

Wambo Wind Farm Connection Project

Ministerial Infrastructure Designation Proposal

Powerlink Queensland

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Executive Summary

This report has been prepared by Aurecon on behalf of the Queensland Electricity Transmission Corporation Limited (trading as Powerlink Queensland) who are seeking a ministerial infrastructure designation (MID) under Chapter 2, Part 5 of the *Planning Act 2016* (Qld) (Planning Act) for a proposed transmission line (the project).

Powerlink has been engaged by the Wambo Wind Farm proponents (Cubico and Stanwell) to connect the renewable energy facility to the national electricity grid. The connection works will comprise of a double circuit 275 kV high voltage transmission line, commencing at a new substation to be constructed at the Wambo Wind Farm and tracking east for approximately 47 km, before connecting into Powerlink's existing Halys Substation.

Schedule 5 of the *Planning Regulation 2017* (Planning Regulation) identifies types of infrastructure which may be subject to an MID. The project is defined as 'electricity operating works' under Schedule 5, Part 2, Item 7 of the Planning Regulation.

The project will utilise the existing 132kV Tarong-Chinchilla transmission line corridor for the majority of its alignment as this transmission line has reached the end of its operable life. In order to facilitate the project, the existing easement will require widening from 50 m to 60 m.

The project corridor has been determined through a detailed corridor selection process which identified the preferred alignment as having the least social and environmental impacts. By utilising the existing transmission line easement, the overall impact of the project has been significantly reduced.

The project forms part of Commonwealth and State's continued investment into renewable energy sources, and infrastructure that supports the use of renewables throughout Queensland. To ensure that Queensland can transition to renewable energy supply and meet the State's renewable energy targets, it is critical that Powerlink can efficiently deliver transmission line infrastructure such as this high voltage transmission line.

The project will connect the Wambo Wind Farm to the national electricity grid and therefore assist in reaching the target of 70% renewable energy by 2032 (Queensland Energy and Jobs Plan, 2022). Once fully operational the Wambo Wind Farm will produce enough clean energy to power approximately 170,500 houses annually and prevent the emission of more than 1.1 million tonnes of carbon dioxide into the atmosphere each year.

The project provides a range of social, economic and environmental benefits including:

- Supporting the operation of a major renewable energy project (Wambo Wind Farm)
- Supporting both the State and Commonwealth renewable energy targets
- The creation of between 100 and 110 jobs during the construction and ongoing operation.

The project is expected to provide new employment options for the region, with workers to be sourced from the local area where possible. Powerlink will provide employees with an allowance for accommodation in local towns rather than providing worker's camps, therefore encouraging participation in the local community and local economy.

This MID proposal is supported by multiple technical studies that address the impacts of the project and illustrate all impacts can be appropriately minimised or managed.

A Visual Impact Assessment Report (Appendix D) took into consideration the public viewpoints of the transmission line where it transects public roads, and extent of change proposed between the existing and proposed towers. The report concluded that the overall visual impact of the project is considered 'minor' as the project will be replacing existing towers.





Ecological impacts of the project have been addressed in the Ecological Assessment Report (Appendix F). This assessment found that the project could have the potential to impact on several key biodiversity values, including:

- Removal of approximately 5.28 ha of remnant vegetation and wildlife habitat potentially compromising the viability of the community and associated habitat
- Displacement of flora and fauna species
- Loss of habitat causing a reduction of biological diversity or loss of local populations
- Loss of or disturbance to microhabitat features such as tree hollows, leaf litter, ground timber, dense shrubs and hollows
- Removal of animal breeding places.

The Ecological Assessment Report identified several key mitigation methods to protect biodiversity values of the project corridor including the implementation of a high risk species management program to prevent any tampering with animal breeding places during construction, and restricting the clearing of vegetation to the smallest possible areas, and a fauna spotter/catcher will be present on site during all vegetation clearing.

A Transport Assessment Report (Appendix C) confirmed that traffic generation from the project over its 15-month construction period is expected to be moderate and manageable in terms of its impact upon the surrounding road network. Traffic impacts from the project during construction is assessed as not showing any ability to compromise to the functionality of the Bunya Highway. Once assigned to the project, a contractor will obtain necessary permits for haulage of large equipment and traversing stock routes from the local councils, Queensland Police and Department of Transport and Main Roads.

Wide ranging stakeholder and community engagement has been undertaken to support this proposal. Key stakeholder groups are landholders (adjoining and directly affected), regulatory bodies (Department of Energy and Public Works, Western Downs Regional Council, Southern Downs Regional Council and local Ministers of Parliament), and Traditional Owner Groups. All groups have been consulted throughout the planning stages and where possible concerns have been addressed through the corridor selection process.

There are three Aboriginal cultural heritage parties for the project, including the Barrunggam People, the Auburn Hawkwood People and the Wakka Wakka #3 People. Powerlink have an existing Whole of Council Cultural Heritage Management Agreement (CHMA) with the Barunggam People, which covers the western portion of the transmission line. Powerlink have also commenced engagement with the Auburn Hawkwood People and the Wakka Wakka #3 People and are currently in the process of negotiating CHMAs for their portions of the project.





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Abbreviations

Abbreviations	Explanation
ACH Act	<i>Aboriginal Cultural Heritage Act 2003</i> (Qld)
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
ASRIS	Australian Soil Resource Information System
Aurecon	Aurecon Australasia Pty Ltd
CEMP	Construction Environmental Management Plan
CHMP	Cultural Heritage Management Plan
CLR	Contaminated Land Register
Corridor	Tarong-Chinchilla 132 kV transmission line corridor
DAF	Department of Agriculture and Fisheries
DDRP	Darling Downs Regional Plan 2013
Designator	Minister of State Development, Infrastructure, Local Government and Planning
DTMR	Department of Transport and Main Roads
DSDILGP	Department of State Development, Infrastructure, Local Government and Planning
DSDSATSIP	Department of Seniors, Disability Services, Aboriginal and Torres Strait Islander Partnerships
Electricity Act	<i>Electricity Act 1994</i> (Qld)
EMR	Environmental Management Register
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
Fisheries Act	<i>Fisheries Act 1994</i> (Qld)
IAR	Initial advice request
kV	Kilovolt
LGA	Local Government Area
MGR	Minister's Guidelines and Rules
MID	Ministerial infrastructure designation
MNES	Matters of national environmental significance
MSES	Matter of state environmental significance
NC Act	<i>Nature Conservation Act 1992</i> (Qld)
PDA	Priority Development Area
Planning Act	<i>Planning Act 2016</i> (Qld)
Planning Regulation	<i>Planning Regulation 2017</i> (Qld)
Powerlink	Powerlink Queensland
SARA	State Assessment Referral Agency
SBRC	South Burnett Regional Council
SBRC Planning Scheme	<i>South Burnett Planning Scheme 2017</i>
SDA	State development area
SDAP	State Development Assessment Provision
SIA	Significant Impact Assessment
SPP	State Planning Policy
VM Act	<i>Vegetation Management Act 1999</i> (Qld)



Abbreviations	Explanation
Water Act	<i>Water Act 2000 (Qld)</i>
WDRC	Western Downs Regional Council
WDRC Planning Scheme	<i>Western Downs Planning Scheme 2017</i>
Wind Farm	Wambo Wind Farm

1 Introduction

1.1 Project overview

Aurecon Australasia Pty Ltd (Aurecon), on behalf of the Queensland Electricity Transmission Corporation Limited (trading as Powerlink Queensland) has prepared this ministerial infrastructure designation (MID) proposal (MID proposal) to the Minister of State Development, Infrastructure, Local Government and Planning (DSDILPG) seeking a MID for a new transmission line between the proposed Diamondy Substation, at the recently approved Wambo Wind Farm, and the existing Halys Substation.

Cubico and Stanwell are establishing a 110 turbine wind farm located approximately 15 km north-east of the town of Jandowae, in the Darling Downs region of Queensland. The Wambo Wind Farm received development approval from the DSDILGP in October 2020, and operation is expected to commence in late 2024.

Powerlink has been engaged by the Wambo Wind Farm proponents (Cubico and Stanwell) to connect the renewable energy facility to the network. The connection works will comprise of a double circuit 275 (kV) high voltage transmission line, commencing at a new substation (Diamondy Substation) to be constructed at the Wambo Wind Farm and tracking east for approximately 47 km, before connecting into Powerlink's existing Halys Substation (the project).

It is important to note that the Diamondy Substation does not form part of this MID.

Powerlink is a Transmission Entity under the *Electricity Act 1994* (Electricity Act), and owns, operates and maintains Queensland's high voltage electricity transmission network. Powerlink's operations are guided by the Electricity Act and the *Electrical Safety Act 2002* (Electrical Safety Act). The Electrical Act sets out the requirements which all electricity industry participants must follow to ensure a safe, efficient and reliable supply of electricity.

The preferred transmission line alignment has been determined through a thorough corridor selection process which identified Powerlink's Tarong-Chinchilla 132 kV transmission line as the preferred project corridor. This was primarily due to the corridor having the least overall level of impact to social / human and natural environmental values, and likely being the most cost-effective and constructible option.

To date, the Project has been through the initial advice, preliminary consultation and endorsement request stages of the MID process. At the time of writing pre-lodgement meetings have been undertaken with the DSDILGP and South Burnett Regional Council (SBRC). Planning advice has also been received from Western Downs Regional Council (WDRC).

1.2 Infrastructure proposed

Schedule 5 of the *Planning Regulation 2017* (Planning Regulation) identifies types of community supporting infrastructure which may be subject to an MID. The project is considered to meet the definition of 'electricity operating works' under Schedule 5, Part 2, Item 7 of the Planning Regulation.

1.3 Structure of MID proposal

Aurecon has prepared this MID proposal to support the request for the project to be designated, and has been prepared in accordance with the Minister's Guidelines and Rules (MGR), Chapter 7 – *Process for environmental assessment and consultation for making or amending a Ministerial infrastructure designation* and is considered to satisfy the requirements of Chapter 2, Part 5 of the *Planning Act 2016* (Planning Act).

This MID proposal is accompanied by the following drawings and supporting information:

- Appendix A - Project Plans
- Appendix B - Initial advice received from DSDILGP
- Appendix C - Transport Assessment
- Appendix D - Visual Impact Assessment Report
- Appendix E - Project Engagement Plan
- Appendix F - Ecological Assessment
- Appendix G - Corridor Selection Report
- Appendix H - SDAP Code Assessment
- Appendix I - Searches

2 Project description

The following section provides a description of the regional context and the summary of the planning and environmental values relevant to the project.

