

Mount Gibson Gold Project

Application Number: 02052

Commencement Date: 03/10/2023

Status: Locked

1. About the project

1.1 Project details

1.1.1 Project title *

Mount Gibson Gold Project

1.1.2 Project industry type *

Mining

1.1.3 Project industry sub-type

Other

1.1.4 Estimated start date *

01/12/2024

1.1.4 Estimated end date *

31/12/2036

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

Crimson Metals Pty Ltd (Crimson, the Proponent) is proposing to develop the Mount Gibson Gold Project (the Project), a gold mining and processing operation located approximately 280 km northeast of Perth and less than 10 km east from the Great Northern Highway, in the Avon Wheatbelt region of Western Australia. Substantial mining occurred at the Project area in the 1980's and 1990's and as a result, historical disturbance and infrastructure remain in the area. The Project is currently in Care and Maintenance and not operational, there are no existing approvals for the Project that would enable recommencement of mining operations.

The activities that are the subject to this referral will occur on Unallocated Crown land (ex-pastoral lease) with a Mining Lease (refer to Att 1 – TEPL 2023 MGGP EPBC Supporting Document, Sec 1.4, Page 2).

The Project will include the following Proposed actions:

- Seven Open Pits mined up to depths of up to 220 m below the groundwater table
- Processing and mine infrastructure (including administration, workshops, laydown areas, processing plant and product stockpiles)
- Mine haul/ access roads
- Integrated Waste Landform (IWL), which includes Waste Rock Landform (WRL) and Tailings Storage Facility (TSF). The IWL will have a final elevation of 372 m AHD (+/-20 m), maximum 15° slopes and back-sloped 20m wide berms at up to 20 m vertical intervals.

For information on the key elements of the Project, including figures, refer to Att 1 – TEPL 2023 MGGP EPBC Supporting Document, Sec 2.2, Page 5.

Mining will be undertaken using routine open pit mining methods - land clearing and site preparation, drill and blast, excavation and haulage of material, and closure and rehabilitation including landform profiling and associated earthworks. Waste rock will be transported by truck to the waste rock landform. Ore will be transported to the process plant where it will be processed to produce gold dore bars for

export.

The Project will disturb up to 1,562 ha of land (the Disturbance Footprint), of which ~1,190 ha is comprised of native vegetation and ~372ha previously disturbed, within a 3,723 ha Development Envelope over a 12 year life of mine (LOM).

Project development will require vegetation clearing and removal of up to 27.1 ha of the Eucalypt Woodlands of the Western Australian Wheatbelt TEC. Indirect impacts to the TEC could include dust deposition, alteration to surface water regimes, altered fire regimes and introduction or spread of invasive species (refer to Att 1 – TEPL 2023 MGGP EPBC Supporting Document, Sec 5.2, Page 47.)

Project development will require clearing of up to 944.2 ha of Malleefowl (*Leipoa ocellata*) habitat (Mixed Shrubland habitat) and removal of up to two active mounds. Indirect impacts to Malleefowl could include individual displacement due to noise and vibration, predation by feral animals (e.g. cats and foxes), reduction in habitat through fire and vehicle strikes (refer to Att 1 – TEPL 2023 MGGP EPBC Supporting Document, Sec 5.3, Page 55).

These activities are the primary basis for this referral. Other direct/indirect impacts to the environment as a result of the Proposal will be managed in accordance with the relevant State approvals.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Commonwealth

Environment Protection and Biodiversity Conservation Act 1999 - Section 133: The Critically Endangered Eucalypt Woodlands of the West Australian Wheatbelt Ecological Community (herein referred to as 'WA Wheatbelt Woodlands') occurs in the Development Envelope. 27.1 ha will be progressively cleared over the mine life.

The Vulnerable Malleefowl (*Leipoa ocellata*) occurs within the Development Envelope, with two active (at the time of field survey) and nine inactive Malleefowl mounds to be permanently cleared.

Whilst the Project is not considered to have significant impacts that will affect the survival of *Leipoa ocellata* or the WA Wheatbelt Woodlands, the Project is being referred to DCCEEW for consideration.

Significant Impact Guidelines 1.1 - Matters of National Environmental Significance: Significant impact guidelines provide overarching guidance on determining whether an action is likely to significantly impact a matter protected under national environment law — the *Environment Protection and Biodiversity Conservation Act 1999*.

State – Western Australia

Two primary Western Australian State legislation are relevant to the Project:

Environmental Protection Act 1986 (WA): The EP Act provides for the conservation, preservation, protection, enhancement and management of the environment and for matters incidental to or connected. The proposed clearing activities associated with the Project will require consideration and authorisation under Part IV and/or Part V (Division 2) of the EP Act. Prescribed mineral processing premises with associated emissions and discharges to the environment will be managed under Part V, Division 3 of the EP Act.

Mining Act 1978 (WA): Key legislation and Decision Making Authority regulating mining operations in Western Australia.

A Mining Proposal will be submitted to DMIRS prior to any disturbance at the Project and will include auditable outcomes for key DMIRS factors (Biodiversity, Water Resources, Land and Soils). These outcomes will be defined and approved by DMIRS to ensure that the impacts on the key DMIRS factors are mitigated to an acceptable level. In the context of landscape stability this will include an auditable outcome that the landscape will be safe and stable during mining to prevent slumps or collapsed walls which could have environmental impacts.

A Mine Closure Plan will be submitted to DMIRS with the Mining Proposal prior to any disturbance at the Project and will be revised every 3 years or with subsequent Mining Proposal applications. It will include auditable closure and rehabilitation outcomes and criteria which will be defined and approved by DMIRS to ensure that impacts on key DMIRS factors are mitigated to an acceptable level.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Crimson has consulted broadly during the course of ongoing technical investigations, design and evaluation of the Project. These stakeholder engagements have been across Government, industry, Traditional Owners and adjacent and nearby tenement owners. Key stakeholders identified and engaged are listed below:

- Department of Climate Change, Energy the Environment and Water (Cwlth)
- Department of Biodiversity Conservation and Attractions

- Department of Mines, Industry Regulation and Safety
- Department of Water and Environmental Regulation (EPA Services)
- Department of Water and Environmental Regulation (Water)
- Department of Planning, Lands and Heritage
- Shire of Yalgoo
- Badimia Land Aboriginal Corporation/ Badimia Bandi Barna Corporation
- Australian Wildlife Conservancy
- Top Iron Pty Ltd
- Extension Hill Pty Ltd

Crimson will continue to actively consult with neighbours, representatives of interested parties and regulatory agencies as the Project progresses. A summary of all stakeholder engagement undertaken, including consultation outcomes, is presented in Att 2 – MGGP Stakeholder Consultation Register.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

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Confirm that you have read and understand this Privacy Notice *

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	51621352609
Organisation name	TETRIS ENVIRONMENTAL PTY LTD
Organisation address	6154 WA

Referring party details

Name	James Hesford
Job title	Director
Phone	0488217275

Email	james@tetriseviro.com.au
Address	Suite 6E, 573 Canning Hwy, Alfred Cove WA 6154

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	93169977155
Organisation name	CRIMSON METALS PTY LTD
Organisation address	6005 WA

Person proposing to take the action details

Name	Wade Stephenson
Job title	Study Manager
Phone	(08) 9212 4600
Email	wstephenson@capmet.com.au
Address	Level 3, 40 Kings Park Road, West Perth WA, 6005

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

Crimson Metals Pty Ltd is a wholly owned subsidiary of Capricorn Metals Ltd and operates under Capricorn's Environmental Policy. The Project will operate in accordance with the Capricorn Metals Environmental Management Plan (please see Att 8 – MGGP Environmental Management Plan).

