

Planning and Development (Oaks Estate 132kV Overhead Powerlines) EIS Assessment Report 2024

Notifiable instrument NI2024–34

made under the

Planning and Development Act 2007, s 225A (EIS assessment report)

1 Name of instrument

This instrument is the *Planning and Development (Oaks Estate 132kV Overhead Powerlines) EIS Assessment Report 2024*.

2 Commencement

This instrument commences on the day after its notification day.

3 EIS assessment report

The planning and land authority has prepared the EIS assessment report for the Oaks Estate 132kV Overhead Powerlines as set out in the schedule.

Note 1 A copy of the assessment report can be obtained from
<http://www.planning.act.gov.au>.

Note 2 Under the Act, s 225A (5) (repealed), the EIS assessment report expires 18 months after its notification day.

George Cilliers
Delegate of the territory planning authority

16 January 2024



Environmental Impact Statement Assessment Report

Oaks Estate
132kV Overhead Powerlines

October 2023

Pursuant to Section 222 of the *Planning and Development Act 2007* (**PD Act**), this report evaluates the revised environmental impact statement for the following application:

Ref no: EIS202100042 (Concurrent DA202341436)

Document no: 1-2021/96695

Project: Oaks Estate 132kV Overhead Powerlines

Date scoping document issued: 17 December 2021

Date draft EIS lodged: 17 February 2023

Date revised EIS lodged: 8 August 2023

Proponent: Essential Energy

Applicant: Purdon Pty Ltd (Purdon Planning)

Location: Block 1 Section 10 Beard and Blocks 2066 and 2242 Jerrabomberra

As required by section 225A of PD Act, the planning and land authority (**the Authority**) has prepared this EIS Assessment Report (**the report**) for the Minister for Planning and Land Management. This report confirms that the Authority is satisfied that each matter raised in the scoping document for this proposal is addressed.

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Glossary and definitions

Term	Definition
ACT	Australian Capital Territory
The Authority	The planning and land authority
CEMP	construction environmental management plan
DA	development application
EIA	Environmental impact assessment: the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals before major decisions and commitments are made.
EIS	Environmental impact statement: a document prepared to detail the expected environmental, social and economic effects of a development, and state commitments to avoid, mitigate or satisfactorily control and manage any potential adverse impacts of the development on the environment. In the ACT, an EIS is required for proposals in the impact track as per Section 127 of the <i>Planning and Development Act 2007</i> .
EMF	Electromagnetic field
EMI	Electromagnetic induction
EMP	environmental management plan
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
EPR	Earth Potential Rise
EPSDD	Environment, Planning and Sustainable Development Directorate
ESA	Emergency Services Agency
kV	Kilovolt
mG	Milligauss
MNES	Matter of National Environmental Significance (as per the EPBC Act)
PD Act	<i>Planning and Development Act 2007</i> (ACT)
PD Regulation	<i>Planning and Development Regulation 2008</i> (ACT)
TCCS	Transport Canberra and City Services
The project	Oaks Estate 132kV Overhead Powerlines

1. Introduction

This report is to the ACT Minister for Planning and Land Management on the assessment of the Environmental Impact Statement (EIS) in relation to the Oaks Estate 132kV Overhead Powerlines project.

The project is a development of a type that meets section 123 of the *Planning and Development Act 2007* (the PD Act) as it involves an activity mentioned in Schedule 4 of the PD Act, and therefore requires an environmental impact statement (EIS). The development application (DA) for this project is required to include a completed EIS under the PD Act.

1.1. Project description

Purdon Planning has acted as the applicant for this project on behalf of Essential Energy, the proponent for this project.

The project is for the connection of a new dual circuit 132kV powerline from near the TransGrid Queanbeyan substation at Oaks Estate, ACT, to the NSW border. The powerline will be connected to an existing 132kV powerline immediately east of the Oaks Estate TransGrid substation and will traverse approximately 230m in the ACT to the NSW/ACT border.

The project involves:

- installation of 6 poles, approximately 22 m high;
- stringing conductors between the powerlines;
- commissioning and testing of the powerlines; and
- transportation of equipment and components to and from the site.

1.2. Project background

The TransGrid Queanbeyan Substation in Oaks Estate, ACT, was constructed in 2009-10 to replace the original substation constructed in 1957. The TransGrid substation provides 132kV powerlines into NSW supplying electricity to Queanbeyan and surrounding towns and rural areas. In addition, 66kV powerlines extend to ActewAGL's Fyshwick substation.

The TransGrid substation was also intended to supply electricity to future growth areas within Queanbeyan. Future development proposed at this stage at South Jerrabomberra includes a 1,500-lot residential subdivision, a light industrial estate, a business park, regional sports facility (playing fields, aquatic centre, basketball stadium), innovation precinct, community centre, retail/services precinct, and high school.

The project is needed to deliver continuous and reliable electricity supply to the South Jerrabomberra development, which will provide housing, employment, and support regional growth.

1.3. Project location

The EIS relates to land in the district of Jerrabomberra, Australian Capital Territory. The land is located at Block 1 Section 10 Beard, Blocks 2242 and 2066 Jerrabomberra, and is adjacent to Oaks Estate and the NSW border. The blocks are zoned NUZ1 – Broadacre and cables will be strung above road and rail corridors zoned TSZ1 and TSZ2. The project location is shown in Figure 1.

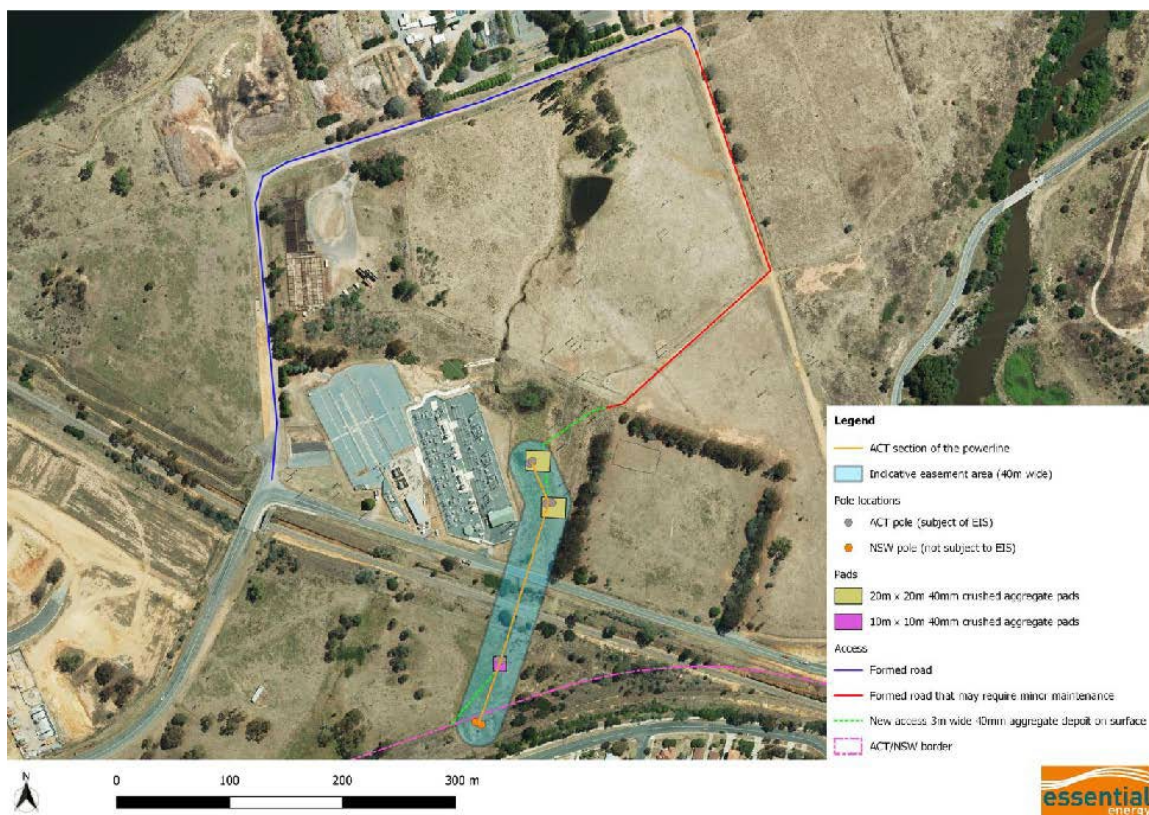


Figure 1 - Map of the Oaks Estate 132kV Overhead Powerlines project location (Source: Essential Energy).

1.3.1. Legal land description and tenancy

The project will directly and indirectly affect 3 blocks. Table 1 shows the legal land description for each block affected by the proposal and the details of tenancy type and tenant.

Table 1 - Legal land description and tenancy

Block	Section	District/Division	Tenancy	Custodian
Directly affected lands				
2242	-	Jerrabomberra	Unleased Territory Land	EPSDD – Parks and Conservation
1	10	Beard	Unleased Territory Land	EPSDD – Parks and Conservation
Lands cable will be strung above				
2066	-	Jerrabomberra	Unleased Territory Land - Railway Line	TCCS – City Presentation
-	-	Jerrabomberra	Unleased Territory Land - Railway St Road Reserve and Unnamed Road Reserve	TCCS – Roads ACT

1.4. Alternatives to the project

An alternative option from Googong to South Jerrabomberra was considered, however it was assessed as unviable due to various constraints, largely land tenure issues. Alternative construction methods, such as underground cables or a combination of overhead and underground cables, were also explored. These methods were determined unfeasible due to high costs, in addition to a larger footprint on the ground resulting in more environmental impacts.

The proposal as described in the application was considered the best option by the proponent as it utilises an existing highly disturbed corridor, thereby minimising environmental impacts.

2. The environmental impact assessment process

Environmental impact assessment processes are used to identify, predict, plan for and manage the impacts of development proposals before a decision is made about the project going ahead. An environmental impact assessment process is required to be undertaken for projects in the impact track. Three options are available for environmental impact assessment – Environmental Impact Statement (EIS), EIS exemption and Environmental Significance Opinions (ESO), with the suitability of each option dependent on the type and scale of project.

An environmental impact assessment process is not an approval process. It ensures potential impacts and possible mitigation measures have been fully investigated and documented in accordance with the requirements of a scoping document.

The EIS is used as a key assessment tool for any development application lodged for the proposal. The EIS also recommends conditions to be imposed on a development application (if approved) for the proposal. Figure 2 outlines the EIS process.

Under section 127 of the PD Act, a development application for a development proposal in the impact track must include a completed EIS in relation to the proposal (unless the application is exempted under section 211 of the Act).

Section 123 of the PD Act states that the impact track applies to a development if:

- the relevant development table states that the impact track applies;
- the proposal is of a kind mentioned in Schedule 4 of the PD Act;
- the Minister makes a declaration under section 124;
- section 125 or section 132 applies to the proposal; or
- the Commonwealth Minister responsible for the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) advises the Minister in writing that the development is a controlled action under the EPBC Act, section 76.

2.1. Impact track triggers

The project is in the impact track as it is a development of a kind mentioned in Schedule 4 of the PD Act. This proposal triggers the Schedule 4 items listed in Table 2.

Table 2 - Impact track triggers per Schedule 4 of the PD Act

Item Number	Description	Project Component
Part 4.2, item 2	<i>proposal that involves— (a)electricity transmission line construction, including additions or realignment works, outside an existing easement or exceeding 500m in length, that are intended to carry underground or above-ground transmission lines with a voltage of 132kV or more;</i>	The installation of 132kV transmission lines outside an existing easement

2.2. EIS process

The flowchart below outlines the EIS application process.

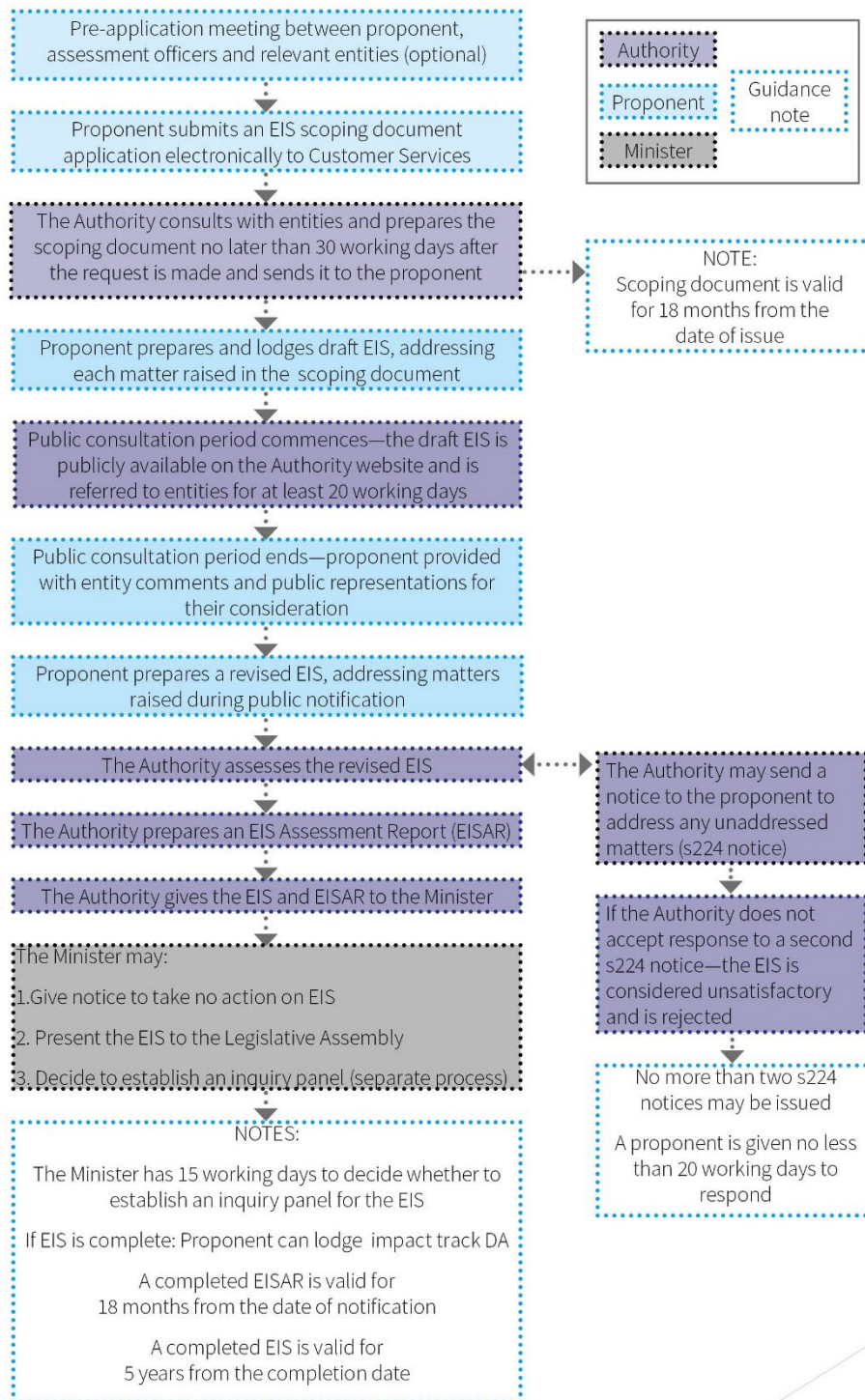


Figure 2 - The EIS process

2.3. Scoping Document

To guide the content of an EIS and therefore the investigations and research required, a scoping document is prepared. The planning and land authority (the Authority) within EPSDD prepares a scoping document in response to an application made for the proposal.

On 5 November 2021 Essential Energy submitted a request for a scoping document for an EIS pursuant to section 212(1) of the PD Act.

The Authority must consult with entities prescribed in section 51 of the *Planning and Development Regulation 2008 (PD Regulation)* about the scoping document application. The Authority may also seek advice from the ACT community and other entities. The Authority referred the scoping document application to entities inviting written comments. The entities were given 15 working days to provide comment. The consulted entities and their responses are summarised in Table 3.

