Muckaty Solar Precinct

Application Number: **03207** Commencement Date: **31/10/2025** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Muckaty Solar Precinct

1.1.2 Project industry type *

Energy Generation and Supply (renewable)

1.1.3 Project industry sub-type

Solar Farm

1.1.4 Estimated start date *

01/01/2030

1.1.4 Estimated end date *

31/12/2110

1.2 Proposed Action details

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

The Proposed Action is the development of a large-scale solar and battery energy storage system precinct which aims to generate renewable energy for dispatch to customers through the already approved (Australia-Asia PowerLink) AAPowerLink Project transmission system. The Proposed Action incorporates infrastructure to support construction and operation of the precinct, and a transmission corridor connecting north to the AAPowerLink infrastructure on Powell Creek Station (NT EPA Reference: EP2020/002-001, and EPBC Reference: 2020/8818). The Proposed Action is located on Muckaty Aboriginal Land Trust (ALT) land located approximately 870 kilometres (km) south of Darwin and 125 km north of Tennant Creek by road (refer to Attachment 1 – Figure 1).

The Project Area comprises 135,857.03 hectares (ha) of land on Muckaty that is under assessment for solar development potential. Within the Project Area, a Preliminary Disturbance Footprint has been delineated covering 54,437.83 ha of land that early studies indicate may be suitable for solar development. Preliminary Avoidance Areas have been identified to protect known environment and cultural heritage values . The Avoidance Areas cover significant vegetation, important habitats, some areas of threatened species habitat (Greater Bilby), and known Aboriginal Sacred Sites, and include buffers to protect these values. The Project Area, Preliminary Disturbance Footprint and Avoidance Areas are shown on Attachment 1 – Figure 2.

The project will involve land clearing and earthworks, infrastructure construction, operation and decommissioning activities to deliver the following infrastructure components:

- Solar generation sites (solar fields, local collector network, inverters, batteries, substations)
- Transmission infrastructure (including switching station and overhead transmission line (OHTL))
- Non-Process Infrastructure (NPI) - supporting/ancillary infrastructure needed to construct and operate the assets.

The other key activity involved in the project is repowering, which is the process of replacing aging solar panels, inverter systems, and batteries with newer, more efficient technologies. The solar panels have an optimal design life of approximately 40 years and the batteries 15 years.
Repowering activities are likely to be required at the Muckaty Solar Precinct to meet the overall forecasted design life of the neighbouring AAPowerLink Project's transmission infrastructure. Repowering campaigns (and decomissioning) will produce significant volumes of waste, including electronic waste (e-waste) that requires special management due to the presence of hazardous materials and valuable resources that should be reused or recycled.

Concept design has been progressed for a single axis tracker solar precinct, comprised of modularised 325-megawatt peak capacity solar fields. The solar fields are the building blocks of the precinct, with the number of fields delivered in each stage of development dictated by customer offtake agreements. Initial assessments indicate that the Preliminary Disturbance Footprint can accommodate approximately 20 GW of peak electrical output.

Power generated by the solar fields will be marshalled into a central switching station using a local collector network, which could include a combination of overhead and/or underground transmission lines. An OHTL will be constructed to transfer power from the Muckaty Switching Station north to the already-approved Powell Creek Switching Station (part of the AAPowerLink Project). The OHTL is proposed to run parallel to the existing Adelaide to Darwin railway corridor.

Non-Process Infrastructure that will be developed will include access roads, airfield, rail siding, worker accommodation, borrow pits, laydown areas, water supply (groundwater bores, tanks and pipelines) and concrete batching plants. Some NPI will be temporary, required during the construction phase/s and any repowering stages only, and will be remediated when no longer needed. Other NPI will be permanent, including facilities to support ongoing operations, and enabling infrastructure such as roads and airfields, which may also be public or common use infrastructure.

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

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

No

1.2.4 Related referral(s)

EPBC Number	Project Title
2020/8818	Australia-Asia PowerLink

1.2.5 Provide information about the staged development (or relevant larger project).

The Muckaty Solar Precinct is related to the larger AAPowerLink Project. SunCable secured NT and Commonwealth environmental approvals for the AAPowerLink Project in July/August 2024. The Project proposes to harness renewable energy from the world-class solar resource in the Barkly region of the NT to supply up to 4GW of 24/7 electricity to industrial customers in Darwin and export a further 2GW to Singapore. The AAPowerLink Project environmental approvals encompass a 12,000ha solar precinct on Powell Creek Station, which neighbours Muckaty to the north. Muckaty Solar Precinct is proposed as an additional generation site that will expand SunCable's renewable energy generation capabilities in the Barkly region. Energy generated at the Muckaty Solar Precinct will be sent north via an OHTL that will connect to the AAPowerLink Project's Powell Creek Switching Station, from there the AAPowerLink transmission infrastructure will be used to send electricity north to customers in the Darwin region and offshore.

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

Key Commonwealth Legislation (in alphabetical order)

Aboriginal Land Rights (Northern Territory) Act 1976 **(Cth**) (ALRA) – The Proposed Action is located on Aboriginal Land. SunCable currently holds a Section 19 licence which authorises renewables research on Muckaty ALT land. SunCable proposes to negotiate a Section 19 Agreement with the Northern Land Council (NLC) and Traditional Owners for the construction and operation of the Muckaty Solar Precinct.

Environment Protection and Biodiversity Conservation Act 1999 – The Proposed Action has been referred for determination of assessment and approval requirements under the Act. SunCable's self-assessment identified potential for impact to a EPBC-listed threatened species, the Greater Bilby (*Macrotis lagotis*).

Future Made in Australia (Guarantee of Origin Charges) Act 2024. The Proposed Action will be eligible to participate in the Renewable Energy Guarantee of Origin (REGO) scheme established under the Act. REGO certificates will verify the source and characteristics of renewable electricity generated at the Muckaty Solar Precinct for customers.

Other relevant Commonwealth legislation that may need assessment as the Proposed Action progresses include ***Air Services Act 1995*** **(Cth)** and ***Defence Act 1903*** **(Cth)**, should the Proposed Action require any airfield infrastructure and consultation with Defence and aviation regulators.

Key Northern Territory (NT) Legislation (in alphabetical order)

Aboriginal Land Act 1978 **(NT)** – Permits are required under the Act to access Aboriginal Land as defined under Section 3 of the ALRA. SunCable will secure permits for all activities on Muckaty ALT land through the Northern Land Council.

Bushfires Management Act 2016 **(NT)** – The controls on fire activities provided in Part 4 of the Act will apply to the Proposed Action, including the requirement to establish fire breaks, controls on high-risk activities during fire danger periods, and compliance with fire bans.

Control of Roads Act 1953 **(NT)** – Should any work be required to occur within a road reserve for a road under the care and control of the Northern Territory Government (NTG) or a Local Council, a permit may be required under the Act.

Dangerous Goods Act 1998 **(NT)**– Prescribed dangerous goods transported, used, stored, and disposed of to support the Proposed Action's construction and ongoing operational maintenance may require licences to be held under the Act.

Electricity Reform Act 2000 **(NT)** – The Act regulates the electricity supply industry in the NT. Under the Act the Proposed Action may require a licence/s for regulated activities. Licencing requirements will be further considered in consultation with NT Government as the proposal is progressed.

