birds: Passerines. Melbourne, Victoria: CSIRO.

Skroblin A, Carboon T & Martu (2017) Martu knowledge of mankarr (greater bilby): distribution, habitat, management. Kanyirninpa Jukurrpa, The Nature Conservancy, BHP, The University of Melbourne, and The Threatened Species Recovery Hub

Southgate RI (1990) Habitats and diet of the greater bilby Macrotis lagotis Reid (Marsupialia: Peramelidae). In: Seebeck, J.H., P.R. Brown, R.L. Wallis & C.M. Kemper (eds.) Bandicoots and Bilbies. Surrey Beatty & Sons: Chipping Norton, NSW. pp. 303–309.

Threatened Species Scientific Community (TSSC) (2016). Conservation Advice Maroderma gigas Ghost Bat. Canberra: Department of the Environment. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/174-conservation-advice-05052016.pdf.

Western Australian Herbarium (2024). Florabase—the Western Australian Flora. Western Australian Herbarium, Biodiversity and Conservation Science, Department of Biodiversity, Conservation and Attractions. https://florabase.dpaw.wa.gov.au/.

Woinarski J, Burbidge A & Harrison P (2014). The Action Plan for Australian Mammals 2012. CSIRO Publishing. pp.203–207.

Worthington Wilmer, J. (1996). Genetic variation and population structure in the threatened Ghost Bat (Macroderma gigas). Ph.D. Thesis, University of Queensland, Brisbane.

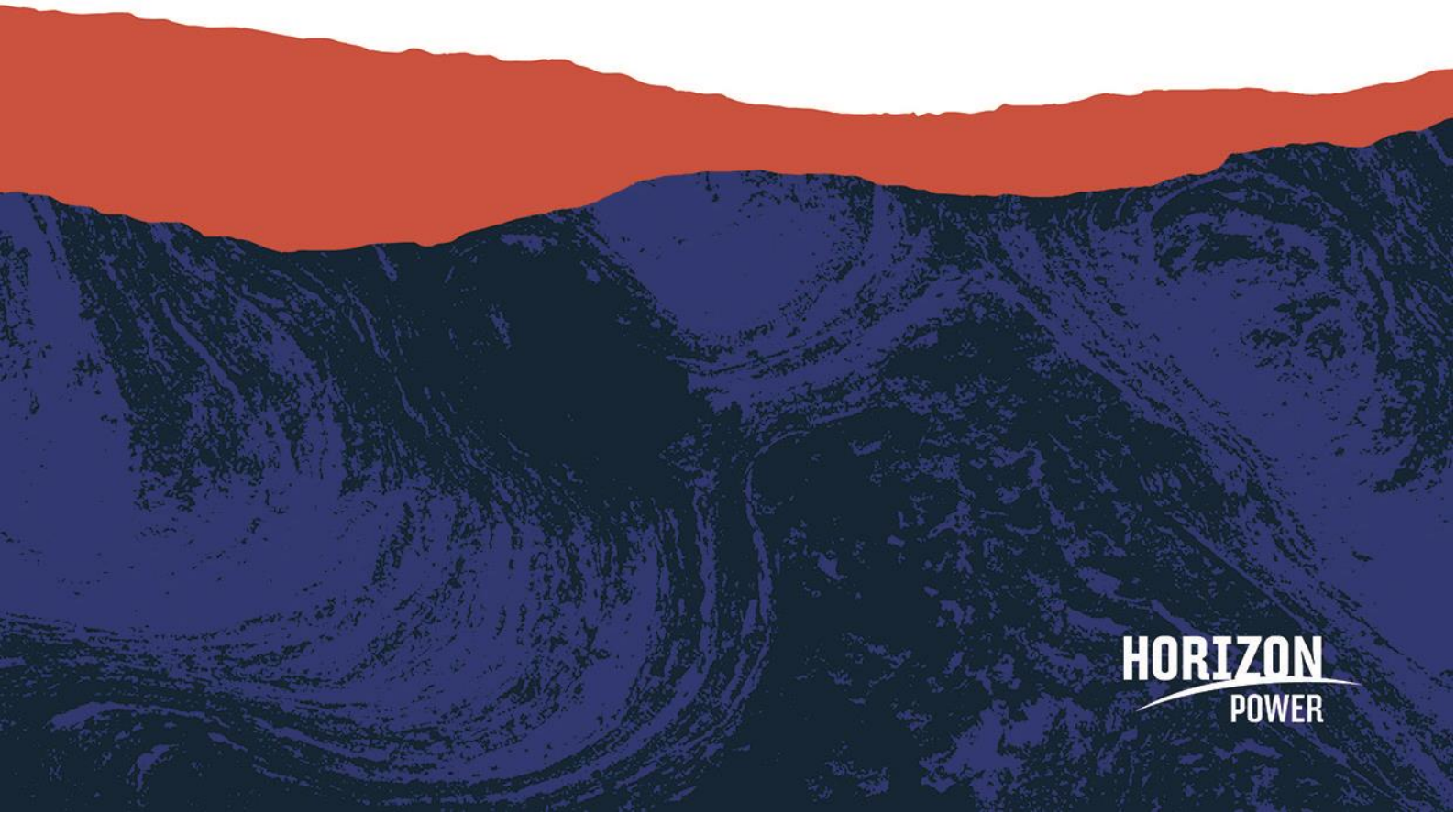
Appendix A: Construction Environmental Management Plan