Table 3 - Entity comments on scoping document application

Entity consulted	Entity response
Evoenergy	No comments provided.
Icon Water	23 November 2021 – Icon Water noted the locations (map provided) and details of water mains in the proposal area in relation to the proposed works, including two sites where the proposed transmission lines will cross mains. Icon also noted their additional approval requirements for any impacts to Icon Water infrastructure that are separate to the EIS process.
Jemena (Gas)	9 November 2021 – no comment
Conservator of Flora and Fauna	29 November 2021 – The Conservator of Flora and Fauna (the Conservator) requested: • Data on ecological communities, vegetation communities, and native and threatened species, including extent, point data and connectivity modelling. • Details of proposed alignment on NSW side of the border and access tracks. • Consideration to potential electrocution to birds. • Consideration of potential for increased predation of threatened grassland species due to birds perching on the proposed infrastructure. • Bushfire considerations including safe separation from overhead conductors during firefighting activities, risk of bushfire ignition from the proposal and risk to staff from bushfire during construction. • Consideration of erosion and sedimentation threats to the Jerrabomberra creek system if

	new access roads/tracks are to be constructed.
Emergency Services Commissioner	29 November 2021 – ACT Emergency Services Agency (ACTESA) identified that the proposed site is in an area that may become inundated should a dam infrastructure failure occur at Googong Dam (map provided). ACTESA recommended (noting an incident of this type is rated by the ACT Government as RARE and of MEDIUM risk) the project risk assessment consider this risk and that specific risk control measures be detailed in the Emergency Plan for this development.
Environment Protection Authority	8 December 2021 – no comment.
ACT Heritage Council	29 November 2021 – The ACT Heritage Council confirmed the presence of Aboriginal heritage places on the proposal site and recommended the completion of a Cultural Heritage Assessment (CHA).
ACT Health	26 November 2021 – ACT Health Protection Service recommended the development of a Construction Environmental Management Plan (CEMP) with an integrated Unexpected Finds Protocol (UFP), in case unforeseen contamination or hazardous materials are discovered during the works
Transport Canberra and City Services	15 December 2021 – Transport Canberra and City Services (TCCS) requested the following: • The proposal must consider the SW network and assets when proposing the location of new structures. • The proposal must be subject to the DA and post-DA processes and assessment by Development Coordination, TCCS. • The proposal should avoid removal of any street trees. Should any street trees be impacted by the proposal, a tree assessment by an appropriately qualified professional must be submitted.
Utilities Technical Regulator	24 November 2021 – The Utilities Technical Regulator (UTR) requested that the following potential issues/risks be assessed and addressed: • Excessive step & touch potentials due to earth potential rise (EPR) or electromagnetic induction (EMI), on both in-service and abandoned metallic/conductive infrastructure. • Corona discharge noise limits. • Tree planting restrictions under transmission lines. • Electromagnetic Field (EMF) limits.

	• Requirements of railway owners/operators regarding 132 kV line crossings. • Relevant Australian and International standards, industry codes/guidelines and UTR technical codes need to be observed for acceptable designs and avoidance of electrical safety hazards.
Rail Regulator	No comments provided.
Queanbeyan-Palerang Regional Council	No comments provided.

In developing the scoping document, a risk-based approach was used so that the EIS could focus on those matters that potentially result in a significant environmental impact.

On 17 December 2021, the scoping document was issued by the Authority to the proponent pursuant to section 212(2) of the PD Act (**Appendix 1**). The scoping document set out the matters to be addressed in the EIS and contained, at a minimum, the requirements required in section 50 of the PD Act and section 54 of the PD Regulation.

The scoping document was notified on the ACT Legislation Register on 22 December 2021.

Pursuant to section 214 of the PD Act, the scoping document was issued within 30 working days after the application was made.

Under section 215 of the PD Act, the scoping document is effective for 18 months from the day after the date on the scoping document. After receiving the scoping document and pursuant to section 216(2) of the Act, the proponent is required to:

- a) prepare a draft EIS that addresses each matter raised in the final scoping document for the proposal
- b) give the draft EIS to the Authority for public notification

A cross-reference document was included as an Appendix to the EIS to cross reference the contents of the EIS to the contents required in the scoping document (**Appendix 2**).

2.4. Draft EIS

The purpose of the draft EIS is to identify and describe the potential environmental, social and economic impacts of the proposal, including cumulative, regional, temporal and spatial considerations. The draft EIS is required to fulfil the requirements of the scoping document.

On 17 February 2023, Purdon Planning, on behalf of Essential Energy, gave the Authority a draft EIS, under section 216(2) of the PD Act. A concurrent development application (DA) was lodged for the project on 23 March 2023.

2.4.1. Public notification of draft EIS

Pursuant to section 217 of the PD Act, the Authority publicly notified the draft EIS and concurrent DA from 28 March 2023 to 18 May 2023, being 35 working days. This is in accordance with the minimum requirement under section 218 of the PD Act, which states that the public consultation period of the draft EIS is no less than the concurrent consultation period (35 working days under section 147AA of the PD Act).

During the public consultation period, a copy of the draft EIS was available on the Authority's website. This public consultation process provided interested stakeholders and the community with the opportunity to make representations on the proposal or in respect to specific environmental issues of concern.

No public representations were received during the consultation period and the revised EIS has stated this. There were also no public representations received on the concurrent DA.

2.4.2. Entity referral of EIS

On 28 March 2023 the draft EIS was referred to each of the entities who provided comments on the scoping document. The referral took place at the draft EIS stage so that the proponent could address entity comments in revising their EIS. Comments on the EIS were received from 9 entities, summarised in Table 4.

Table 4 - Summary of entity comments on the draft EIS

Referred entity	Entity response	Entity response date
ACT Health	ACT Health advises comments on the scoping document were adequately addressed. No further concerns.	18 May 2023
Evoenergy	No comments provided.	-
Icon Water	Icon Water set out their approval requirements that are separate to the EIS process.	18 May 2023
Jemena (gas)	No comments provided.	-
Conservator of Flora and Fauna	The Conservator requested: • Commitment to powerlines designed to minimise potential bird strike and to post construction monitoring to gather data on collision rates, with particular reference to Little Eagle. • Demonstration of a safe horizontal distance from overhead conductors to firefighters.	15 May 2023
Emergency Services Commissioner	ACTESA requested all bushfire mitigation measures identified within the report were adhered to. ACTESA repeated their comments from the scoping stage regarding assessment of flooding due to a failure of Googong Dam.	11 May 2023
Environment Protection Authority	No comment.	30 May 2023
ACT Heritage Council	The draft EIS has adequately addressed the heritage requirements of the scoping document. The Unanticipated Discovery Protocol included in the EIS must be followed during all works.	13 April 2023
Transport Canberra and City Services	No comment.	18 April 2023

Utilities Technical Regulator (UTR)	UTR has noted that Earth Potential Rise (EPR) and associated Step & Touch potential, and Electromagnetic Induction/Low Frequency Induction (EMI/LFI) as distinct from EMF, have only been partially considered in the EIS. UTR suggests the following: • A detailed assessment of EPR and associated Step & Touch voltages needs to be conducted and provided. • It is suggested that the proponent more thoroughly identify specific assets and locations that may be adversely impacted by EMI/LFI and EPR hazard, and provide a detailed report of the assessment showing that allowable voltage limits will not be exceeded, or required mitigation measures. • An outline of assessment verification through field tests during line commissioning.	12 April 2023
Climate Change and Energy	No comment.	23 May 2023
Rail Regulator	No comments provided.	-
Queanbeyan-Palerang Regional Council	No comments provided	-

The entity comments are included in this report where they relate to each potential impact. Any matters to be considered or conditions that have been recommended by a referral entity will be included in Section 6 of this report.

2.4.3. Request for revision of draft EIS

The Authority provided their preliminary review of the draft EIS and entity comments to the proponent. The proponent was required to revise the draft EIS, to take into consideration all matters raised in comments from EPSDD and entities to demonstrate how the matters have been taken into account in the revised EIS.

2.5. Revised EIS

On 1 August 2023, Purdon Planning submitted a revised EIS to the Authority pursuant to section 221 of the PD Act. A brief adequacy review was undertaken to confirm that all appropriate sections and appendices had been included and the revised EIS was formally lodged on 8 August 2023. The revised application was referred to select entities (for 20 working days) to confirm the matters raised in earlier referrals had been addressed. Following this, the Authority commenced assessment of the EIS in accordance with section 222 of the Act. The Authority reviewed the revised EIS for:

- adherence to the final scoping document and legislative requirements;
- consideration and incorporation of the Authority's and entity comments provided on the draft EIS; and
- consideration and response to public representations received during the proponent's consultation processes.

Matters to be considered during the assessment include possible conditions of approval for any subsequent DAs for this proposal, as identified in Section 6 of this report.

The Authority is satisfied the proponent adequately addressed the Authority's and entity comments. No public submissions were received during the consultation period on the draft EIS and the revised application has stated this.

2.6. Additional public consultation

The proponent conducted community and stakeholder consultation in line with the requirements of the scoping document by:

- undertaking a letterbox drop of 1,500 community newsletters to businesses and residences in the suburbs of Crestwood and Queanbeyan, Beard, Queanbeyan West and Jerrabomberra;
- providing information on Purdon Planning's website; and
- providing contact options via a free call line and email address.

The proponent provided details of these activities and interactions with specific stakeholders in their revised EIS. Two individual submissions were received following the notification and letterbox drop. Issues raised included bushfire risk (both ecological and safety), potential impact to recommencement of rail operations, and justification for overhead powerlines. The proponent responded to the queries by detailing bushfire mitigation measures and reasons for selecting overhead powerlines as described in the EIS. The proponent also stated that the powerline had been designed to co-exist with any future recommencement of rail operations, including possible duplication of the railway line.

2.7. Giving the EIS to the Minister for Planning and Land Management

Following the proponent's response to issues raised through the draft EIS stage, the Authority accepted the revised EIS under section 222 of the PD Act. The findings and outcomes of the review of the EIS are included in this report, which is provided to the Minister for Planning and Land Management with the EIS in accordance with section 225. Once received the Minister may:

- under section 226 – choose to take no action on the EIS; or
- under section 227 – present the EIS to the Legislative Assembly; or

- under section 228 – establish an inquiry panel to inquire about the EIS. The Minister must make this decision within 15 working days of receiving the EIS from the Authority. The requirements for establishing an inquiry panel are detailed under Part 8.3 of the PD Act.

Under section 209 of the PD Act, an EIS is completed if the Minister:

- a. gives the Authority a notice of no action under section 226;
- b. has not decided to establish an inquiry panel to inquire about the EIS;
- c. has established an inquiry panel for the EIS and:
 - i) the Panel has reported the results of the inquiry; or
 - ii) the time for reporting under section 230 has ended.

The Authority's recommendation to the Minister can be found in Section 7 of this report.

2.8. Concurrent development application

A development application was lodged concurrently with the EIS. Once the EIS has been completed, the authority will have 10 working days to decide the concurrent development application. Any subsequent development application related to the EIS must include the completed EIS. The EIS expires five years after the day it is completed.

3. Assessment of impacts

This section summarises issues identified in the scoping document that had to be assessed in the EIS. For each set of identified issues, the results of the proponent's assessment are summarised under the following headings:

- Impacts;
- Key findings;
- Mitigation; and
- Scoping document requirements.

3.1. Traffic and Transport

The project site is accessed via Railway Street, which runs adjacent to and between Beard and Oaks Estate. West of the project site Railway Street connects with Norse Road at a signalised intersection, and Norse Road then connects with Canberra Avenue. To the east, Railway Street continues to Oaks Estate, crosses the railway line into NSW and connects to the Queanbeyan local road network.

3.1.1. Impacts

Potential impacts identified in the EIS in relation to traffic and transport during construction and operation include:

- limited road/lane closures during construction works;
- increased vehicle movement on local road network;
- railway disruptions during construction; and
- damage to existing road infrastructure from construction vehicles.

3.1.2. Key findings

The EIS stated a specialist Traffic Impact Assessment was not needed due to the minimal traffic that will be generated by the proposal. Instead consideration relied on existing data from previous assessments in the area. The assessments covered traffic volume and speed data, crash history and percentage of heavy vehicles.

The proposal will generate limited traffic movements due to the small scale of the project (installation of 6 power poles and associated footings). Vehicle movements will involve bringing materials to site, aggregate for pads and access track works, footing installation, pole erection and stringing the powerline. Specifically, pole footings will involve one low loader movement with an excavator (or similar) to auger holes, and concrete trucks. Poles will require a limited number of low loader movements to bring pole segments. Conductors and Optical Ground Wire (OPGW) will be brought on drums on trucks and a small number of associated light vehicles. In addition, 3-6 truck and trailer movements may be required to bring aggregate for pads, access tracks and minor maintenance over the construction period.

The EIS concluded that traffic related impacts from the project will be low during construction and negligible during operation. Road network capacity is sufficient for the construction related traffic. There are likely to be some minor traffic disruptions during the stringing of conductors across Railway Street and the railway corridor but these will be limited and of short duration.

Road impacts

Parking for construction workers will be available via existing access into the TransGrid Oaks Estate Substation with a nearby area available for parking. Site access for machinery will be directly off Railway Street via Mountain Road and Nimrod Road.

During conductor stringing across Railway Street partial road closure may be required, in which case the implementation of a Temporary Traffic Management Plan will ensure safety of traffic and construction workers.

Powerlines will be installed at a height sufficient for heavy vehicle clearance so the road can continue to operate as a designated route for articulated heavy vehicles.

Through the EIS referral process, TCCS raised no concerns about the traffic and transport assessment.

Rail impacts

Powerline stringing works across the railway corridor will be undertaken with the approval of the rail authority. Such activities may be limited to times when no services are scheduled to minimise potential conflict between powerline works and rail operations.

The EIS was referred to the rail regulator who had no comments.

3.1.3. Mitigation and avoidance

The proponent proposed a number of mitigation measures for the proposal and no further measures were required by TCCS during referral of the EIS.

Table 5 details the avoidance and mitigation measures associated with traffic and transport as proposed in the EIS.

Table 5 - Avoidance and mitigation measures (Traffic and transport)

Proposed mitigation measures	Stage of implementation
A Temporary Traffic Management plan (TTM) is to be prepared prior to the commencement of works. The TTM is to include management measures for: • wet weather; • pedestrians and bicycle riders; and • general traffic. Vehicle, cycle and pedestrian access along Railway St is to be maintained other than for short periods where lane closures may be needed to allow for stringing of cables over the road.	Pre-construction and Construction
Site access is to be restricted to authorised personnel. “Road workers” signage will be provided to inform motorists of the works.	Construction
Lane closures to be undertaken in accordance with the TTM.	Construction
Roadwork speed reduction signs would be installed during construction works to support the safety of workers near through traffic movement.	Construction
Ample space is provided around the worksite for vehicle parking. Parking on Railway St is not to occur.	Construction
Stringing of the conductor across the active rail corridor will occur in accordance with any approval and conditions issued by the railway operator.	Construction

3.1.4. Scoping document requirements

The table below details the risks associated with traffic and transport as defined in the EIS.

Table 6 - Scoping document requirements (Traffic and transport)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Limited road/lane closures during construction works	-	Possible	Minimal	Very low
Increased vehicle movement on local road network	Low	Likely	Minimal	Low
Disruption to local traffic (road/lane closures during construction works)	Very low	Possible	Minimal	Very low
Railway disruptions during construction	Low	Remote	Minimal	Negligible
Damage to existing road infrastructure from construction vehicles	Negligible	Remote	Minor	Negligible

3.2. Utilities

The site is located adjacent to the TransGrid Oaks Estate Substation, between the residential area of Oaks Estate and the industrial estate of Beard, where there are a number of overhead and underground utility services that generally run along the Railway Street road reserve.

3.2.1. Impacts

The EIS identified the following impacts associated with utilities:

- potential damage to existing assets; and
- disruption to services.

3.2.2. Key findings

A Dial-Before-You-Dig (DBYD) on-line search was undertaken by the applicant when preparing the EIS, which confirmed that a range of existing utility services are located within the study area. These services included electricity powerlines, water supply mains and telecommunications.

