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Department of Energy Mines, Infrastructure, Safety and Regulation  
Mineral House 100 Plain Street  
East Perth Western Australia 6004

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Dear Madam

### **Proposed Purpose Permit**

Agnew Gold Mining Company Pty Ltd (AGMC), currently holds Native Vegetation Clearing Permit (NVCP), CPS 8248/2 for the Alternate Power Project which currently expires on 1 March 2024. To date, 28.37 hectares (ha) has been cleared for this project of a total of 105.7ha which has been approved. The Alternative Power Project consists of a gas power station, a solar farm, a wind farm, battery storage and associated infrastructure.

The next phase of this project is a Solar Farm extension which has been submitted to DEMIRS under Mining Proposal RegID 118700. Heritage discussions with the Traditional Owners are also underway and this is expected to be completed in the first quarter of 2024. Therefore, the clearing is not expected to occur within the current Clearing Permit duration.

An extension was requested in January 2024, however this was within 3 months of the expiry date of CPS 8248/2 and AGMC was informed a new NVCP was required to be submitted. This NVCP application has been submitted to allow clearing for the Solar Farm and additional Gas Gensets.

Due to the Wind Farm having already been completed, AGMC were able to reduce clearing to no more than 20 ha of native vegetation within a Purpose Permit Area (PPA) of approximately 73.21 ha. No areas outside of CPS 8248/2 have been proposed.

Information to support this NVCP and an assessment of potential environmental impacts proposed by the expansion and additional clearing is provided in Attachment 1 .

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## 1. BACKGROUND

Agnew Gold Mining Company Pty Ltd (AGMC), a wholly owned subsidiary of Gold Fields Australia Pty Ltd (GFA), own and operate the Agnew Gold Mine (AGM), within the Northern Goldfields Region of Western Australia (WA). AGM is located 630 km northeast of Perth within the Shire of Leonora in Western Australia and 26 km southwest of Leinster (Figure 1).

A Native Vegetation Clearing Permit (NVCP) application was approved for AGMC to clear up to 65.7 hectares (ha) of native vegetation within a boundary of approximately 203 ha. CPS 8248/1 was granted on 7 February 2019, to clear vegetation for the purpose of constructing an 'Alternative Power Project' (APP) comprising a power station, wind farm and supporting infrastructure to support current and future operations at AGM. This APP is located on tenements M36/32, M36/53, M36/149, M36/174 and M36/314.

This original application for 65.7 ha of clearing within the approved Purpose Permit Area (PPA) was assessed by Stantec in November 2018 against the ten Clearing Principles as defined in the Department of Water and Environmental Regulation's (DWER) *Guide to Assessment: Clearing of Native Vegetation (2014)* and listed under Schedule 5 of the *Environmental Protection Act 1986 (EP Act)*. The assessment determined that clearing for the APP was not at variance with any of the Clearing Principles (Stantec 2018).

An amendment to CPS 8248/1 was submitted in September 2022 and approved by DEMIRS on 20 December 2022. This NVCP expanded the PPA and allow an additional 40 ha of clearing of native vegetation within a revised PPA boundary of approximately 60 ha with the PPA to further develop renewable energy infrastructure. This amendment increased the PPA boundary up to 263 ha with proposed authorised clearing extent up to 105.7 ha within that boundary. Of this only 28.37 ha were cleared.

To inform and support this amendment of CPS8248, Stantec completed a Reconnaissance flora and vegetation survey and Basic fauna survey in 2021 on three potential locations for the APP expansion. The total area surveyed was approximately 35.62 ha located on tenement M36/53, adjacent to the approved PPA (CPS 8248/1).

CPS8248/2 is due to expire on 1 March 2024. However only phase 1 of the project has been completed. The next phase of this project is a Solar Farm extension which has been submitted to DEMIRS under Mining Proposal RegID 118700. Additional discussions with the Traditional Owners are also underway and this is expected to be completed in the first quarter of 2024. Therefore, the clearing is not expected to occur within the current Clearing Permit duration.