PROTECTED

Camballin Renewable Energy Project

Construction Environmental Management Plan

November 2024



Contents

1 Introduction

1.1 Project Context and Scope

Horizon Power is a Western Australian (WA) Government Trading Enterprise (GTE) and the state's regional and remote energy utility. Horizon Power operates under the *Electricity Corporations Act 2005* and is governed by a Board of Directors accountable to the Minister for Energy. Horizon Power is an experienced asset manager undertaking active management of vast electricity networks and generation assets across WA, utilising mature and robust operational, health and safety, and environmental systems.

Horizon Power is seeking to deliver, within the Power Purchase Agreement (PPA) expiry, a cleaner and greener Future Energy System within the Kimberley. The aim is to balance the values and needs of the community and the State without compromising system reliability. PPA agreements are set to expire in early 2028 and are triggers for this Project.

As part of the Kimberley Future Energy System, Horizon Power is proposing to install a renewable energy facility in Camballin in WA (the Project). The Project will facilitate decarbonisation of the system with a combination of the development of a centralised renewable generation and increased consumer energy resources. The Project is expected to consist of several solar arrays connected to the existing power station and will be contained within a defined Development Envelope (DE; Figure 1).

1.2 Scope and purpose

This Construction Environmental Management Plan (CEMP) has been developed to outline environmental management measures to be implemented by Horizon Power and its contractors during the construction of the Project. This includes, but is not limited to, measures to manage dust, erosion and spread of weeds during clearing of native vegetation.

Figure 1 Development Envelope

2 Description of the Activity

2.1 Activity Overview

Geotechnical survey works will be required for the Project and will consist of mainly incidental clearing (driving over and parking on native vegetation) for vehicle / machinery access to test sites.

The Project is expected to consist of several solar arrays connected to the existing power station. Associated infrastructure is required and includes battery storage, laydown and construction areas, access tracks, ancillary infrastructure and network connection infrastructure.

2.2 Clearing of Native Vegetation

The Project will require 4.1 ha of clearing within the 5.1 ha DE (the remaining 1 ha within the DE has already been cleared for tracks and existing infrastructure, as shown in Figure 1). Clearing is required for the following:

- Geotechnical surveys
- Solar arrays, battery storage, laydown and construction areas, ancillary infrastructure
- Network connection infrastructure and access tracks.

Geotechnical survey works will consist of mainly incidental clearing (driving over and parking on native vegetation) for vehicle / machinery access to test sites. Clearing for the solar arrays, network connection and associated infrastructure will be undertaken via mechanical removal.

Clearing of native vegetation within the DE will only be undertaken as specified by the Clearing Permit, including the extent and method of clearing to be undertaken and any specific management measures outlined in the permit conditions.

3 Avoidance Measures

Initial avoidance and minimisation was undertaken during site selection, including placement of the solar infrastructure adjacent to the existing power station to reduce the clearing associated with additional transmission infrastructure. Additionally, the decision was made to utilise the existing power station as opposed to construction of a new power station to service the solar infrastructure.