Both Crimson Metals and Capricorn Metals have a satisfactory record of responsible environment management, with no past or present proceedings undertaken against either company under any Commonwealth or State law.

Neither Crimson Metals or Capricorn Metals have made a previous referral under the EPBC Act, nor been responsible for undertaking any action referred under the Act. Capricorn Metals has existing approvals (e.g. Mining Proposal, Mine Closure Plan, Native Vegetation Clearing Permit, Prescribed Premise Operating Licence, Groundwater Licence) granted under Western Australia's Environmental Protection Act 1986 - Part V, Environmental Protection (Clearing of Native Vegetation) Regulations 2004, Mining Act 1978, Rights in Water and Irrigation Act 1914 and Aboriginal Heritage Act 1972 for the Karlawinda Project.

There are no existing approvals for the MGGP that would enable the recommencement of mining operations.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

Crimson Metals Pty Ltd is a wholly owned subsidiary of Capricorn Metals Ltd and operates under Capricorn's Environmental Policy.

The Capricorn Metals Environment, Community and Heritage Policy (June, 2023) is defined as follows (please see Att 8 - MGGP Environmental Management Plan, Sec 3., Page 4):

Environment, Community and Heritage Policy

As a growing resource development company, Capricorn Metals acknowledges that our operations have the potential to impact on environmental, community and heritage values. For this reason, Capricorn will adopt a systematic approach to understanding and managing potential impacts on these values.

Our Commitment

We will strive to:

- Develop and implement environmental management systems, which enable us to conduct our business in a responsible and appropriate manner.
- Continually improve our environmental performance through setting environmental objectives and targets that are endorsed by senior management.
- Provide adequate resources for managing environmental performance.
- Comply with all applicable legislation, standards and codes of practice.
- Use all our resources efficiently, minimise waste generation and appropriately dispose of all waste to prevent pollution.
- Understand and acknowledge the expectations of all stakeholders in our operations for diligent environmental management and fully and regularly communicate our environmental performance.
- Engage with local communities and seek their participation in Project planning.
- Respect the rights of Indigenous Peoples and acknowledge their right to maintain their culture, identity, traditions and customs.
- Treat all employees and stakeholders with dignity, care and respect and recognise achievements and promote successful outcomes of work groups and individuals.

Our Goals

We will cause no environmental or cultural harm beyond that which is necessary to conduct our businesses and for which statutory approval has been received.

Our Responsibility

Every employee has a personal responsibility to maintain a high level of environmental and community awareness and we all must comply with the intent of this policy and any associated policies, procedures or processes.

Leaders at all levels in the group are required to communicate this policy to all our employees, contractors and visitors and involve them in its implementation. Our leaders must take all reasonable steps to protect the environment and communities our activities may impinge upon.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN 93169977155

Organisation name CRIMSON METALS PTY LTD

Organisation address 6005 WA

Proposed designated proponent details

Name Wade Stephenson

Job title Study Manager

Phone (08) 9212 4600

Email wstephenson@capmet.com.au

Address Level 3, 40 Kings Park Road, West Perth WA, 6005

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN 51621352609

Organisation name TETRIS ENVIRONMENTAL PTY LTD

Organisation address 6154 WA

Representative's name James Hesford

Representative's job title Director

Phone 0488217275

Email james@tetrisenviro.com.au

Address Suite 6E, 573 Canning Hwy, Alfred Cove WA 6154

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN 93169977155

Organisation name CRIMSON METALS PTY LTD

Organisation address 6005 WA

Representative's name Wade Stephenson

Representative's job title Study Manager

Phone (08) 9212 4600

Email wstephenson@capmet.com.au

Address Level 3, 40 Kings Park Road, West Perth WA, 6005

✔ Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

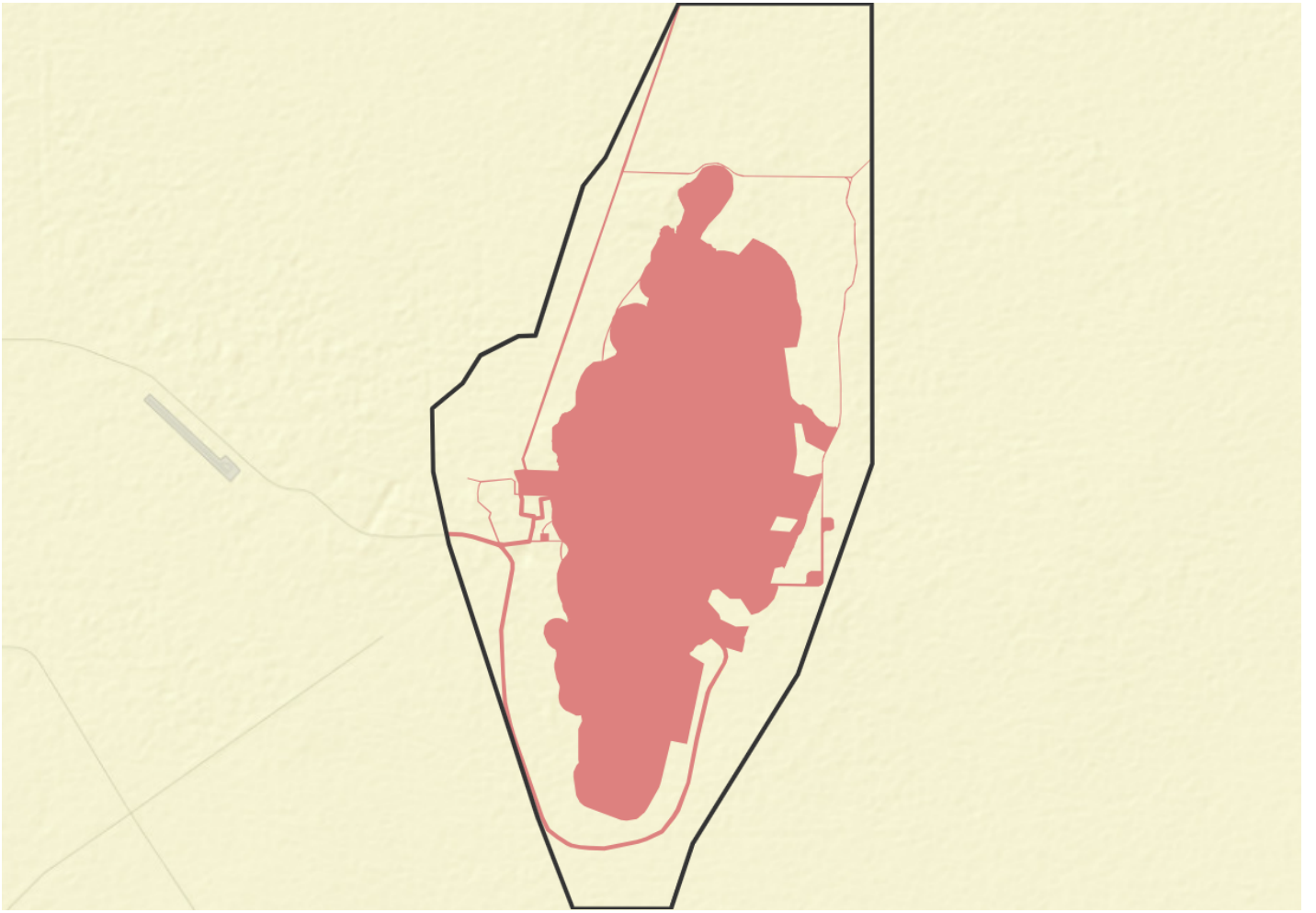
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Proposed designated proponent