The EIS states that no sewer, drainage, or gas services were identified in, or within close proximity to the project area.

To the east of the TransGrid Oaks Estate substation where the proposed powerline will connect into the existing 975 powerline exiting the substation, two 66kV powerlines owned and operated by Essential Energy will be crossed. During construction, an outage may be required on those powerlines. However, the EIS notes that because these powerlines form part of the Essential Energy network, a back feed of supply will be possible and is unlikely to result in power outages or disruptions during construction. Any required outages would be

limited to daylight hours and any impacted people or businesses would be provided with advance notice.

The identified locations of the utilities and services has been considered by the proponent during detailed design and the EIS states that they do not anticipate any existing utilities will require relocation prior to, or during construction. The project works will be designed, constructed, and maintained in accordance with Essential Energy standard requirements.

On the basis that the infrastructure will be maintained by Essential Energy in accordance with their standard requirements for powerlines, they also do not anticipate that there will be any ongoing impacts to utility services.

Provided the proposed mitigation measures identified in Table 7 are implemented, the residual risk rating for utilities has been assessed as very low.

3.2.3. Mitigation and avoidance

Table 7 details the avoidance measures associated with utilities as proposed in the EIS.

Table 7 - Avoidance and mitigation measures (utilities)

Proposed mitigation measures	Stage of implementation
The location of existing utility services has been confirmed during detailed design and impacts will be avoided. The 'Work Near Underground Assets Guideline' will be utilised	Detailed design and prior to construction
The detailed design of the powerline has considered existing services and these will be avoided.	Construction

3.2.4. Scoping document requirements

The table below details the risks associated with utilities as defined in the EIS.

Table 8 - Scoping document requirements (utilities)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Damage to existing utilities	Medium	Remote	Moderate	Very low
Interruption of service	Medium	Remote	Moderate	Very low

3.3. Noise, landscape and visual impact

Extensive electricity powerline infrastructure is located within the vicinity of the project area, including existing overhead powerlines that run from the TransGrid Oaks Estate Substation to parts of the ACT and NSW.

Visual and landscape impacts resulting from the proposal have been considered during the design and planning phase of the project. This includes potential visual impacts to adjacent NSW residents, potential visual impacts to the surrounding streetscape, and potential noise generation from the additional infrastructure.

3.3.1. Impacts

The EIS identified the following noise, landscape and visual impacts:

- visual impact on the surrounding residents and important views and vistas;
- noise impact from construction; and
- noise impact from the corona discharge.

3.3.2. Key findings

The EIS has assessed the visual impacts associated with the works as minor. The EIS states that the powerline has been designed specifically to limit potential visual impacts on residents in the ACT and NSW. This includes an alignment that takes advantage of a highly disturbed infrastructure corridor (disused railway corridor) and the placement of the powerline on the western and northern side of the railway line.

The EIS states that the selection of the currently disused railway corridor has provided an opportunity to re-purpose the corridor. The railway corridor also provides an optimal route to a proposed new substation location and offers adequate separation from sensitive receivers and residential areas.

Utilising the railway corridor would also enable the retention of the planted street scape trees along Henderson Road where views of the proposal from residences within NSW will largely be screened by the existing trees. Views from residents living in the NSW suburb of Crestwood would also be obscured by the existing tree planting along the railway corridor.

With the implementation of mitigation measures identified in Table 9, including realigning the transmission lines along the rail corridor, the residual risk ratings for visual and landscape have been assessed as low and very low.

The EIS states that there will also be very low residual risk in relation to noise generated during the installation of poles and cables. The following measures will be implemented to reduce the potential noise impact to any sensitive receivers:

The construction of the proposed works will be as per AS/NZS 7000 Overhead Line Design where the *“overhead line shall be designed to be capable of transferring a prescribed electrical power, at a selected maximum operating temperature, and with acceptable levels of electrical effects of corona, radio and television interference and electric and magnetic fields. It shall also be capable of safe operation at the serviceability limit states.”*

3.3.3. Mitigation and avoidance

Table 9 details the avoidance and mitigation measures associated with noise, landscape and visual as proposed in the EIS.

Table 9 - Avoidance and mitigation measures (noise landscape and visual)

Proposed mitigation measures	Stage of implementation
The proposed route has been deliberately designed on the north-west side of the railway line increasing the distance to residences and taking advantage of existing tree plantings.	Prior to construction and during construction
Construction will be short term and transitory as the works move along the alignment.	During construction
Build the electricity lines as per Australian standard to ensure minimal corona discharge impacts. The powerline alignment has been designed to avoid areas of residential receivers by utilising a highly disturbed disused railway corridor.	Prior to construction and post-construction

3.3.4. Scoping document requirements

The table below details the risks associated with noise, landscape and visual as defined in the EIS.

Table 10 - Scoping document requirements (noise, landscape and visual)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Visual impacts of the development on surrounding residents.	Medium	Likely	Minimal	Low
Visual impact on important viewsheds, significant views and vistas to and from the site.	Very low	Possible	Minimal	Very low
Construction activities result in noise, vibration, and general disturbance.	Low	Likely	Minimal	Low
Construction noise and vibration has negative impact on fauna.	Low	Possible	Minor	Low
Noise impacts from Corona discharge.	Low	Likely	Minimal	Low

3.4. Water quality and hydrology

The site is located in the Molonglo River catchment, being at the upper reaches of an intermittent watercourse, extending from the TransGrid Oaks Estate Substation heading northwards and connecting with the Molonglo River at the site of the Queanbeyan Sewerage Treatment Plant.

3.4.1. Impacts

The EIS identified the following impacts associated with water quality and hydrology:

- sediment run-off during and post-construction impacting on water quality; and
- pollution from construction vehicles.

3.4.2. Key findings

The installation of six transmission poles within the subject area is expected to have minor permanent changes to impervious areas across the site within the context of the Molonglo River catchment. Construction activities will create a 'work area' of about 20m x 20m at two work locations and 10m x 10m at a separate location, plus the addition of a temporary access track to each pole from Railway Street.

The EIS has concluded that the site disturbance may present a risk to downstream water and quality if mitigation measures are not implemented. The work areas can potentially cause increased sediment loads with increased concentrations of nutrients, metals, and other pollutants that can be transported downstream to the Molonglo River and ultimately Lake Burley Griffin. In addition, spilling of petroleum, oils, grease, chemicals, and hydrocarbon from construction machinery could pollute local watercourses.

Erosion and sediment risks will be managed in accordance with ACT Environment Protection Authority (EPA) requirements. Measures to mitigate erosion and sediment risk include:

- stockpile management that avoids locations close to waterways and the installation of cut off drains to divert clean water around any stockpiles;
- vegetation clearing that will minimise disturbance to exotic grassland areas (maximum 0.1ha) for the installation of pads and access; and
- utilisation of 40mm crushed aggregate for proposed access tracks in the event of persistent wet weather.

The exotic grassland areas around the pole locations, whilst waterlogged in some sections, are thick with grass growth. Disturbance will be minimised outside the areas of direct impact to maintain this grass layer, which will act to contain sediment.

Once works have been completed, the EIS anticipates that any disturbed areas will be able to naturally rehabilitate, as the works are small in scope and intensity and unlikely to result in any lasting impacts.

3.4.3. Mitigation and avoidance

Table 11 details the avoidance and mitigation measures associated with water quality and hydrology as proposed in the EIS.

Table 11 - Avoidance and mitigation measures (water quality and hydrology)

Proposed mitigation measures	Stage of implementation
Stockpile management – avoid locations close to waterways and install cut off drains to divert clean water around any stockpiles. Vegetation clearing – minimise disturbance to exotic grassland areas to the minimum extent necessary (0.1ha) for the installation of pads and access. Access track management – utilise 40mm crushed aggregate in the event of persistent wet weather.	Prior to construction and during construction
Dedicated access points/routes to the construction sites.	During construction

3.4.4. Scoping document requirements

The table below details the risks associated with water quality and hydrology as defined in the EIS.

Table 12 - Scoping document requirements (water quality and hydrology)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Failure of Erosion/Sediment control plan results in erosion	Negligible	Remote	Minimal	Negligible
Soil compaction from heavy machinery outside the project area	Negligible	Remote	Minimal	Negligible
Loss of topsoil through incorrect stockpiling	Negligible	Remote	Minimal	Negligible
Asbestos discovery	Negligible	Remote	Minimal	Negligible
Discovery of unexpected contamination during construction	Negligible	Remote	Minimal	
Pollution of watercourse during construction and post-construction	Low	Remote	Minor	Negligible

Altered drainage regimes of groundwater and surface water	Very low	Remote	Moderate	Very low
Sediment run-off during and post construction reduces water quality	Very low	Unlikely	Minor	Very low
Pollution from construction vehicles	Very low	Unlikely	Minimal	Negligible

3.5. Ecology and natural environment

The proponent engaged Umwelt consultants to undertake ecological investigations for the project. Umwelt undertook a desktop review and a field assessment to identify any ACT or Commonwealth protected matters located in the study area.

To address concerns raised by the Conservator of Flora and Fauna in relation the potential ecological impacts from birds interacting with the powerlines a report was prepared by an environmental scientist (Brett Hayward of Essential Energy). The report was based upon a literature review and a site inspection of an existing Essential Energy 132kV powerline near Cooma as well as the subject site. The literature review examined and analysed the influences of artificial structures on increased bird predation efficiency, and predator abundance, in addition to investigating increased bird mortality as a result of collision with powerlines. The report considered the wider project, where the powerlines extend through NSW.

3.5.1. Impacts

The potential impacts identified in the EIS were:

- impact to box-gum woodland;
- impact to golden sun moth habitat;
- impact to striped legless lizard habitat;
- spread of weeds;
- increased predation by perching birds on lizards; and
- bird fatality as a result of electrocution.

3.5.2. Key findings

The study area was found to be predominantly exotic grassland with the following ecological values identified by Umwelt:

- 0.55 ha of native vegetation, all of which meets the listing criteria under the NC Act as critically endangered Yellow Box – Blakey’s Red Gum Grassy Woodland (see Figure 3)
- Of the 0.55 ha of native vegetation, 0.49 ha meet the EPBC Act listing criteria for critically endangered White Box – Yellow Box – Blakely’s Red Gum Woodland and Derived Native Grassland (see also Figure 3, where the woodland meeting criteria under the EPBC Act corresponds to the NC Act woodland on the right of the study area).

- 492 sqm of likely GSM habitat (comprising exotic grassland with a high proportion of Chilean needlegrass, located within 100 m of flying moths recorded outside the study area) (see Figure 3).
- 1.35 ha of potential striped legless lizard habitat (see Figure 4).

Box-gum woodland and derived native grassland

The project has been designed to avoid potential impacts to sensitive flora values and the works area is restricted to areas of exotic grassland. There will be no direct impact to listed threatened box-gum woodland (Figure 3).

Golden sun moth

The project avoids Golden sun moth habitat and there will be no impact to the species. (Figure 4).

Striped legless lizard

The potential striped legless lizard habitat comprised 0.23 ha of moderate quality habitat (derived native grassland) and 1.13 ha of low quality habitat (exotic grassland). There was no targeted survey undertaken for striped legless lizard so the species is presumed present in all potential habitat in the study area.

The southernmost pole footing is located in potential striped legless lizard (SLL) habitat (Figure 4). Approximately 200sqm of exotic grassland representing potential low quality SLL habitat will be disturbed, however Umwelt's report suggests that the area will rehabilitate post-construction with similar exotic vegetation, resulting in no long-term impact. It is therefore unlikely that the project will have a significant impact on striped legless lizard.

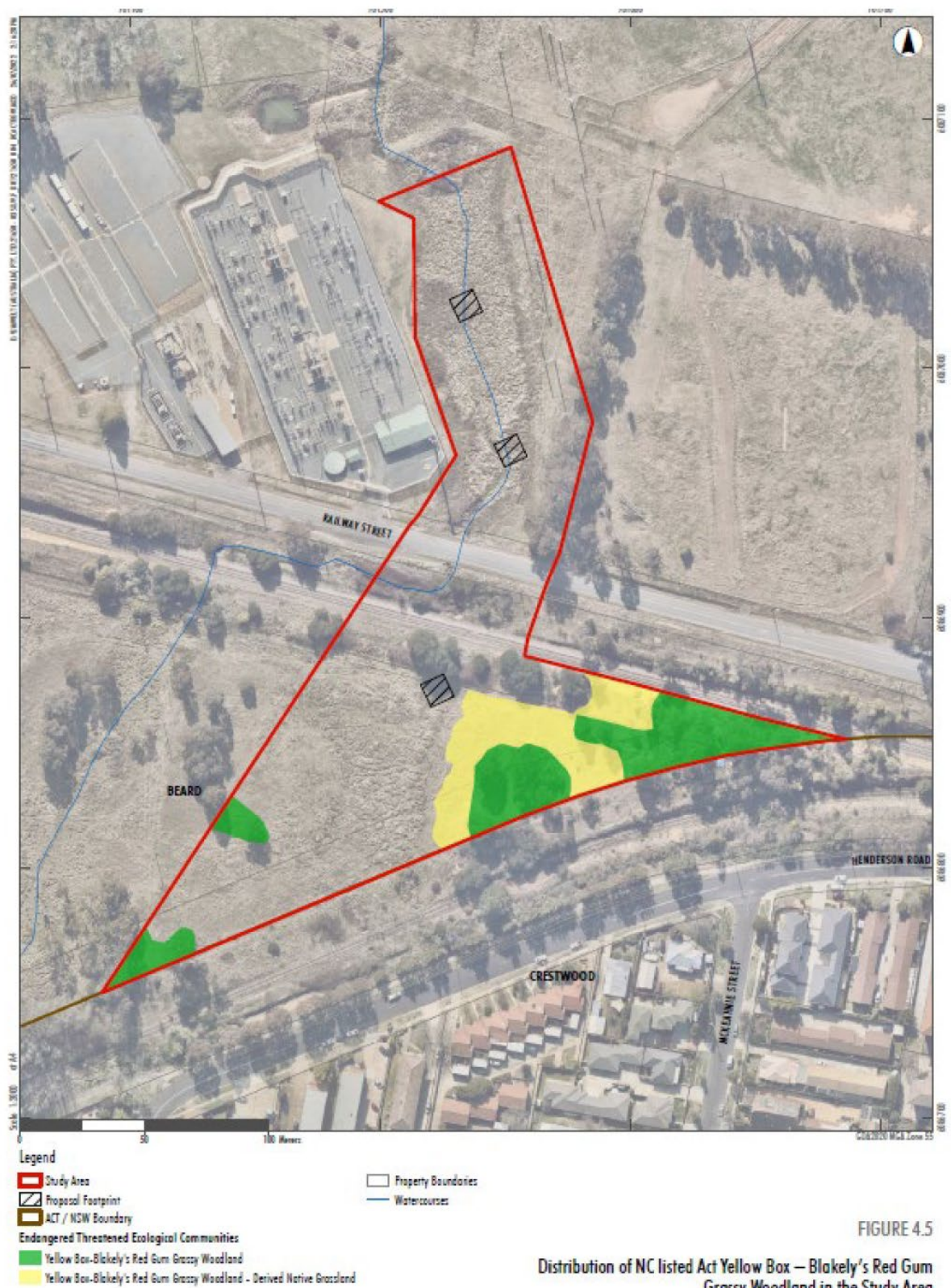
Spread of weeds

Umwelt identified a number of weeds within the broader study area, including Chilean needle grass, St John's wort and African love grass. The proposed works involve a small area within exotic grassland containing the weeds mentioned, and vehicles will remain on designated access tracks or alignments. If vehicles from a different region or interstate are involved in works they will be clean and free of debris prior to coming on site. Vehicles used on site will be cleaned down at a nearby commercial wash facility following site activities if they are intended to access other sites.