For this MID proposal, the following terms are used in relation to the project:

- Study area refers to an approximate 1 km wide corridor, 500 m either side of the centre line of the proposed transmission line. The study area was identified through the corridor selection process and has informed the environmental assessments undertaken to support this MID proposal.
- Project corridor refers to the proposed 60 m easement which contains the proposed transmission line and associated structures.
- Preferred alignment refers to the proposed transmission line and tower structures.

2.1 Project context

The project corridor traverses both the Western Downs Region and Darling Downs Region and is located approximately 150 km north west of Brisbane. These regions are characterised by predominantly rural land used for farming with some mining and renewable energy activities occurring.

The land immediately surrounding the project corridor is characterised by primarily, rural and agricultural land. The closest townships to the project corridor are Jandowae which is located approximately 18 km to the south west and Kumbia which is located approximately 11 km to the north west.

The project context is illustrated in Figure 2.1.

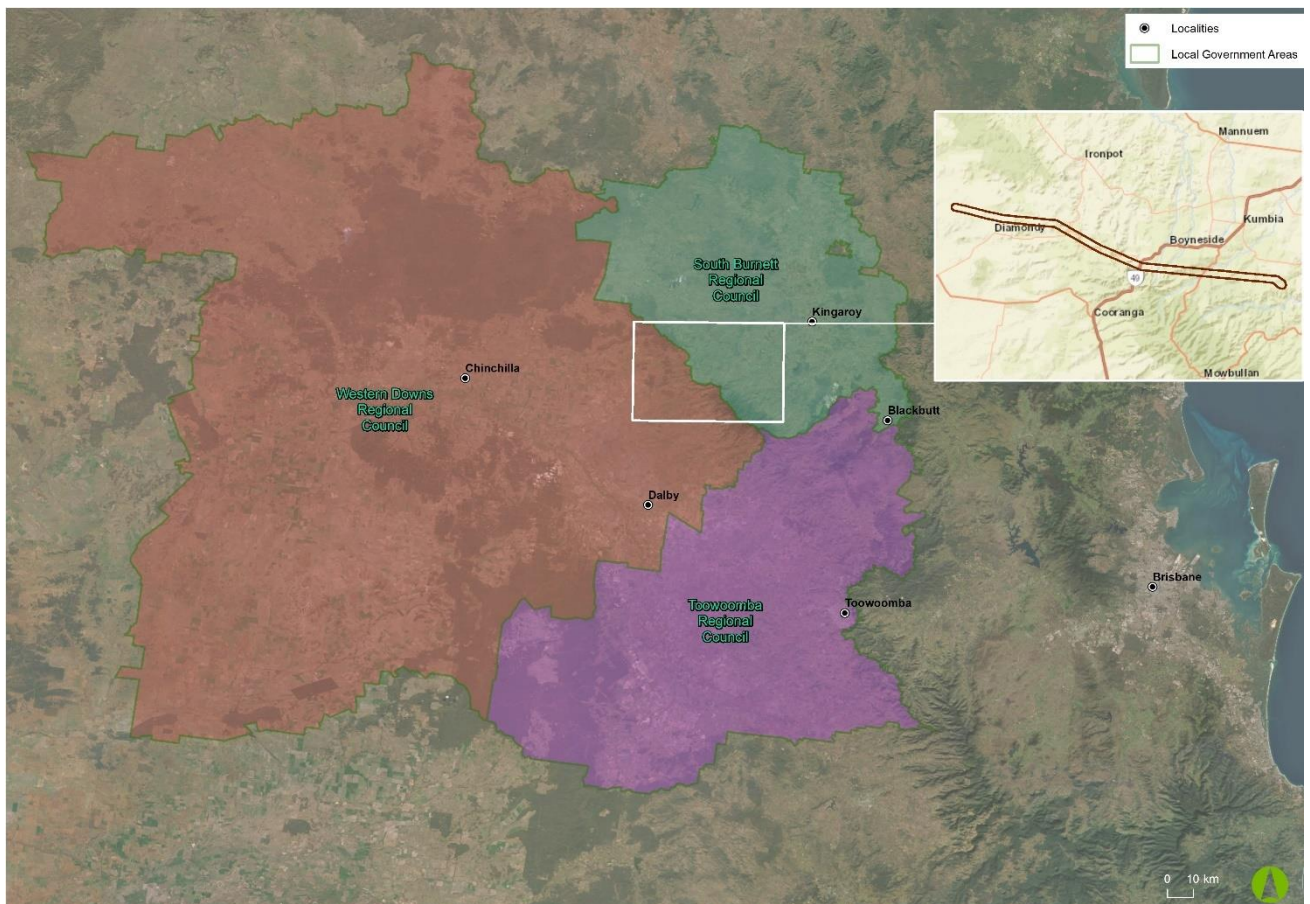


Figure 2.1 Project context

2.2 Project corridor description

As illustrated in Figure 2.2, the project corridor extends approximately 47 km between the proposed Diamondy Substation, located at the proposed Wambo Wind Farm, and the existing Halys Substation. The project corridor includes a 60 m wide easement which will provide Powerlink with a right of way, allowing for the transmission line to be built, operated and maintained.

The project corridor intersects two local government areas (LGA), being Western Downs Regional Council (WDRC) and South Burnett Regional Council (SBRC).

For approximately 45 km the project corridor will utilise the existing 132 kV Tarong-Chinchilla transmission line. To accommodate the new transmission line the existing easement will be widened by 10 m to allow for the 60 m easement required for the project. At Ellesmere Road, the project corridor diverts south of the Tarong-Chinchilla transmission line easement for 2 kms, prior to reaching the Halys Substation.

For approximately 2 km in the central portion, the project corridor runs parallel to the existing interconnection to the National Grid, Bulli Creek 500kV Substation and 500V Substation transmission line which is subject to a MID (ID reference 40). The southern portion of the project corridor runs parallel to the existing 275 kV Calvale to Tarong transmission line for approximately 13 km. The Calvale to Tarong transmission line is also subject to a MID (ID reference 38).

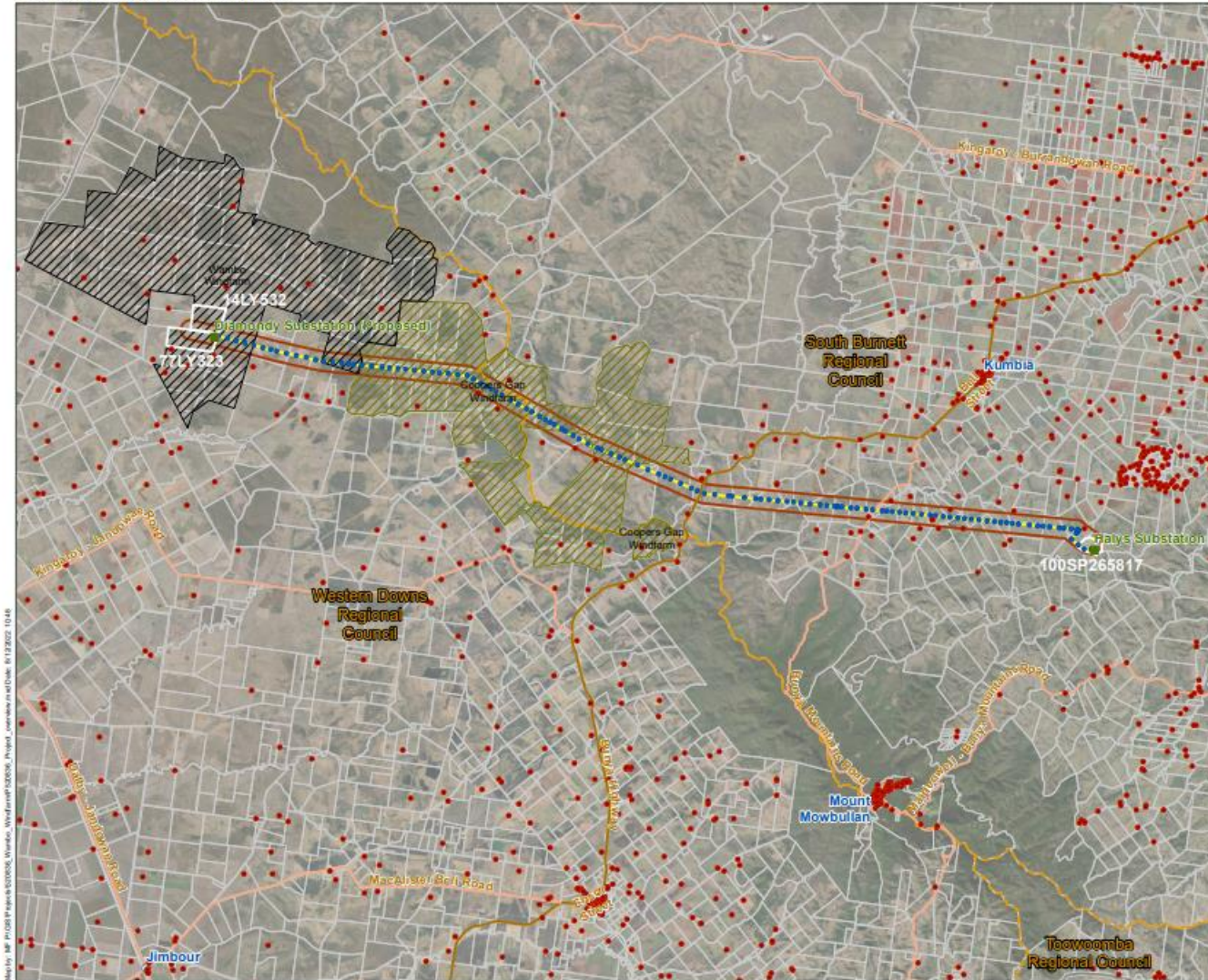
The project corridor traverses 42 freehold land parcels held by 33 land owners.

The project corridor will traverse agricultural land used for predominantly grazing purposes, however, some cropping activities are present. As illustrated in Figure 2.2, the project corridor traverses the existing Coopers Gap Wind Farm. The project corridor achieves sufficient separation distances between existing turbines to avoid potential damage from toppling and downwind wake effects.

As illustrated in Figure 2.2, there are multiple existing sensitive land uses (residential dwellings) located within the study area and within 500 m of the transmission line. The closest residential dwelling is setback approximately 200 m from the project corridor.