2. Location

2.1 Project footprint



2.2 Footprint details

2.2.1 What is the address of the proposed action? *

East of Great Northern Highway, less than 10km along a private road, Shire of Yalgoo, WA.

2.2.2 Where is the primary jurisdiction of the proposed action? *

Western Australia

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The land tenure of the Project is classified as Unallocated Crown Land, over which the Project is covered by tenements issued under the *Mining Act 1978* and held by Crimson, as outlined below:

M 59/772 – Crimson Metals Pty Ltd

M 59/402&403 – Crimson Metals Pty Ltd

L 59/45 – Crimson Metals Pty Ltd

L 59/46 – Crimson Metals Pty Ltd

G 59/48 – Crimson Metals Pty Ltd

E 59/2606 – Crimson Metals Pty Ltd

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The location of the Project is relatively remote and on Unallocated Crown Land. Neighbouring properties include the privately owned ex pastoral stations – Charles Darwin Conservation Reserve (Bush Heritage Australia) and Mt Gibson Private Nature Reserve (Australian Wildlife Conservancy). The area to the north of the Project is predominantly Unallocated Crown Land. The nearest human receptors to the Project area are a rarely occupied prospector camp, approximately 3.75 km to the north west, and the Mummaloo mine site (currently in care and maintenance), over 8 km to the north east. The nearest town to the Project is Wubin, located approximately 70 km to the south west.

The project is currently accessible via the public Great Eastern Highway and less than 10 km along an existing private road. Transport to and from the site will be via these roads and/or the existing private airstrip located to the west of the project. Historical and exploration tracks within and around the project area will be used for access as required during all stages of the project, including closure. Existing disturbance is shown in Figure 3 of Att 1 – TEPL 2023 MGGP EPBC Supporting Document, Sec 2.2, Page 7.

Vegetation condition within the Development Envelope ranged from 'Excellent' to 'Completely Degraded'. Vegetation condition mapping is provided in Att 1- TEPL 2023 MGGP EPBC Supporting Document, Sec. 3.4.2, Figure 12, pg. 31. Further vegetation condition details are provided in Att 3 - FVC 2023 MGGP Flora and Vegetation, Sec 5.2.2.2, pg 91.

3.1.2 Describe any existing or proposed uses for the project area.

The existing land use within the Development Envelope of the Project is mining, with several ex pastoral leases and iron ore projects present in the nearby region.

The proposed land use, this Project, is for mining in the form of gold extraction from within the Development Envelope. Following extraction and progressive rehabilitation, the site will be returned to its existing land use, comprised of rehabilitated native vegetation.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

No conservation estates (as listed under the *Conservation and Land Management Act 1984* (CALM Act)) exist within the Project area, with the nearest being Biluny Wells Nature Reserve (R 53842), located approximately 4 km to the south west of the Project. Other conservation estates in the region include the Goodlands Nature Reserve (25 km south east) and Carlyarn Nature Reserve (29 km south east). The privately owned Bush Heritage Australia Charles Darwin Nature Reserve is located 1 km west of the Development Envelope and the Australian Wildlife Conservancy Mount Gibson Private Nature Reserve is adjacent to the Development Envelope to the east, west and south (Att 1 - TEPL 2023 MGGP EPBC Supporting Document, Sec. 1.4, pg. 2).

A query of the Directory of Important Wetlands in Australia (DCCEEW 2019) did not identify any wetlands in the Project area as Ramsar Wetlands or wetlands of national importance. The closest wetland listed in the Directory of Important Wetlands is the Thundelarra Lignum Swamp (100 km north).

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The regional topography comprises gently undulating plains with flat valleys marked with playas and large salt lakes of the Moore-Monger drainage system. The topography of the Project area is characterised by minor topographical relief with a grade of approximately 2%. The elevations range from approximately RL 350 m on the south to RL 326 m on the north. Surface undulation is generally minimal except at some localities of granite mounds where gradients are as steep as 5%. (Att 1 - TEPL 2023 MGGP EPBC Supporting Document Sec 3.3, pg 15).

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Flora

Detailed flora and vegetation investigations were conducted by Focused Vision Consulting (FVC) throughout the Development Envelope between 2021 and 2023 (FVC, 2023). Surveys were undertaken in accordance with relevant State and Federal technical guidance (EPA, 2016) (Att 1 - TEPL 2023 MGGP EPBC Supporting Document, Sec 3.1, pg 9).

Systematic targeted survey for significant flora taxa was undertaken during detailed and targeted surveys in 2021 and 2022, with a list of significant flora taxa likely to be encountered compiled as part of the Desktop Study prior to field work (see Att 3 - FVC 2023 MGGP Flora and Vegetation, Sec. 5.1.2, pg. 47). Information relating to identifying characteristics, flowering period and habitat of these significant taxa was provided to all field team members prior to undertaking targeted survey. Multiple targeted surveys were undertaken in selected areas of the Development footprint via transects spaced between 20 and 200m apart, depending on the likelihood of significant flora occurring, where significant flora had been previously recorded, or where population sizes were able to be estimated via extrapolation.

A total of 491 flora species from 57 families and 185 genera have been recorded in the project area, including 472 native taxa and 19 introduced (weed) species (Att 3 - FVC 2023 MGGP Flora and Vegetation, Sec 5.2.1, pg 64).

Two individuals of the State and Commonwealth Threatened *Eremophila viscida* were recorded adjacent to the Development Envelope (Att 1 – TEPL 2023 MGGP EPBC Supporting Document, Sec. 3.4.1, pg. 19). No other Threatened flora were recorded within or adjacent to the Project.

Further Detailed flora/vegetation surveys were conducted in Spring 2023 with reports on the findings pending at the time of referral.