Avian interactions

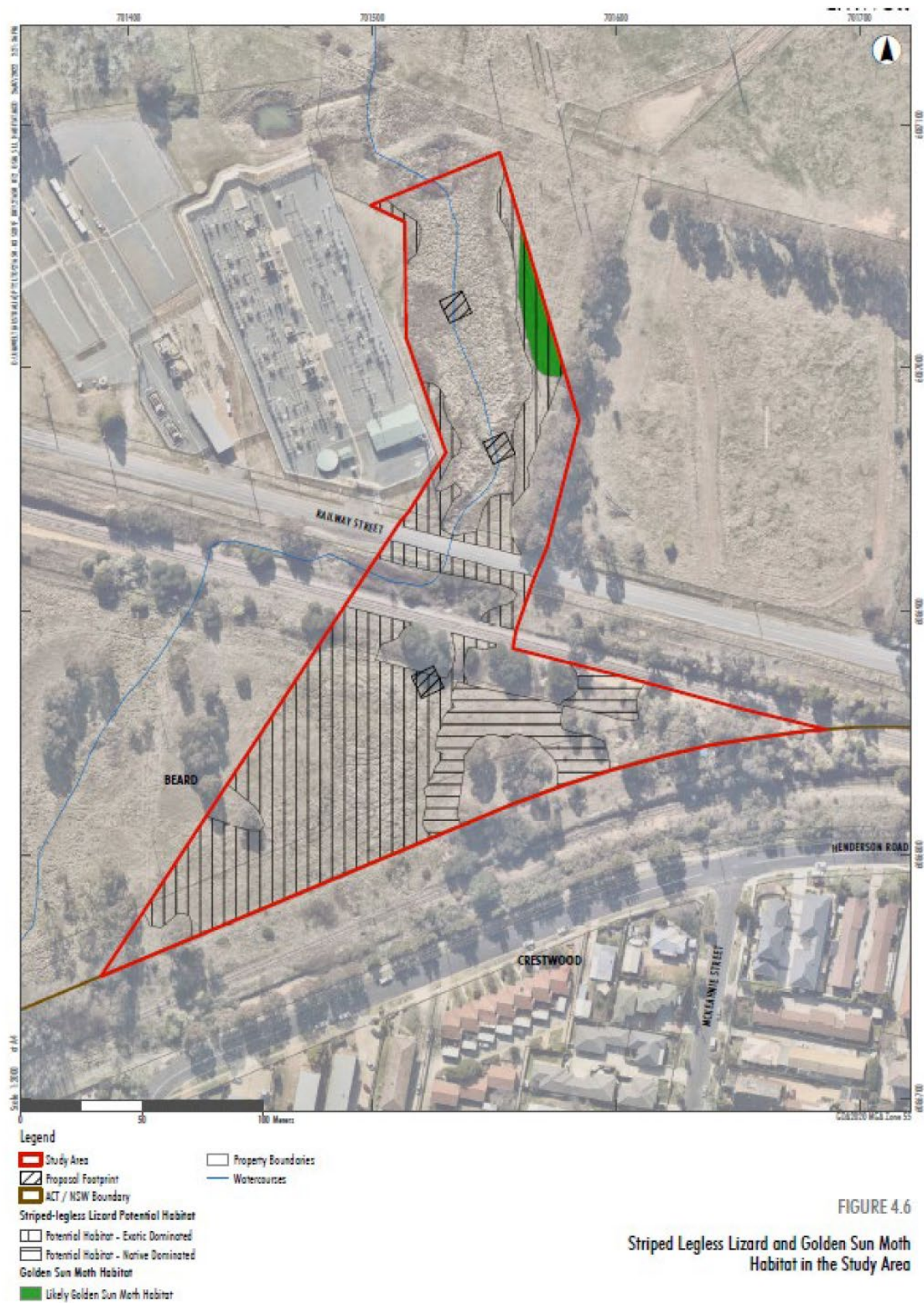
The study investigating avian interaction with the proposed powerlines concluded that the proposed powerlines are unlikely to provide an increase in perching and predation opportunities, given the height and lack of cross arms.

The avian interaction paper also investigated the potential electrocution risk of the proposed powerlines for birds, including the Little Eagle. Electrocution of birds typically occurs when a bird is perched on a powerline and spreads its wings, contacting another powerline and creating a circuit, or through collision with powerlines. The report stated that the proposed powerlines will have conductors separated along a vertical plane of approximately 2.2m, the conductors are a large size easily visible from a distance, and the diameter of the wire to be used is thicker than that generally associated with bird electrocution fatalities. In addition, the location of the powerline along a flat topography as opposed to a ridgeway means there is less risk of bird collisions. The Conservator requested that monitoring be carried out following installation of the powerlines to confirm that there is no impact to Little Eagle.



Source: Umwelt

Figure 3 - NC Act listed Yellow Box – Blakely's Red Gum Grassy Woodland distribution in the study area.



Source: Umwelt

Figure 4 - Striped Legless Lizard and Golden Sun Moth potential habitat in the study area.

3.5.3. Mitigation and avoidance

Table 13 details the avoidance and mitigation measures associated with ecology and natural environment as proposed in the EIS.

Table 13 - Avoidance and mitigation measures (ecology and natural environment)

Proposed mitigation measures	Stage of implementation
Impacts to potential striped legless lizard habitat will be avoided through clear identification of approved clearance boundaries (construction footprint) documented in CEMP/EMP.	Design and Construction
Impacts to native fauna species will be minimised and inadvertent direct impact to box-gum woodland and striped legless lizard habitat will be avoided by: • Fencing and access control • Clear identification of sensitive environmental areas • Access tracks to the proposed pole locations and specified parking areas for construction workers • All contractors informed of the work area prior to commencing construction	Construction
Invasive weeds in the proposal area will be managed using chemical and physical methods in accordance with the Noxious and environmental weed control handbook (DPI, 2014)	Construction and maintenance
• The powerline has been designed to reduce perching potential and is unlikely to provide a predation advantage nor increase risk of electrocution. • Post-construction transect monitoring will be undertaken on a fortnightly basis for a maximum three months and cease if no evidence of bird strike is noted. • Essential Energy has been in discussions with the NSW National Parks and Wildlife Service (NPWS), Queanbeyan-Palerang Council and UGL Country Rail Network on funding the removal of the 850m row of Cypress pine trees between the Queanbeyan Nature Reserve and the disused railway line, which will reduce lower perch height opportunities in the immediate vicinity. These perches would be	Design stage and post- construction

favoured over the proposed powerline and their removal would provide a net loss of suitable perching opportunities.	
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3.5.4. Scoping document requirements

The table below details the risks associated with ecology and natural environment as defined in the EIS.

Table 14 - Scoping document requirements (ecology and natural environment)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Impact on the potential threatened species and their habitats – due to construction and installation of the proposed works	Low	Unlikely	Minimal	Negligible
Impact on the potential threatened species and their habitats – post construction and installation of the proposed works (maintenance)	Negligible	Remote	Minimal	Negligible
Direct impacts on the identified fauna species and their habitats	Very low	Unlikely	Minimal	Negligible
Increased predation efficiency and predator abundance due to the erection of poles and lines adjacent to grasslands	Low	Remote	Moderate	Very low
Increased mortality of birds due to collisions with power lines, with particular consideration for Little Eagles and other avian species known to occur in the area.	Negligible	Unlikely	Minimal	Negligible
Spread of weeds	Very low	Unlikely	Minimal	Negligible

3.6. Heritage

Block 1 Section 10 Beard is listed on the ACT Heritage Register. The proponent engaged Past Traces Heritage Consultants (Past Traces) to undertake a Cultural Heritage Assessment (CHA).

In addition to desktop investigations, Past Traces undertook a field survey of the project area in November 2021, covering a 40m wide corridor along the length of the proposed

powerline and adjacent broader area (Figure 5). No Aboriginal heritage sites were identified within the area of works.

Representative Aboriginal Organisations (RAOs) were consulted in accordance with ACT Heritage Guidelines and the *Heritage Act 2004*. RAO consultation involved providing RAOs with report details and RAO participation in the field survey. The RAOs gave guidance on significance and appropriate management strategies.



Figure 5 - Project area with ACTmapi heritage overlay in pink, and project area in yellow (source: Purdon 2023).

3.6.1. Impacts

The EIS identified the following potential heritage impacts from the project:

- impact on known heritage objects and/or places;
- unexpected impact on European heritage item; and
- unexpected discovery of indigenous heritage places or artifacts not handled correctly.

3.6.2. Key findings

The Aboriginal Cultural Heritage Assessment (CHA) undertaken by Past Traces Heritage Consultants resulted in the following:

- No Aboriginal heritage sites or areas of potential archaeological deposit have been identified within the project area.
- Consultation has been undertaken with RAOs who have no objection to the proposed energy line installation.

The ACT Heritage Council (the Council) advised that the EIS including the CHA adequately addressed their scoping document requirements and adequately described the anticipated heritage impacts of the proposal.

In the unlikely event of discovery of an unknown heritage site, an Unexpected Discovery Plan will be in place, and if the proposed works extend beyond the area investigated in the CHA, further archaeological assessment would be required.

3.6.3. Mitigation and avoidance

Table 15 details the mitigation measures associated with heritage as proposed in the EIS.

Table 15 - Avoidance and mitigation measures (heritage)

Proposed mitigation measures	Stage of implementation
Construction activity to be undertaken in accordance with an Unexpected Discovery Plan.	Construction

3.6.4. Scoping document requirements

The table below details the risks associated with heritage as defined in the EIS.

Table 16 - Scoping document requirements (heritage)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Impact on known heritage objects and/or places	Very low	Remote	Minimal	Negligible
Unexpected impact on European heritage item	Negligible	Remote	Minimal	Negligible
Unexpected discovery of indigenous heritage places or artifacts not handled correctly	Low	Remote	Moderate	Very low

3.7. Socio-economic and health

The proposed powerlines are adjacent to the TransGrid Queanbeyan Substation, with multiple existing 132kV overhead powerlines, 66kV overhead powerlines and lower voltage distribution lines.

The EIS considered the potential for impacts to human health and safety as a result of exposure to electromagnetic fields (EMF) and frequencies associated with high voltage powerlines. Other socioeconomic and health risks such as loss of property values and greenhouse gas emissions were identified by the proponent in their pre-mitigation risk assessment, but determined to be of negligible risk and were not assessed further.

3.7.1. Impacts

The potential impacts identified in the EIS were:

- general impacts to the community, residents and workers during construction; and
- potential health impacts due to EMF and frequencies associated with high-voltage powerlines during operation.

3.7.2. Key findings

The EIS states that Essential Energy is required under the *NSW Electricity Supply (Safety and Network Management) Regulation 2014* to implement and maintain a network safety

management system as per AS 5577—2013, *Electricity network safety management systems*. The proposed powerlines form a component of the wider Essential Energy network extending into NSW and will be subject to the above regulations and standards.

General impacts to the community, residents and workers during construction are assessed as unlikely/remote in the EIS. The proposed powerlines will comply with AS/NZS 7000 Overhead Line Design. In addition, the requirements of Essential Energy's HSE Manual: Community Consultation and Interaction CECM1000.78 will be met.

The EIS concludes that the proposed powerlines will not pose any significant public health risk to residents, workers or visitors to the area due to the distance between powerlines residences and workplaces and the range of EMF values being well below the ARPANSA draft standard recommended limit. At the scoping stage of the EIS process, ACT Health Protection Service recommended the development of a Construction Environmental Management Plan (CEMP) with an integrated Unexpected Finds Protocol (UFP), in case unforeseen contamination or hazardous materials are discovered during the works.

3.7.3. Mitigation and avoidance

Table 17 details the avoidance and mitigation measures associated with socio-economic and health as proposed in the EIS.

Table 17 - Avoidance and mitigation measures (socioeconomic and health)

Proposed mitigation measures	Stage of implementation
Powerline location has been modified to be further away from potentially impacted residents and established vegetation screening will be retained.	Pre/during construction
Essential Energy to implement a risk reduction strategy in a scenario of inappropriate handling of materials.	During construction
Any waste requiring offsite disposal would be lawfully disposed of in accordance with waste classification guidelines, exemptions or statutory authority.	During construction

3.7.4. Scoping document requirements

The table below details the risks associated with socio-economic and health as defined in the EIS.

Table 18 - Scoping document requirements (socioeconomic and health)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Loss of property values	Negligible	Remote	Minimal	Negligible
Greenhouse gas emissions	Negligible	Remote	Minimal	Negligible
Potential health impacts due to EMF and frequencies associated with high-voltage powerlines	Low	Remote	Minor	Very Low
Generation of dust during construction	Negligible	Unlikely	Minimal	Negligible
Inappropriate handling of materials leads to a pollution event	Negligible	Unlikely	Minimal	Negligible
Inappropriate generation, reuse or disposal of waste	Negligible	Unlikely	Minimal	Negligible

3.8. Hazard and Risk

The EIS states that the project alignment has been chosen to avoid residences and consists of highly disturbed exotic grasslands in proximity to existing electricity infrastructure.

3.8.1. Impacts

The EIS identified the following impacts associated with hazard and risk:

- increased risk of bushfire during construction;
- increased risk of bushfire post construction;
- potential risk to people and property from a bushfire started outside the works area;
- impact to the subject area due to floods; and
- induction hazards related to the powerline.

3.8.2. Key findings

The project site is located within a bushfire prone area. Bushfire risk has been considered as part of the design stage as well as the potential risk of fire during construction and post construction.

In the ACT portion of the proposed works, no trees require removal to facilitate the development. The EIS states that the alignment has been selected to avoid sensitive ecological values by extending through an existing cleared area of exotic grassland. As such, bushfire risk will largely be limited to ground based species such as grasses. The powerline has been designed accordingly and all poles within the ACT will be 22m in height ensuring adequate height distance from the bottom conductor to reduce bushfire risk.

During construction, the risk of bushfires is assessed as being most significant during high fire danger periods. The EIS confirms that all fire bans and other restrictions would be observed unless construction constraints required exemptions to be sought in consultation with fire authorities.

The EIS includes a number of prevention and protection measures and considers that implementation of these mitigation measures will enable a low risk level to be maintained throughout the construction and operation of the proposal.

In addition to bushfire risk, detailed assessment and consideration of, Earth Rise Potential (ERP), Electromagnetic induction/Low Frequency Induction (EMI/LFI) has been considered by the proponent in the EIS. All reports have assumed extremely conservative parameters and conclude, as per applicable standards, that there are no EPR, EMI or LFI hazards present with the proposed design.

Whilst identified as a potential impact, the EIS has also concluded that there are no flood risks present in relation to the location of the proposal.

3.8.3. Mitigation and avoidance

Table 19 details the avoidance and mitigation measures associated with hazard and risk as proposed in the EIS.

Table 19 - Avoidance and mitigation measures (hazard and risk)

Proposed mitigation measures	Stage of implementation
Essential Energy's Operational Procedure – Bushfire Risk Management Plan CEOP8022.	During construction
Post construction the site will be managed in accordance with Essential Energy's vegetation management plan to ensure that vegetation clearance zones are maintained and are easily identifiable.	Post-construction
The powerline has been designed in accordance with the applicable Australian Standards.	During and post-construction
The subject site is not considered to be impacted by floods. However, the powerline has been designed in accordance with detailed geotechnical assessments and will be attached to footings that vary in depth from at least 4.8m to 7.3m.	Post-construction
Commissioning of the infrastructure will also include extensive current injection testing to further verify modelling results and identify any unforeseen conductive or inductive electrical hazards. In the unlikely event that hazards are identified appropriate mitigation practices will be employed.	Post-construction

3.8.4. Scoping document requirements

The table below details the risks associated with hazard and risk as defined in the EIS.

Table 20 - Scoping document requirements (hazard and risk)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Accidental harm to workers/ the public during construction, maintenance and operation.	Low	Remote	Moderate	Very low
Work during construction starting a bushfire.	Low	Remote	Major	Low
Impacts from earth potential rise and electromagnetic induction, including any potential impact upon materials and person in proximity to infrastructure.	Low	Remote	Moderate	Very low
Impact from potential flooding.	Negligible	Remote	Minimal	Negligible
Impact from corona discharge noise limit.	Negligible	Remote	Minimal	Negligible
Impacts on the railway owners/operators regarding 132 kV line crossings.	Medium	Unlikely	Moderate	Low

3.9. Other Potential Impacts Considered in the EIS – Materials and Waste

In addition to the impacts required to be considered by the scoping document, the proponent included an assessment of the impacts of material and waste in the EIS.