The DE was surveyed to identify significant environmental features or values within the DE, with this information to be used to inform layout of the solar array. Sensitive environmental features will be considered prior to construction.

4 Management Measures

The management measures listed in Table 1 will be implemented during geotechnical investigations and construction of this Project. Clearing of native vegetation will occur as per the conditions in the Native Vegetation Clearing Permit (NVCP) issued by the Department of Water and Environmental Regulation (DWER).

Table 1 Management Measures to be Implemented During Geotechnical Investigations and Construction

Aspect	Management Measure
Extent of Clearing	– No clearing is permitted outside the DE (Figure 1). – Clearing will be minimised where possible through placement of assets and access tracks in existing cleared locations where possible. – Works will be undertaken systematically to minimise re-run and compaction of access tracks. – Areas of degraded, sparsely vegetated and/or previously cleared areas will be preferentially selected for the location of test pit and laydown areas. – The clearing locations are to be demarcated with flagging tape, GPS or similar prior to clearing activities. – Clearing areas are to be checked by an Environmental Specialist or Site Supervisor prior to clearing to ensure no more than 4.1 ha of clearing is undertaken for the Project.

Aspect	Management Measure
	– A pre-clearing toolbox will be held so all staff are aware of their responsibilities under the permit.
Flora and vegetation	– Areas that are degraded, sparsely vegetated and/or previously cleared will be used preferentially for laydown and access tracks. – Trees and tall shrubs will be avoided, where possible. – The clearing area allows for driving over vegetation to access geotechnical sites. Driving on vegetation will be kept to the minimum required to perform the works. – Movement of vehicles and machinery will be in convoy along access tracks/ routes and will not go into adjacent vegetation.
Fauna	– Clearing of native vegetation will be undertaken in a slow, progressive manner in one direction to allow fauna to move away from the clearing area. – Construction personnel will not touch, feed or otherwise directly interact with fauna. – Vehicle and machinery speeds within the DE will be restricted to reduce the likelihood of fauna strike.
Weeds	– The Contractor will ensure that no weed-affected soil, mulch, fill or other material is brought into the DE. – Vehicles and machinery will arrive clean, and weed control will be undertaken at the site post-construction as required. – Movement of vehicles and machinery will be restricted to the DE or established tracks and roads.
Erosion and soils	– Standard construction measures regarding erosion and sediment control will be implemented during construction works. – Designated access tracks will be applied to prevent additional disturbance.
Dust	– Standard construction dust control and mitigation measures will be implemented during clearing. This may include the use of a water trucks, or similar. – Ground disturbance and clearing of vegetation will be restricted during high winds if dust cannot be adequately controlled. – Reduced vehicle speed limits will be applied in areas of unconsolidated soil. – Use of defined routes for machinery/ vehicles travelling on unsealed roads.
Noise	– The contractor will comply with the Environmental Protection (Noise) Regulations 1997 – Complaints regarding noise will be recorded and investigated by Horizon Power.
Waste	– Rubbish will be disposed of in appropriate containers and all waste will be removed from the site.
Contamination	– Works are to immediately cease if hydrocarbons affected soil are seen or smelled, or if suspected asbestos containing materials are uncovered during works. – Works may recommence once the contamination status has been determined and the contamination is addressed.
Hydrocarbons and chemicals	– Hydrocarbons and chemicals will be appropriately managed on site to prevent spills, including maintaining equipment in good working order in accordance with manufacturers specifications. – No refuelling will be undertaken within 50 m of a waterway, drain or drainage line. – Hydrocarbons will be appropriately stored at least 50 m away from drainage lines and stored in an appropriate bunded container. – Refuelling will be undertaken on hardstand or using catch trays only. Uncontrolled refuelling is not permitted. – Chemicals will be appropriately stored.
Heritage	– Should Aboriginal Cultural Heritage materials be uncovered during construction works, works are to stop immediately within 20 m of the find. The Contractor is to contact the Horizon Project Manager and an incident will be raised. The area will be cordoned off and no access permitted to the area by people until the incident is investigated and resolved.