A Groundwater Dependent Vegetation Desktop Study determined that it is unlikely there is any groundwater dependent vegetation which would be impacted as a result of the Project. Groundwater in the Development Envelope is typically deep and most likely outside the vegetation root zone.

Additionally, the quality of the groundwater is typically very saline and would be highly unlikely to support Eucalypt woodlands, the deepest rooted vegetation type which occurs over most of the area (Att 4 - TEPL 2023 MGGP GDV, Sec. 4, pg. 16).

Fauna

The Project is situated within three broad fauna habitat types (Att 5 - Biota 2023 MGGP Fauna, Sec. 5.1, pg. 19), derived through on-ground fauna surveys undertaken in 2021 and 2022.

- Mixed Shrubland
- Eucalypt Woodland
- Previously cleared

Based on examination of aerial imagery, soil landscapes mapping and vegetation mapping, habitats recorded in the Project area are not restricted and their attributes are typical of habitat types occurring more widely in the region (Att 5 - Biota 2023 MGGP Fauna, Sec. 6.0, pg. 27).

A total of 90 vertebrate fauna species have been recorded in the project area, including 24 reptiles, 59 birds and 7 mammals (consultant report pending).

The State and Commonwealth listed Malleefowl was recorded in the Development Envelope. 65 Malleefowl mounds were recorded in the Project area and surrounds, ten of which were deemed active at the time of survey. All active mounds were recorded in the Mixed Shrubland habitat (Att 5 - Biota 2023 MGGP Fauna, Sec. 1.3, pg. 7). The Malleefowl occurs beyond the extent of the Development Envelope (Att 5 - Biota 2023 MGGP Fauna, Sec. 6.0, pg. 27).

The State listed Threatened Lake Goorly Shield-backed Trapdoor Spider (*Idiosoma kopejtkorum*) was recorded in the Development Envelope three locations within the Project area and surrounds. An additional twelve *Idiosoma* sp. burrows were recorded in seven locations within the Project area and surrounds (Att 5- Biota 2023 MGGP Fauna, Sec. 5.3, pg. 23). Based on previous records, the burrows likely represent either *I. kopejtkorum* or the Ornate Shield-backed Trapdoor Spider (*Idiosoma formosum*), although only *I. kopejtkorum* has been recorded in the Project area during recent surveys (Att 5- Biota 2023 MGGP Fauna, Sec. 5.3, pg. 23). Further consideration of these species is provided in Att 1-TEPL 2023 MGGP EPBC Supporting Document, Sec. 3.5.3, pg. 38.

The Southern Whiteface (*Aphelocephala leucopsis*) was listed as Matters of National Environmental Significance (MNES) under the EPBC Act during March 2023 (DCCEEW 2023), after the fauna surveys for the Project were completed. As suitable habitat exists within the Project area, a field survey for the presence of this species was conducted in Spring 2023. A survey conducted by Bamford Consulting Ecologists and TEPL in November 2023 did not discover any Southern Whiteface birds within or in the vicinity of the Development Envelope. A report is pending.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Vegetation

Vegetation presumed to have existed prior to European settlement has been mapped at a scale of 1:250,000 as vegetation system associations. Two vegetation system associations occur within the Development Envelope, these include:

141 – Medium Woodland; York Gum, Salmon Gum and Gimlet

437 – Shrublands; Mixed Acacia thicket on sandplain

In accordance with the EPA Technical Guidance Flora and Vegetation Surveys for Environmental Impact Assessment (2016), vegetation condition across the Project has been mapped and quantified following multiple survey efforts.

The majority of remnant vegetation in the Development Envelope was rated Good to Excellent, with some historical mechanical disturbance and low levels of introduced flora, although some areas have been historically burnt as recently as 2002 and/or impacted by historic pastoral activities (Att 3 - FVC 2023 MGGP Flora and Vegetation, Sec. 5.2.2.2, pg. 91). Vegetation condition mapping is provided in Att 1- TEPL 2023 MGGP EPBC Supporting Document, sec. 3.4.2, Figure 12, pg 31.

Within the Development Envelope, 28 vegetation types were defined based on floristic classification analysis, as well as detailed investigation of species composition, topography, soils, and geographic location (Att 3 - FVC 2023 MGGP Flora and Vegetation, Sec. 5.2.2, pg 74):

VT1 - *Callitris columellaris* low woodland over *Acacia acuminata* and *Acacia obtecta* tall sparse shrubland over *Olearia pimeleoides* low sparse shrubland over *Amphipogon caricinus* var. *caricinus* low isolated tussock grasses.

VT2 - *Eucalyptus horistes* mallee woodland over *Acacia effusifolia*, *Acacia longisperma* and *Acacia prainii* tall closed shrubland over *Amphipogon caricinus* var. *caricinus* low sparse grassland

VT3 - *Eucalyptus loxophleba* subsp. *supralaevis* and *Callitris columellaris* open woodland over *Acacia acuminata* and *Santalum acuminatum* tall open shrubland over *Microcorys* sp. Mt Gibson, *Alyxia buxifolia* and *Olearia muelleri* open shrubland over *Austrostipa* spp. and *Monochather paradoxus* sparse grassland

VT4 - *Eucalyptus kochii*, *Eucalyptus capillosa*, *Eucalyptus horistes* and *Callitris columellaris* woodland over *Melaleuca stereophloia* and *Alyxia buxifolia* tall shrubland over *Monochather paradoxus*, *Amphipogon caricinus* var. *caricinus* and *Austrostipa elegantissima* sparse grassland

VT5 - *Callitris columellaris*, *Eucalyptus ?kochii* and *Eucalyptus ?ceratocorys* woodland over *Acacia effusifolia* and *Alyxiabuxifolia* tall open shrubland over *Amphipogon caricinus* var. *caricinus* low sparse tussock grassland.

VT6 - *Eucalyptus capillosa* low mallee woodland over *Allocasuarina acutivalvis* subsp. *acutivalvis*, *Hakea francisiana* and *Acacia coolgardiensis* tall shrubland over *Phebalium canaliculatum* and *Hibbertia arcuata* low sparse shrubland over *Dianella revoluta* var. *divaricata* rushland

VT7 - *Eucalyptus subangusta* and *Eucalyptus ewartiana* open mallee woodland over *Acacia anthochaera* and *Acacia effusifolia* shrubland over *Melaleuca leiocarpa*, *Microcorys* sp. Mt Gibson, *Philothea nutans* and *Hakea scoparia* low open shrubland over *Amphipogon caricinus* isolated tussock grassland

VT8 - *Eucalyptus kochii* open mallee woodland over *Melaleuca stereophloia*, *Allocasuarina acutivalvis* subsp. *acutivalvis* and *Acacia acuminata* tall shrubland over *Philothea brucei* low sparse shrubland over *Austrostipa trichophylla* and *Dianella revoluta* var. *divaricata* isolated sedges and grasses and *Waitzia acuminata* sparse herbland