3.9.1. Impacts

The potential material and waste impacts identified in the EIS were:

- potential small amounts of spoil, concrete, metal ‘off-cuts’ from cable activities;
- waste materials produced during construction not stored/managed properly; and
- use of excessive materials during construction/excessive use of materials leads to increased waste to landfill.

3.9.2. Key findings

The EIS provides details of the expected wastes to be generated by the proposal. The EIS states waste will be contained within the site during construction to ensure it does not spread into the surrounding environment. The proposal is not expected to generate large volumes of waste. Surplus soil that cannot be reused on site will be assessed and disposed of in line with relevant Territory requirements. To minimise environmental impacts, waste will be disposed of at nearby licenced facilities.

3.9.3. Mitigation and avoidance

Table 21 details the avoidance and mitigation measures associated with materials and waste as proposed in the EIS.

Table 21 - Avoidance and mitigation measures (materials and waste)

Proposed mitigation measures	Stage of implementation
Provision of waste management containers for the disposal and recycling of surplus materials	Construction
Use of a licenced waste material removalist/contractor	Construction
Re-use or recycle materials in line with the waste hierarchy throughout the construction process	Pre-construction and during construction

3.10. Conclusion of impact assessment

The supporting studies and the comments of relevant entities provide sufficient information on all impacts of the proposal identified above.

4. Legislative and policy considerations

A number of legislative requirements and ACT policies were considered in the preparation of this EIS as outlined below.

4.1. Planning and Development Act 2007

Schedule 4 of the PD Act lists proposals requiring an EIS. The proposal falls under the impact track, as it meets the requirements listed in Schedule 4, Part 4.2, item 2(a), of the PD Act:

Proposal that involves.

*(a) **Electricity transmission line construction**, including additions or realignment works, **outside an existing easement** or exceeding 500 m in length, that are intended to carry underground or above-ground transmission lines with a **voltage of 132kV or more***

The scoping document for the Oaks Estate 132kV Overhead Transmission Lines was issued by the Authority on 17 December 2021 and provides requirements for information that is to be provided in the EIS to be submitted for planning approval.

The EIS has been prepared in a manner that is consistent with the scoping document.

4.2. Planning and Development Regulation 2008

This EIS must be prepared in accordance with the *Planning and Development Regulation 2008* (the Regulation). Section 50 of the Regulation outlines the requirements for the preparation of an EIS in the ACT.

The requirements of the Regulation have been met in preparation of the EIS.

4.3. Environment Protection Act 1997

The ACT Environment Protection Authority (EPA) administers the *Environment Protection Act 1997* (EP Act) which provides a framework for regulating polluting activities and protecting the environment in the ACT. The proponent has provided sufficiently detailed information to the EPA in relation to the EP Act.

As noted by the EPA, in their advice on the draft EIS, the documentation adequately addresses EPA concerns within the proposed works area. Conditions have been recommended for the associated development application.

4.4. Environment Protection Regulation 2005

The *Environment Protection Regulation 2005* supports the EP Act. Conditions will be included in the Notice of Decision for any related DA to ensure unexpected finds are assessed by suitably qualified consultants.

4.5. Nature Conservation Act 2014

The *Nature Conservation Act 2014* (NC Act) establishes a formal process for the identification and protection of threatened species and ecological communities in the ACT region. The NC Act requires the Conservator of Flora and Fauna to prepare an action plan in response to each declaration of a threatened species, ecological community, or threatening process.

The EIS documentation includes an assessment of likely impacts of the proposed development on threatened species and ecological communities listed under the NC Act and concludes that a significant impact is not likely.

4.6. Tree Protection Act 2005

Trees of exceptional value are protected under the *ACT Tree Protection Act 2005*. The ecological assessment undertaken as part the EIS concluded that there are no trees under the *Tree Protection Act 2005* located within the proposal site.

4.7. Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

Under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), a referral to the Australian Government is required for proposed actions that have the potential to significantly impact on matters of national environmental significance (MNES).

The proponent has completed a self-assessment against the requirements of the EPBC Act as part of the ecological assessment. The EIS documentation states that an EPBC referral is not required as the proposal is unlikely to result in significant impacts on MNES.

4.8. Territory Plan 2008

The Territory Plan 2008 is the statutory document that guides planning and development in the ACT. The purpose of the Territory Plan is to control planning and development in the ACT in a manner which promotes 'an attractive, safe and efficient environment in which to live,

work and have their recreation’. The Territory Plan manages development and land use by establishing strategic directions and plans, land uses as well as codes and criteria associated with different land uses.

Upon completion of the EIS, assessment of the concurrent development application (DA202341436) will include an assessment against the Territory Plan.

4.8.1. Territory Plan Statement of Strategic Directions

The Statement of Strategic Directions sets out the principles to guide the planning and development of the ACT. These include principles relating to environmental, economic, and social sustainability as well as spatial planning and urban design principles.

The key principles in the statement of strategic directions include a balanced approach to environmental, economic, and social impacts to ensure sustainable practices.

The EIS documentation states that the proposal is consistent with the broad objectives of the Territory Plan as it will support essential services, facilitate development in the region and increase supply reliability. The proposal will be located in a highly disturbed rail corridor and disturbed exotic grasslands. It will support social sustainability in NSW by facilitating the development of the South Jerrabomberra Development Precinct which will include a new school, sporting complex, housing, business and industry.

4.8.2. Territory Plan codes

Various codes apply under the Territory Plan and are considered during the assessment of development applications. The project is mostly in the NUZ1 Broadacre zone, but also crosses the TSZ1 Transport and TSZ2 Services zones. Upon completion of the EIS, the proposal will be subject to a development application where the development will be assessed against the relevant Territory Plan codes.

4.9. ACT Planning Strategy

The ACT Planning Strategy provides long-term planning policy and goals to promote sustainable development, consistent with the social, environmental, and economic aspirations of the people.

The EIS states that the proposal is considered to be consistent with the general aims and objectives of the ACT Planning Strategy, in particular because the proposal supports increased employment through the development of the South Jerrabomberra Development Precinct.

4.10. National Capital Plan

The object of the National Capital Plan (NCP) is to ensure that Canberra and the Territory are planned and developed in accordance with nationally significant planning objectives. The NCP provides guidance for the planning, design and development of Designated Areas and other areas identified in the NCP with special requirements.

The proposal is not subject to any NCP policies and will not require works approval.

4.11. Climate Change and Greenhouse Gas Reduction Act 2010

The *Climate Change and Greenhouse Gas Reduction Act 2010* promotes action on climate change by setting targets for reducing greenhouse gas emissions, providing for monitoring and reporting in relation to targets and promoting engagement in climate change mitigation and adaptation.

The EIS notes that although a small portion of the proposal is in the ACT the transmission lines will serve development in NSW. It also notes that as the ACT has 100% renewable electricity the works should not affect targets within the ACT.

4.12. The ACT Climate Change Strategy 2019-2025

The ACT Climate Change Strategy 2019-2025 sets out the ACT Government's action plan to respond to climate change and its effects and manage the impacts on people, infrastructure, and services.

The EIS notes that the ACT has 100% renewable electricity so the works should not affect targets within the ACT.

4.13. Canberra's Living Infrastructure Plan: Cooling the City

Canberra's Living Infrastructure Plan: Cooling the City (2019) sets out the ACT Government's commitment to maintain and improve living infrastructure in Canberra.

The EIS documentation states the project will have minimal impact on vegetation and will not reduce tree canopy and is therefore not inconsistent with actions outlined in the living infrastructure plan.

4.14. Plans of Management for any public land

Works are not proposed on public land and therefore there are no plans of management relevant to this proposal.

5. Other considerations

5.1. Principles of ecologically sustainable development

The following ecologically sustainable development principles have been considered in the EIS documentation and by the Authority. It is considered that information has been provided against economic, environmental, social, and equitable considerations which are contained within the EIS documentation and inform decision-making through the implementation of the following principles.

5.1.1. The precautionary principle

The precautionary principle has been addressed in the EIS and was considered by the Authority in the preparation of this assessment report.

The EIS states the proponent has considered route selection to minimise impacts and incorporated safeguards into the construction and operation of the proposal. The EIS has

provided sufficient information relating to potential environmental impacts and has proposed mitigation measures to be adopted during the construction and operation phases.

With implementation of the proposed measures, it is considered that it would be unlikely that the project would cause serious or irreversible damage.

5.1.2. The principle of inter-generational equity

The principle of inter-generational equity has been addressed in the EIS and was considered by the Authority in the preparation of this assessment report.

The EIS and supporting documentation have considered short-term and long-term impacts and identified mitigation measures to minimise the impacts. The EIS states that the proposal would benefit future generations by ensuring power supply reliability for the community.

5.1.3. The conservation of biological diversity and ecological integrity

The EIS states the proposal was designed taking into account locally significant habitat and that the proposal will not have a significant impact on biodiversity.

5.1.4. Appropriate valuation and pricing of environmental resources

The EIS states that the project has been developed to minimise the potential for impacts to environmental values, keeping environmental objectives in mind.

5.2. Proponent's environment history

The EIS states that Essential Energy has not been subject to any current or historical proceedings under Commonwealth or Territory law for the protection of the environment.

6. Recommended conditions

After considering the revised EIS, the Authority recommends DA considerations to assist with the avoidance and mitigation of adverse environmental impacts, as outlined in Table 22.

Any DA related to the completed EIS must include the DA considerations as part of the application.

Table 22 - Draft Conditions of Development Approval for Oaks Estate 132kV Overhead Powerlines

No.	Condition contents	Endorsement/approval	Construction stage	Draft condition of approval
1	General	Planning and land authority	All works	All works must be consistent with the mitigation measures proposed in the Oaks Estate 132kV Overhead Transmission Line Environmental Impact Statement, prepared by Purdon Planning, dated 8 August 2023 (the EIS).
2	Bushfire considerations	Emergency Services Agency	All works	All works must be consistent with the bushfire mitigation measures in the EIS and Essential Energy's Operational Procedure – Bushfire Risk Management Plan CEOP8022.
3	Powerline design	Conservator of Flora and Fauna	Prior to construction	The powerlines are to be of a design that reduces avian perching opportunities and mortality, as shown in Figure 3 and in Appendix F (h) of the EIS.
4	Construction Environmental Management Plan (CEMP)	Planning and land authority	Prior to construction	Prior to construction, a CEMP must be prepared and submitted to the planning and land authority (EPDImpact@act.gov.au) for endorsement. The CEMP must outline the construction conditions and temporary environmental protection measures to manage the impact of construction activities, consistent with the EIS. The CEMP must include the mitigation measures proposed in the EIS and incorporate any other relevant management plans including, but not limited to: • Traffic Management Control Plan (including a Temporary Traffic Management Plan and Construction Parking Plan); • Dial Before You Dig Report; • Waste Management Plan; • Erosion and Sediment Control Plan; • Unexpected Finds Protocol; • Landscape Management and Protection Plan;

				• Safety Management Plan; • Bushfire Prevention and Response Plan; • Biodiversity Management Plan; • Vegetation Management Plan; • Weed Management Plan; • Rehabilitation Management Plan; • Spill Response Protocol; • Heritage Management Plan, including an Aboriginal Heritage Management Procedure (including an Unexpected Discovery Protocol); • Noise and Vibration Impact Procedure; and • Construction Air Quality Management Plan (including dust suppression). Note: The CEMP will be referred to relevant entities for endorsement and therefore will need to incorporate their comments provided through the EIS and Development Application stage.
5	Unexpected Finds Protocol	ACT Health Protection Service	Prior to construction	An Unexpected Finds Protocol (UFP), in case unforeseen contamination or hazardous materials are discovered during the works, is to be included in the CEMP.
6	Bushfire considerations - CEMP	Conservator of Flora and Fauna	Prior to construction	The requirements for bushfire protection during construction will need to be addressed in the CEMP. The following should be incorporated along with any protocols of Essential Energy and their contractors: 1. No work is permitted on site when a Total Fire Ban is declared. 2. On days of High fire danger rating (FBI 25 or greater) all hot works and works that could emit a spark must cease. Hot works activities must otherwise be deferred to be undertaken

				under less risky conditions and consideration given to what mitigations measures such as fire suppression equipment can be implemented. The daily rating and a four day outlook are available during the declared bushfire danger period at https://esa.act.gov.au/ for the proponent to assess risks. <i>Hot works includes: welding, cutting, grinding, or other works involving open flames or which emit a spark such as excavating hard rock, slashing and brush-cutting.</i> The operational management plan will need to include Essential Energy's policies around bushfire ignition mitigation for operation of the line, including provisions about operations on days of elevated fire danger. This should include provisions for the de-energisation of the line if required for protection of firefighters as required. Technologies and equipment need to be maintained to be effective in preventing ignition per Essential Energy's commitments.
7	Heritage - Unexpected Discovery Plan (UDP)	The ACT Heritage Council	During construction	The UDP provided at Appendix F (c) of the EIS is to be followed during construction.
8	CEMP	Planning and land authority	During construction	All works must be undertaken in accordance with the approved CEMP.
9	Electrical hazard testing	Utilities technical regulator (UTR)	Post construction	On-site field-testing during Line Commissioning for Electromagnetic Induction/Low Frequency Induction (EMI/LFI) hazards as well as for hazards due to Earth Potential Rise (EPR) and associated Step, Touch and Transfer voltage is to be completed, and mitigation measures applied as required, to the satisfaction of UTR.
10	Transect monitoring	Conservator of Flora and Fauna	Post construction	Upon completion of the powerline installation, transect monitoring is to be undertaken along/beneath the powerlines. Monitoring is to

				occur on a fortnightly basis for three months. Any impact to the Little Eagle is to be immediately reported to the Conservator of Flora and Fauna. If no collisions are identified in the three-month period, specific transect monitoring can cease.
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7. Recommended action on this EIS

Having regard to the documentation and information provided, the Authority has assessed the Oaks Estate 132kV Overhead Powerlines revised EIS as meeting the requirements of Chapter 8 of the PD Act.

It is the Authority's assessment that the revised EIS has provided sufficient information to the ACT Government and the community to allow an informed evaluation of potential environmental impacts which could be attributed to the Oaks Estate 132kV Overhead Powerlines proposal. The proponent has proposed a range of avoidance, mitigation and management measures to reduce and avoid potential environmental impacts arising from construction and operational activities associated with the project. It is considered that any potential adverse impacts can be adequately addressed by implementing these measures and the development application conditions specified in this report.

The Authority's recommendation is that the Minister need take no action in relation to the revised EIS. The Minister may however, decide to present the revised EIS to the Legislative Assembly. This action does not affect an EIS being complete in accordance with section 209 of the Act.

Appendix 1 – Final scoping document



ACT
Government

Environment, Planning and
Sustainable Development

Scoping Document

Under Division 8.2.2 of the *Planning and Development Act 2007*

APPLICATION NUMBER: 202100042		DATE OF THIS NOTICE: 17 December 2021	
DATE LODGED: 5 November 2021			
PROJECT: The installation of approximately 230m of 132kV overhead transmission line from the ACT/NSW border to a connection point immediately east of the Oaks Estate Transgrid substation.			
IMPACT TRACK TRIGGER: Planning and Development Act, Schedule 4, Part 4.2, Item 2(a)			
BLOCK:	SECTION:	DISTRICT/DIVISION:	LESSEE/LAND CUSTODIAN:
2066	0	Jerrabomberra	Transport Canberra City Services – City Presentation
2242	0	Jerrabomberra	ACT Parks and Conservation
1	10	Beard	ACT Parks and Conservation
Railway Street Road Reserve & Un-named Road Reserve			Transport Canberra City Services – Roads ACT
ADDRESS: Railway Street, Oaks Estate			
PROPONENT: Essential Energy			
APPLICANT: Purdon Planning Pty Ltd			

SCOPING DOCUMENT

The planning and land authority (the Authority) within the Environment, Planning and Sustainable Development Directorate received your application under section 212(1) of the *Planning and Development Act 2007* (the PD Act) for the scoping of an Environmental Impact Statement (EIS) for the above proposed development. Pursuant to section 212(2) of the PD Act, the Authority has:

- Identified the matters that are to be addressed by an EIS in the relation to the development proposal; and
- Prepared a written notice (the **scoping document**) of the matters.