Environment Protection Act 2019 **(NT)** – The Act provides the legal framework for environmental protection and sustainable management of natural resources in the NT. SunCable has submitted a Referral to the NT Environment Protection Authority (NT EPA) for determination of assessment and approval requirements under the Act.

Heritage Act 2011 **(NT)** – The Act provides for the conservation of the NT's cultural and natural heritage. The Act protects all Aboriginal archaeological heritage places and objects, and other declared heritage places and objects. SunCable will undertake Aboriginal heritage surveys and will seek to avoid and protect identified places and objects. Where works on a heritage place or object are unavoidable, works approvals will be sought pursuant to Part 3.2 of the Act. Notifications must also be made to the Aboriginal Areas Protection Authority in the event that Aboriginal burial sites or skeletal remains are uncovered.

Mineral Titles Act 2010 **(NT) –** Extraction of extractive minerals (soil, sand gravel, rock or peat) can require a type of Mineral Title to be issued under the Act. There is one Extractive Mineral Exploration License Application (EL32788) within the Project Area. The Proposed Action may require permit/s for the

establishment of temporary borrow pits to source construction materials.

Northern Territory Aboriginal Sacred Sites Act 1989 **(NT)** - A person who proposes to use or carry out work on land may apply to the Aboriginal Areas Protection Authority (AAPA) for Authority Certificate/s in accordance with Division 1A of the Act. SunCable will apply for Authority Certificates over all proposed development areas to ensure that Sacred Sites are identified and protected.

Planning Act 1999 **(NT)** – The Act provides an approval mechanism for clearance of native vegetation in excess of 1 ha in aggregate on zoned and unzoned land, which will be triggered for the Proposed Action. It is proposed that land clearing will be staged, with separate permits secured for each stage.

Solar Project (Australia-Asia Power Link) (Special Provisions) Act 2022 **(NT) –** The Act provides a legal framework to support the Australia-Asia Power Link project. This legislation was passed to provide certainty for the project's investors and to ensure the Northern Territory government's commitments in its Project Development Agreement with SunCable are met. SunCable will continue to engage with the NT Government in relation to the application of the Act to the Muckaty Solar Precinct proposal.

Territory Parks and Wildlife Conservation Act 1976 **(NT)** - Threatened flora and fauna species listed under TPWC Act may be impacted by the Proposed Action. A permit under section 55 of the Act, to take or interfere with protected wildlife will be obtained for flora and fauna studies. Permits may also be required in the event flora or fauna need to be relocated during construction or operation of the precinct.

Water Act 1992 **(NT) –** The Act requires a user of surface water or groundwater to obtain a licence to access water. There are several relevant permits under this Act which may be triggered by the Proposed Action including a Water Extraction Licence for extraction of groundwater required for construction and operations, a permit to interfere with a waterway where roads and access tracks are constructed, and a bore work permit to install groundwater extraction bores.

Waste Management and Pollution Control Act 1998 **(NT)**– The Act establishes a general duty to not cause environmental nuisance or pollution. The Proposed Action is unlikely to trigger the requirement for an Environment Protection Licence, as it would not involve any of the activities listed in Schedule 2 of the Act.

Weeds Management Act 2001 **(NT)** – The Act places responsibility for weed management on the owner/occupier of land and declares species of weeds that are to be eradicated, controlled and not introduced. SunCable will be required to comply with the Barkly region weed management plan and have procedures in place to ensure weeds are not introduced or spread.

Work Health and Safety (National Uniform Legislation) Act 2011 **(NT)** – The Work Health and Safety (National Uniform Legislation) Act 2011 (NT) establishes the framework for occupational health and safety in the Northern Territory by setting out duties, obligations, and rights for workers and employers. SunCable is required to have systems and procedures in place to ensure health and safety and to identify, eliminate or minimize risks.

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. *

Between the reporting period of January 2024 and June 2025, SunCable continued to execute a Stakeholder Engagement Strategy to guide regular engagement with key stakeholders. Engagement has focused on informing and consulting key stakeholders that are directly affected by the SunCable's activities and/or that play an important role in project facilitation. Refer Attachment 2 - Engagement Report and summary below.

Key engagement activities during the reporting period included community displays, site visits, letters, emails, presentations, briefings, community meetings and industry events. Supporting communication tools included a flyover project video, factsheets, newsletters, maps, presentations, media releases, project website, FAQ, project email and ICN project gateway page.

Key stakeholders engaged during the reporting period included Aboriginal organisations, Traditional Owners and their representatives, business and industry representatives, local, Territory and Federal governments, host landowners, and affected communities.

SunCable collected feedback from key stakeholders from over 300 engagement and consultation interactions.

Stakeholders feedback generally focused on the following themes:

1. workforce development, training and employment

2. project development, operations and approvals

3. community benefits.

Prior to submitting this Referral, SunCable attended a consultation meeting with the Northern Land Council and Traditional Owners of Muckaty ALT land, held in Tennant Creek on 15 October 2025. At that meeting, SunCable provided Traditional Owners with an update on studies undertaken at Muckaty to support the Referral and informed them about the Referral process and opportunity for public comment. SunCable's Social Impact Assessment (SIA) consultants also attended to engage with the Muckaty Traditional Owners about potential social impacts and benefits as part of a Social Impact Scoping Study.

Stakeholder engagement and feedback received will continue to inform SunCable's project planning and design of the Muckaty Solar Precinct proposal.

1.3.1 Identity: Referring party

Privacy Notice:

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	99653396948
Organisation name	AAPOWERLINK AUSTRALIA ASSETS PTY LTD
Organisation address	Level 15 Charles Darwin Centre, 19 Smith Street, Darwin NT 0800

Referring party details

Name	Kylie Welch
Job title	Development Manager - Environment
Phone	0435606766
Email	kylie.welch@suncable.energy
Address	Level 15, Charles Darwin Centre, 19 Smith Street Mall, Darwin NT 0800

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	99653396948
Organisation name	AAPOWERLINK AUSTRALIA ASSETS PTY LTD
Organisation address	Level 15, Charles Darwin Centre, 19 Smith Street Mall Darwin NT 0800

Person proposing to take the action details

Name	Ryan Willemsen-Bell
Job title	Chief Executive Officer
Phone	+61437838549
Email	ryan.willemsenbell@suncable.energy
Address	Level 15, Charles Darwin Centre, 19 Smith Street Mall Darwin NT 0800

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. *

- AAPowerLink Assets Australia Pty. Ltd. has a satisfactory recorded of responsible environmental management.
- AAPowerLink Assets Pty. Ltd. and the person preparing the application have not been the subject of any past of present proceedings under a Commonwealth, State or Territory law for the protection of the environment.
- AAPowerLink Assets Australia Pty. Ltd. has previously referred Australia Asia PowerLink Project, Northern Territory (EPBC 2020/8818).

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

The proposed action will be undertaken in accordance with the SunCable Corporate Environmental & Social Responsibility Policy - refer Att 6.

SunCable is committed to protecting and enhancing the environment, respecting culture and heritage, and collaborating with stakeholders to create positive community outcomes. Our mission is to enable the transition to a sustainable, low-carbon future through the responsible development of renewable energy projects that deliver long-term value for Australia and the Asia-Pacific region.

We adopt and advance leading practice principles in our project development approach, embedding environmental and social considerations at every stage. Our approach is guided by continuous learning, innovation, and collaboration with stakeholders, including host-land owners, Traditional Owners, communities, government, customers, and suppliers.