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- Legend**
- Sensitive receptors (dwelling houses)
 - Locality
 - Substations
 - Tower structures
 - Highway
 - Secondary Road
 - Cadastre
 - Cadastre
 - ▨ Coopers Gap Windfarm
 - ▩ Wambo Windfarm
 - ▭ Local_Government_Areas
 - ▭ Project corridor
 - ▭ Study area

Date: 8/12/2022 Version: 0


A3 scale: 1:200,000
Job No: 520836


Projection: MGA Zone 56

Powerlink Wambo transmission line

Figure 2.2: Project corridor overview

Figure 2.2 Project corridor overview

Table 2.1 provides a summary of environmental considerations that affect the project corridor. The key environmental considerations are also illustrated in Figure 2.3.

Table 2.1 Environmental considerations

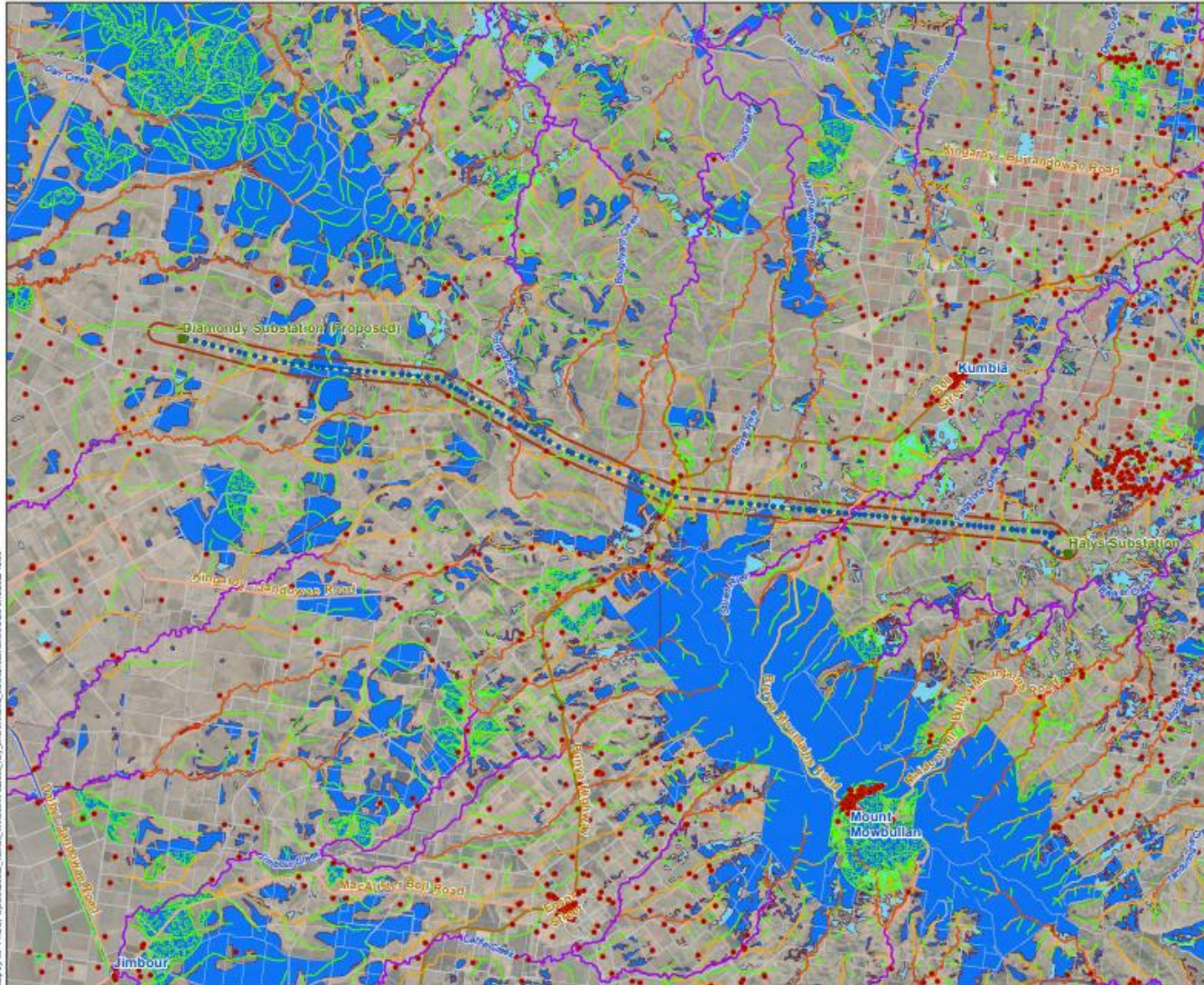
Description	Details
Topography	The land within the project corridor undulates significantly between 440 m Australian height datum (AHD), and 700 m AHD. The topography of the land will not require significant alterations for the project to be constructed.
Watercourses	The project corridor intersects four defined watercourses under the <i>Water Act 2000</i> (Water Act), namely: <ul style="list-style-type: none"> ■ Ironpot Creek ■ Boyne River ■ Stuart River ■ Flagstone Creek The project corridor also intersects a significant number of drainage features and unmapped watercourses recognised under the Water Act.
Waterways	The project corridor intersects multiple waterways for waterways barrier works under the <i>Fisheries Act 1994</i> (Fisheries Act) according to the Department of Agriculture and Fisheries (DAF) mapping, including: <ul style="list-style-type: none"> ■ One major (purple) mapped waterway, which aligns with Stuart River ■ Five high (red) mapped waterways, three of which align with Flagstone Creek, Boyne River, and Ironpot Creek. ■ Multiple moderate (orange) and low (green) waterways.
Vegetation	The project corridor intersects multiple areas containing regulated vegetation mapped as Category B, C and R under the <i>Vegetation Management Act 1999</i> (VM Act). The project corridor intersects multiple areas mapped as 'high-risk areas' for protected plants under the <i>Nature Conservation Act 1992</i> (NC Act).
Matters of state environmental significance (MSES)	The project corridor is mapped as containing the following MSES: <ul style="list-style-type: none"> ■ Regulated vegetation (defined watercourse) ■ Category B vegetation (endangered or of concern) ■ Category C vegetation (endangered or of concern) ■ Category R (Great Barrier Reef riverine (GBR))
Acid sulfate soils	A review of the Australian Soil Resource Information System (ASRIS) indicates that the project corridor traverses land that is considered having a low probability of Acid sulfate soil (ASS) occurrence, or extremely low probability of ASS occurrence.
Soils and geology	The project corridor is primarily underlaid by Early-Middle Jurassic-aged arenite, however, other lithologies include, Arenite-Mudrock, Alluvium and colluvium. The main soil units within the project corridor include black self-mulching cracking clays with areas of hard acidic yellow mottled soils and a small area of red smooth-ped earths. The project corridor is subject to several soil types mainly vertosols, and sodosol, which are considered more susceptible to erosion due to their dispersive nature.
Contaminated land	A search of the Queensland Government environmental management (EMR) and contaminated land registers (CLR) determined that no lots within the project corridor are listed on the EMR or CLR. A copy of the EMR and CLR searches is provided in Appendix I. Review of the site history information available on the Queensland Globe indicates that land use has been predominantly grazing on native vegetation and cropping with the exception of the most eastern point of the alignment, which is mapped as utilities. See further discussion on contaminated land in Section 6.13.

Table 2.2 describes the existing infrastructure relevant to the project corridor.

Table 2.2 Existing infrastructure

Description	Details
Road	<p>The project corridor intersects two state-controlled roads:</p> <ul style="list-style-type: none"> ■ Bunya Highway ■ Bunya Mountains Road <p>The project corridor intersects a significant number of local roads.</p>
Water	<p>The project has no need for a town water connection. It is assumed that potable water will be imported into the project area during construction, however, this is to be confirmed during detailed design.</p>
Rail	<p>The project corridor does not intersect any existing, under construction, or future rail corridors.</p>

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Legend

- Sensitive receptors (dwelling houses)
- ⊙ Locality
- Substations
- Tower structures
- Highway
- Secondary Road
- Waterways for barrier works**
- 1
- 2
- 3
- 4
- Watercourses
- Cadastre
- Flora Survey Trigger Map
- Project corridor
- Study area
- Regulated vegetation**
- Category A area
- Category B area
- Category C area

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0 1 2 3 4 5 km

Job No: 520836
Projection: MGA Zone 56

Powerlink Wambo transmission line
Figure 2.3: Key environmental considerations

Figure 2.3 Key environmental considerations

2.3 Development approval history

There are two (2) relevant development approvals from the State Assessment and Referral Agency (SARA) and two (2) MIDs applicable to the project corridor.

A search of the WDRC and SBRC planning decision databases did not identify any relevant development applications or decisions in relation to the project corridor.

Table 2.3 Development history

Reference	Summary	Status	Relevance to the Project
MID reference 40 - Decision gazetted 24/03/2000.	Interconnection to the National Grid, Bulli Creek 500kV Substation & 500V Substation	Constructed	The central portion of the project corridor runs parallel to this transmission line for 2 km.
MID reference 38 - Decision gazetted 24/03/2000.	Calvale to Tarong 275kV transmission line and Auburn Creek 275kV substation	Constructed	The southern portion of the project corridor runs parallel to this transmission line for approximately 13 km.
SDA -0317-038139	Development Permit for Material Change of Use – Wind Farm (up to 115 turbines) (Coopers Gap Wind Farm)	Constructed	The proposed transmission line corridor intersects the existing Coopers Gap Wind Farm.
2007-17946 SDA	Development Permit for Material Change of Use – Wind Farm (up to 110 turbines, and ancillary buildings and infrastructure) (Wambo Wind Farm)	Approved	The proposed transmission line will facilitate a grid connection for the Wambo Wind Farm.

3 Development detail

3.1 Transmission line

The project proposes the construction of a new 275 kV high voltage transmission line which extends approximately 47 km between the proposed Diamondy Substation, at the proposed Wambo Wind Farm, and the existing Halys Substation. The preferred alignment will utilise the existing Tarong-Chinchilla transmission easement for approximately 45 km and will result in a widening of the existing easement by 10 m, from 50 m to 60 m. At Ellesmere Road, the project corridor diverts south of the Tarong-Chinchilla transmission line easement for 2 kms, prior to reaching the Halys Substation.

Project plans are provided in Appendix A.

3.1.1 Aerial structures

Support structures are required to keep the high voltage conductors separate from each other and provide appropriate clearance from the ground and other obstacles. The requirements for minimum clearance between energised conductors and obstacles are specified in the *Electricity Safety Regulation 2014* (Electrical Safety Regulation).

The towers are fabricated from galvanised steel angle sections and steel plate and will be assembled onsite. Individual foundations support the four legs of the tower.