NB: The EIS must conform to the requirements of this scoping document. This document does not indicate approval or support in any way, nor does it indicate approval in principle.

TERM OF SCOPING DOCUMENT

Pursuant to section 213(2) of the PD Act, the proponent must give the draft EIS to the Authority by the end of the period of 18 months starting on the day the Authority gives the scoping document for the development proposal to the applicant



ACT
Government

Environment, Planning and
Sustainable Development

Scoping Document

Under Division 8.2.2 of the *Planning and Development Act 2007*

FORM AND FORMAT OF EIS

The Authority requires that the proponent engage a suitably qualified independent consultant to prepare an EIS, OR the proponent submits, with the draft EIS, an independent review of the draft EIS undertaken by a suitably qualified consultant. The EIS must be in the following form and format:

- The EIS must be prepared in accordance with section 50 of the *Planning and Development Regulation 2008*.
- The EIS must be written in plain English and avoid the use of jargon as much as possible.
- The EIS is required to be provided in the same structure as described in this Scoping Document as closely as possible. A table that cross-references the EIS to the scoping document must be included in the EIS submission.
- The report must reference any figures or supporting information used to the supporting appendix and page number, table or figure.
- Additional technical detail, including relevant data, technical reports and other sources of the EIS analysis must be provided in appendices.
- Maps, diagrams and other illustrative material should be included in the EIS to assist readers to interpret information.
- The EIS document sized A4 with maps and drawings in A4 or A3 format.
- The proponent must supply a copy of all draft EIS and revised EIS documents in electronic formats for circulation and web posting. These are to be supplied by email, USB, or another agreed method. Digital files must not exceed 20 MB each.

COST OF PREPARATION OF EIS

The proponent is responsible for the preparation of the draft and revised EIS and any related applications and associated costs. This includes hard copies of the draft and revised EIS and other associated documents as required by the Authority from time to time.

NEXT STEPS

The proponent is now required to prepare a document (a **draft EIS**) that addresses each matter raised in this scoping document for the proposal within the timeframe specified above. Once the draft EIS has been accepted for lodgement, a public notification fee is payable in order for notification, referrals and assessment to commence. After the notification period has closed, the Authority will provide comments and any public representations received for the proponent to address in preparing a **revised EIS**, and any further instructions on the application.

If you have any queries about the requirements outlined in this scoping document, please contact Hayden Pini to arrange a suitable time to discuss.

Delegate of the planning and land authority

Contact



17/12/2021

Craig Weller
A/g Executive Branch Manager
Statutory Planning Division

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Assessment Officer
Impact Assessment
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GPO BOX 1908, Canberra ACT 2601

www.planning.act.gov.au

Authorised by the ACT Parliamentary Counsel—also accessible at www.legislation.act.gov.au

GENERAL REQUIREMENTS FOR THE EIS

1. Cover Page

The cover page
the following:

- The name of the proposal (project title)
- The block identifier(s) and street address for the proposal
- The date of the preparation of the document
- Full name and postal address of the designated proponent
- Full name and postal address of the designated applicant
- Name and contact details of the person/organisation who prepared the documents (if different to the above)

2. Glossary

Provide a glossary of technical terms, acronyms and abbreviations used in the EIS.

3. Executive Summary

Provide a non-technical summary of the EIS including a description of the proposal, key findings, and recommendations.

4. Introduction

Summarise the proposal background and justification for the proposal.

5. Proposal Details

5.1. Project Description

Provide a description of the proposal, including:

- a) The objectives and justification for the proposal;
- b) The location of the land to which the proposal relates, including detailed maps;
- c) The division and/or district names and block and/or section numbers of the land under the *Districts Act 2002*;
- d) If the land is leased – the lessee's name;
- e) If the land is unleased or public land – the custodian of the land;
- f) The purposes for which the land may be used;
- g) A clear identification of all lands subject to direct disturbance from the proposal and associated infrastructure and geomorphic features such as waterways and wetlands. This is to be supported by a map showing all affected lands;
- h) An outline of any developments that have been, or are being, undertaken by the proponent, or other person(s) or entities, within the proposal area and broadly in the region. Describe how the proposal relates to these developments;
- i) A description of all the components of the proposal, including the proposal specifications, the predicted timescale for implementation (design, approvals, construction, and decommissioning) and project life;
- j) A plan/description of the precise location of any works to be undertaken, structures to be built or elements of the proposal that may have relevant impacts; and
- k) A description of the construction methodologies for the proposal.

5.2. Alternatives to the proposal

Provide details of alternatives considered in developing the proposal including a description of:

- a) Any alternatives to the proposal and provide reasons for selecting the preferred option with an analysis of site selection as an attachment to the EIS;
- b) The criteria used for assessing the performance of any alternative to the proposal considered;
- c) Any matters considered to avoid or reduce potential impacts prior to the selection of the preferred option; and
- d) Details of the consequences of not proceeding with the proposal.

6. Legislative and Strategic Context

A description of the EIS process including any statutory approvals obtained or required for the proposal, and how the proposal is aligned with strategic priorities for the ACT.

6.1. Statutory requirements

The description must include information on statutory requirements for the preparation of an EIS, including:

- *Planning and Development Act 2007 (including confirmation of relevant Schedule 4 triggers based on impacts identified in the scoping document and any studies undertaken in preparing the draft EIS)*
- *Planning and Development Regulation 2008*
- *Environment Protection Act 1997*
- *Environment Protection Regulation 2005*
- *Nature Conservation Act 2014*
- *Tree Protection Act 2005*
- *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*
- *Environment Protection and Biodiversity Conservation Regulations 2000 (Commonwealth)*
- *Related statutory approvals.*

6.2. Other requirements

The description must also include information on how each of the following has been considered in the preparation of the EIS and the development of the proposal:

- Territory Plan 2008
- ACT Planning Strategy
- National Capital Plan
- *Climate Change and Greenhouse Gas Reduction Act 2010*
- The ACT Climate Change Strategy 2019-2025
- Canberra's Living Infrastructure Plan: Cooling the City
- Relevant Environment Protection Policies and Separation Distance Guidelines for Air Emissions (<https://www.environment.act.gov.au/about-us/legislation-policies-guidelines>)
- Plans of Management for any public land
- Any relevant Master Plan
- Other relevant planning and environmental guidelines, action plans and management plans.

6.2.1. Ecologically sustainable development (ESD)

Provide a description of how the proposed development demonstrates ESD. This is to include long-term and short-term considerations related to economic development, social development, and environmental protection at local, regional, and national scales. The proponent should ensure that the EIS adequately addresses the ESD principles as defined by section 9 of the PD Act.

6.2.2. Territory Plan strategic directions

A statement must be provided regarding the proposal's consistency with the principles in the Statement of Strategic Directions in the Territory Plan 2008 (Section 2.1 - Strategic Direction).

REQUIREMENTS FOR ADDRESSING IMPACTS IN THE EIS**7. Risk Assessment****7.1. Risk Assessment Methodology**

Provide a risk assessment in accordance with the Australian and New Zealand Standard for risk management AS/NZS ISO 31000:2009 *Risk Management – Principles and guidelines*. The proposed criteria for determining which risks are potentially significant impacts must be described.

-Assessment guide-			
Provide a table with the headings below to describe the risks identified and the original risk rating without any mitigation strategies in place. This table format is one option, however alternative formats can be used provided the methodology is clearly described and in accordance with AS/NZS ISO 31000:2009 <i>Risk Management – Principles and guidelines</i>			
Risk	Likelihood	Consequence	Risk rating

The Preliminary Risk Assessment (PRA) submitted as part of the request for a scoping document must be revised to include, but not be limited to, the risks identified by the Authority in Table 1. The risks identified in Table 1 are based on the scoping document application and comments received from entities on the application. All of these risks are considered potentially significant (i.e. a medium risk level or above), and must be addressed in the EIS. Should any risk levels change during the preparation of the EIS, or any new risks become apparent, these must be assessed and included with justification in the EIS, and where relevant, the residual risk assessment.

Table 1 – Identified impacts and requirements to be addressed in the EIS

Environmental Theme	Risk identified	See section/s below for further detail
Traffic and Transport	Road and railway traffic disruptions during construction.	8.2.1
Utilities	Impacts to existing utilities.	8.2.2
Noise, landscape and visual	- Noise impacts from corona discharge. - Visual impacts on residents.	8.2.3
Water Quality and Hydrology	Impact on water quality due to potential erosion and sedimentation during and post-construction.	8.2.4

Ecology and Natural Environment	• Impacts on flora during construction and operation. • Impacts on fauna and habitat during construction and operation.	8.2.5
Heritage Objects and/or Places	• Impact on known heritage objects and/or places. • Impact on unknown heritage values.	8.2.6
Socio-economic and Health	• Impacts to human health and safety from exposure to electro-magnetic fields (EMF) and frequencies associated with high-voltage powerlines.	8.2.7
Hazard and Risk	• Impacts from construction and operation igniting bushfire. • Impacts to workers and the public during construction, maintenance, and operation. • Impacts from earth potential rise and electromagnetic induction, including any potential impact upon materials and persons in proximity to infrastructure. • Impact from potential flooding.	8.2.8

8. Assessment of Impacts

8.1. Standard requirements

Sufficient information is required to provide the Authority with an adequate understanding of the environmental impacts associated with the proposal. Each risk identified in Table 1, and in the proponent's PRA, must be addressed and structured as set out in sections 8.1.1-8.1.5 below.

8.1.1. Environmental conditions and values

Describe the existing environmental conditions and identify the environmental values for the environmental themes identified in Table 1. This section should discuss the baseline conditions for the area.

8.1.2. Investigations

Identify the findings and results of any environmental investigation in relation to the land to which the proposal relates.

8.1.3. Impacts

Describe the effects of the environmental impact as a result of construction and operation for the environmental themes identified in Table 1 and in the proponent's risk assessment (including cumulative, consequential, and indirect effects) on physical and ecological systems and human communities. Include a discussion of the timeframes of impacts i.e. short or long term, their nature and extent and whether they are reversible or irreversible, unknown or unpredictable. Include an analysis of the significance of the relevant impacts. Information must include any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

8.1.4. Mitigation

Discuss the proposed safeguards and mitigation measures proposed to be taken for the environmental management of the land to which the proposal relates for the environmental themes identified in Table 1 and the proponent's risk assessment. This is to include:

- a) A description and an assessment of the proposed impact prevention, mitigation or offsetting measures to deal with the environmental impact of the proposal, along with which stage the mitigation measures will be adopted
- b) Any statutory or policy basis for the mitigation measures
- c) An outline of an environmental management plan (EMP) that sets out the framework for continuing management, mitigation, and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing
- d) The frequency, duration and objectives of monitoring proposed
- e) The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program
- f) A description of the cost effectiveness of environmental mitigation or rehabilitation measures proposed and the expected or predicted effectiveness of those measures.

8.1.5. Residual risk

Provide a table that details the residual risk for the potentially significant impacts identified for the environmental themes in Table 1 and the proponent's risk assessment. A residual risk assessment is only required where the significance of impact is determined as medium or above. The calculation of the residual risk should take into account the influence of implementation of mitigation or offsetting measures on the impacts identified by the risk assessment. A discussion of how the calculations were determined should also be included, including the expected or predicted effectiveness of the mitigation measures.

-Assessment Guide-				
Provide the residual risk assessment as set out in the table below.				
Risk identified in Section 7.1	Original risk rating from items identified in 7.1	Residual likelihood	Residual consequence	Residual risk rating

8.2. Detailed requirements

The following items (sections 8.2.1 - 8.2.8), relate to the potentially significant environmental impacts identified in Table 1. They must be addressed in detail in the EIS.

NOTE: The information provided under the following headings is not an exhaustive list of matters that may be required to accurately detail the assessment scenarios.

8.2.1. Traffic and transport

- Investigate the impact the development will have on traffic congestion and road and rail safety and describe the mitigation measures that will be implemented to reduce the impacts.

8.2.2. Utilities

- Describe the existing utilities located on the land subject to this development proposal.
- Describe any new utilities, removal or realignments required as a result of this development.
- Investigate potential impacts to existing utilities and infrastructure and provide mitigation measures to reduce the impacts.
- Describe how the proposal will be designed, constructed, and maintained in accordance with the relevant Australian and International Standards.

8.2.3. Landscape and visual

- Provide a visual impact assessment that analyses the visual impacts of the development on surrounding residents, including residents in NSW. The visual impact assessment must:
 - provide perspectives of the development from residential viewpoints and approach routes and provide a comparative assessment of existing and proposed views upon immediate surround and residential areas,
 - identify impacts on important viewsheds, significant views and vistas to and from the site, and on residents surrounding the development; and,
 - identify any measures to be adopted to reduce visual impacts from the infrastructure bulk and scale.

8.2.4. Water quality and hydrology

- Provide an assessment of potential impacts to waterways that may arise during and post construction of the proposed development.
- Describe any mitigation measures required to prevent sediment and erosion from impacting on water quality.

8.2.5. Ecology and Natural Environment

- Provide a description of the ecological values, including potential threatened species and their habitat on, and adjacent to the site.
- Ecological surveys by a qualified ecologist must be undertaken for each impacted species and their habitats.
- Describe the direct and indirect impacts on ecological values including maps demonstrating the areas impacted by the proposal. The description must include all areas that may be impacted by the construction and installation of the development, including pole placement, laydown, access arrangements and any areas that will be impacted by maintenance works following completion of construction.
- Provide details of the mitigation measures proposed to reduce the impacts identified on fauna species and their habitat.
- Consider the indirect impacts of the development of fauna species listed above with particular consideration of the following:
 - Increased predation efficiency and predator abundance due to the erection of poles and lines adjacent to grasslands.
 - Increased mortality of birds due to collisions with power lines, with particular consideration for Little Eagles and other avian species known to occur in the area.
- Consider the potential for weed species to be introduced to the site or indirectly onto other sites and describe weed hygiene and other mitigation and control measures that will be implemented to avoid or minimise the impact.

8.2.6. Heritage objects and places

- A Cultural Heritage Assessment (CHA) must be prepared by a suitably qualified heritage practitioner, and in consultation with Representative Aboriginal Organisations (RAOs), and must include information as required by the ACT Heritage Council's Cultural Heritage Reporting Policy available at <https://www.environment.act.gov.au/heritage/publications-and-resources>

8.2.7. Socio-economic and health

- Consider any impact upon human health and safety as a result of exposure to electro-magnetic fields (EMF) and frequencies associated with high-voltage powerlines, and compare this risk with national and international standards.