SunCable is committed to:

- Minimising our environmental footprint through resilient and considered design.
- Protecting biodiversity and ecosystems while preventing pollution and land degradation.
- Engaging respectfully with communities and stakeholders to build trusted relationships.
- Respecting and safeguarding cultural heritage in collaboration with Traditional Owners.
- Promoting positive social outcomes, including local employment, skills development, and regional economic participation.
- Continuously improving environmental and social performance to meet leading practice standards.

We foster a culture of shared responsibility where all employees and contractors are expected to:

- Understand and uphold SunCable’s environmental and social performance commitments.
- Take personal responsibility for preventing harm to the environment.
- Engage respectfully with each other, stakeholders, and the community.
- Report and respond to incidents and risks in a timely and transparent manner.
- Participate in initiatives that enhance environmental and social performance outcomes.

This policy is reviewed periodically to ensure its continued relevance and effectiveness in promoting environmental and social outcomes that align with community and stakeholder expectations.

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	99653396948
Organisation name	AAPOWERLINK AUSTRALIA ASSETS PTY LTD
Organisation address	Level 15, Charles Darwin Centre, 19 Smith Street Mall Darwin NT 0800

Proposed designated proponent details

Name	Ryan Willemsen-Bell
Job title	Chief Executive Officer
Phone	+61437838549
Email	ryan.willemsenbell@suncable.energy
Address	Level 15, Charles Darwin Centre, 19 Smith Street Mall Darwin NT 0800

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	99653396948
Organisation name	AAPOWERLINK AUSTRALIA ASSETS PTY LTD
Organisation address	Level 15 Charles Darwin Centre, 19 Smith Street, Darwin NT 0800
Representative's name	Kylie Welch
Representative's job title	Development Manager - Environment
Phone	0435606766
Email	kylie.welch@suncable.energy
Address	Level 15, Charles Darwin Centre, 19 Smith Street Mall, Darwin NT 0800

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	99653396948
Organisation name	AAPOWERLINK AUSTRALIA ASSETS PTY LTD
Organisation address	Level 15, Charles Darwin Centre, 19 Smith Street Mall Darwin NT 0800
Representative's name	Ryan Willemsen-Bell
Representative's job title	Chief Executive Officer
Phone	+61437838549
Email	ryan.willemsenbell@suncable.energy
Address	Level 15, Charles Darwin Centre, 19 Smith Street Mall Darwin NT 0800

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

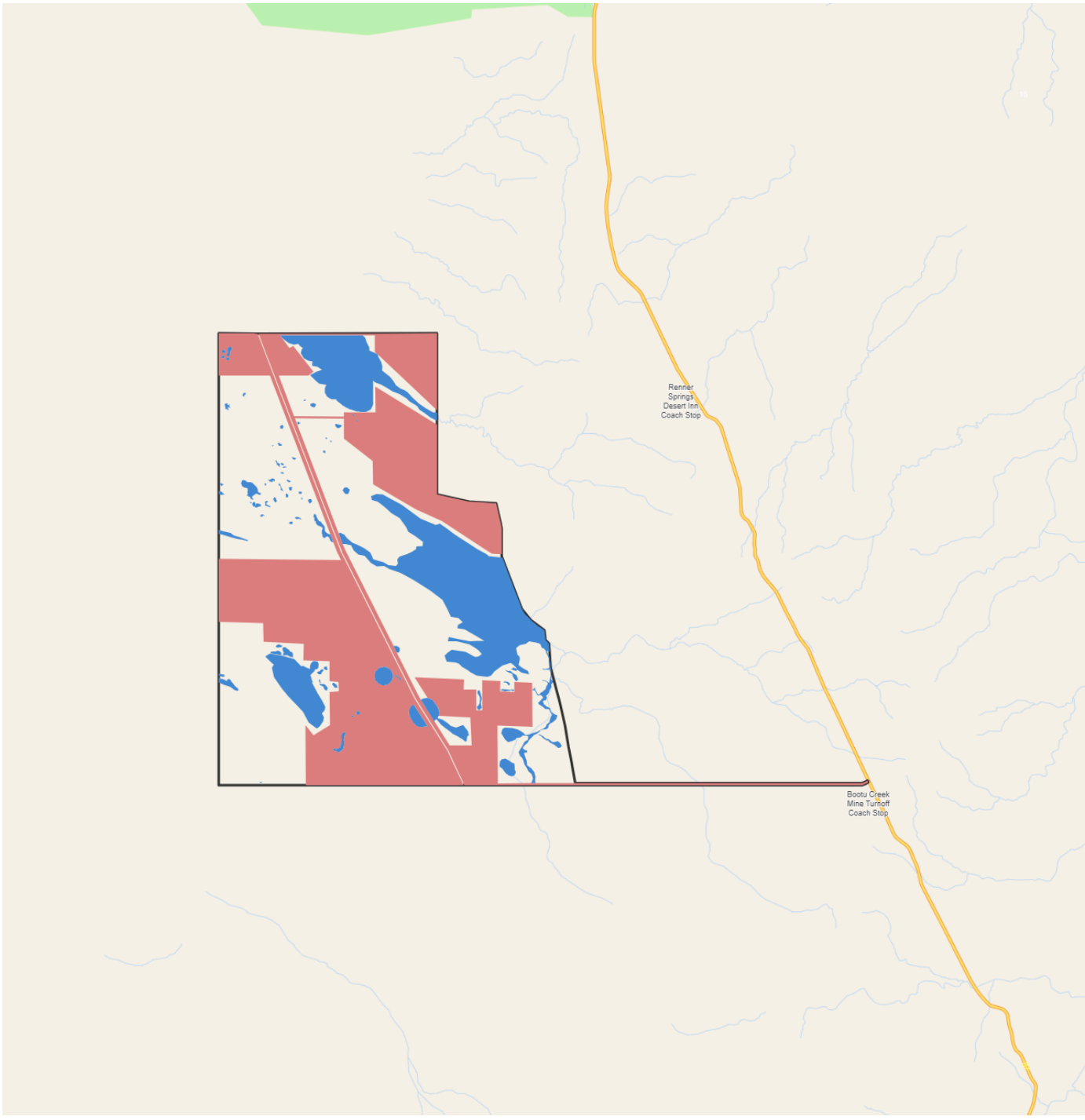
1.4 Payment details: Payment allocation

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

Referring party

2. Location

2.1 Project footprint



Project Area: 135857.03 Ha **Disturbance Footprint:** 54437.83 Ha **Avoidance Area:** 23307.52 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

12970 Stuart Highway, Pamayu Northern Territory

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

Northern Territory

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 Project Area is located on Aboriginal Land (Freehold) under the *Aboriginal Land Rights Act (Northern Territory) 1976* (NT Portion 5173 Muckaty ALT).

There are two linear infrastructure corridors that run through the Project Area:

1. Adelaide-Darwin Railway - NT Portion 5475 - Aboriginal Land (Freehold) - occupied by Aurizon under a commercial agreement
2. Gas pipeline corridor - NT Portion 5611 - Aboriginal Land (Freehold) - occupied by APA Group under commercial agreement

3. Existing environment

3.1 Physical description

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

The Project Area is in the Barkly Local Government Area in the central semi-arid region of the NT. The nearest towns are Elliott (Kulumindini), located approximately 81 km north, and Tennant Creek, located approximately 121 km south (as the crow flies). The Project Area is situated 27 km west of the Stuart Highway and is divided by the Adelaide-Darwin railway line running through the centre from north to south.