The distance or span between structures and clearance to ground has been determined based on multiple factors including, topography, average temperatures, sensitive environmental areas, clearance requirements and structure load limits. Where possible, the new tower structures will be in proximity to the existing Tarong-Chinchilla towers.

Structure duties

There are two specific duties of structures which is suspension and tension. Suspension structures are used where the transmission line follows a straight line or has a very small deviation angle (up to 2 degrees). They are designed to carry the weight (vertical load) of the conductors and transverse (horizontal) load from wind on the conductors. Features of the suspension structures are relatively light construction, with cross-arms on each side of the upper part of the structure and insulator strings supporting the conductors.

Tension structures are characterised by a 'heavier' appearance due to the larger steel section sizes and the conductors 'terminated' onto the cross-arms using insulators in a near horizontal orientation. Tension structures are designed to carry the weight (vertical load) of the conductors, and transverse (horizontal) load from wind on the conductors and conductor and earth wire tension loads. Tension structures are required at all changes in direction of the line greater than two degrees or where termination sites have been predetermined to facilitate line construction and operation.

Figure 3.1 illustrates the existing tower structures and the new suspension and tension structures to be installed as part of the project. Where possible the new tower structures will be located in the same location or adjoining the existing towers to reduce the environmental and visual impacts.

Conductors, earth wires, insulators and fittings

For single circuit configuration, each tower structure will support six individual conductors, configured as three twin conductors and two small diameter earth wires.

Overhead earth wires will be installed to protect conductors from direct lightning strikes and safely dissipate earth fault currents and are also used as a support for optical fibre cables for communication purposes.

Insulators are used to provide a connection between conductors and structures and to provide electrical insulation between the high voltage electricity and the (earthed) structure. The length of insulators in a string is determined by line voltage, clearance requirements and environmental considerations.

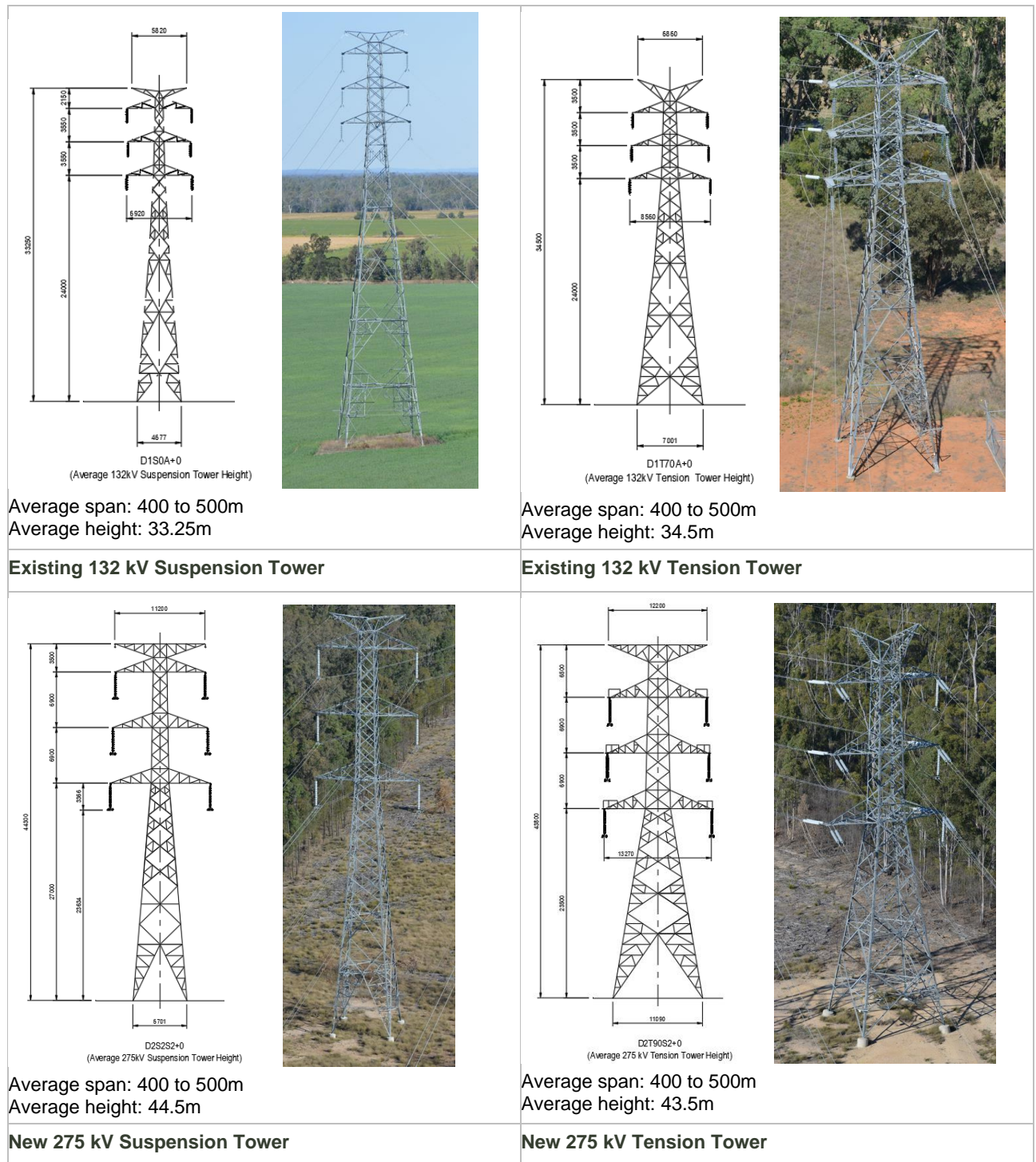


Figure 3.1 Comparison of existing and new towers

Source: Powerlink

3.2 Construction methodology

3.2.1 Indicative timeline

The project's construction activities are expected to run from May 2023 to August 2024 (15 months). This timeline accounts for the following elements:

- Decommissioning of the existing 132 kV line will occur from May 2023 to July 2023
- Clearing and access works to the new 275 kV line will occur from August to November 2023
- The preparation of foundations will occur from August 2023 to January 2024
- Assembling and erecting transmission towers will occur from November 2023 to April 2024
- Stringing cables will occur from February 2024 to July 2024

Construction is to be undertaken using a rolling roster, three (3) weeks on and one (1) week off with every second Sunday off. Work periods will be 10 hours a day with prestart at site offices at 6.30 am and concluding at 5.00 pm.

3.2.2 Construction activities

The following section provides a description of the broad construction activities which will be required for the project. All construction activities will be carried out in accordance with a construction environmental management plan (CEMP) to ensure impacts to the environment are appropriately managed.

Vegetation clearing

Vegetation clearing of the project corridor will be required to meet Powerlink’s safety, reliability and operational requirements for the transmission line. In non-sensitive areas, the most effective and efficient clearing method for large scale clearing is by bulldozer, often fitted with a ‘stick rake’ or ‘tree spear’ to push over larger trees or use a mega-mulcher. In sensitive areas, such as steep terrain, watercourses or environmentally sensitive areas, alternative methods of clearing such as hand clearing (chainsaw) or the use of a fella bunch may be appropriate.

The clearing of vegetation will be carried out in accordance with the requirements specified in an environmental management plan.

Earthworks and foundations

Concrete foundations will be created by cutting the pad and excavating below to create the foundations (Figure 3.2). Reinforcements will be lowered into the ground, formwork installed, then concrete poured and cured. Concrete is expected to be sourced from local concrete batching plants. A typical construction footprint of 40 m x 40 m will be required for each transmission line tower.



Earthworks



Foundations

Figure 3.2 Foundations

Source: Powerlink

Facilities

Necessary facilities such as gates, grids and clean down bays will be installed. The area will be cleared and built up to the required level.

Structure assembly and erection

Steel will be delivered to the project corridor and brought as close as possible to the pads on flatbeds/low loaders. As illustrated in Figure 3.3, tower structures will be assembled in sections by riggers, then lifted into place with a crane (110-180T Roughies). While each section is suspended in the air by cranes, the crew will climb up the existing towers or access the outer parts using an elevated work platform. They will pin the steel and install the rest of the bolts to tension.



Figure 3.3 Assembly

Source: Powerlink

Conductor and earth wire stringing

As illustrated in Figure 3.4, conductor and earth wire stringing may utilise a drone or a helicopter. Without a helicopter, stringing will occur with the use of an elevated work platform.



Figure 3.4 Helicopter stringing

Source: Powerlink

Laydown areas

Laydown and staging area requirements will be determined by the project contractor however, it is anticipated that these will be located within the project corridor. If laydown areas are required outside the project corridor, additional planning, environmental and cultural heritage approvals will be sought.

Access

Heavy vehicle access to the transmission line is required during the construction and for ongoing operation and maintenance. Construction vehicles will utilise existing public roads and access tracks associated with the existing Tarong-Chinchilla transmission line. In some locations minimal vegetation clearing and road widening may be required to accommodate construction vehicles.

Site reinstatement

Reinstatement will be undertaken progressively during construction, and Powerlink will ensure that all disturbed areas impacted from construction are reinstated at the end of the project.

3.3 Workforce

The project is expected to require between 100 and 110 full time equivalent employees during peak periods of construction. Workers will be provided an allowance to find private accommodation in the local area, either in or near the township of Bell. Workers will travel to the site daily in private vehicles or shuttle busses may be used if necessary.

3.4 Operation

Once the construction and commissioning of the project is completed, the amount of activity required during operation will decrease substantially. During operation, normal practice will involve maintenance staff to carrying out scheduled inspections of the line, easement and access tracks every two to four years, depending on the risk of vegetation growth. Typically, inspections will be undertaken either by vehicle or helicopter. Additional inspections may also be required to perform activities such as emergency repairs.

3.5 Decommissioning

Typically, a transmission line has a 50 year operational life. After this time the line may be replaced or if no longer required, dismantled and the easements may be surrendered to the property owner.

Prior to the decommissioning of the transmission line, a Decommissioning Management Plan measures will be prepared which provides detail regarding the proposed decommissioning works, environmental risks associated with decommissioning, management and mitigation.

4 Project background

4.1 Project need

In September 2022, the Queensland Government released The Queensland Energy and Jobs Plan (Energy Plan) which outlines how the State will achieve its renewable energy targets and ensure sustainable and affordable energy for future Queenslanders. Specifically, the Energy Plan sets out a 70% target for renewable energy production by 2032.

Powerlink supports the Energy Plan to deliver an orderly power system transformation, maximising reliability and cost effectiveness while avoiding market volatility as renewable energy generation increases. Delays in the delivery or insufficient transmission capacity will:

- Risk new generation investment being constrained
- Result in higher losses and marginal loss factors
- Lead to underutilised deep storage assets

To ensure that Queensland can transition to renewable energy supply and meet the State's renewable energy targets, it is critical that Powerlink is able to efficiently deliver transmission line infrastructure such as this project.