Due to the Wind Farm having already been completed, AGMC were able to reduce clearing to no more than 20 ha of native vegetation within a Purpose Permit Area (PPA) of approximately 73.21 ha (Figure 2). No areas outside of CPS 8248/2 have been proposed and clearing has been minimised as much as possible. The entirety of the PPA is proposed within M36/53. A 50 m buffer will be maintained from any water courses and known heritage sites. This document provides supporting information on the environmental values within the PPA and assessment of the expansion and additional 20 ha of clearing against the 10 Clearing Principles.

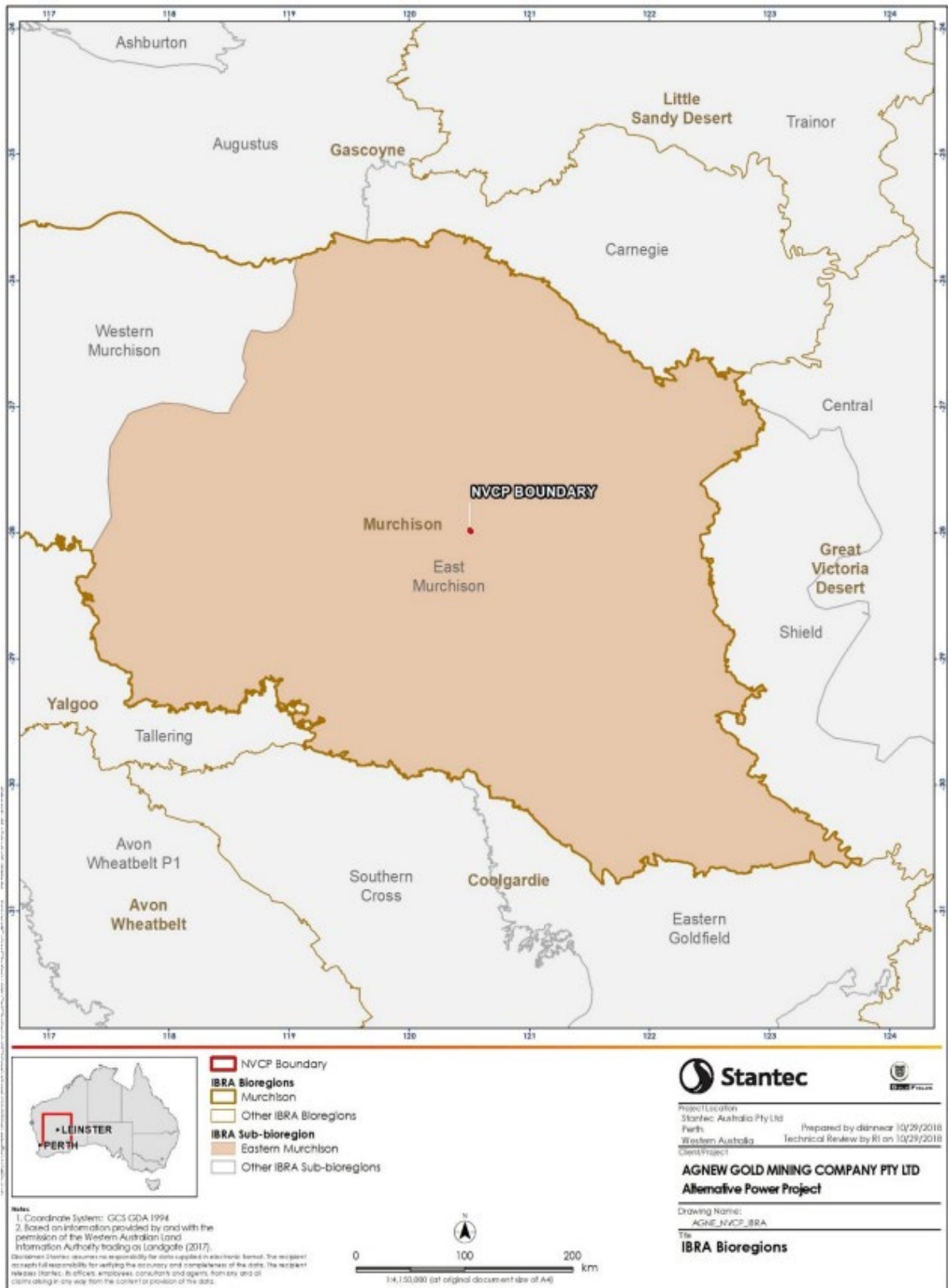


Figure 1: Project Location

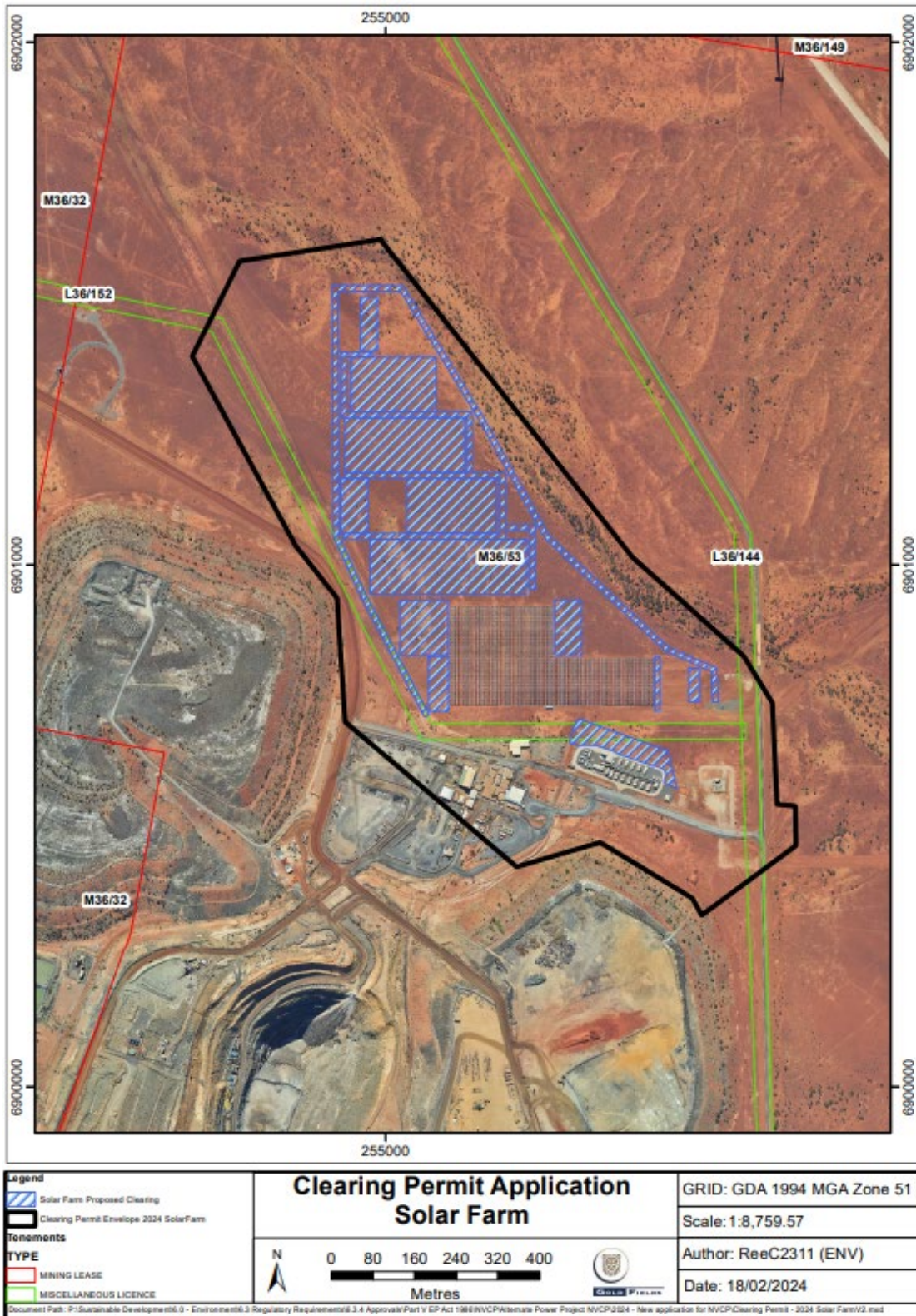


Figure 2: Indicative Clearing and Purpose Permit Area

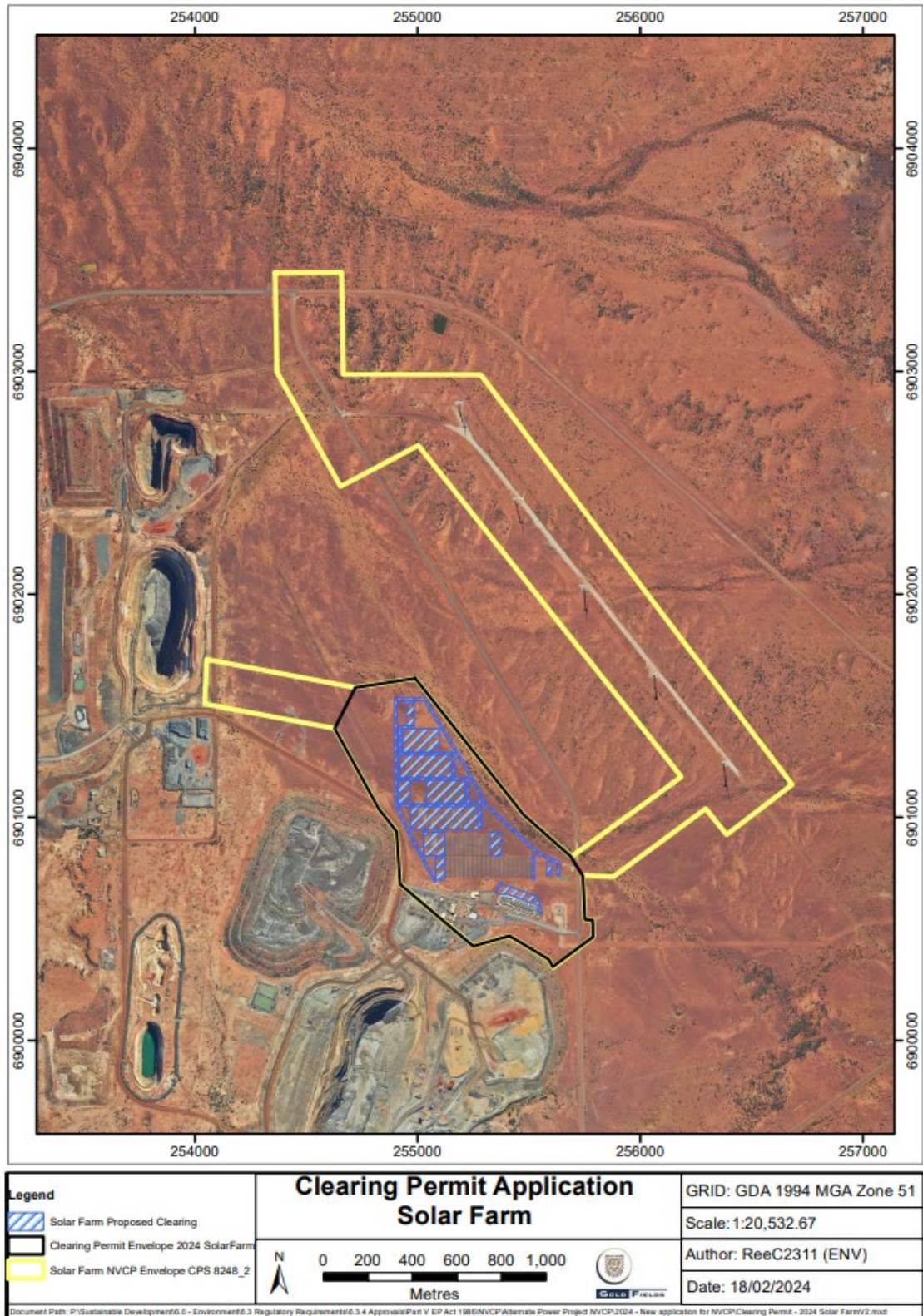


Figure 3 – Proposed Permit Area vs Existing Permit Area

## 2. ENVIRONMENTAL VALUES

Desktop assessments and field surveys focussed within a Survey Area of 203 ha were completed by Stantec in 2018 to support the original NVCP application (Appendix 1). This survey covers the area the proposed clearing permit sits in. Results of these surveys and desktop analysis formed the basis for assessment for the original NVCP application. An additional survey was completed by Stantec in 2021 across three separate survey areas. To support the future expansion of the solar farm and other renewable energy infrastructure, this assessment report focuses on results from the *Agnew Renewable Energy Expansion: Reconnaissance Flora and Vegetation and Basic Fauna Survey 2022* (Appendix 2) to support proposed additional clearing of 20 ha within a PPA boundary of 73.21 ha.