The Project Area is mostly flat land that supports native vegetation. Desert sandplains are the predominant land type, specifically the Redsan land system which covers more than 95% of the Project Area. In the west of the Project Area there are mapped isolated patches of Desert dunefields and Sandstone hills. In the east there are patches of Alluvial floodplains, Lateritic plains and rises, and Sandstone Hills associated with the Ashburton Range that runs north-south across the western half of the Muckaty property. Refer to Attachment 1 – Figure 4 for land system mapping of the Project Area.

The Project Area is generally greenfield and undeveloped, excepting for access tracks, fences and bores that support low density cattle grazing activities, and linear infrastructure corridors housing the Adelaide to Darwin Railway and the Amadeus Gas Pipeline. Due to the low intensity of the existing land use and development, erosion is limited to isolated occurrences along access tracks and infrastructure corridors, and along Burke Creek. There is no known contamination present on the property, and the current and past land uses indicate a low contamination risk.

There is evidence of several threatening processes to biodiversity within the Project Area:

Four weed species were observed during field surveys – two of which are declared weeds in the NT (Rubber Bush and Buffel Grass) under the *Weeds Management Act 2001* (NT)

There is evidence of introduced fauna species. As well as extensive cattle tracks to the east of the railway line, camel tracks were sparsely scattered throughout the Project Area, and numerous feral cats were sighted. The latter are a Key Threatening Process under the EPBC Act. The Project Area is beyond the limit of Cane Toad distribution.

Moderate fire frequency has been experienced over the 20 year period between 2000 and 2024, with most of the Project Area burnt five to seven times. Much of Muckaty, was burnt in 2023 or 2024, leaving smaller disconnected patches that have remained unburnt for three or more years. The fire frequency is typical for the region.

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

Muckaty is primarily used for traditional Indigenous uses, including conservation and managed resource protection, and for low intensity cattle grazing activities under lease agreement with the Traditional Owners. There are two outstations (Muckaty and Namerinni), where Aboriginal families have lived in recent times although it is understood they are not currently permanently occupied.

Grazing activities are concentrated in the central portions of the property, where infrastructure supporting the pastoral land use includes access tracks, fences, watering points, and holding yards. The land areas to the west of the railway are undeveloped and have very limited access.

The proponent is not aware of any other proposed uses for the project area.

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

The Project Area does not contain any specific protected values. Watercourses and wetlands are a notable natural feature in the semi-arid landscape, typically supporting significant vegetation, higher fauna diversity and cultural heritage values. Significant vegetation within the Project Area has been mapped – refer Attachment 1 Figure 3. Watercourse and wetland features are further described in Section 3.4 below.

Lake Woods Site of Conservation Significance (SOCS) is a unique natural feature in the region that is located approximately 27 km north of the Project Area (Refer to Attachment 1 – Figure 2). Lake Woods is one of the largest temporary freshwater lakes in the Northern Territory and tropical Australia. The SOCS has international significance due to seasonal presence of large aggregations of waterbirds, and presence of important wetland habitat (NT Government 2009).

The self-assessment of potential significant impacts prepared for this Referral indicates Lakes Woods is outside the area of impact and influence from the Proposed Action.

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

Elevation within the project area ranges from around 220m above sea level in the north and west to 240m above sea level along the southern and eastern boundary. The topography is relatively flat to gently undulating with gradient less than 2%. The mapped areas of rocky outcrop and rises in the south and east of the Project Area have isolated occurrences of steeper gradients. Contour mapping for the Project Area is shown in Attachment 1 – Figure 5.

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.

Based on surveys and desktop studies conducted in 2025, the flora and fauna within the Project Area are described in the Ecology Assessment Report – refer Attachment 3.

An EPBC Protected Matters Search Tool (PMST) was used to generate a report of threatened ecological communities, listed threatened and migratory species that could occur in the Project Area. To ensure all potential matters were captured, the maximum 50km buffer from the Project Area was used for the search. The PMST Report is appended to Attachment 3, Appendix A.

For each threatened and migratory species, the likelihood of it occurring within the project area was assessed by suitable qualified NT-based ecologists based on desktop information that relates to habitat requirements, distribution, number and dates of proximate records (obtained from NT Atlas and/or Atlas of Living Australia), and the environmental context recorded during field surveys. A total of 31 threatened species were considered in the desktop 'likelihood of occurrence' assessment – refer Attachment 3, section 2.8.

Two EPBC-listed species are considered to have a reasonable chance of occurring within the Project Area because they were assessed to either have a high or moderate likelihood of occurrence rating – Greater Bilby and Grey Falcon.

Twelve species were assessed to have a low likelihood of occurrence within the project area, and 16 species were assessed as ‘none’. These (28) species were deemed to not require any further assessment. Refer Attachment 3, section 2.8.1 for the ‘likelihood of occurrence’ assessment methods and results.

In summary:

Threatened Ecological Communities

There are no Threatened Ecological Communities mapped within or within proximity to the Project Area.

Flora

There are no EPBC Listed Threatened Flora Species expected to occur within the Project Area. Broad land types and vegetation communities are summarised below and detailed in Attachment 3, section 3.

Fauna

Two EPBC Listed Threatened Fauna species are considered to have a moderate or high likelihood of occurring within the Project Area due to the presence of suitable habitat. These are the Greater Bilby (*Macrotis lagotis*) and the Grey Falcon (*Falco hypoleucos)* - both listed as Vulnerable. These species (and the NT-listed, Yellow-spotted Monitor) were the subject of the field surveys and assessment – refer Attachment 3 – Section 4.

Greater Bilby (Vulnerable)

The Project Area occurs on the edge of the Tanami Desert – a stronghold for the Greater Bilby – and, like much of the Tanami Desert, contains large areas of suitable habitat for the species. There are historic records across the Bioregion including, to the south of Muckaty, as well as adjacent to the railway line within Project Area (Refer to Attachment 1 – Figure 8).

A targeted survey of a large portion of the Project Area (covering 92 percent of the Disturbance Footprint) was undertaken in mid-2025. Approximately 1,300 km of aerial survey and 150 km of vehicle survey was undertaken. A total of 245 sites were conducted during the survey, including a combination of aerial habitat check sites (137 sites), track-plot sites (11 sites), ground-based habitat checks (5 sites), goanna sign verification sites (11 sites) and putative bilby sign checks (118 sites). Refer Attachment 3 Section 4.1 for details of the survey methods and results.

Evidence of Greater Bilby presence was unambiguously recorded at 33 sites where burrows of varying ages, diggings, scats and tracks were observed, with an additional 20 sites containing evidence that the Greater Bilby is likely to be present.

Within the Project Area, Greater Bilby are considered to have potential to occur within sandplains, laterite rises and lateritic plains, and to a lesser extent, loamy plains. Although these land types are considered as generally suitable habitat for Greater Bilby, there are 'hotspot areas' within those land types that are more favorable and more likely to support Greater Bilby (primarily due to the presence of shrub species which support root-dwelling larvae (RDL) – a key food source).

Attachment 1 – Figure 9 shows locations where Bilby presence sign and/or RDL shrub presence was recorded across the Project Area.