The project will connect the Wambo Wind Farm to the national electricity grid and therefore assist in reaching the target of 70% renewable energy by 2032. Once fully operational the Wambo Wind Farm will produce enough clean energy to power approximately 170,500 houses annually and prevent the emission of more than 1.1 million tonnes of carbon dioxide into the atmosphere each year.

The project provides a range of social, economic and environmental benefits including:

- Supporting the operation of a major renewable energy project (Wambo Wind Farm)
- Supporting both the State and Commonwealth renewable energy targets
- The creation of jobs during the construction and ongoing operation.

4.2 Corridor selection process

To determine the most feasible transmission line route, an options assessment was undertaken by WSP (2022) to investigate corridors that could accommodate the potential transmission line between the proposed Diamondy Substation at the Wambo Wind Farm and Powerlink's Halys Substation. The following corridors were identified as aligning most favourably to the objectives of this project:

- Option A: Tarong-Chinchilla Corridor
- Option B: Southern Greenfield – Tarong-Chinchilla corridor
- Option C: Northern Greenfield Corridor

Following the identification of these transmission line routes, a comparative analysis was conducted to identify which of the three options would be the most suitable. This was achieved using a multi-criteria analysis (MCA) where options were ranked based on compliance to social, natural, physical, and engineering criteria.

The Tarong-Chinchilla corridor was deemed the most appropriate as it ranked the highest amongst the three options. Considering the preferred alignment would almost entirely be contained within the existing Tarong-Chinchilla easement the impact on social and natural environments is reduced. The relative directness of the transmission line ensures a greater cost efficiency as opposed to the other lengthier options.

4.3 Ministerial infrastructure designation process

The process for making or amending an infrastructure designation is outlined in the MGR and illustrated in Figure 4.1.



Figure 4.1 Current MID phase

4.4 Initial advice

Initial advice was received from DSDILGP on 24 December 2021 (refer Appendix B) with respect to the proposed development.

The key issues raised by DSDILGP included agriculture, amenity, biodiversity, bushfire, external works, flooding, State transport infrastructure and traffic. DSDILGP also outlined six (6) recommended technical reports to be included in preparation of the MID proposal.

A summary of matters raised, and the proponent’s response is Table 4.1.

Table 4.1 Summary of response to initial advice

Department’s issues raised	Proponent’s response
The MID proposal should address potential impacts to agricultural land and provide management/mitigation measures where necessary.	The majority of the project corridor will utilise an existing 50 m transmission line easement which will be extended by 10 m to accommodate the project. As discussed in Section 2.2, the project corridor predominantly traverses land used for grazing purposes, however, some cropping activities are present. The project will lead to a minor and temporary reduction in grazing land during construction, however, once operational, limited impacts are anticipated as livestock will be able to enter the corridor. Tower locations have been appropriately setback from cropping land and as such the project will not lead to a reduction in cropping land.
The MID proposal should be supported by a Visual Impact Assessment, an Electromagnetic Interference assessment, and an assessment of general amenity impacts.	This MID proposal is supported by a Visual Impact Assessment Report (Appendix D). Powerlink has undertaken an electro magnetic interference assessment and the key findings are discussed in Section 6.9.
The MID proposal should be supported by an Ecological Assessment that assesses the impacts of and recommends measures that mitigate any environmental impacts. Where mitigation measures are proposed, the Ecological Assessment should clearly demonstrate that impacts to MSES have first been avoided and minimised.	An Ecological Assessment Report had been prepared and is provided in Appendix F.

Department's issues raised	Proponent's response
<p>The MID proposal should also provide details on any new/upgraded crossings of waterways providing for fish passage. Should these components constitute waterway barrier works, the Ecological Assessment should address any impacts to fish passage and provide adequate mitigation measures. Plans for any waterway barrier works should be provided, or confirmation that any barriers proposed can meet the Accepted Development Requirement for Waterway Barrier Works.</p>	<p>The project will utilise existing waterway crossings and where waterway barrier works is required it is anticipated that these works can be undertaken in accordance with the Accepted Development Requirements for Waterway Barrier Works.</p>
<p>If warranted, the MID proposal should be supported by a Bushfire Management Plan that assesses bushfire risk and recommends mitigation measures.</p>	<p>A Bushfire Management Plan has not been prepared at this stage, however, a high level assessment and potential mitigation measures are provided in Section 6.6. A Bushfire Management Plan will be prepared prior to the commencement of works.</p>
<p>The MID proposal should be supported a Hydrology Report to ensure the proposed development can be protected from flooding impacts and to demonstrate that the development will not increase risk to natural hazard.</p>	<p>Section 6.5 of this report provides a high level assessment of hydrological impacts of the project. As the tower structures proposed by the project will predominately be located in the same location as the towers being removed it is considered that the risk of flooding impacts on the project is low. A detailed hydrology report and a stormwater management plan will be prepared prior to the commencement of works.</p>
<p>The MID proposal should address the State transport infrastructure and confirm that any potential impacts to and from the State-controlled road, including traffic, noise and stormwater are adequately mitigated.</p>	<p>A Transport Assessment is provided in Appendix C and outlined in Section 6.7.</p>
<p>The MID proposal should be supported by a Traffic Impact Assessment (TIA) to evaluate the proposal's impact (particularly during construction) on the safety and efficiency of the road network and recommend any necessary mitigation measures for impacts resulting from the proposed development.</p>	<p>A Transport Assessment is provided Appendix C and outlined in Section 6.7.</p>
<p>Preliminary stakeholder engagement should include, but not be limited to, consultation with the council, Native Title and/or Aboriginal or Torres Strait Islander party/parties for the area, letters to local, state and federal members and a letter box drop to the adjoining properties identified as 'adjacent properties' on the submitted 'Halys Wambo Area Strip Map'. Any preliminary stakeholder engagement material should describe and illustrate the proposal and provide 10 business days for comment. Please provide draft material to DSDILGP for review prior to commencing preliminary stakeholder engagement.</p>	<p>The consultation activities which have been undertaken to date and will be undertaken as part of the public consultation process is outlined in Section 7.</p>

4.5 Endorsement request

A request to endorse the MID and the project was made in late November 2022 and endorsement received from DSDILGP on 13 December 2022.

5 Regulatory framework

5.1 State planning framework

5.1.1 Planning Act 2016

The Planning Act is the principal piece of legislation in the Queensland planning system, and aims to provide an “efficient, effective, transparent, integrated, coordinated, and accountable system of land use planning, development assessment and related matters that facilitates the achievement of ecological sustainability” (Planning Act, Section 3, Subsection 1). Section 36 of the Planning Act provides the criteria that must be met to make or amend a MID.

Table 5.1 illustrates the Project’s compliance with Section 36 of the Planning Act.

Table 5.1 Compliance with Planning Act, Section 36

Criteria (Planning Act s.36)		Project compliance
(1)	To make a designation, a designator must be satisfied that –	Complies The project proposes the construction of electricity supply infrastructure required to connect the proposed Wambo Wind Farm to the grid. As such, it is considered that the project will satisfy statutory requirements for the supply of infrastructure.
	(a) The infrastructure will satisfy statutory requirements, or budgetary requirements for the supply of infrastructure; or	
	(b) there is or will be a need for the efficient and timely supply of the infrastructure.	Complies The project proposes the construction of electricity supply infrastructure required to connect the proposed Wambo Wind Farm to the grid. It is anticipated that the Wambo Wind Farm will be operational in late 2024, as such there is a timely need for the efficient and timely supply of the project.
(2)	To make or amend a designation, if the designator is the Minister, the Minister must also be satisfied that adequate environmental assessment, including adequate consultation has been carried out in relation to the development that is the subject of the designation or amendment.	Complies An assessment of the relevant environmental, social and economic considerations has been provided in Section 6 of this MID proposal. The project has already undertaken extensive stakeholder and community consultation (refer Section 7 for the details). Consultation with the stakeholders identified in Section 7 will be carried out over the 20-business day period that is required by DSDILGP.
(3)	The Minister may, in guidelines prescribed by regulation, set out the process for the full environmental assessment and consultation.	Complies This MID proposal has been prepared in accordance with the provisions of Chapter 7 of the MGR.
(4)	The minister is taken to be satisfied of the matters in Subsection (2) if the process in the guidelines is followed.	Complies This MID proposal, has been prepared in accordance with the provisions of Chapter 7 of the MGR.
(5)	However, the Minister may be satisfied of the matters in another way.	Complies The project will facilitate electricity connection to the Wambo Wind Farm which will deliver renewable energy to the national electricity grid and contribute to the Queensland Government’s renewable energy generation target of 70% by 2032, helping the State transition to a low carbon emissions future.
(6)	Sections 10 and 11 apply to the making or amending of the guidelines as if the guidelines were a State planning policy.	Not applicable Making or amending guidelines is not relevant to this project.

Criteria (Planning Act s.36)		Project compliance
(7)	(a) All planning instruments that relate to the premises; and	Complies The project has been assessed against all relevant State, regional, and local planning and environmental statutory and regulatory instruments (refer Section 5 of this MID proposal).
	(b) Any assessment benchmarks, other than in planning instruments that relate to the development that is the subject of the designation or amendment; and	Not applicable No other assessment benchmarks have been identified as relevant to the proposed transmission line.
	(c) If the premises are in a State Development Area under the State Development Act – any approved development scheme for the premises under that Act; and	Not applicable The project corridor is not located within a State Development Area (SDA).
	(d) If the premises are in a priority development area under the <i>Economic Development Act 2012</i> – any development scheme for the priority development area under that Act; and	Complies The project corridor is not located within a priority development area (PDA).
	(e) Any properly made submissions made as part of the consultation carried out under Section 37 [of the Planning Act]; and	Complies All properly made submissions will be considered as part of the finalisation of the proposed designation.
	(f) The written submissions of any local government.	Complies Both WDRC and SBRC have been identified as key stakeholders (refer Section 7 of this MID proposal). All submissions from both LGAs will be considered both in the preparation of the MID, and in the finalisation of the design. A pre-lodgement meeting was held SBRC and pre-lodgement advice has been received from WDRC. Key issues raised by both Councils predominantly related to potential project impacts to stock routes and local roads.

Effect of designation made

Chapter 3, Part 1, Section 44 of the Planning Act defines three categories of development, including:

- Prohibited development: Development for which an application is unable to be made.
- Assessable development: Development for which a development approval is required.
- Accepted development: Development for which development approval is not required.