VT9 - *Eucalyptus leptopoda* subsp. *arctata* mallee woodland over *Allocasuarina corniculata*, *Acacia effusifolia* and *Melaleuca hamata* tall open shrubland over *Acacia longispinea*, *Hakea invaginata* and *Hysterobaeckea setifera* open shrubland over *Aluta aspera* subsp. *hesperia* low sparse shrubland over *Ecdeiocolea monostachya* open rushland

VT10 - *Eucalyptus leptopoda* subsp. *arctata* isolated mallee trees over *Allocasuarina acutivalvis* subsp. *acutivalvis* tall shrubland

VT11 - *Eucalyptus loxophleba* subsp. *supralaevis* woodland over *Acacia acuminata*, *Eremophila oldfieldii* and *Acacia tetragonophylla* tall open shrubland over *Olearia muelleri*, *Ptilotus obovatus* and *Scaevola spinescens* low open shrubland over *Waitzia acuminata* low isolated forbs

VT12 - *Eucalyptus salubris* or *E. salmonophloia* woodland to tall woodland over *Acacia* spp., *Eremophila* spp. tall sparse shrubland over *Olearia muelleri*, *Maireana* spp., *Sclerolaena* spp., *Ptilotus* spp. low open shrubland over *Austrostipa* spp. isolated tussock grassland

VT13 - *Eucalyptus salubris* woodland over *Exocarpos aphyllus* and *Eremophila* spp. isolated shrubs over *Tecticornia disarticulata*, *Frankenia setosa* and *Maireana* spp. low shrubland.

VT16 - *Eucalyptus* sp. open mallee woodland over *Acacia resinimarginea* tall sparse shrubland over *Melaleuca stereophloia*, *Acacia effusifolia* and *Daviesia benthamii* open shrubland over *Microcorys* sp. Mt Gibson low sparse shrubland over *Amphipogon caricinus* var. *caricinus* sparse tussock grassland

VT17 - *Eucalyptus horistes* open mallee woodland over *Acacia acuminata* and *Acacia effusifolia* tall shrubland over *Philothea nutans* and *Olearia muelleri* sparse shrubland

VT18 - *Eucalyptus stowardii* low open mallee woodland over *Allocasuarina acutivalvis*, *Acacia assimilis* subsp. *assimilis* and *Acacia burkittii* tall shrubland over *Dodonaea inaequifolia* and *Melaleuca nematophylla* shrubland over *Hibbertia arcuata* and *Hemigenia ciliata* low sparse shrubland over *Xanthosia kochii* open herbland

VT19 - *Acacia burkittii*, *Acacia duriuscula* and *Allocasuarina acutivalvis* tall shrubland over *Grevillea levis* and *Acacia synoria* sparse shrubland over *Hemigenia ciliata* and *Hibbertia glomerata* low sparse shrubland over *Ecdeiocolea monostachya*, *Dianella revoluta* var. *divaricata*, *Amphipogon caricinus* and *Borya sphaerocephala* sparse grassland

VT20 - *Allocasuarina acutivalvis*, *Acacia effusifolia* and *Acacia longispinea* tall shrubland over *Calothamnus gilesii* and *Aluta aspera* low isolated shrubs over *Amphipogon caricinus* sparse tussock grassland.

VT21 - *Acacia effusifolia*, *Allocasuarina acutivalvis* subsp. *acutivalvis* tall shrubland over *Enekbatus stowardii*, *Philothea deserti* subsp. *deserti* low open shrubland over *Amphipogon caricinus* var. *caricinus* sparse tussock grassland

VT22 - *Acacia sibina*, *Allocasuarina acutivalvis* subsp. *acutivalvis* and *Hakea invaginata* open shrubland over *Baeckea elderiana*, *Grevillea yorkkrakinensis* and *Grevillea acacioides* low sparse shrubland over *Ecdeiocolea monostachya*, *Borya sphaerocephala* and *Stylidium limbatum* open rushland

VT23 - *Acacia effusifolia* and *Acacia longispinea* tall closed shrubland over *Enekbatus stowardii*, *Olearia humilis* and *Gilberta tenuifolia* low sparse shrubland over *Amphipogon caricinus* var. *caricinus* sparse tussock grassland

VT24- *Acacia acuminata*, *Allocasuarina acutivalvis* subsp. *acutivalvis*, *Eremophila oldfieldii* subsp. *angustifolia* and *Melaleuca atroviridis* tall shrubland over *Dodonaea inaequifolia* low sparse shrubland over *Austrostipa elegantissima* isolated tussock grasses

VT26- *Acacia effusifolia*, *Acacia resinimarginea* and *Hysterobaeckea setifera* subsp. *setifera* shrubland over *Hemigenia ciliata* low sparse shrubland over *Ectopogon monostachya* and *Dianella revoluta* var. *divaricata* sparse rushland

VT27- *Acacia duriuscula*, *Acacia acuminata* and *Melaleuca hamata* tall shrubland over *Mallestemon tuberculatus* and *Calycopeplus pauciflorus* open shrubland over *Hemigenia ciliata* low sparse shrubland over *Borya sphaerocephala* and *Dianella revoluta* sparse rushland

VT28- *Melaleuca nematophylla*, *Acacia stereophylla* var. *stereophylla* tall closed shrubland over *Amphipogon caricinus* var. *caricinus* sparse tussock grassland

VT29- *Acacia effusifolia*, *Melaleuca* sp. 1 and *Melaleuca leiocarpa* tall closed shrubland over *Aluta aspera* subsp. *hesperia* open shrubland over *Amphipogon caricinus* var. *caricinus* open tussock grassland

VT30- *Melaleuca hamata*, *Acacia resinimarginea* and *Allocasuarina tessellata* tall closed shrubland over *Phebalium tuberosum* and *Hibbertia arcuata* low open shrubland over mixed species sparse herbland

VT31- *Exocarpos aphyllus* and *Eremophila* spp. isolated shrubs over *Tecticornia disarticulata*, *Frankenia setosa* and *Maireana* spp. low shrubland

Vegetation Types 12 and 13 are representative of the WA Wheatbelt Woodlands. The extent of the WA Wheatbelt Woodlands occurrence within the Development Envelope has been defined based on a combination of ground-truthing and analysis of aerial imagery (Att 3 - FVC 2023 MGGP Flora and Vegetation, Sec. 6.2.3.1, pg. 133). The TEC occupies 353.9 ha within the Development Envelope and 27.1 ha within the Disturbance Footprint. Within the local area surrounding the Development Envelope (7 km radius), flora and vegetation assessments undertaken to support activities such as resource exploration have delineated additional eligible patches of the WA Wheatbelt Woodlands, totaling 2,061 ha outside of the Development Envelope. The total mapped local extent of TEC is 2,409.8 ha (Att 1 - TEPL 2023 MGGP EPBC Supporting Document, Sec. 3.4.2, Figure 13, pg. 34).