Grey Falcon (Vulnerable)

A field survey of the Project Area involved searches to identify potential nest sites and nesting habitat (i.e. tall emergent trees) for the Grey Falcon. Given the species occurs sparsely across the arid and semi-arid regions of Australia, birds are unlikely to be detected in field surveys, hence the focus on suitable habitats.

The surveys determined that potentially suitable foraging habitat for the Grey Falcon is widespread throughout the region, and the Project Area may be occasionally used for foraging / hunting (as an individual or pair). Potentially suitable nesting habitat is present within a moderate drainage line within the northern part of the Project Area (Burke Creek). The approximately 10 km section of this creek line that intersects the Project Area, supports River Red Gum trees, with isolated waterholes observed at the time of survey. Emergent trees along this creek line could provide potential nesting locations for Grey Falcon; however, no suspected nest sites were observed during the survey.

Attachment 1 - Figure 10 shows the locations of watercourses in the Project Area that could provide nesting locations for Grey Falcon.

Migratory shorebirds

The EPBC PMST and NT Fauna Atlas combined identify 19 listed migratory shorebird species that are either known, or are likely, to occur at Lake Woods approximately 27 km north of the Project Area (and therefore potentially within the Project Area). The 'likelihood of occurrence' assessment (refer Attachment 3 Section 2.9) determined that none of these species are likely to occur within the Project Area – and particularly not within the Disturbance Footprint, because by design migratory species habitat is avoided by avoiding floodplain and wetland habitat areas.

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

Vegetation characteristics of the Project Area are broadly described in Attachment 3, section 2.7. The Project Area is mostly covered by natural vegetation - Eucalyptus woodlands and hummock grasslands.

The following significant vegetation types occur within the Project Area: riparian vegetation along Burke Creek; ephemeral swamps of varying sizes which are scattered throughout; drainage depressions; and large, hollow-bearing trees, which are likely restricted to Burke Creek. The occurrence of significant vegetation is shown in Attachment 1 – Figure 3.

Preliminary land type mapping has been prepared for the Disturbance Footprint within the Project Area (refer Attachment 1 – Figure 6). The relevant Land Types and associated vegetation characteristics for the Project Area are described in Attachment 3, section 3 and summarised below:

- Spinifex Sandplain (60.1%): The most common land type, characterised by flat to gentle slopes with red sandy soils. The vegetation consists of shrubland and hummock (spinifex) grassland.
- Loamy Plain (30.3%): Flat to gentle slopes with brown to pale red loams. The vegetation consists of tussock grassland with scattered shrubs and trees. Cattle tracks and grazing was commonly observed in this land type due to a higher abundance of palatable grasses and proximity to water sources.
- Alluvial Plain or Depression (3.7%): Flat areas with brown, clayey loams that are prone to seasonal flooding. They are predominantly associated with the floodplain areas of the large drainage systems (Burke Creek and Tomkinson Creek), but also several smaller drainage lines and minor run-on areas. It is expected that these areas are periodically inundated, and flora species established indicate a ‘wetter’ environment (such as presence of *Eucalyptus victrix* and *Corymbia flavescens*, and tussock grass-dominated understory).
- Lateritic Plain (2.9%): Flat to gently undulating terrain with lateritic soils and gravel. The vegetation consists of relatively open low trees and shrubs with a mix of hummock grass and tussock grass understory. Most trees have been subject to repeat fires and are therefore stunted and/or have mallee-like formations.
- Laterite Rise (2.4%): Low rises with gravelly soils. The vegetation consists of low open shrubland and hummock grass.
- Low Rocky Hill (0.5%): Hills with skeletal, shallow soils. The vegetation consists of low open woodland and hummock grass. Shrubs are generally sparse.
- Ephemeral Swamp (0.1%): Flat, run-on areas with clayey soils that become seasonally inundated. The vegetation consists of low open woodland and sedgeland.
- Minor and Moderate Drainage (<0.1% each): These areas include gentle slopes with clay loam soils and well-formed channels. The vegetation consists of open shrubland and woodland with tussock grass.

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 within the Project Area or surrounding areas.

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

The Project Area is a significant cultural landscape, given spiritual connections to the land held by the Traditional Owners and other Aboriginal people who have had a long history with the region. There are many sites of significance and associated dreamings that are acknowledge in the Muckaty Land Claim Report. Aboriginal people continue to access and use the area periodically, and it is understood that in recent times people have resided at the outstations on the property.

There are known Aboriginal Sacred Sites within Project Area as identified in an Abstract of Records obtained from the NT Aboriginal Areas Protection Authority (AAPA). SunCable has delineated Avoidance Areas around these known sites, conservatively buffering them by 1 km from the Preliminary Disturbance Footprint. Sacred sites surveys will be undertaken across the Project Area with Traditional Owners to determine whether there are any additional sites, and these will also be avoided and buffered from development.

The NT Heritage Branch have advised that there are records of Aboriginal archaeological sites occurring on Muckaty that are protected under the *Heritage Act 2011,* and it is likely that there are other sites present in areas that have not yet been surveyed. SunCable will engage a suitably qualified archaeologist to undertake surveys across the project footprint and will prepare a Cultural Heritage Management Plan in consultation with Traditional Owners.

Traditional Owners will be consulted in relation to the proposed site layout and design, as mandated under the *Aboriginal Land Rights Act 1976*. Further, SunCable will apply for an Authority Certificate under the *Northern Territory Aboriginal Sacred Sites Act 1989* (NT), which will identify specific measures required to protect the currently registered and recorded sites and may also identify additional sites and protection measures. SunCable will also comply with all requirements of the *Heritage Act 2011*.

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. *

Surface Water

The Muckaty Station Flood Study (refer Attachment 4) investigates existing flow paths across Muckaty at different Annual Exceedance Probabilities (AEPs) to guide high-level planning. The study involved the development of hydrologic and hydraulic models covering Muckaty and upstream catchments.

The Project Area is located at the southern-most extent of the large Lake Woods inland sub-basin. Lake Woods is a terminating freshwater lake, with water losses from evaporation and infiltration only. The Project Area is approximately 27 km south of the boundary of the Lake Woods Site of Conservation Significance.

There are two major creek lines (stream order 3-4) in the Project Area: Burke Creek in the north; Tomkinson Creek in the west; and several minor streams (stream order 1-2) in the southern area (refer to Attachment 1 – Figure 7). Northern parts of Project Area are drained by Burke Creek upstream of its confluence with Tomkinson Creek which then drains into Lake Woods. There are also several minor drainage lines within the Project Area.

Watercourses in the Project Area are intermittent and only flow after major rains, generally from January through to April. Some waterholes retain water for extended periods but few are permanent. Significant rainfall events can produce high velocity flows in watercourses and drainage structures, and extended periods of rainfall can cause widespread flooding.

There has been some modification to the natural drainage characteristics within the Project Area, such as from the construction of the Adelaide-Darwin rail-line, Amadeus Basin to Darwin gas pipeline, and the Stuart Highway.

The flood modelling undertaken for the Project Area, indicates that minor flood events will lead to significant inundation and ponding in the flatter areas, particularly around marshland claypan regions (refer to Attachment 4, section 4). Flows in western parts of the Project Area are confined to mapped major flow paths. The modelling shows major flood events may cause major breakouts from Tomkinson Creek, resulting in deeper and more widespread flooding across the Project Area, including the railway and surrounding flat sections. During these larger events, the site is also expected to see higher velocity flows across many of the major flow paths. The flood modelling has informed concept design, with the most flood impacted areas avoided to minimise flood mitigation requirements.