Regarding the designation of land for infrastructure, this section states:

(6) (b) *development in relation to infrastructure under a designation is—*

(ii) *to the extent the development is building work under the Building Act—the category of development sated for the building work under a regulation; or*

(iii) *otherwise—accepted development.*

Given the above, the effect of the MID is that the use of the corridor for the infrastructure described is accepted development and therefore not subject to further development approvals under the Planning Act.

5.1.2 Description under the Planning Regulation 2017

The Planning Regulation is subordinate to the Planning Act and provides guidance on the type of infrastructure that are eligible for designation. Specifically, Schedule 5 of the Planning Regulation identifies types of infrastructure which may be subject to a designation. Schedule 5, Part 2, Item 7 identifies 'electricity operating works' as a type of infrastructure which may be subject to an MID.

Electricity operating works is defined under Section 12(3) of the Electricity Act and includes:

(3) *Operating works are—*

(b) *for a transmission entity—the transmission grid and other property used for operating or managing the transmission grid.*

Powerlink is a transmission entity as defined under Part 4, Section 29 of the Electricity Act and as the project is for the construction of transmission line infrastructure it is considered that the project is consistent with the definition of 'electricity operating works'.

5.1.3 Other applicable state legislation

Acquisition of land Act 1967

The *Acquisition of Land Act 1967* (AL Act) enables the compulsory or voluntary acquisition of freehold land for a public purpose by a constructing authority in Queensland. Schedule 2 of the AL Act defines a construction authority as being the State, a local government or a person authorised by an act to take land for any purpose. Powerlink is identified as a construction authority under the Electricity Act.

Whilst Powerlink has powers to acquire or register an easement by compulsory means, they will make all reasonable attempts to reach voluntary agreement for the easements required for the project.

Electricity Act 1994

The Electricity Act is the principal legislation governing Queensland's electricity industry. It provides the framework for all electricity industry participants to follow to ensure the efficient, economically and environmentally sound supply and use of electricity.

Under Section 31 of the Electricity Act, Powerlink is required to properly account for the environmental effects of its activities under the transmission authority.

Requirements for construction and operation of the electricity network are set out under the Electricity Act and subordinate legislation including the *Electricity Regulation 2006*. Under Section 101 of the Electricity Act, a number of activities relating to the construction and operation of electricity infrastructure are exempt from approval. In particular, the clearing of native vegetation on freehold land is exempt if the clearing is for operating works for a transmission line entity on land subject of a designation for operating works under the Planning Act.

Electricity Safety Act 2002

The Electrical Safety Act seeks to prevent through regulation, the death, injury and destruction that can be caused by electricity. The project has been designed in compliance with the requirements outlined in the Electricity Safety Act which are standard practices for Powerlink.

5.1.4 State planning policy

The State Planning Policy (SPP) aims to ensure Queensland's interests are protected and represented in land use planning and development. The SPP identifies 17 State interests across five broad themes. The State interests are supported by the SPP interactive mapping system.

When making or amending a designation, the Minister of DSDILGP must have regard to the relevant parts of the SPP. An assessment of the relevant parts of the SPP is provided in the following sections.

Part C – Purpose and Guiding Principles of the Assessment

Table 5.2 provides an assessment against Table 1: Guiding principles contained within *Part C – Purpose and Guiding Principles of the SPP* as it applies to the project.

Table 5.2 Project assessment against SPP Table 1: Guiding principles

<p>Outcome focussed</p>
<p>Clearly focus on the delivery of outcomes</p> <ul style="list-style-type: none"> ■ <i>Plans and development outcomes integrate and balance the economic, environmental and social needs of current and future generations in order to achieve ecological sustainability</i> ■ <i>Plans express clear performance outcomes for development, supported by a range of acceptable outcomes, where possible.</i> ■ <i>Innovative and flexible approaches to design and development are supported and encouraged when consistent with a plan's strategic intent.</i> ■ <i>Decision making ensures that, where acceptable, when outcomes are satisfied by development, then the relevant performance outcome is taken to be satisfied in full. Performance outcomes may still be satisfied, even though an associated acceptable outcome is not met</i> ■ <i>Plans and development outcomes support stated objectives, needs and aspirations of the community at the state, regional and local level.</i>
<p>Assessment</p> <p>The project will facilitate electricity connection to the Wambo Wind Farm which will deliver renewable energy to the national electricity grid and contribute to the Queensland Government's renewable energy generation target of 70% by 2032.</p> <p>The project's direct and indirect impacts on environmental and community values have been a key consideration of the corridor selection process and will be minimised through the use of an existing transmission line corridor. Whilst it is acknowledged that the project may have additional impacts, including the disturbance of vegetation it is considered that these impacts have been appropriately minimised and mitigated.</p>
<p>Integrated</p>
<p>Reinforce the role of local planning schemes as the integrated, comprehensive statement of land use policy and development intentions for a local area</p> <ul style="list-style-type: none"> ■ <i>Plans coordinate and integrate land use policy for a local area by considering:</i> <ul style="list-style-type: none"> ■ <i>international agreements, such as the UNESCO world heritage listing of the Great Barrier Reef and Ramsar Convention</i> ■ <i>national, state, regional and local matters, to the extent relevant.</i> ■ <i>Plans integrate land use, resource management and infrastructure need and considerations.</i> ■ <i>Plans support a 15 year supply of land for development.</i> ■ <i>The zoning of land reflects and responds to the characteristics of the land that constrain its use.</i> ■ <i>Overlays should be compatible with and not operate either individually or cumulatively to prevent or restrict land from being used for the purpose for which it has been zoned.</i> <p><i>Plans include a performance-based assessment of development against a clear hierarchy of policies linked to the achievement of realistic and long-term strategic planning.</i></p>
<p>Assessment</p> <p>The project corridor is predominantly zoned as Rural under the WDRC and SBRC planning schemes, except for a small portion of the corridor that intersects land zoned as Community Facilities at the eastern most point of the corridor (where the transmission line will connect to Halys Substation). As outlined in Section 5.3, it is considered that the project is consistent with the overall outcomes of the relevant zone codes. Both WDRC and SBRC have been actively engaged as part of the planning process and pre-lodgement advice has been considered as part of the project corridor selection process.</p> <p>The majority of the project corridor will be located within an existing 50 m transmission line easement. As discussed in Section 2.2, the project corridor predominantly traverses land used for grazing purposes, however, some cropping activities are present. The project will lead to a minor and temporary reduction in grazing land during construction, however, once operational limited impacts are anticipated as livestock will be able to enter the corridor.</p> <p>Tower locations have been appropriately setback from cropping land and as such the project will not lead to a reduction in cropping land.</p>

Enable positive responses to change, challenges and opportunities

- Contemporary information, challenges and community need and aspirations are reflected through up-to-date plans.
- Evidence and objectively assessed needs form a basis for planning that uses the best available knowledge.
- Plans are written using clear, concise and positive language to describe what outcomes are sought, required or encouraged in a particular location, rather than what is to be avoided, prevented or discouraged.
- Community health and wellbeing, and resilience and adaptability to change (including economic change, social change, and climate change adaptation and mitigation), are promoted in plans and development outcomes.
- Plans adopt a performance-based approach to development assessment to allow for innovation and flexibility in how development in a local area can be achieved.

Plans are drafted to ensure that development is assessed on its individual merits.

Assessment – Not applicable

The proposal is for a MID, not for a local government plan making.

Accountable

Promote confidence in the planning system through plans and decisions that are transparent and accountable

- Plans and development outcomes reflect balanced community views and aspirations based on a clear understanding of the importance of the community’s involvement in plan making.
- Plans resolve competing state and local interests through using an evidence-based approach, which balances community needs, views and aspirations.
- Reasonable, logical and fair development decisions are supported by clear and transparent planning schemes.
- Plans only seek to regulate land use and planning outcomes and do not address matters regulated outside of the planning system, for instance building work regulated under the Building Act 1975 (unless permitted).
- Obtaining access to planning information is simple and direct, capitalising on opportunities presented by information technology

Assessment – Not applicable

The proposal is for a MID, not for local government plan making.

State interests

Based on the SPP interactive mapping, Table 5.3 identifies the State interests contained in the SPP that are relevant to the assessment of this MID.

Table 5.3 State interests relevant to the project

State Planning Policy Interests	Applicability
Living Communities and Housing	
Housing Supply and Diversity	Not applicable
Liveable Communities	Not applicable
Economic Growth	
Agriculture	Applicable
Development and Construction	Not Applicable
Mining and Extractive Resources	Not applicable
Tourism	Not applicable
Environment and Heritage	
Biodiversity	Applicable
Coastal Environment	Not applicable
Cultural Heritage	Applicable
Water Quality	Applicable
Safety and Resilience to Hazards	
Emissions and Hazardous Activities	Applicable
Natural Hazards Risk and Resilience	Applicable

State Planning Policy Interests	Applicability
Infrastructure	
Energy and Water Supply	Applicable
Infrastructure Integration	Applicable
Transport Infrastructure	Applicable
Strategic Airports and Aviation Facilities	Not applicable
Strategic Ports	Not applicable

An assessment against the applicable elements of the SPP is undertaken below.

Economic growth

Agriculture

The purpose of this State interest is to ensure that “resources that agriculture depend on are protected to support the long-term viability and growth of the agricultural sector.”

The project will traverse land that is currently a part of agricultural properties. However, the project corridor will utilise an existing easement and as such have minimal impacts on the existing agricultural and grazing activities.