8.2.8. Hazard and risk

- Consider the risk of ignition of bushfire from a malfunction with the project.
- Consider the risk of bushfire during construction, including the cessation of construction works during periods of escalated fire danger.
- Provide detailed bushfire protection measures to be implemented in proximity to infrastructure, including asset protection zones, vegetation management/fuel load reduction strategies.
- Consider how separation to overhead conductors will be achieved for any firefighters undertaking asset protection in the event of a fire.
- Consider the risk of any potential impact upon materials and persons in proximity to any infrastructure.
 - Consider impact to surrounding residents, workers and community.
 - Consider excessive step & touch potential due to Earth potential rise (EPR) or Electromagnetic Induction (EMI) on both in-service and abandoned metallic/conductive infrastructure such as pipelines, railway tracks, rural and urban fences, streetlight poles, Telecommunication cables/cable pits. These electrical hazards can still be experienced even if the affected private and community assets are outside the transmission system easement boundary.
 - Consider the potential severity of hazards, with consideration given to current magnitude, time duration of current flow, soil electrical resistivity, earthing systems installed on both the impacted assets and the transmission line/substation infrastructure, proximity of metallic conductors (pipelines, unearthed fences, telecommunications lines as examples).
 - Consider any impact upon materials and persons in proximity to any infrastructure. Hazard mitigation measures may include greater separation distance and/or earthing of fences, conductive pipelines, communication pits, and streetlight/conductive poles, etc.
 - Consider corona discharge noise limits.
 - Consider vegetation restrictions under transmission lines.
 - Consider Electromagnetic Field (EMF) limits.
 - Consider requirements of railway owners/operators regarding 132 kV line crossings (e.g. Line strain spans, clearance heights, etc).
- Provide details of mitigation and safety measures and evidence of compliance with Australian Standards AS 7000 and AS/NZS 4853, and Other Standards as follows:

-
- HB 101-1997 (CJCS) Coordination of Power and Telecommunications- Low Frequency Induction (LFI): Code of Practice for the Mitigation of Hazardous Voltages Induced into Telecommunication Lines
 - HB 102 -1997 {CJC6} Coordination of Power and Telecommunications- Low Frequency Induction.
 - ENA Doc 025 - 2010 - EG-0 Power System Earthing Guide - Part 1: Management Principles.
 - ENA EG1 - 2006 Substation Earthing Guide.
 - T HR EL 100005 ST – Requirements for Electric Aerials Crossing RailCorp Infrastructure – Transport for NSW
 - Institute of Electrical and Electronics Engineers (IEEE) 80 - Guide for Safety in AC Substation Grounding
 - Consider any potential flood risks and describe any mitigation measures to reduce the impact.

8.3. Entity requirements

The EIS must address the entities comments provided in [Attachment A](#). If the issues raised by entities have been addressed in other sections of the EIS, this must be cross referenced.

9. Community and stakeholder consultation

The intention of the consultation in this scoping document is to ensure significant proposals include meaningful engagement with the community in the early stages of the project and provide clear expectations and an understanding of the actual development proposed. Consultation also provides an opportunity for the community to contribute to the design of the proposal and to resolve any major concerns early in the planning stages.

9.1. Consultation must be undertaken with:

- Lease holders and land managers of land potentially impacted by the proposal;
- NSW residents;
- Any recreational groups which may be affected by the proposal;
- Any volunteer conservation, landscape management or land care groups active in the area to be affected by the proposal;
- The local community; and businesses owners and employees.

9.2. Provide a consultation report that includes:

- A description of the methodology and criteria for identifying stakeholders and list of stakeholders that were consulted. Details and plans must be provided showing potential impacts on the local and wider community to justify how stakeholders were identified.
- An outline of the communication methods used. A variety of communication methods must be adopted to ensure all stakeholders are engaged appropriately, such as face to face, email/letters, community meetings and information sessions and website notifications.
- Details on the information provided during the community consultation process. Note: A plain English statement explaining the proposal and conceptual drawings must be made available to the community and stakeholders.

-
- A summary of the responses and the main comments raised. Evidence must be provided demonstrating that consultation has been undertaken with each relevant group/person including specific detail on how these concerns were addressed.
 - A description on how any concerns have been considered and identify any changes that have been made to the proposal.

Consultation must occur as early as possible and avoid, or make allowances for public holidays, school holidays and the summer holiday (Christmas) shutdown period. The level of engagement must be comparable with the size, location and nature of the development and potential impact on the wider community.

9.3. Consideration of public representations from Draft EIS notification

The revised EIS must include a consultation report outlining the representations received, issues raised in the representations and a response to the issues and values identified. The summary response must clearly identify the representation(s) to which the responses relate.

10. Recommendations

Provide a summary of any commitments to impact prevention, mitigation measures, offsetting measures and other actions within the EIS.

Describe the monitoring parameters, monitoring points, frequency, data interpretation and reporting proposals.

11. Other relevant information

The proponent may wish to include issues outside the scope of the EIS as a separate section of the EIS. This allows the proponent to identify matters not required to be addressed in the EIS, but that would be subject to development assessment consideration and notification. This can provide additional context for members of the public regarding management of environmental issues, by ensuring that the public is aware that these issues will be addressed in the detailed design of the proposal.

12. References

A reference list using standard referencing systems must be included.

13. Required Appendices

13.1. Scoping document for the EIS

A copy of the scoping document should be included in the EIS. Where it is intended to bind appendices in a separate volume from the main body of the EIS, the scoping document should be bound with the main body of the EIS for ease of cross-referencing.

13.2. Scoping Document Reference

Include a table that cross-references the EIS to the scoping document. If the EIS addresses the scoping document in multiple places, then this must be also referenced.

13.3. Proponent's Environmental History

Provide details of any proceedings under a Commonwealth 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
- For an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation, then provide details of the corporation's environmental policy and planning framework. Enough information is required to satisfy s136(4) of the EPBC Act.

13.4. Information Sources

For information given the following must be stated:

- The author or any reports or studies
- The publication date
- The source of the information
- How recent the information is (i.e. when a study was conducted or when primary sources were produced)
- How the reliability of the information was tested
- What uncertainties (if any) are in the information.

13.5. Study team

The qualifications and experience of the study team and specialist sub-consultants and expert reviewers must be provided.

13.6. Specialist studies

All reports generated based on specialist studies undertaken as part of the EIS are to be included as appendices.

13.7. Research

Any proposals for researching alternative environmental management strategies or for obtaining any further necessary information should be outlined in an appendix.

GLOSSARY

Controlled Action (EPBC): An action defined under the EPBC Act, section 67.

Development application (DA): Application for development as defined under the PD Act.

ESD: Ecological Sustainable Development principles as defined by the EPBC Act and section 9 of the PD Act (i.e. sustainable development, the inter-generational equity principle and the precautionary principle).

Environment: As defined under the *Planning and Development Act 2007* (the PD Act), each of the following is part of the environment:

- (a) the soil, atmosphere, water and other parts of the earth;
- (b) organic and inorganic matter;
- (c) living organisms;
- (d) structures, and areas, that are manufactured or modified;
- (e) ecosystems and parts of ecosystems, including people and communities;
- (f) qualities and characteristics of areas that contribute to their biological diversity, ecological integrity, scientific value, heritage value and amenity;
- (g) interactions and interdependencies within and between the things mentioned in paragraphs (a) to (f); and
- (h) social, aesthetic, cultural and economic characteristics that affect, or are affected by, the things mentioned in paragraphs (a) to (f).

Environmental Impact Statement (EIS): As defined under the PD Act.

EPBC Act: *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

Impact Track: An assessment track that applies to a development proposal defined under the PD Act, section 123.

Long term: Greater than 15 years duration.

Medium term: Greater than three (3) years to 15 years duration.

PD Act: *Planning and Development Act 2007* (ACT)

PRA: Preliminary Risk Assessment undertaken in accordance with ACT Government's Proponent's Guide to Environmental Impact Statements.

Regulated waste: waste defined under the *Environment Protection Act 1997*

Scoping: The process of identifying the matters that are to be addressed by an EIS in relation to the development proposal - see the PD Act, Section 212 (2).

Short term: Zero to three (3) years duration.

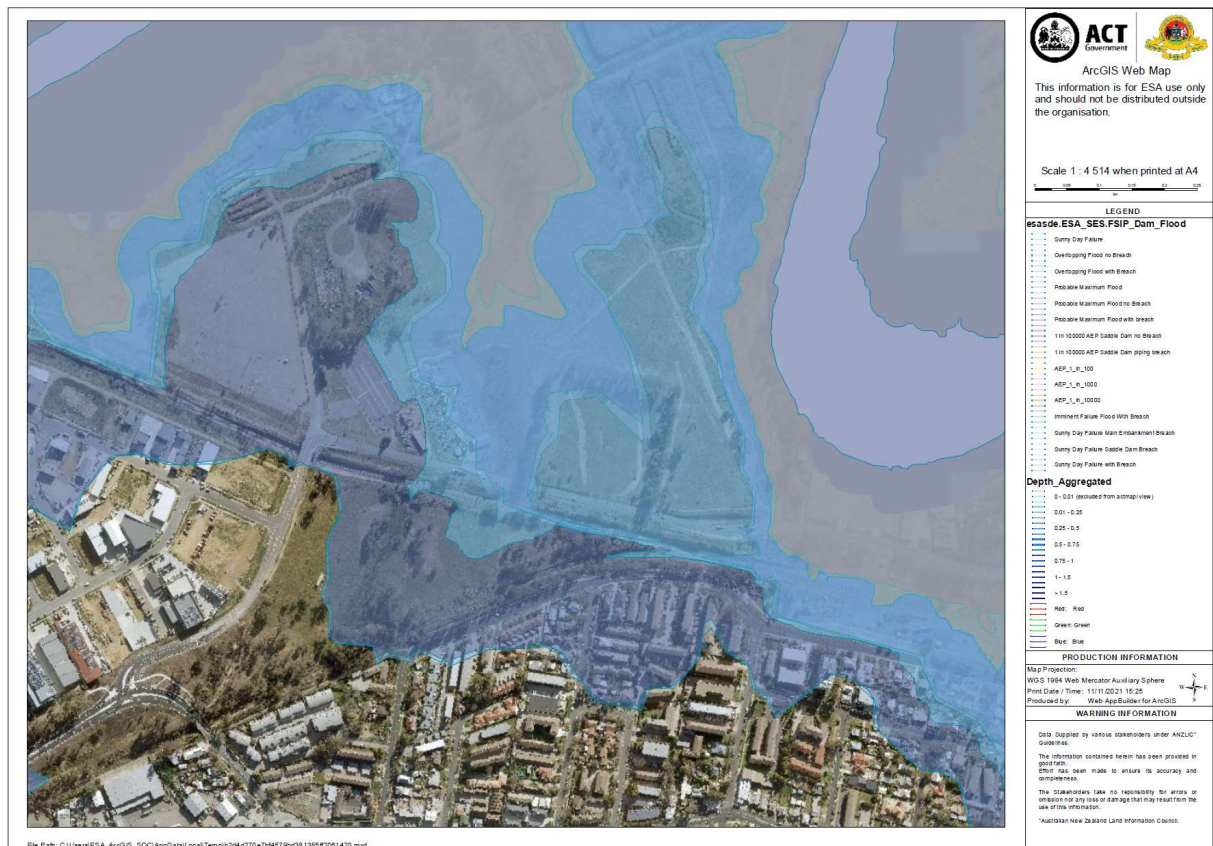
Socio-economic: Involving both social and economic factors.

The Authority: The ACT planning and land authority.

Attachment A - ENTITY REQUIREMENTS**A1. ACT Emergency Services***Identified Dam Infrastructure Failure Flood Zone:*

The proposed site is in an area that may become inundated should a dam infrastructure failure occur at Googong Dam.

While an incident of this type is rated by the ACT Government as RARE and of MEDIUM risk, it is recommended that the project risk assessment consider this risk and that specific risk control measures are detailed in the Emergency Plan for this development.

**A2. ACT Health**

The Health Protection Service (HPS) notes that a new 132 kilovolt (kV) transmission line will be approximately 230 metres long originating from the Transgrid Oaks Estate substation to south Jerrabomberra in NSW. This development will facilitate forecasted electricity demands in the area.

The HPS has reviewed the documents and advises the applicant that the HPS recommends the development of a Construction Environmental Management Plan (CEMP) with an integrated Unexpected Finds Protocol (UFP), in case there is any unforeseen contamination or hazardous materials discovered during the works.

A3. Conservator of Flora and Fauna**Vegetation and fauna considerations**

To enable the Conservator of Flora and Fauna to assess the impact of the proposed Transmission Line, we will need information on the following matters within the proposed development area (including any areas that will be disturbed by construction equipment, access or other activities associated with the development):

- *Extent of endangered ecological communities*
- *Extent of all native vegetation communities*
- *Point data for all native species, including threatened species, where available*
- *Extent of modelled habitat for threatened species*
- *Existing connectivity modelling*
- *The proposed alignment of the transmission lines on the NSW side of the border, along with details regarding access tracks to be provided in the draft*
- *EIS.*

Avian wildlife considerations

- *Based on GPS data, Little Eagles do occur generally in the area around the proposed Oaks Estate transmission lines, but the development zone is not an area of high use.*
- *In line with advice we have provided recently for the new transmission lines along Canberra Ave and Hindmarsh Drive, we would like the potential electrocution risk to birds (including Little Eagles) to be considered, along with mitigation measures to reduce this risk, such as perch guards and line markers.*
- *Another issue that could be considered is the potential for increased predation on threatened grassland species due to the increase in perches for birds.*

Bushfire considerations

- *The project does not occur in isolation of the components that occurs in NSW and would not go ahead in the location proposed without consideration of the NSW components. The proposal appears designed to take the shortest possible route from the existing substation into NSW, from where it is assumed the lines will run SW in the railway reserve (although details are not included in the scoping application). A significant danger to bush fire fighters undertaking fire suppression is exposure to high voltage powerlines. In high temperatures, thick smoke and when high pressure hoses are being used high voltage lines can discharge to ground and injure or kill fire fighters. The development pattern in Queanbeyan has housing right up to the railway easement and this places the interface for firefighters providing asset protection in close proximity of the intended high voltage alignment. The energy industry recommends a separation of at least 25m horizontal from any fire fighter to an overhead conductor. The proponent should demonstrate how this separation will be achieved for any firefighters undertaking asset protection on the interface in Queanbeyan. Reference materials:
<https://www.essentialenergy.com.au/-/media/Project/EssentialEnergy/Website/Files/Safety/fire-safety-factsheet.pdf>, <https://www.powerlink.com.au/sites/default/files/2017-12/Fire%20and%20High%20Voltage%20Transmission%20Line%20Safety.pdf>, https://www.saiglobal.com/PDFTemp/Previews/OSH/as/misc/handbook/ENA_DOC_008-2006.pdf*

- *The risk of ignition of bushfire from a malfunction with the project should be considered.*
- *The risk to staff of bushfire during construction should be considered, including the cessation of construction works during periods of escalated fire danger.*

Water considerations

- *If the powerline is to run down the border to Tralee, there is a concern about cumulative impacts of sedimentation/erosion impacts during construction. Multiple small creeks flow from that area into Jerrabomberra creek. The soils are highly erodible, and pose a threat to Jerra creek. It also adds cumulative impacts on water quality in Lake Burley Griffin.*
- *If service roads are added to provide serviceability to the powerlines, then this poses a threat to ongoing sedimentation and erosion. Any new access roads/tracks would need to be constructed to a very high standard to mitigate additional sedimentation and erosion entering the Jerra creek system.*

A4. Environmental Protection Authority

No comments.

A5. EvoEnergy – Electricity

To date, no comment has been received.

A6. Heritage Council

The application for the EIS Scoping document states that a CHA will be completed as part of the EIS. The Council supports this as a CHA will assist in determining possible heritage impacts from the project, including any impacts on Aboriginal place, CA5. This CHA must:

- *Be undertaken by a suitably qualified heritage practitioner;*
- *Include the information as required by the Council's Cultural Heritage Reporting policy available at <https://www.environment.act.gov.au/heritage/publications-and-resources>;*
- *Include consultation with Representative Aboriginal Organisations (RAOs) about the heritage significance of any identified Aboriginal places and objects, and the impacts of proposed development or activity on Aboriginal places and objects;*
- *If the CHA identifies that proposed works will cause damage or diminish the significance of heritage places, recommendations must be presented to comply with Heritage Act 2004 provisions. This must include consideration of alternatives to avoid heritage impacts, and if these alternatives are not reasonably practicable, measures that could be adopted to minimise heritage impacts; and*
- *Dependent on the recommendations and outcomes of the CHA process Heritage Act 2004 approvals may be required. These could include an Excavation Permit and/or a Statement of Heritage Effect.*

A7. Icon Water*Analytical Services*Sewer:

- *No comments.*

Water:

- *Icon Water has bulk supply main (DN 375 mm) and reticulation mains (DN 100 mm) within study area which run parallel to proposed works. This will be approximately within 30 m range.*
- *Proposed transmission line will cross DN 100 mm reticulation main along Railway Street.*
- *Another crossing with proposed transmission line with existing bulk supply and reticulation main is at the south of block 1/ section 10.*
- *There is a PRV chamber on bulk supply main with 2 PRV inside along Rail Street.*
- *There is no existing or proposed flow meter or pressure meter within proposed study area.*

Developer Services

- *Any work(s) that require the relocation or alteration of Icon Water infrastructure must have Icon Water acceptance prior to any work being undertaken. This requirement is additional and separate to approval of this EIS.*

Building Approvals

- Any work(s) or structure(s) that are likely to impact on the Icon Water infrastructure must have Icon Water acceptance prior to any work being undertaken. This requirement is additional and separate to approval of this EIS.