### 2.1 FLORA AND VEGETATION

The 2021 Stantec assessment identified no Threatened, or Priority flora species and no Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) listed under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), or *Biodiversity Conservation Act 2016* (BC Act) have been identified within 5 km of the Survey Area. The nearest PEC is located approximately 38 km north of the Survey Area (Stantec 2022).

Stantec identified four vegetation types within the Survey Area, all of which are representative of the Eastern Murchison subregion, broadly consisting of flat colluvium and alluvial plains, and low mulga (*Acacia aneura* complex) woodlands. Floristic diversity and composition were typical of the Eastern Murchison subregion and consistent with previous surveys undertaken in close proximity to the Survey Area (Appendix 2). Two remnant vegetation associations were identified by Stantec (2022) within the PPA and Expansion Survey Area including Wiluna (18) and Laverton (18). Both are well represented, with more than 99% of their pre-European extent remaining within the Murchison bioregion and Eastern Murchison subregion (Stantec 2018).

Stantec (2022) noted that vegetation condition within the Survey Area ranged from 'Poor' to 'Completely Degraded', with the majority (86.5%) of vegetation described as being in 'Poor' condition. Disturbances were predominantly associated with livestock grazing, partial clearing and weed invasion (Stantec 2022). 100% of the PPA was considered to have a Degraded to Poor vegetation condition.

This proposed new NVCP is wholly within the already approved PPA expansion area and is highly unlikely to result in any changes to the original assessment outcome for flora and vegetation from CPS 8248/1 (Table 1).

### 2.2 VERTEBRATE FAUNA

Stantec identified six broad habitat types during the initial assessment of the PPA (Stantec 2018) and four during assessment of the Expansion Survey Area (Stantec 2022), all considered widespread and well represented and did not form significant areas of habitat for native fauna. No conservation significant species were observed during the 2018 field survey and, although six conservation significant species were considered 'Possible' to occur, none were found to be dependent upon habitat within the PPA (Stantec 2018).

The 2021 desktop fauna assessment identified 12 conservation significant vertebrate fauna species, however, post-field survey only three species of significance were considered 'possible' to occur within the Expansion Survey Area (Stantec 2022). These species included:

- Fork-tailed swift (*Apus pacificus*).  
Conservation status: Migratory Species under both the BC Act and EPBC Act.
- Peregrine falcon (*Falco peregrinus*).  
Conservation status: OS / S7 - fauna requiring Special Protection under the BC Act.
- Northern shield-backed trapdoor spider (*Idiosoma clypeatum*).  
Conservation status: P3 -poorly known species under the BC Act.

During the 2021 field survey, Stantec opportunistically recorded 12 terrestrial vertebrate fauna species either through direct observations or indirect evidence (diggings, foraging evidence, tracks etc.). These comprised

seven birds, three mammal, and two reptiles (Appendix 2). No fauna species of significance were recorded in the Expansion Survey Area and none expected to occur based on previous records in the area and the habitats present (Stantec 2022).

The 20ha clearing in the proposed PPA is unlikely to result in any changes to the assessment outcome for vertebrate fauna (Table 1).

### **2.3 WATER AND LAND SYSTEMS**

The PPA is located approximately 23 km from the nearest weather station (Leinster Aero: #12314), which recorded approximately 251.6 mm annual mean rainfall for the area, with the majority falling during the months of January to March (BoM 2022). The general topography of the area is very flat and site drainage is via a combination of sheet flow (with shallow flow depths and low velocities) and poorly defined drainage lines (Stantec 2018). Drainage lines within the PPA are not considered regionally prominent and do not contain vegetation communities or species that are confined to watercourses or wetlands, nor are they groundwater dependant (Stantec 2018).

As described by Stantec (2022), the Expansion Survey Area does not intersect any wetlands or waterbodies. The nearest ephemeral lake, Lake Miranda, occurs approximately 26 km north, an unnamed non-perennial lake system also occurs approximately 32 km south and the nearest nationally important wetland is the Lake Barley System, 112 km southwest of the Expansion Survey Area (Stantec 2022). There are no public drinking water areas within 10 km of the Expansion Survey Area.