Table 5.4 Assessment of Project against SPP Agriculture assessment benchmarks

SPP assessment benchmarks	Project assessment
The resource that agriculture depends on are protected to support the long-term viability and growth of the agricultural sector	
Agriculture and agricultural development opportunities are promoted and enhanced in important agricultural areas (IAAs).	<p>Complies</p> <p>The majority of the project corridor is located within an existing 50 m transmission line easement. As discussed in Section 2.2, the project corridor predominantly traverses land used for grazing purposes, however, some cropping activities are present. The project will lead to a minor and temporary reduction in grazing land during construction, however, once operational limited impacts are anticipated as livestock will be able to enter the corridor.</p> <p>Tower locations have been appropriately setback from cropping land and as such the project will not lead to a reduction in cropping land.</p>
<p>Agricultural Land Classification (ALC) Class A and Class B land is protected for sustainable agricultural use by:</p> <ol style="list-style-type: none"> avoiding fragmentation of ALC Class A or Class B land into lot sizes inconsistent with the current or potential use of the land for agriculture avoiding development that will have an irreversible impact on, or adjacent to, ALC Class A or Class B land maintaining or enhancing land conditions and the biophysical resources underpinning ALC Class A or Class B land. 	<p>Complies</p> <p>Land classified as Class A and Class B agricultural land is contained within the proposed transmission corridor and will likely be impacted by the project. However, the widening of the existing easement by 10 m will result in very minimal impact to agricultural land.</p>
Fisheries resources are protected from development that compromises long-term fisheries productivity, sustainability and accessibility.	<p>Not applicable</p> <p>Fisheries resources will not be impacted as a result of this project.</p>
Growth in agricultural production and a strong agriculture industry is facilitated by:	<p>Complies</p> <p>The proposed development will utilise an existing easement for its entire length. Whilst the easement will</p>

SPP assessment benchmarks	Project assessment
<ul style="list-style-type: none"> a) promoting hard to locate intensive agricultural land uses, such as intensive animal industries, aquaculture, and intensive horticulture in appropriate locations b) protecting existing intensive agricultural land uses, such as intensive animal industries, aquaculture, and intensive horticulture, from encroachment by development that is incompatible and/or would compromise the safe and effective operation of the existing activity c) locating new development (such as sensitive land uses or land uses that present biosecurity risks for agriculture) in areas that avoid or minimise potential for conflict with existing agricultural uses through the provision of adequate separation areas or other measures d) facilitating opportunities for co-existence with development that is complementary to agricultural uses that do not reduce agricultural productivity (e.g., on-farm processing, farm gate sales, agricultural tourism etc) e) considering the provision of infrastructure and services necessary to support a strong agriculture industry and associated agricultural supply chains f) ensuring development on, or adjacent to, the stock route network does not compromise the network's primary use for moving stock on foot, and other uses and values including grazing, environmental, recreational, cultural heritage, and tourism values. 	<p>require an extension of 10 m, it is not anticipated that this will significantly impact existing agricultural activities.</p> <p>It is noted that once constructed the easement will continue to be utilised for grazing purposes.</p> <p>The project is not located in proximity and will not impact any intensive animal industries, aquaculture or intensive horticulture.</p>

Environment and heritage

Biodiversity

This State interest provides that “matters of environmental significance are valued and protected, and the health and resilience of biodiversity is maintained or enhanced to support ecological processes”.

As discussed, the project corridor has gone through a thorough corridor selection process and will minimise impacts to biodiversity values by utilising the existing easement of the Tarong-Chinchilla transmission line.

The project corridor is mapped as containing the following MSES:

- Regulated vegetation (defined watercourse)
- Regulated vegetation (Category B)
- Regulated vegetation (Category C)
- Regulated vegetation (Category R)

An assessment of the project against the SPP Biodiversity assessment benchmarks is provided Table 5.5.

Table 5.5 Assessment of Project against SPP Biodiversity assessment benchmarks

SPP Benchmarks	Project assessment
Matters of environmental significance are valued and protected, and the health and resilience of biodiversity is maintained or enhanced to support ecological processes	
Development is located in areas to avoid significant impacts on matters of national environmental significance and considers the requirements of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .	Complies A Significant Impact Assessment (Aurecon, 2022) has been undertaken for the project, which concluded that whilst MNES values are present in the immediate vicinity of the project corridor, the proposed transmission line is not likely to have a significant impact on any listed TECs or threatened flora and fauna species. Accordingly, a referral to the Commonwealth Minister for Environment under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) is not required. Further information is provided in Section 6.1 and the Ecological Assessment Report (Appendix F)
Matters of state environmental significance are identified and development is located in areas that avoid adverse impacts; where adverse impacts cannot be reasonably avoided, they are minimised.	Complies The project corridor has been selected strategically, both for ease of construction, and to minimise the project's impact on MSES values. Further information regarding MSES is provided in Section 6.1 and the Ecological Assessment Report (Appendix F).
Matters of local environmental significance are identified and development is located in areas that avoid adverse impacts; where adverse impacts cannot be reasonably avoided, they are minimised.	Complies The project corridor is mapped as containing multiple matters of local environmental significance under the WDRC and SBRC's planning schemes. These matters are also identified as MSES. Additional information regarding the project's impacts to ecological values is provided in Section 6.1 and the Ecological Assessment Report (Appendix F).
Ecological processes and connectivity are maintained or enhanced by avoiding fragmentation of matters of environmental significance.	Complies The project corridor will utilise an existing cleared easement which will reduce fragmentation and additional impacts on environmental processes and connectivity. A detailed assessment of the impacts to ecological processes and connectivity is provided in the Ecological Assessment Report (Appendix F).
Viable koala populations in South East Queensland are protected by conserving and enhancing koala habitat extent and condition.	Complies The proposal is not located in South-East Queensland. Additional information regarding the project's impacts to ecological values is provided in Section 6.1 and associated Ecological Assessment Report (Appendix F).

Cultural heritage

This State interest provides that “the cultural heritage significance of heritage places and heritage areas, including places of Aboriginal and Torres Strait Islander cultural heritage, is conserved for the benefit of the community and future generations.”

An assessment of the project against the SPP Cultural Heritage assessment benchmarks is provided in Table 5.6.

Table 5.6 Assessment of project against SPP Cultural Heritage assessment benchmarks

SPP Benchmarks	Project assessment
The cultural heritage significance of heritage places and heritage areas, including places of Aboriginal and Torres Strait Islander cultural, is conserved for the benefit of the community and future generations.	
Aboriginal and Torres Strait Islander Cultural Heritage	

SPP Benchmarks	Project assessment
<p>Matters of Aboriginal cultural heritage and Torres Strait Islander cultural heritage are appropriately conserved and considered to support the requirements of the <i>Aboriginal Cultural Heritage Act 2003</i> and the <i>Torres Strait Islander Cultural Heritage Act 2003</i>.</p>	<p>Complies</p> <p>There are three Cultural Heritage Parties for the project, including the Barunggam People, the Auburn Hawkwood People, and the Wakka Wakka #3 People.</p> <p>Powerlink have an existing Whole of Country Cultural Heritage Management Agreement (CHMA) with the Barunggam People, which covers the western portion of the transmission line. As part of the agreed terms of this CHMA, Powerlink have completed a Cultural Heritage Survey with the Barunggam People, which has identified a number of Aboriginal Cultural Heritage sites and matters relating to their portion of Project. Powerlink is now working closely with Barunggam to plan and implement a range of management measures and processes that are designed to protect and conserve the significance of the Aboriginal Cultural Heritage sites and features identified in the area into the future. These management measures and processes will be implemented across the lifecycle of the transmission line, including pre-construction, clearance, construction, use, and maintenance.</p> <p>Powerlink has also commenced engagement with the Auburn Hawkwood People and the Wakka Wakka #3 People, and are currently in the process of negotiating CHMAs for their portions of the Project in accordance with the <i>Aboriginal Cultural Heritage Act 2003</i> (ACH Act).</p>
World and national cultural heritage	
<p>Adverse impacts on the cultural heritage significance of world heritage properties and national heritage places prescribed under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> are avoided.</p>	<p>Not applicable</p> <p>There are no items of world or national heritage located proximity to the project corridor.</p>
State Cultural Heritage	
<p>Adverse impacts on the cultural heritage significance of state heritage places are avoided.</p>	<p>Not applicable</p> <p>No items of State cultural heritage significance have been identified within or proximal to the project corridor.</p>
Local Cultural Heritage	
<p>Local heritage places and local heritage areas important to the history of the local government area are identified, including a statement of the local cultural heritage significance of the place or area.</p>	<p>Not applicable</p> <p>No local cultural heritage items have been identified within or proximal to the project corridor.</p>
<p>Development of local heritage places or local heritage areas does not compromise the cultural heritage significance of the place or area by:</p> <ol style="list-style-type: none"> a) avoiding adverse impacts on the cultural heritage significance of the place or area; or b) minimising and mitigating unavoidable adverse impacts on the cultural heritage significance of the place or area. 	<p>Not applicable</p> <p>No local cultural heritage items have been identified within or proximal to the project corridor.</p>
<p>The conservation and adaptive reuse of local heritage places and local heritage areas are facilitated so that the cultural heritage significance is retained.</p>	<p>Not applicable</p> <p>No local cultural heritage items have been identified within or proximal to the project corridor.</p>

Water quality

This State interest provides that “the environmental values and quality of the Queensland waters are protected and enhanced.”

The proposed transmission line will traverse a multiple mapped waterways for waterway barrier works under the Fisheries Act, and four defined watercourses under the Water Act. Construction works are considered the most significant risk to water quality as a result of this project.

An assessment of the project against the SPP water quality assessment benchmarks is provided in Table 5.7.

Table 5.7 Assessment of the project against SPP Water Quality assessment benchmarks

SPP Benchmarks	Project assessment
The environmental values and quality of Queensland water are protected and enhanced	
Development facilitates the protection or enhancement of environmental values and the achievement of water quality objectives for Queensland waters.	Complies All tower structures have been setback from watercourses and drainage features. All construction will be carried out in accordance with a CEMP which will ensure the protection of environmental values of these waterways. Further, an erosion and sediment control plan (ESCP) will be developed to ensure sediment runoff to waterways is appropriately managed and the Queensland water quality objectives are achieved.
Land zoned for urban purposes is located in areas that avoid or minimise the disturbance to: <ul style="list-style-type: none"> a) High risk soils b) High ecological values aquatic ecosystems c) Groundwater dependent ecosystems d) Natural drainage lines and landform features 	Not applicable The project corridor does not contain land zoned for urban purposes.
Development is located, designed, constructed and operated to avoid or minimise adverse impacts on environmental values of receiving waters arising from: <ul style="list-style-type: none"> a) Altered stormwater quality and hydrology b) Wastewater (other than contaminated stormwater and sewage) c) The creation or expansion of non-tidal artificial waterways d) The release and mobilisation of nutrients and sediments 	Complies All tower structures have been setback from watercourses and drainage features. All construction will be carried out in accordance with a CEMP which will ensure the protection of environmental values of these waterways. Further, an ESCP will be developed to ensure sediment runoff to waterways is appropriately managed and the Queensland water quality objectives are achieved.
At the construction phase, development achieves the applicable stormwater management design objectives in table A (appendix 2).	Complies A stormwater management plan will be prepared prior to construction. The plan will ensure adherence to the stormwater management design objectives provided in Table A (Appendix 2).
At the post-construction phase, development: <ul style="list-style-type: none"> a) Achieves the applicable stormwater management design objectives on-site, as identified in Table B (Appendix 2); or b) Achieves an alternative locally appropriate solution off-site that achieves an equivalent or improved water quality outcome to the relevant stormwater management design objectives in Table B (Appendix 2). 	Complies A stormwater management plan will be prepared prior to construction and also over the operational phases of the project. The plan will ensure adherence to the stormwater management design objectives provided in Table B (Appendix 2).
Development in water resource catchments and water supply buffer areas avoids potential adverse impacts on surface waters and groundwaters to protect drinking water supply environmental values.	Complies It is unlikely the proposed project will have any adverse impacts on the drinking water supply as the project corridor is not in close proximity to important water resource catchments or water supply buffers.