Groundwater

The Project Area is located within the Daly Roper Beetaloo Water Control District, which features the Cambrian limestone aquifer divided into the Daly Basin, Georgina Basin and Wiso Basin (NT Government, 2022). There is currently no Water Allocation Plan (WAP) applicable to the Project Area. The aquifers and existing groundwater bores in the Project Area are described below from the spatial data sets available on the NT Government NR Maps web platform (NT Government 2025).

The Project Area overlies three geological regions with different aquifer types:

- Wiso Basin: Regional scale aquifer of fractured and Karstic Rocks of dolostone, sandstone, siltstone
- Tennant Creek Block: Local scale aquifer of fractured and Weathered Rocks of sandstone, conglomerate, minor volcanics
- Kalkarindji Province: Local scale aquifer of fractured and Weathered Rocks of basalt.

There are thirteen existing bores with a Current Status located within the Project Area. Fractured rock has minor porosity, therefore, bores in these aquifers are likely to give low to moderate yields between 0.5 – 10.0 L/s.

There are no indicated Groundwater Dependent Ecosystems present.

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
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	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. *

There are no World Heritage Places within or proximate to the Project Area. The nearest World Heritage Area is Kakadu National Park located over 500km north.

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. *

There are National Heritage Places within or proximate to the Project Area.

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.

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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. *

There are no RAMSAR wetlands within or proximate to the Project Area. The nearest RAMSAR wetland is the Kakadu National Park site located over 500 km north.

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	Common name
No	No	Aphelocephala leucopsis	Southern Whiteface
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Erythrotriorchis radiatus	Red Goshawk
Yes	Yes	Falco hypoleucos	Grey Falcon
No	No	Grantiella picta	Painted Honeyeater
No	No	Macroderma gigas	Ghost Bat
Yes	Yes	Macrotis lagotis	Greater Bilby
No	No	Pezoporus occidentalis	Night Parrot
No	No	Polytelis alexandrae	Princess Parrot, Alexandra's Parrot
No	No	Rostratula australis	Australian Painted Snipe

Ecological communities

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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. *

The Proposed Action has to potential to have direct and/or indirect impact on two EPBC Listed Threatened Fauna species and their habitat. These are the Greater Bilby (*Macrotis lagotis*) and Grey Falcon (*Falco hypoleucos*).

Greater Bilby

The Proposed Action has the potential to impact the Greater Bilby directly and indirectly through:

- Loss of habitat due to land clearing.
- Mortality of individual animals caused by impacts to active burrows during land clearing and due to increased vehicular traffic on access roads.

The Preliminary Disturbance Footprint contains recent records of, and a large area of suitable habitat for, the Greater Bilby. The presence of Greater Bilby within the Project Area qualifies it as an 'important population' by virtue of being near the eastern limit of the species' range.

Loss of habitat due to land clearing would directly impact the species. The habitats present in the footprint meet critical habitat criteria in *Recovery Plan for the Greater Bilby* (DCCEEW, 2023).

Mortality of individual animals could directly impact the species by decreasing the size of the population or disrupting the breeding cycle. Greater Bilbies utilise numerous burrows across their home range and forage across large areas at night. If burrows within the Disturbance Footprint are occupied during construction, the occupants could be directly impacted. Another possible cause of direct mortality would be if bilbies that are removed or exit burrows to avoid project activities, are subject to predation as a result of not being able to seek shelter. Direct mortality due to interactions with vehicles ('fauna strike') or construction equipment is a potential impact most relevant to construction but also could occur during operation to a lesser extent.

Grey Falcon

The Proposed Action has the potential to impact the Grey Falcon directly and indirectly through:

- Loss of foraging habitat due to clearing.
- Reduced habitat quality due to fragmentation.

No Grey Falcons were detected within the Project Area. However, there are historic records for the region. Foraging habitat is widespread throughout the region, and the Project Area may be used for foraging / hunting (as an individual or pair) and potentially suitable nesting habitat is present within a moderate drainage line (Burke Creek) in the north of the Project Area.

If the species were to occur in the Project Area, it would qualify as an 'important population' as by virtue of the small population size (<1,000 individuals) (TSSC, 2020), every individual of the species is an important population.

Loss or fragmentation of foraging habitat could impact the species by decreasing the availability or quality of habitat. Due to the wide-ranging nature of the species, all habitats across the Project Area are potential foraging habitats.

There will be no direct loss of nesting habitat because the areas of potentially suitable habitat along Burke Creek in the north of the Project Area are outside the Disturbance Footprint. Indirect impacts to nesting habitat are also considered unlikely as the project activities are not expected to cause any loss of riparian vegetation that supports tall trees that are the preferred nesting habitat for the Grey Falcon.

Given the mobile nature of the species, there is unlikely to be any direct mortality of individual Grey Falcons because of interactions with vehicles or equipment.

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

*

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

Significant impact assessments against each criterion in the *EPBC Significant Impact Guidelines 1.1* are included in Attachment 5 for the Greater Bilby and Grey Falcon. The assessment concludes the Proposed Action is likely to have a significant impact on the Greater Bilby but is unlikely to have a significant impact on the Grey Falcon. The assessments are summarised below from the full text in Attachment 5.

Greater Bilby (refer to Attachment 5 – Table 1)

The Greater Bilby assessment concludes that the proposed action is likely to have a significant impact on the Greater Bilby because there is a real chance or possibility that it would reduce the Area of Occupancy (AOO) of an important population and adversely affect critical habitat.

A published estimate for the AOO of the Greater Bilby is 2,150 km2 (215,000 ha). The records from the Greater Bilby survey undertaken for this Proposed Action increased the known AOO of the species by approximately 5.8 percent (based on an estimated 31 AOO grid cells). The published AOO plus the increase in the AOO from the surveys of the Project Area was used to assess the reduction in AOO that would occur from the proposed action.

The Preliminary Disturbance Footprint intersects approximately 10 AOO grid cells. Consequently, if the entire footprint is disturbed, this will reduce the AOO for this species by approximately 1.75 percent. It is noted that the actual percentage reduction is likely to be much less given the published AOO is likely to be a significant underestimate because a large proportion of suitable habitat within the species' current distribution – including in the Tanami Desert – has not been surveyed.

Within the Preliminary Disturbance Footprint there is just over 36,000 ha of critical habitat, a portion of which has evidence of recent occupation. This calculation of critical habitat is based on presence of root-dwelling larvae plants identified from the targeted survey for Greater Bilby and considerations of connectivity between known records and suitable habitat. Loss of habitat within the area currently presented as the Disturbance Footprint would adversely affect habitat critical to the survival of the species. However, the Recovery Plan's definition of 'critical habitat' is very broad and general, and it should be noted that – as defined – the presence of critical habitat is extensive and widespread in the bioregion (i.e. it comprises most of the bioregion).

Grey Falcon (refer to Attachment 5 – Table 2)

The Grey Falcon assessment concludes it is unlikely that the proposed action will have a significant impact on the species. Whilst the Proposed Action will reduce the AOO of an important population of Grey Falcon (if the species was present), the reduction is of only 0.03 percent of the total AOO which – because this species is not restricted range – is unlikely to result in a significant impact. There are no other criteria by which the Proposed Action is likely to have a significant impact on the Grey Falcon.