The Expansion Survey Area coincides with the Tiger and Nubev Land Systems which are described as undulating stony and gravelly hardpan plains and sandy banks with mulga and halophytic shrublands and wanderrie grasses (Stantec 2022). One geologic unit 'colluvium 38491' occurs across the entire Expansion Survey Area comprising residual deposits, sheetwash, talus, scree; boulder, gravel and sand, and may include minor alluvial or sand plain deposits, local calcrete and reworked laterite (Stantec 2022).

No Environmentally Sensitive Areas (ESA's) were identified in the Expansion Survey Area (Stantec 2022).

The proposed additional clearing within the PPA is unlikely to result in any changes to the assessment outcome of impacts to water and soil values (Table 1).

## **3. ASSESSMENT OF CLEARING PRINCIPLES**

Clearing applications and amendments are assessed against the 10 Clearing Principles outlined in Schedule 5 of the EP Act. These principles aim to ensure that potential impacts resulting from removal of native vegetation are assessed in an integrated method and consistently apply to all lands throughout Western Australia. The principles address the four environmental areas of biodiversity significance, land degradation, conservation estate and ground and surface water quality.

Assessment of the potential impacts associated with proposed additional clearing within the approved PPA was undertaken and is summarised in Table 1. Table 1 also states any change in the status of an assessed outcome from the original assessment for CPS 8248/1.

**Table 1: Assessment Against the 10 Clearing Principles**

Evidence	Assessment Outcome	Status after amendment
<b>Principle (a) Biodiversity</b> – <i>Native vegetation should not be cleared if it compromises a high level of biological diversity</i>		
<p>The desktop assessment and field surveys for the PPA completed by Stantec in 2018 and for the Expansion Area completed by Stantec in 2021 identified:</p> <ul style="list-style-type: none"> <li>• No fauna species of conservation significance.</li> <li>• No Threatened flora species.</li> <li>• No Threatened or Priority Ecological Communities.</li> <li>• No Priority flora.</li> <li>• Fauna habitat types considered widespread and of limited significance.</li> <li>• Generalist fauna assemblages are widely distributed.</li> <li>• Vegetation condition was mainly in Poor to Completely Degraded.</li> </ul>	<p>Based on the desktop and field surveys in the PPA, native vegetation adjacent to the previously approved PPA does not comprise a high level of biological diversity.</p> <p><b>The proposed amendment is unlikely to be at variance with this principle.</b></p>	No change
<b>Principle (b) Significant Fauna Habitat</b> – <i>Native vegetation should not be cleared if it compromises the whole or a part of, or is necessary for the maintenance of a significant habitat for fauna indigenous to Western Australia.</i>		
<p>The desktop assessment and field surveys for the PPA completed by Stantec in 2018 identified:</p> <ul style="list-style-type: none"> <li>• Six broad habitat types which are widespread and well represented within the bioregion.</li> <li>• Six conservation significant fauna species considered 'possible' to occur, which are mobile in nature.</li> </ul> <p>Additional desktop assessments and field surveys completed by Stantec in 2021 for the Expansion Survey Area identified:</p> <ul style="list-style-type: none"> <li>• Four habitat types, widespread and of limited significance to potential fauna species.</li> <li>• Three species of significance considered 'possible' to occur in the post survey likelihood assessment, although none were recorded during the 2021 field survey.</li> </ul>	<p>Clearing of 20 ha of native vegetation in the PPA will not significantly impact habitat for fauna of conservation significance, or significant habitat for fauna. Potential impacts to significant fauna are expected to be minimal as none were found to be dependent upon habitat within the PPA or Expansion Survey Area (Stantec 2022).</p> <p><b>The proposed amendment is unlikely to be at variance with this principle.</b></p>	No change
<b>Principle (c) Rare Flora and Priority Flora</b> – <i>Native vegetation should not be cleared if it includes or is necessary for the continued existence of rare flora.</i>		