Soils

The Project area intersects three soil landscapes as defined by the Department of Primary Industries and Regional Development:

- Pindar (258Pd) – Loamy plains surrounded by sandplain supporting York Gum woodlands and Acacia shrublands.
- Joseph (258Jo) – Undulating yellow sandplain supporting dense mixed shrublands with patchy mallees
- Euchre (258Eu) – Low granite breakaways with alluvial plains and sandy tracts supporting eucalypt woodlands and Acacia shrublands.

Further soil information is provided in Att 1- TEPL 2023 MGGP EPBC Supporting Document, Sec. 3.3, pg. 15.

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

There are no Commonwealth heritage places or other places as having heritage values that apply to the Project.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

There is no Native Title over the Project area, as determined by the Federal Court in 2015 (ref WCD2015/001- Badimia People). Interrogation of the Aboriginal Heritage Inquiry System identified two registered sites (Artefacts/scatter, site ID 39698 and 39699) within the proposed Development Envelope.

Archaeological and Ethnographic heritage surveys have been undertaken for the Proponent by the Badimia people (Badimia Land Aboriginal Corporation and Badimia Bandi Barna Aboriginal Corporation) and a number of culturally significant locations were identified. The site layout has been modified to avoid these locations where possible, which cannot be shown on the site plans due to cultural sensitivities. The survey reports are confidential and available on request but are not for public distribution.

Impacting two artefact scatter sites has been consented to by the Badimia and approval granted under Section 18 of the *Aboriginal Heritage Act 1972*. A confidential Heritage Agreement has been signed with the Badimia People.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The Project area is located in the Moore-Hill Rivers drainage basin between the extensive playa systems of Lake Monger and Lake Moore. The Project infrastructure is within the Lake Moore catchment, along or close to the ridgeline separating the Lake Monger and Lake Moore surface water systems. Two smaller playa features are located approximately 3.5 km and 9 km to the east of the Project, the larger of which is Lake Karpa.

A query of the Directory of Important Wetlands in Australia did not identify wetlands of national importance or significant surface water drainage features in the vicinity of the Project. The closest wetland listed in the Directory of Important Wetlands is the Thundelarra Lignum Swamp (100 km north of the Project).

The regional topography comprises gently undulating plains with flat valleys marked with playas and large salt lakes of the Moore-Monger drainage system. The predominant low gradient and high storage capacity within the landscape and drainage system means that surface water features do not exhibit a clear or connected hydrological response unless major summer rainfall events or a prolonged wet winter occurs. Surface water drainage systems of this nature are characterised by sluggish and predominantly internal drainage.

At a local scale, intermittent and short duration runoff can be expected following large rainfall events. The absence of defined drainage channels in the area indicates sheet flows are the dominant hydrological flow response. High evaporation and low relief play a major role in the local hydrological response, limiting opportunities for the concentration of surface flows. High evaporation rates and low rainfall-recharge rates support the formation of salt lakes and saline groundwater within the wider area.

A Moore – Monger palaeovalley system exists within the greater Project region however there are sparse data regarding its stratigraphy and lithological sequence. It is estimated that up to 100 m of basal Eocene fluvial sand is overlain by up to 40 m of lacustrine, kaolinitic clay units, which in turn is overlain by up to 20 m of slope wash alluvium and valley calcrete. The palaeovalley sediment infill comprises 10–40 m of basal fine-to coarse-grained sand which increases in thickness, width and grain size downstream.

A detailed hydrology study for the Project was undertaken, including an assessment of water related impacts as a result of the Project, considering the proposed surface water management measures, including diversions and drain installation. The assessment determined a negligible difference in surface water quantity to key monitoring sites and therefore a negligible impact to surface water flows reporting to downstream receptors (Att 6 - Advisian 2023 MGGP Hydrology Surface Water, Sec. 7, pg. 35).

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes

EPBC Act section	Controlling provision	Impacted	Reviewed
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	No	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No designated World Heritage areas occur within the Development Envelope, or in proximity to the Project. Activities associated with the Project will not impact on or reduce the value of a World Heritage area.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No places of National Heritage occur within the Development Envelope, or in proximity to the Project. Activities associated with the Project will not impact on places of National Heritage.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No listed Ramsar wetlands as known to occur within 20 km of the Project. There will be no impacts to a listed Ramsar wetland as a result of the Project.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species
No	No	Aphelocephala leucopsis
No	No	Calidris ferruginea
No	No	Dasymalla axillaris
No	No	Dasyurus geoffroi
No	No	Egernia stokesii badia

Direct impact	Indirect impact	Species
No	No	Eucalyptus synandra
No	No	Frankenia conferta
No	No	Gyrostemon reticulatus
No	No	Idiosoma nigrum
No	No	Lagostrophus fasciatus fasciatus
Yes	No	Leipoa ocellata
No	No	Leporillus conditor
No	No	Macrotis lagotis
No	No	Perameles bougainville
No	No	Pezoporus occidentalis
No	No	Rostratula australis

Ecological communities

Direct impact	Indirect impact	Ecological community
Yes	No	Eucalypt Woodlands of the Western Australian Wheatbelt

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Eucalypt Woodlands of the Western Australian Wheatbelt

The WA Wheatbelt Woodlands occupies 353.9 ha within the Development Envelope. Within the Disturbance Footprint, the Project will result in the direct removal of 27.1 ha of WA Wheatbelt Woodlands vegetation. An assessment against the Significant Impact Criteria is provided in Att 1- TEPL 2023 MGGP EPBC Supporting Document Sec. 5.2, pg. 47).

Malleefowl (*Leipoa ocellata*)

The Project will result in clearing of up to 944.2 ha of Malleefowl core habitat (Mixed Shrubland) and 324.7 ha of secondary habitat (Eucalypt woodland). The Project will result in the permanent loss of two active (at the time of field survey) and nine inactive Malleefowl mounds. An assessment against the Significant Impact Criteria is provided in Att 1 - TEPL 2023 MGGP EPBC Supporting Document, Sec. 5.3, pg. 55).

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

Eucalypt Woodlands of the Western Australian Wheatbelt

The WA Wheatbelt Woodlands occupies a regional area of 939,470 ha across Western Australia. Within the local area surrounding the Development Envelope (7 km radius), flora and vegetation assessments undertaken to support activities such as resource exploration have delineated additional patches of the WA Wheatbelt Woodlands, totalling 2,061 ha outside of the Development Envelope (Att 1 - TEPL 2023 MGGP EPBC Supporting Document, Sec 3.4.2, pg. 32). Proportionally the mapped extent of the WA Wheatbelt Woodlands within the Project's Development Envelope and Disturbance Footprint represents 14.5% and 1.1% of the total mapped local extent (2,409.8 ha) respectively.

Impact to the WA Wheatbelt Woodlands as a result of the Project is not considered significant as disturbance represents 1.1% of the local extent and less than 0.003% of the regional extent.

An assessment against the Significant Impact Criteria is provided in (Att 1 - TEPL 2023 MGGP EPBC Supporting Document, Sec 5.2, pg. 47).