A8. Jemena

No comments.

A9. National Rail Safety Regulator

To date, no comment has been received.

A10. Queanbeyan-Palerang Regional Council:

To date, no comment has been received.

A11. Transport Canberra and City Services

- The proposal must consider the SW network and assets when proposing the location of new structures.
- The proposal must be a subject to the DA and post-DA processes and assessment by Development Coordination, TCCS.
- The proposal should avoid removal of any street trees. Should any street trees be impacted by the proposal, a trees assessment by an appropriate qualified profession must be submitted.

A12. Utilities Technical Regulator

The outline of the proposed project has not identified and considered potential electrical hazards and risks arising from the proposed 132 kV overhead transmission lines.

Transmission infrastructure such as 132 kV transmission lines and zone substations may cause hazardous electrical conditions or problematic issues (especially if transmission lines run approximately parallel to or are in close proximity to or cross other metallic/conductive assets, or substations are nearby).

Potential problem issues/risks that must be assessed and addressed by the project proponent included:

- Excessive step & touch potentials due to earth potential rise (EPR) or electromagnetic induction (EMI), on both in-service and abandoned metallic/conductive infrastructure such as pipelines, railway tracks, rural and urban fences, streetlight poles, Telecommunication cables/cable pits. These electrical hazards can still be experienced even if the affected private and community assets are outside the transmission system easement boundary (eg. TransGrid have a development exclusion/restriction distance that can extend beyond the easement boundary - Information is available on their website). Hazard mitigation measures may include greater separation distance and/or earthing of fences, conductive pipelines, communication pits, and streetlight/conductive poles, etc.
- Corona discharge noise limits being exceeded.
- Tree planting restrictions under transmission lines.
- Electromagnetic Field (EMF) limits also need to be observed.

-
- *Requirements of railway owners/operators regarding 132 kV line crossings (eg. Line strain spans, clearance heights, etc).*

Relevant Australian and International standards, industry codes/guidelines and UTR technical codes need to be observed for acceptable designs and avoidance of electrical safety hazards (eg. AS 7000, AS EGO, AS EG1, AS/NZS 4853, HB 101 and HB 102, IEEE 80, RailCorp T HR EL 10005 ST Standard).

Appendix 2 – Cross reference table between EIS and the final scoping document

Appendix B : Table – Scoping Document Cross Reference

B1- Form and Format of EIS

** Each of the following matters will be addressed by Purdon Planning and checked as part of our Quality Control process prior to finalisation of the Draft EIS*

Matters to be addressed	See section/s below for further detail
The EIS must be prepared in accordance with section 50 of the <i>Planning and Development Regulation 2008</i> .	✓
The EIS must be written in plain English and avoid the use of jargon as much as possible.	✓
The EIS is required to be provided in the same structure as described in this Scoping Document as closely as possible.	✓
A table that cross-references the EIS to the scoping document must be included in the EIS submission.	Appendix B1
The report must reference any figures or supporting information used to the supporting appendix and page number, table or figure.	✓
Additional technical detail, including relevant data, technical reports and other sources of the EIS analysis must be provided in appendices.	✓
Maps, diagrams and other illustrative material should be included in the EIS to assist reader to interpret information.	✓
The EIS document sized A4 with maps and drawings in A4 or A3 format.	✓
The proponent must supply a copy of all draft EIS and revised EIS documents in electronic formats for circulation and web posting.	✓
These are to be supplied by email, USB, or another agreed method.	✓
Digital files must not exceed 20 MB each.	✓

B2- General Requirements for the EIS

1. Cover Page

The name of the proposal (project title)	✓
The block identifier(s) and street address for the proposal	✓
The date of the preparation of the document	✓
Full name and postal address of the designated proponent	✓
Full name and postal address of the designated applicant	✓
Name and contact details of the person/organisation who prepared the documents (if different to the above)	✓
2. Glossary	
Provide a glossary of technical terms, acronyms and abbreviations used in the EIS.	<i>Please refer to Page vi</i>
3. Executive Summary	
Provide a non-technical summary of the EIS including a description of the proposal, key findings, and recommendations.	Please refer to section 1.0 Executive Summary
4. Introduction	
Summarise the proposal background and justification for the proposal.	Please refer to section 2.0 Introduction
5. Proposal Details	
5.1 Project Description	
Provide a description of the proposal, including:	Please refer to section 3.1 Project description
a) The objectives and justification for the proposal; b) The location of the land to which the proposal relates, including detailed maps; c) The division and/or district names and block and/or section numbers of the land under the Districts Act 2002; d) If the land is leased – the lessee’s name; e) If the land is unleased or public land – the custodian of the land; f) The purposes for which the land may be used; g) A clear identification of all lands subject to direct disturbance from the proposal and associated infrastructure and geomorphic features such as waterways and wetlands.	This section responds to all description criteria.

This is to be supported by a map showing all affected lands;

- h) An outline of any developments that have been, or are being, undertaken by the proponent, or other person(s) or entities, within the proposal area and broadly in the region. Describe how the proposal relates to these developments;
- i) A description of all the components of the proposal, including the proposal specifications, the predicted timescale for implementation (design, approvals, construction, and decommissioning) and project life;
- j) A plan/description of the precise location of any works to be undertaken, structures to be built or elements of the proposal that may have relevant impacts; and
- k) A description of the construction methodologies for the proposal.

5.2 Alternative to the proposal

Please refer to section 3.2 *Alternatives to the proposal*

Provide details of alternatives considered in developing the proposal including a description of:

- a) Any alternatives to the proposal and provide reasons for selecting the preferred option with an analysis of site selection as an attachment to the EIS;
- b) The criteria used for assessing the performance of any alternative to the proposal considered;
- c) Any matters considered to avoid or reduce potential impacts prior to the selection of the preferred option; and
- d) Details of the consequences of not proceeding with the proposal.

6 Legislative and Strategic Context

Please refer to section 4.0 *Legislative Context*

A description of the EIS process including any statutory approvals obtained or required for the proposal, and how the proposal is aligned with strategic priorities for the ACT.

6.1 Statutory requirements

Please refer to section 4.1 *Statutory Requirements*

The description must include information on statutory requirements for the preparation of an EIS, including:

Planning and Development Act 2007 (including confirmation of relevant Schedule 4 triggers based on

Please refer to section 4.1.1 Planning and Development ACT 2007

<i>impacts identified in the scoping document and any studies undertaken in preparing the draft EIS)</i>	
<i>Planning and Development Regulation 2008</i>	Please refer to section 4.1.2 Planning and Development Regulation 2008
<i>Heritage ACT 2004</i>	Please refer to section 4.1.3 Heritage ACT 2004
<i>Environment Protection Act 1997</i>	Please refer to section 4.1.4 Environment Protection ACT 1997 (ACT)
<i>Environment Protection Regulation 2005</i>	Please refer to section 4.1.5 Environment Protection Regulation 2005
<i>Nature Conservation Act 2014</i>	Please refer to section 4.1.6 Nature Conservation ACT 2014
<i>Tree Protection Act 2005</i>	Please refer to section 4.1.7 Tree Protection ACT 2005
<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>	Please refer to section 4.1.8 Environment Protection and Biodiversity Conservation ACT 1999 (Commonwealth)
<i>Environment Protection and Biodiversity Conservation Regulations 2000 (Commonwealth)</i>	Please refer to section 4.1.9 Environment Protection and Biodiversity Conservation Regulation 2000 (Commonwealth)
<i>Related statutory approvals.</i>	Please refer to section 4.1.10 Other Relevant Legislation
6.2 Other requirements	Please refer to section 4.2 Other Requirements
The description must also include information on how each of the following has been considered in the preparation of the EIS and the development of the proposal:	
<i>Territory Plan 2008</i>	Please refer to section 4.2.1 Territory Plan 2008
<i>ACT Planning Strategy</i>	Please refer to section 4.2.2 ACT Planning Strategy 2018
<i>Statement of Planning Intent</i>	Please refer to section 4.2.3 Statement of Planning Intent
<i>National Capital Plan</i>	Please refer to section 4.2.4 National Capital Plan
<i>Climate Change and Greenhouse Gas Reduction Act 2010</i>	Please refer to Section 4.1.10
<i>The ACT Climate Change Strategy 2019-2025</i>	Please refer to section 4.2.5 ACT Climate Change Strategy 2019-2025
<i>Canberra's Living Infrastructure Plan: Cooling the City</i>	Please refer to section 4.2.6 Canberra's Living Infrastructure Plan: Cooling the City

Relevant Environment Protection Policies and Separation Distance Guidelines for Air Emissions (<https://www.environment.act.gov.au/about-us/legislation-policies-guidelines>)

Plans of Management for any public land	Please refer to section 4.2.7 <i>Plans of Management</i>
Any relevant Master Plan	Please refer to section 4.2.8 <i>Master Plans</i>
Other relevant planning and environmental guidelines, action plans and management plans.	N/A
6.2.1 Ecologically sustainable development (ESD)	Please refer to section 4.2.9 <i>Ecologically Sustainable Development</i>
Provide a description of how the proposed development demonstrates ESD. This is to include long-term and short-term considerations related to economic development, social development, and environmental protection at local, regional, and national scales. The proponent should ensure that the EIS adequately addresses the ESD principles as defined by section 9 of the PD Act.	
6.2.2 Territory Plan strategic directions	Please refer to section 4.2.10 <i>Territory Plan – Strategic Directions</i>
A statement must be provided regarding the proposal's consistency with the principles in the Statement of Strategic Directions in the Territory Plan 2008 (Section 2.1 - Strategic Direction).	

B3- Requirements for Addressing Impacts in the EIS

7 Risk Assessment	Please refer to section 5.0 <i>Preliminary Risk Assessment</i>
7.1 Risk Assessment Methodology	Please refer to section 5.1 <i>Preliminary Risk Assessment Methodology</i>
Provide a risk assessment in accordance with the Australian and New Zealand Standard for risk management AS/NZS ISO 31000:2009 <i>Risk Management – Principles and guidelines</i> . The proposed criteria for determining which risks are potentially significant impacts must be described.	

Identified impacts and requirements to be addressed in the EIS

Ecology and Natural Environment	• Impacts on flora during construction and operation. • Impacts on fauna and habitat during construction and operation.	Please refer to section 6.1
Heritage Objects and/or Places	• Impact on known heritage objects and/or places. • Impact on unknown heritage values.	Please refer to section 6.2
Noise, landscape and visual	• Noise impacts from corona discharge. • Visual impacts on residents.	Please refer to section 6.3
Water Quality and Hydrology	• Impact on water quality due to potential erosion and sedimentation during and post-construction.	Please refer to section 6.4
Traffic and Transport	• Road and railway traffic disruptions during construction.	Please refer to section 6.5
Utilities	• Impacts to existing utilities.	Please refer to section 6.6
Socio-economic and Health	• Impacts to human health and safety from exposure to electro-magnetic fields (EMF) and frequencies associated with high-voltage powerlines.	Please refer to section 6.7
Material and Waste (ad	• Information on the materials used in and waste generated by the proposed development.	Please refer to section 6.8
Hazard and Risk	• Impacts from construction and operation igniting bushfire. • Impacts to workers and the public during construction, maintenance, and operation. • Impacts from earth potential rise and electromagnetic induction, including any potential impact upon materials and persons in proximity to infrastructure.	Please refer to section 6.9

Identified impacts and requirements to be addressed in the EIS

- Impact from potential flooding.

B4- Assessment of Impacts

8 Assessment of Impacts

Section 8-8.28 have been addressed as a subcategory within a collated section of the EIS. Please refer to the section listed in the cell to the right.

All elements of component 8 have been addressed in sections 5-6.9. For details on compliance please refer to these sections.

8.3 Entity Requirements

Please refer to section 6.10

The EIS must address the entities comments provided in [Attachment A](#). If the issues raised by entities have been addressed in other sections of the EIS, this must be cross referenced.

B5- Community and Stakeholder consultation

Community and Stakeholder consultation

See section/s below for further detail

9.1 Consultation must be undertaken with:

Please refer to section 7.0

- Lease holders and land managers of land potentially impacted by the proposal;
- NSW residents;
- Any recreational groups which may be affected by the proposal;
- Any volunteer conservation, landscape management or land care groups active in the area to be affected by the proposal;
- The local community; and businesses owners and employees.

Please refer to section 7.0

9.2 Provide a consultation report that includes:

- A description of the methodology and criteria for identifying stakeholders and list of stakeholders that were consulted. Details and plans must be provided showing potential impacts on the local and wider community to justify how stakeholders were identified.
- An outline of the communication methods used. A variety of communication methods must be adopted to ensure all stakeholders are engaged appropriately, such as face to face, email/letters, community meetings and information sessions and website notifications.

Please refer to section 7.0 and 7.1

Community and Stakeholder consultation	See section/s below for further detail
• Details on the information provided during the community consultation process. Note: A plain English statement explaining the proposal and conceptual drawings must be made available to the community and stakeholders. • A summary of the responses and the main comments raised. Evidence must be provided demonstrating that consultation has been undertaken with each relevant group/person including specific detail on how these concerns were addressed. • A description on how any concerns have been considered and identify any changes that have been made to the proposal.	
9.3 Consideration of public representations from Draft EIS notification	
The revised EIS must include a consultation report outlining the representations received, issues raised in the representations and a response to the issues and values identified. The summary response must clearly identify the representation(s) to which the responses relate.	N/A due to no representations received
10 Recommendations	
Provide a summary of any commitments to impact prevention, mitigation measures, offsetting measures and other actions within the EIS.	Please refer to section 8.0
Describe the monitoring parameters, monitoring points, frequency, data interpretation and reporting proposals.	Please refer to section 8.1
11 Other relevant information	
The proponent may wish to include issues outside the scope of the EIS as a separate section of the EIS. This allows the proponent to identify matters not required to be addressed in the EIS, but that would be subject to development assessment consideration and notification. This can provide additional context for members of the public regarding management of environmental issues, by ensuring that the public is aware that these issues will be addressed in the detailed design of the proposal.	

12 References

Please refer to section 9

A reference list using standard referencing systems must be included.

13 Require Appendices

See section/s below for further detail

13.1 Scoping document for the EIS

A copy of the scoping document should be included in the EIS. Where it is intended to bind appendices in a separate volume from the main body of the EIS, the scoping document should be bound with the main body of the EIS for ease of cross-referencing.

Appendix A

13.2 Scoping Document for Reference

Include a table that cross-references the EIS to the scoping document. If the EIS addresses the scoping document in multiple places, then this must be also referenced.

Appendix B

13.3 Proponent's Environmental History

Provide details of any proceedings under a Commonwealth 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
- For an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation, then provide details of the corporation's environmental policy and planning framework. Enough information is required to satisfy s136(4) of the EPBC Act.

Appendix C

13.4 Information Sources

For information given the following must be stated:

- The author or any reports or studies
- The publication date
- The source of the information
- How recent the information is (i.e. when a

Appendix D

13 Require Appendices	See section/s below for further detail
study was conducted or when primary sources were produced) • How the reliability of the information was tested • What uncertainties (if any) are in the information.	
13.5 Study team	
The qualifications and experience of the study team and specialist sub-consultants and expert reviewers must be provided.	Appendix G
13.6 Specialist studies	
All reports generated based on specialist studies undertaken as part of the EIS are to be included as appendices.	Appendix H
13.7 Research	
Any proposals for researching alternative environmental management strategies or for obtaining any further necessary information should be outlined in an appendix.	✓ Not applicable