Evidence	Assessment Outcome	Status after amendment
<p>A desktop and field survey assessment of the Expansion Survey Area identified:</p> <ul style="list-style-type: none"> <li>• No conservation significant or Priority species.</li> <li>• No Threatened flora species.</li> <li>• No TECs or PECs.</li> </ul>	<p>As no Threatened and/or Priority flora species were identified within the approved PPA or the Expansion Survey Area, clearing will not impact rare flora.</p> <p><b>The proposed amendment will not be at variance with this principle.</b></p>	No change
<p><b>Principle (d) Threatened Ecological Communities</b> – <i>Native vegetation should not be cleared if it comprises the whole or a part of or is necessary for the maintenance of a Threatened Ecological Community (TEC).</i></p>		
<p>No TECs and no PEC's were recorded during the 2018 or 2021 field surveys nor are any likely to occur.</p>	<p>The additional clearing will not impact TECs or PECs as none were identified during surveys of the PPA or the Expansion Survey Area.</p> <p><b>The proposed amendment is unlikely to be at variance with this principle.</b></p>	No change
<p><b>Principle (e) Remnant Vegetation</b> – <i>Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.</i></p>		
<p>Two broad vegetation associations (Wiluna 18 and Laverton 18) comprising Low woodland; mulga (<i>Acacia aneura</i>) were identified mapped by Stantec in 2018 and 2021 as occurring in the PPA and Expansion Survey Area, both are well represented in WA.</p>	<p>Clearing will not reduce the current extent of the remnant vegetation associations identified within the original PPA and Expansion Survey Area to below the 30% threshold where species loss increases as determined by the EPA (2000).</p> <p><b>The proposed amendment is unlikely to be at variance with this principle.</b></p>	No change
<p><b>Principle (f) Watercourse or Wetland Environments</b> – <i>Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.</i></p>		
<p>Assessments by Stantec in 2018 and 2022 identified:</p> <ul style="list-style-type: none"> <li>• No permanent water features within the PPA or Expansion Survey Area.</li> <li>• Drainage line habitat representing less than 6% of Survey Expansion Area. The drainage lines are not considered regionally prominent.</li> <li>• The drainage line does not contain vegetation communities or species</li> </ul>	<p>Clearing will be minimised within and adjacent to drainage lines, with a minimum 50 m buffer applied to all watercourses.</p> <p>Standard drainage control strategies will be implemented so natural hydrological regimes are maintained via the construction of nominal bunds and allowing sheet flow to pass around infrastructure.</p> <p><b>The proposed amendment may be at variance with this principle, but only if clearing occurs across these water courses.</b></p>	No change

Evidence	Assessment Outcome	Status after amendment
that are confined to watercourses or wetlands, nor are they groundwater dependant.		
<b>Principle (g) Land Degradation</b> – <i>Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.</i>		
<p>Stantec identified the following within the PPA and Expansion Survey Area:</p> <ul style="list-style-type: none"> <li>• The surface layer of soil is typically comprised of sandy gravel, gravelly sand, or silty sand which may be prone to some structure decline and variable stability and may experience dispersion/erosion with wetting following disturbance.</li> <li>• 30.65 ha of the approved PPA is recognised as having existing disturbance.</li> <li>• The Expansion Survey Area is considered disturbed, with shallow, sandy and infertile soils overlaying siliceous hardpan.</li> </ul>	<p>Clearing up to 20 ha for the proposed expansion of renewable energy infrastructure within a boundary of up to 73.21 ha is unlikely to increase the soil erosion potential as the Expansion Survey Area is classified as 'Poor' to 'Degraded' (Stantec 2022) with low density of vegetation.</p> <p>Localised erosion will be managed during operations through diversion bunds, surface water controls and sedimentation controls to prevent heavy sediment loads in surface water flows.</p> <p><b>The proposed amendment is unlikely to be at variance with this principle.</b></p>	No change
<b>Principle (h) Conservation Estate</b> – <i>Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.</i>		
<p>The PPA and Expansion Survey Area do not intersect any conservation estates.</p> <p>No ESAs were identified in proximity of the PPA and Expansion Survey Area. The closest is located approximately 56 km north of the PPA and 36 km north of the Expansion Survey Area (Stantec 2022).</p>	<p>No conservation estates areas are situated within or near the Expansion Survey Area.</p> <p><b>The proposed amendment is unlikely to be at variance with this principle.</b></p>	No change
<b>Principle (i) Surface and Groundwater Quality</b> – <i>Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.</i>		