Malleefowl (*Leipoa ocellata*)

Impacts to Malleefowl are not considered significant because, based on examination of aerial imagery, soil landscapes mapping and vegetation mapping, fauna habitats recorded in the Project area are not restricted and their attributes are typical of habitat types occurring more widely in the region. The Malleefowl occurs beyond these extents (Att 5 - Biota 2023 MGGP Fauna, Sec 6.0, pg. 27). In this particular area, there are numerous occurrences of the species within adjacent nature reserves, such as the AWC Mount Gibson Wildlife Sanctuary, a nature reserve of over 130,000 ha, and the Charles Darwin Nature Reserve. Both reserves support viable local populations.

An assessment against the Significant Impact Criteria is provided in the attached MGGP EPBC Supporting Document (Att 1 - TEPL 2023 MGGP EPBC Supporting Document- sec. 5.3, pg. 55).

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action. *

It is unlikely that the Project will result in a significant impact to WA Wheatbelt Woodlands, Malleefowl that would warrant a controlled action.

Eucalypt Woodlands of the Western Australian Wheatbelt

As stated, the Project will require the clearing of up to 27.1 ha of the mapped extent of the WA Wheatbelt Woodlands within the Disturbance Footprint. Clearing for the Project represents a 1.1% maximum reduction in the local mapped extent (2,409.8 ha) and will not reduce any patch below the TEC size and quality criteria thresholds.

Additionally, a regional vegetation assessment, undertaken by van Etten (2013) discusses that in the Mount Gibson area, the salmon gum woodland is close to its northern most extent, and that many of the characteristic understorey species within the Mt Gibson area occur throughout salmon gum woodlands in the Goldfields (Att 7- MMIOP Regional Vegetation Report - Executive Summary, pg. 2). This supports the position that salmon gum woodland, representative of the WA Wheatbelt Woodlands, occurs extensively to the east of Mt Gibson into the Goldfields.

van Etten (2013) highlights that while salmon gum woodlands have experienced significant decline, this has occurred in the northern and eastern wheatbelt, while 96% of its distribution within the arid zone, which includes Mt Gibson, remaining uncleared (Att 7- MMIOP Regional Vegetation Report- pg. 40). van Etten (2013) concluded that there was no evidence to indicate that the vegetation types in the Mummaloo area are rare or restricted in their distribution or likely to be threatened by the mining development (Att 7- MMIOP Regional Vegetation Report-Executive Summary, pg. 3).

An assessment against the Significant Impact Criteria is provided in Att 1 - TEPL 2023 MGGP EPBC Supporting Document, Sec. 5.2, pg 47.

Malleefowl (*Leipoa ocellata*)

Within the development envelope the two fauna habitat types known to support the species (Mixed Shrubland and Eucalypt Woodland) are common in the locality and exist contiguously within and adjacent to the Disturbance Envelope. Individuals of Malleefowl are known to occur beyond the Project extent, with recent observations made approximately 7 km north of the Project, near Mount Gibson Road.

An assessment against the Significant Impact Criteria is provided in Att 1 - TEPL 2023 MGGP EPBC Supporting Document, Sec. 5.3, pg 55.

The finding of this assessment highlights that the Project will not significantly impact the WA Wheatbelt Woodlands or Malleefowl and will not interfere with the recovery of the species.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Avoid

The location and design of the Disturbance Footprint have been selected to avoid direct impacts and minimise indirect impacts to flora, fauna and vegetation as far as possible. When compared to the initial Disturbance Footprint (Att 1 - TEPL 2023 MGGP EPBC Supporting Document, Sec. 4, pg 40), the proposed layout has avoided:

- Direct clearing of both *Eremophila viscida* individuals recorded in the Development Envelope.
- Direct clearing of 84.9 ha (112.4 ha to 27.1 ha) of the WA Wheatbelt Woodlands

Avoid unauthorised and/or over clearing by implementing a systematic Site Disturbance Permit process, demarcating authorised clearing boundaries and communicating all stages of disturbance to all on-site staff

Prevent the introduction of new weeds to the site by ensuring machinery and equipment are cleaned prior to being mobilised to site and inspected on arrival (not permitted to work until appropriately cleaned).

Minimise

The area has been subject to historical disturbance from previous mining in the 1980's and 1990's. The Project intends to minimise new disturbance to the area by utilising areas of historical disturbance wherever possible.

Clearing will be kept to the minimum required for the Project and undertaken in accordance with all relevant approvals.

Clearing will be undertaken progressively and only when necessary. A Site Disturbance Permit system with strict survey controls and requiring sign off by the Registered Manager prior to clearing commencing will be implemented.

Information will be provided to site personnel by way of an induction and specific training where necessary to identify conservation significant flora, fauna and vegetation and the required management actions to avoid unnecessary disturbance to individuals or their habitat.

In excessively windy conditions when dust emissions cannot be adequately controlled, operations will be postponed until dust suppression can abate dust emissions.

Drainage management infrastructure will be installed to maintain surface water flows across the Project.

Unsealed roads will be designed and constructed to minimise saline water runoff into undisturbed areas.

Fire management measures will be implemented to ensure that the Project does not lead to an increase in the frequency or severity of the local fire regime. Appropriate fire suppression appliances and equipment will be maintained on site and employees trained in their use.

Spills will be contained and cleaned up promptly and disposed of correctly (e.g., to the approved bioremediation facility). Equipment for containing and cleaning up spills will be provided in readily accessible areas where the risk of spills is high. Spill training will be provided to all relevant personnel.

Strict traffic management rules will be implemented (e.g., keeping to designated tracks, maximum vehicle speed limits).

Hydrocarbons and chemical reagents will be stored in accordance with Explosives and Dangerous Goods (Dangerous Goods Handling and Storage) Regulations 1992 or other standards prescribed by the DWER and/or DMIRS to ensure the safety of personnel and protection of the environment.

Pipelines will be located within bunded corridors and may be installed with telemetry systems and pressure sensors to allow detection of leaks and failures.

Rehabilitate

Prepare a detailed Rehabilitation and Mine Closure Plan for assessment and approval by DMIRS.

Investigate rehabilitation methods that enable the return of Priority flora species and vegetation characteristic of the WA Wheatbelt Woodlands.

Disturbed areas will as far as practicable be progressively rehabilitated during operations.

Adhere to the rehabilitation measures prescribed in the Mine Closure Plan which include landforms rehabilitated with:

- maximum 15° slopes
- back-sloped berms at up to 20 m vertical height and 20m width. Berms will be divided into cells to prevent water flow.
- competent rock to be placed on outer surface
- reinstate surface with topsoil to create a self-sustaining ecosystem representative of pre-mining vegetation

All other disturbed areas (e.g., roads) will be ripped, re-contoured and rehabilitated with topsoil.

Conduct annual rehabilitation monitoring against completion criteria.

Strict traffic management rules will be implemented (e.g., keeping to designated tracks, maximum vehicle speed limits).