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

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

It is considered that the Proposed Action is likely to be a controlled action due to the potential for significant impact to the Greater Bilby.

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. *

SunCable is committed to application of the Mitigation Hierarchy through the project design and construction planning phases to avoid impacts to threatened species. Through the process of delineating the Preliminary Disturbance Footprint, sensitive and significant vegetation types/habitats (i.e. major drainages, swamps and floodplains) have been avoided and buffered as per the *Land Clearing Guidelines: Northern Territory Planning Scheme* (NTG, 2024). This avoidance measures protects habitats that typically contain higher biodiversity values and specifically avoids impacts to core habitat features of the Grey Falcon.

Concentrations of Greater Bilby burrows recorded in the south-west corner of the Project Area have been avoided by removing footprints from that area. However, it is noted that the Preliminary Disturbance Footprints do still contain recorded Greater Bilby burrows and SunCable is committed to undertaking further work to refine the footprints to avoid and mitigate impacts to this species to the maximum extent practicable through the next stage of design.

SunCable proposes to implement the following avoidance and mitigation measures to reduce impacts to threatened species.

- High-quality native vegetation and important habitat features will be avoided by design and buffered from development to the maximum extent reasonably practicable.
- Clearing of large trees with hollows suitable for fauna will be avoided to the maximum extent reasonably practicable. noting that in the semi-arid environment, large trees typically do not occur outside of riparian zones.
- Implementation of wildlife corridors within the solar precinct as per the *Land Clearing Guidelines: Northern Territory Planning Scheme* (NTG, 2024).
- Develop and implement a Biosecurity Management Procedure, that aligns with the requirements of the *Weeds Management Act 2001* (NT) and includes measures for avoiding the introduction of Cane Toads.
- No clearing will occur without an approved Land Clearing Permit. The Proposed Action will adhere to any conditions of the approved Land Clearing Permit, including clearing only within the approved boundaries.
- Rehabilitation of cleared areas post-operations as soon as reasonably practicable, and at a maximum within one year, following any vegetation clearing in the absence of permanent infrastructure.
- Develop, implement, and comply with a migratory and waterbird management plan that includes monitoring and adaptive management measures that respond to the uncertainty about potential impacts from the ‘lake effect’. If bird mortalities are recorded at SunCable’s nearby Powell Creek Solar Precinct, ensure any adaptive management actions are incorporated into the design of Muckaty Solar Precinct before it is constructed.
- Prohibit driving between sunset and sunrise unless: undertaken on a formed road with a cleared verge for good visibility; and speed does not exceed 25 km/h.
- Develop and implement a Pre-clearing Procedure that includes surveys by suitably qualified ecologists to identify burrows in use by the Greater Bilby, and accepted measures for ensuring animals are not present in the footprints when clearing commences.
- Conduct a Grey Falcon nest survey where:
    - Works will be conducted in the late dry season (July to September); and
    - Trees greater than 20 m tall occur within 1 km of a river; and
    - Trees greater than 20 m tall are within 300 m of proposed disturbance.
- Grey Falcon nests in use will be avoided by adopting:
    - A 100 m buffer between a nest in use and construction activities; and
    - A 300 m buffer between a nest in use and activities involving use of helicopters or sudden noise sources.

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

Offsets are not proposed at this time. Further work will be undertaken to refine the project footprints so that impacts to Greater Bilby habitats are avoided to the extent reasonably practicable. The Greater Bilby field surveys indicate there are large areas of land where the habitat is not suitable or sub-optimal. In the event there are impacts that can't be avoided or mitigated, then offsets will be provided.

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	Common name
No	Yes	Actitis hypoleucos	Common Sandpiper
No	Yes	Apus pacificus	Fork-tailed Swift
No	Yes	Calidris acuminata	Sharp-tailed Sandpiper
No	Yes	Calidris ferruginea	Curlew Sandpiper
No	Yes	Calidris melanotos	Pectoral Sandpiper
No	Yes	Charadrius veredus	Oriental Plover, Oriental Dotterel
No	Yes	Glareola maldivarum	Oriental Pratincole
No	No	Hirundo rustica	Barn Swallow
No	No	Motacilla cinerea	Grey Wagtail
No	No	Motacilla flava	Yellow Wagtail

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

Yes

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

Applying the precautionary principle, the Proposed Action could impact Migratory shorebirds through the ‘Lake Effect’. The “lake-effect” hypothesis suggests that waterbirds can mistake large expanses of solar arrays for water bodies, colliding with the infrastructure as they attempt to land. Based on the limited available literature and a lack of collision mortality research in Australia, there remains a large degree of uncertainty regarding the prevalence and frequency of avian impacts at solar farms.

The action does not directly impact migratory shorebirds or habitats as the ecological assessment determined that none of these species are likely to occur within the Project Area – and particularly not within the Disturbance Footprint, because by design migratory species habitat is avoided by avoiding floodplain and wetland habitat areas (refer Attachment 3, section 2.9).

The action could have indirect impact to migratory birds species if birds fly over the solar fields and are attracted by the ‘lake effect’ resulting in collision and mortality. Whilst the limited availability of wetland habitat in the Project Area limits the likelihood of migratory birds occurring there, the species listed above have all been recorded at Lake Woods (37 km to the north) (Attachment 3, section 2.9). On this basis, there is potential these birds could fly over the solar fields at times.

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

No

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

For the action to have a significant impact upon migratory birds, there needs to first be ‘important habitat’ or an ‘ecologically-significant proportion’ of the migratory species within the zone of impact and influence.

Given the lack of suitable habitat for these species in the Project Area, where waterbodies are ephemeral, it is unlikely that either of those criteria apply directly to the Project Area.

A significant impact to migratory birds from impacts associated with the ‘lake effect’ would only occur if the following two criteria are met:

1. an ‘ecologically significant portion’ of a migratory species population fly's over the solar fields, and
2. large numbers of those birds are attracted to and collide with the infrastructure resulting in mortality.

Whilst the ‘lake effect’ hypothesis suggests that mortality of individuals or flocks of birds could occur through collision with the solar panels, this is unlikely to be a significant impact in the Project Area because the numbers of migratory birds potentially impacted is low.

The ‘lake effect’ was assessed in detail through the AAPowerLink Project EIS (EPBC 2020-8818) in relation to the large-scale Powell Creek Solar Precinct, which neighbours the proposed Muckaty Solar Precinct to the north. That solar precinct is located closer to Lake Woods and therefore potentially is more likely to have migratory birds fly over. The NT EPA Assessment Report 107 for the Powell Creek Solar Precinct concluded, "*The potential for impact from12,000 ha of solar panels on bird behaviour is largely unknown. Monitoring is required to determine if there is any residual impact. If impact occurs the proponent would be required to investigate mitigation measures (including visual deterrents) (*NT EPA 2024)."

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

No

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

The Proposed Action is unlikely to have a significant impact on migratory bird species because any indirect impact associated with the 'lake effect' is unlikely to impact an ecologically significant portion of the population of any migratory bird species.

The uncertainty about the potential for birds mortalities as a result of the lake effect will be addressed through monitoring and adaptive management. This approach is consistent with the approval conditions applied to the AAPowerLink Project (EPBC 2020-8818).