Evidence	Assessment Outcome	Status after amendment
<ul style="list-style-type: none"> <li>• No permanent surface water features were observed.</li> <li>• Potential impacts to surface or groundwater quality that have the potential to occur as a result of the clearing include:</li> <li>• Sediment loss from disturbed areas.</li> <li>• Minor hydrocarbon spills.</li> </ul> <p>Given that soils are hardpan, creeks are ephemeral and a 50 m buffer is applied to watercourses, the likelihood of spills and/or impacts to ground or surface water will be low.</p>	<p>Additional clearing and construction of the renewable energy infrastructure in the Expansion Survey Area is unlikely to impact drainage or surface water quality, as sediments will be controlled by implementing standard management procedures and engineering controls.</p> <p>Any spills will be controlled, contained and cleaned up and disposed appropriately.</p> <p><b>The proposed amendment is unlikely to be at variance with this principle.</b></p>	No change
<p><b>Principle (j) Flooding Potential</b> – <i>Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.</i></p>		
<p>The general topography of the area is very flat and site drainage is via a combination of sheet flow (with shallow flow depths and low velocities) and poorly defined drainage lines.</p>	<p>Clearing is unlikely to impact on drainage as existing drainage systems are in place and where required, surface water bunds and channels will be installed.</p> <p>The implementation of standard surface water management strategies will mitigate any likelihood of flooding.</p> <p><b>The proposed amendment is unlikely to be at variance with this principle.</b></p>	No change

## 4. MANAGEMENT MEASURES

AGMC will apply management measures to clearing activities within the PPA to minimise the risk of impacts to flora and fauna and other environmental values.

As outlined in CPS 8248/1 Part II Management Conditions, AGMC will implement weed control measures to minimise the risk of the introduction and spread of weeds in accordance with the following:

- i. *clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;*
- ii. *ensure that no weed-affected soil, mulch, fill or other material is brought into the area to be cleared; and*
- iii. *restrict the movement of machines and other vehicles to the limits of the areas to be cleared.*

Weed hygiene measures will be in place to minimise the risk of spread or introduction of new weed species in line with GFA procedures including:

- Vehicle hygiene procedures will be implemented in accordance with AGM-ENV-PR001 Weed Management Procedure.
- Off-road vehicle use will be strictly controlled, with no driving permitted off designated routes.
- Disturbed areas will be minimised, and any areas of disturbance will be rehabilitated to avoid colonisation by weed species.
- Rehabilitation programs will include the use of provenance seeds, preferably sourced from the immediate area.
- All personnel will complete a site induction to reinforce awareness of the AGMC Weed Management Procedure to prevent the spread of weeds.

Clearing of up to 20 ha for the proposed expansion of the solar farm and energy storage infrastructure within a boundary 73.12 ha (within the previously approved CPS8248/2) is unlikely to result in any changes to the assessment outcomes of impacts to environmental values (Table 1).

## 5. CONCLUSION

Assessment of the proposed additional clearing against the 10 Clearing Principles determined the proposed NVCP is unlikely to be at variance with any of the Clearing Principles. This aligns with the assessment outcomes determined for the original assessment of CPS 8248/1 and CPS8248/2.

## 6. REFERENCES

360 Environmental, 2019. Native Vegetation Clearing Permit Supporting Document. Prepared for Gold Fields Limited, 2 August 2019.

Bureau of Meteorology (BoM). 2021. *Monthly climate data statistics: Leinster Aero #12314*. Available at: [www.bom.gov.au/climate/data](http://www.bom.gov.au/climate/data). Accessed August 2019.

Stantec, A. 2018. Native Vegetation Clearing Permit Application Supporting Document.

Stantec, A. 2022. Agnew Renewable Energy Expansion: Reconnaissance Flora and Vegetation and Basic Fauna Survey.

## **APPENDIX 1: STANTEC 2018 - ALTERNATIVE POWER PROJECT NVCP SUPPORTING DOCUMENTATION**

**APPENDIX 2: AGNEW RENEWABLE ENERGY EXPANSION:  
RECONNAISSANCE FLORA AND VEGETATION AND BASIC FAUNA  
SURVEY**