Hydrocarbons and chemical reagents will be stored in accordance with Explosives and Dangerous Goods (Dangerous Goods Handling and Storage) Regulations 1992 or other standards prescribed by the DWER and/or DMIRS to ensure the safety of personnel and protection of the environment.

Pipelines will be located within bunded corridors and may be installed with telemetry systems and pressure sensors to allow detection of leaks and failures.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

No offsets are proposed for the Project as no significant residual impact is considered likely to occur.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species
No	No	Actitis hypoleucos
No	No	Apus pacificus
No	No	Calidris acuminata
No	No	Calidris ferruginea
No	No	Calidris melanotos
No	No	Motacilla cinerea

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.5.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Fork-tailed swift (*Apus pacificus*) - No previous records exist within the Development Envelope or immediately surrounding the Project; therefore this species is unlikely to occur in the area or be impacted by the Project.

Grey Wagtail (*Motacilla cinerea*) - No previous records exist within the Development Envelope or immediately surrounding the Project; therefore this species is unlikely to occur in the area or be impacted by the Project.

Common Sandpiper (*Actitis hypoleucos*) - Not recorded during fauna surveys and there is no suitable habitat within the Development Envelope, therefore this species is unlikely to occur in the area or be impacted by the Project (Att 5 - Biota 2023 MGGP Fauna, Appendix 3).

Sharp-tailed Sandpiper (*Calidris acuminata*) - No previous records exist from the Disturbance Envelope; therefore this species is unlikely to occur in the area or be impacted by the Project

Curlew Sandpiper (*Calidris ferruginea*) - Not recorded during fauna surveys and there is no suitable habitat within the Development Envelope, therefore this species is unlikely to occur in the area or be impacted by the Project (Att 5 - Biota 2023 MGGP Fauna, Appendix 3).

Pectoral Sandpiper (*Calidris melanotos*) - No previous records exist from the Disturbance Envelope; therefore this species is unlikely to occur in the area or be impacted by the Project.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed Action does not include any nuclear actions.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project is terrestrial and will not result in any direct or indirect impacts on a Commonwealth Marine Area.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Not applicable. The Project is located within Western Australia. There will be no impact to the Great Barrier Reef.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed Action is not related to large coal mining or coal seam gas.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Not applicable. The Proposed action does occur within or adjacent to Commonwealth land. No direct or indirect impacts associated with the Proposed action will affect known areas of Commonwealth land.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No part of the Proposed Action will occur in any place overseas.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

With the exception of not undertaking the Project, there are no viable alternatives to the Proposed action that allow for a feasible project.

The location of the Project is constrained by the location of the mineral deposits. The area has been subject to substantial historical disturbance as a result of previous mining in the 1980's and 1990's. This Project intends to minimise new disturbance to the area by utilising areas of historical disturbance wherever possible.

The location and design of the Disturbance Footprint has evolved to avoid direct impacts and minimise indirect impacts to flora, fauna and vegetation as far as possible. When compared to the initial Disturbance Footprint (Att 1 - TEPL 2023 MGGP EPBC Supporting Document, Sec. 4, pg 40), the proposed layout has avoided:

- Direct clearing of both *Eremophila viscida* individuals recorded in the Development Envelope.
- Direct clearing of 84.9 ha of the WA Wheatbelt Woodlands.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	12/12/2023	No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 2 - MGGP Stakeholder Consultation Register.pdf Stakeholder consultation register	12/12/2023	Yes	High
#2.	Document	Att 2 - REDACTED MGGP Stakeholder Consultation Register.pdf Stakeholder consultation register	21/02/2024	No	High

1.3.2.17 (Person proposing to take the action) Proposer's history of responsible environmental management

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 8 - MGGP Environmental Management Plan.pdf Environmental Management Plan	30/11/2023	No	High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 8 - MGGP Environmental Management Plan.pdf Environmental Management Plan	29/11/2023	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	11/12/2023	No	High
#2.	Document				

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	11/12/2023	No	High

3.1.4 Gradient relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	11/12/2023	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	11/12/2023	No	High
#2.	Document	Att 3 - FVC 2023 MGGP_Flora_and_Vegetation.pdf Flora and Vegetation Survey Report	24/07/2023	No	High
#3.	Document	Att 4 - TEPL 2023 MGGP_GDV.pdf Groundwater Dependent Vegetation Assessment	05/10/2023	No	High
#4.	Document	Att 5 - Biota 2023 MGGP_Fauna.pdf Basic and Targeted Fauna Survey Report	01/01/2023	No	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	11/12/2023	No	High
#2.	Document	Att 3 - FVC 2023 MGGP_Flora_and_Vegetation.pdf Flora and Vegetation Survey Report	24/07/2023	No	High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 6 - Advisian 2023 MGGP Hydrology Surface Water.pdf Surface Water Assessment	31/07/2023	No	High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	11/12/2023	No	High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	11/12/2023	No	High
#2.	Document	Att 5 - Biota 2023 MGGP_Fauna.pdf Basic and Targeted Fauna Survey Report	31/12/2022	No	High

4.1.4.9 (Threatened Species and Ecological Communities) Why you do not think your proposed action is a controlled action

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Type	Name	Date	Sensitivity	Confidence
#1. Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	11/12/2023	No	High
#2. Document	Att 7 - van Etten 2013 MMIOP Regional Vegetation Report.pdf Regional Vegetation Assessment	01/04/2013	No	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

Type	Name	Date	Sensitivity	Confidence
#1. Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	11/12/2023	No	High

4.1.5.3 (Migratory Species) Why your action is unlikely to have a direct and/or indirect impact

Type	Name	Date	Sensitivity	Confidence
#1. Document	Att 5 - Biota 2023 MGGP_Fauna.pdf Basic and Targeted Fauna Survey Report	31/12/2022	No	High

4.3.8 Why alternatives for your proposed action were not possible

Type	Name	Date	Sensitivity	Confidence
#1. Document	Att 1-TEPL 2023 MGGP EPBC Supporting Document.pdf Supporting information	11/12/2023	No	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN 51621352609

Organisation name TETRIS ENVIRONMENTAL PTY LTD

Organisation address 6154 WA

Representative's name James Hesford

Representative's job title Director

Phone 0488217275

Email james@tetriseviro.com.au

Address Suite 6E, 573 Canning Hwy, Alfred Cove WA 6154

Check this box to indicate you have read the referral form. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

By checking this box, I, **James Hesford of TETRIS ENVIRONMENTAL PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	93169977155
Organisation name	CRIMSON METALS PTY LTD
Organisation address	6005 WA
Representative's name	Wade Stephenson
Representative's job title	Study Manager
Phone	(08) 9212 4600
Email	wstephenson@capmet.com.au
Address	Level 3, 40 Kings Park Road, West Perth WA, 6005

Check this box to indicate you have read the referral form. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

I, **Wade Stephenson of CRIMSON METALS PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

Check this box to indicate you have read the referral form. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

I, **Wade Stephenson of CRIMSON METALS PTY LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

I would like to receive notifications and track the referral progress through the EPBC portal. *