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

Habitat important for migratory species has been included in the proposed Avoidance Areas. Additional proposed avoidance and mitigation measures regarding impacts to migratory species include:

- The Proposal will adhere to the *Land Clearing Guidelines: Northern Territory Planning Scheme* (NTG, 2024b) and any conditions of relevant land clearing permits.
    - Develop, implement, and comply with a migratory and waterbird management plan that:
    - Includes a program for monitoring bird utilisation and fatalities across the solar precinct, commencing at the start of solar panel installation
    - Identifies adaptive management actions to respond to any emerging issues (including any impacts of solar panels on bird behaviour and/or mortality)
    - Requires annual reporting of monitoring effort, monitoring outcomes and any management actions implemented.
- If bird mortalities are recorded at SunCable's nearby Powell Creek Solar Precinct, ensure any adaptive management actions are incorporated into the design of Muckaty Solar Precinct before it is constructed.

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

Offsets are not proposed as the action is unlikely to have a significant impact on migratory species.

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 action does not involve any nuclear activities.

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 action is located over 800km inland, a significant distance from any 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. *

The action is located in the Northern Territory, a significant distance from 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 action is not a coal mining or coal seam gas development.

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. *

The action is not being taken on, or near, 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. *

The action is being undertaken in Australia.

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:

- Threatened Species and Ecological Communities (S18)

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)
- 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. *

Alternative timeframes for construction and operation of the project were not considered as the timeframes are not expected to alter the potential impacts to threatened or migratory species.

Alternative locations are not proposed as SunCable has undertaken a rigorous site selection and design process to identify Muckaty as a preferred location over other surrounding land. The primary objective of the site selection process was to identify land, close to the already-approved AAPowerLink Project's OHTL, with potential for both solar and wind resource development. Consideration was given to securing additional land on Powell Creek Station, and other adjoining or nearby pastoral leases. However, each of these properties have limitations on scalability due to the existing leaseholder's requirements.

The key features of Muckaty ALT that make it suitable for a large-scale renewable energy development are:

- Solar resource: Proven world-class solar resource as demonstrated by the extensive resource monitoring and development work already completed by SunCable for the Powell Creek Solar Precinct immediately to the north
- Land tenure and ownership: Muckaty is Aboriginal Freehold Land that is currently largely undeveloped. Large-scale renewable energy development presents an opportunity for significant economic and social benefits for the Muckaty Traditional Owners and Aboriginal people in the Barkly region more broadly
- Asset co-location: Proximity to the neighbouring AAPowerLink Project whereby the existing OHTL infrastructure can be used to send solar energy to Darwin and Singapore. This also allows for SunCable to create streamlined management of project construction workforce, site transport logistics, and ongoing operational maintenance.

Alternative activities are not proposed as a solar energy project is most suited to the location where there is a proven world-class solar resource. Solar is therefore considered to be the best renewable energy generation technology for the Project Area given the current state of renewables technologies, the Proponent's existing knowledge of the Project Area, and the proximity to the already-approved AAPowerLink Project's site.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Figures 1-10.pdf Figures referred to in text of referral	04/11/2025	No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 2 - Engagement Report.pdf Summary of stakeholder engagement and consultation activities during the reporting period of January 2024 to June 2025.	18/09/2025	Yes	High
#2.	Document	Att 2-REDACTED.pdf Summary of stakeholder engagement and consultation activities during the reporting period of January 2024 to June 2025.	18/09/2025	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	Environment & Social Policy Nov 2025.pdf SunCable Environmental & Social Policy	06/11/2025	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Figures 1-10.pdf Figures referred to in text of referral	03/11/2025	No	High

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

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Figures 1-10.pdf Figures referred to in text of referral	03/11/2025	No	High
#2.	Link	Sites of Conservation Significance - Lake Woods https://hdl.handle.net/10070/254286			High

3.1.4 Gradient relevant to the project area

	Type	Name	Date	Sensitivity	Confidence

#1.	Document	Att 1 - Figures 1-10.pdf Figures referred to in text of referral	03/11/2025	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Figures 1-10.pdf Figures referred to in text of referral	03/11/2025	No	High
#2.	Document	Att 3 - Ecology Assessment.pdf Ecological assessment of the Muckaty Solar Precinct Project Area	08/08/2025	No	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Figures 1-10.pdf Figures referred to in text of referral	03/11/2025	No	High
#2.	Document	Att 3 - Ecology Assessment.pdf Ecological assessment of the Muckaty Solar Precinct Project Area	07/08/2025	No	High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Figures 1-10.pdf Figures referred to in text of referral	03/11/2025	No	High
#2.	Document	Att 4 - Muckaty Station Flood Study Report.pdf Flood modelling for the Muckaty Solar Precinct Project Area		No	High
#3.	Link	Daly Roper Beetaloo water control district On this page https://nt.gov.au/environment/water/management-s..			High
#4.	Link	NR Maps - Natural Resources Maps https://nrmaps.nt.gov.au/nrmaps.html			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.	Link				

		Conservation Advice - Grey Falcon http://www.environment.gov.au/biodiversity/threa..		High
#2.	Link	Recovery Plan for the Greater Bilby https://www.dcceew.gov.au/sites/default/files/do..		High

4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 5 - EPBC Significant Impact Assessments.pdf Assessment against Significant Impact Criteria for Greater Bilby and Grey Falcon	01/09/2025	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.	Link	Land Clearing Guidelines - Northern Territory Planning Scheme https://nt.gov.au/_media/docs/housing,-property-..			High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 3 - Ecology Assessment.pdf Ecological assessment of the Muckaty Solar Precinct Project Area	07/08/2025	No	High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Assessment Report 107 - Australia-Asia PowerLink Project https://ntepa.nt.gov.au/_resources/documents/eia..			High

5.2 Declarations

Completed Referring party's declaration

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

ABN/ACN	99653396948
Organisation name	AAPOWERLINK AUSTRALIA ASSETS PTY LTD
Organisation address	Level 15 Charles Darwin Centre, 19 Smith Street, Darwin NT 0800
Representative's name	Kylie Welch
Representative's job title	Development Manager - Environment
Phone	0435606766
Email	kylie.welch@suncable.energy
Address	Level 15, Charles Darwin Centre, 19 Smith Street Mall, Darwin NT 0800

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

☑ Check this box to confirm these are the correct identification details. *

☑ By checking this box, I, **Kylie Welch of AAPOWERLINK AUSTRALIA ASSETS 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. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

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	99653396948
Organisation name	AAPOWERLINK AUSTRALIA ASSETS PTY LTD
Organisation address	Level 15, Charles Darwin Centre, 19 Smith Street Mall Darwin NT 0800
Representative's name	Ryan Willemsen-Bell

Representative's job title	Chief Executive Officer
Phone	+61437838549
Email	ryan.willemsenbell@suncable.energy
Address	Level 15, Charles Darwin Centre, 19 Smith Street Mall Darwin NT 0800

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

☑ Check this box to confirm these are the correct identification details. *

☑ I, **Ryan Willemsen-Bell of AAPOWERLINK AUSTRALIA ASSETS 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. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

✔ 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. *

☑ Check this box to confirm these are the correct identification details. *

☑ I, **Ryan Willemsen-Bell of AAPOWERLINK AUSTRALIA ASSETS 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. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.