Safety and resilience to hazards

Emissions and hazardous activities

This State interest provides that “community health and safety, and the natural and built environment, are protected from potential adverse impacts of emissions and hazardous activities. The operation of appropriately established industrial development, major infrastructure, and sport and recreation activities is ensured.”

It is expected that there will be dust and noise emissions generated from the construction of the transmission line. Once the transmission line is operational, there are not expected to be any emissions released into the surrounding environment.

It is anticipated that these impacts will be limited to construction and will be managed appropriately through the implementation of a CEMP.

Table 5.8 Assessment against SPP Emissions and Hazardous Activities assessment benchmarks

SPP Benchmarks	Project assessment
Community health and safety, and natural and built environment, are protected from potential adverse impacts of emissions and hazardous activities. The operation of appropriately established industrial development, major infrastructure, and sport and recreation activities is ensured.	
Protection from emissions and hazardous activities	
Industrial development, major gas, waste and sewerage infrastructure, and sport and recreation activities are located, designed and managed to avoid or mitigate adverse impacts of emissions on sensitive land uses and the natural environment.	Not applicable The project does not propose industrial development, major gas, waste and sewerage infrastructure, and sport and recreation activities.
Activities involving the use, storage and disposal of hazardous materials and prescribed hazardous chemicals, dangerous goods, and flammable or combustible substances are located and managed to minimise the health and safety risks to communities and individuals.	Complies Chemicals used during construction, operation and decommissioning phases will include fuel, lubricants, oils, minor quantities of solvents and acids and degreasers. All handling of hazardous chemicals will be undertaken in accordance with <i>Powerlink Environmental Management Plan</i> which sets out general requirements for materials management. All chemicals will be stored, handled and used in accordance to their Safety Data Sheet and managed in accordance with the applicable AS standards.
Prescribed hazardous chemicals, stored in a flood hazard area (where exceeding the hazardous chemicals flood hazard threshold), are located to minimise the risk of inundation and dispersion.	Complies The project does not propose to store chemicals within a flood hazard area.
Sensitive land uses are protected from the impacts of previous activities that may cause risk to people or property including: <ul style="list-style-type: none"> a) former mining activities and related hazards (e.g., disused underground mines, tunnels and shafts) b) former landfill and refuse sites c) contaminated land. 	Complies The project corridor is appropriately setback (approximately 200 m) from the closest sensitive land use (residential dwelling) and is unlikely to cause risk to people or property.
Protection of industrial development, major infrastructure, and sport and recreational facilities from encroachment	

SPP Benchmarks	Project assessment
<p>Protect the following existing and approved land uses or areas from encroachment by development that would compromise the ability of the land use to function safely and effectively:</p> <ul style="list-style-type: none"> a) Medium-impact, high-impact and special industries. b) Extractive industries. c) Hazardous chemical facilities. d) Explosive facilities and explosives reserves. e) High pressure gas pipelines. f) Waste management facilities. g) Sewage treatment plants. h) Industrial land in a state development area, or an enterprise opportunity area identified in a regional plan. i) Major sport, recreation and entertainment facilities. j) Shooting facilities. k) Motor sport facilities. 	<p>Complies</p> <p>The project is unlikely to compromise the ability of existing land uses to function safely and effectively as the project is primarily contained within an existing transmission line corridor.</p>
Mitigation of adverse impacts from emissions and hazardous activities	
<p>Development that is incompatible with the existing and approved land uses or areas included in policy 5 above, is located to avoid adverse impacts of environmental emissions, or health and safety risks, and where the impacts cannot be practicably avoided, development is designed to minimise the impacts.</p>	<p>Complies</p> <p>The project corridor has been selected to minimise and mitigate potential adverse effects on people and the environment and will have minimal impacts on existing land uses.</p>

Natural hazards, risk and resilience

This State interest provides that “the risks associated with natural hazards, including the projected impacts of climate change, are avoided or mitigated to protect people and property and enhance the community’s resilience to natural hazards.”

The project corridor intersects a number of waterways and watercourses. In the event of a 1% annual exceedance probability (AEP) flooding event, there will be localised flooding throughout the project corridor.

Significant portions of the project corridor contain areas are also mapped as being bushfire prone. Prior to the commencement of construction, a bushfire management plan will be prepared to ensure the risk of bushfire from construction activities is appropriately managed.

Table 5.9 Assessment against SPP Natural Hazards Risk and Resilience assessment benchmarks

SPP benchmarks	Project assessment
The risks associated with natural hazards, including the projected impacts of climate change, are avoided or mitigated to protect people and property and enhance the community’s resilience to natural hazards.	
<p>Natural hazard areas are identified, including:</p> <ul style="list-style-type: none"> a) bushfire prone areas b) flood hazard areas c) landslide hazard areas d) storm tide inundation areas e) erosion prone areas. 	<p>Complies</p> <p>Natural hazards have been identified within the corridor, including bushfire and flooding. The project will implement management plants to mitigate any potential impacts from potential natural hazards.</p> <p>Natural hazards are identified and discussed further in the Section 6.</p>
<p>A fit-for-purpose risk assessment is undertaken to identify and achieve an acceptable or tolerable level of risk for personal safety and property in natural hazard areas.</p>	<p>Complies</p> <p>A fit for purpose risk assessment in relation to potential natural hazards is provided in Section 6.</p>
Bushfire, flood, landslide, storm tide inundation, and erosion prone areas	

SPP benchmarks	Project assessment
<p>Land in an erosion prone area is not to be used for urban purposes, unless the land is located in:</p> <ul style="list-style-type: none"> a) an urban area in a planning scheme; or b) an urban footprint identified in a regional plan. 	<p>Not applicable</p> <p>The project does not propose land for urban purposes.</p>
<p>Development in bushfire, flood, landslide, storm tide inundation or erosion prone natural hazard areas:</p> <ul style="list-style-type: none"> a) avoids the natural hazard area; or b) where it is not possible to avoid the natural hazard area, development mitigates the risks to people and property to an acceptable or tolerable level. 	<p>Not applicable</p> <p>The project corridor intersects areas mapped as flood and bushfire hazard areas.</p> <p>Where possible tower structures have been set back from waterways and all structures will be constructed to be resilient to flooding events. A detailed hydrology assessment will be undertaken prior to commencement of construction.</p> <p>A bushfire management plan will be prepared prior to the commencement of construction to ensure the risk of bushfire from construction activities is appropriately managed and mitigated (refer to Section 6 for further detail).</p>
<p>Development in natural hazard areas:</p> <ul style="list-style-type: none"> a) supports, and does not hinder disaster management capacity and capabilities b) directly, indirectly and cumulatively avoids an increase in the exposure or severity of the natural hazard and the potential for damage on the site or to other properties c) avoids risks to public safety and the environment from the location of the storage of hazardous materials and the release of these materials as a result of a natural hazard d) maintains or enhances the protective function of landforms and vegetation that can mitigate risks associated with the natural hazard. 	<p>Not applicable</p> <p>The project is not anticipated to hinder disaster management capacity and capabilities and is not expected to increase the severity of natural hazards in the area.</p> <p>All hazardous materials will be appropriately stored and handled to limit risks of potential release into the environment as a result of natural hazards.</p>
<p>Community infrastructure is located and designed to maintain the required level of functionality during and immediately after a natural hazard event.</p>	<p>Not applicable</p> <p>At the completion of construction, the transmission line will operate unmanned, therefore no community infrastructure is required.</p>
<p>Coastal protection work in an erosion prone area is undertaken only as a last resort where coastal erosion or inundation presents an imminent threat to public safety or existing buildings and structures, and all of the following apply:</p> <ul style="list-style-type: none"> a) The building or structure cannot reasonably be relocated or abandoned. b) Any erosion control structure is located as far landward as practicable and on the lot containing the property to the maximum extent reasonable. c) Any increase in coastal hazard risk for adjacent areas from the coastal protection work is mitigated. 	<p>Not applicable</p> <p>The project is not contained within an erosion prone area within a coastal management district.</p>
Erosion prone areas within a coastal management district	
<p>Development does not occur unless the development cannot feasibly be located elsewhere and is:</p> <ul style="list-style-type: none"> a) coastal-dependent development; or b) temporary, readily relocatable or able to be abandoned development; or c) essential community infrastructure; or d) minor redevelopment of an existing permanent building or structure that cannot be relocated or abandoned. 	<p>Not applicable</p> <p>The project corridor is not contained within an erosion prone area within a coastal management district.</p>

SPP benchmarks	Project assessment
Development permitted in policy 8 above, mitigates the risks to people and property to an acceptable or tolerable level.	Not applicable The project corridor is not contained within an erosion prone area within a coastal management district.

Infrastructure

Energy and water supply

This State interest provides that “the timely, safe, affordable, and reliable provision and operation of electricity and water supply infrastructure is supported, and renewable energy development is enabled.”

The proposed transmission line will enable the distribution of renewable energy that will be generated at the Wambo Wind Farm.

Table 5.10 Assessment against SPP Energy and Water Supply assessment benchmarks

SPP benchmarks	Project assessment
The timely, safe, affordable and reliable provision and operation of electricity and water supply infrastructure is supported and renewable energy development is enabled.	
Existing and approved future major electricity infrastructure locations and corridors (including easements and electricity substations), and bulk water supply infrastructure locations and corridors (including easements) are protected from development that would compromise the corridor integrity, and the efficient delivery and functioning of the infrastructure.	Complies The project has been designed not to impact existing infrastructure.
Major electricity infrastructure and bulk water supply infrastructure such as pump stations, water quality facilities and electricity substations, are protected from encroachment by sensitive land uses where practicable.	Complies This project will not encroach on major electricity infrastructure and bulk water supply with sensitive land uses.
Development of major electricity infrastructure and bulk water supply infrastructure avoids or otherwise minimises adverse impacts on surrounding land uses and the natural environment.	Complies As the project will be primarily contained within an existing transmission line corridor the impact on the surrounding land uses and natural impacts have been minimised.
The development and supply of renewable energy at the regional, local and individual scale is enabled in appropriate locations.	Complies The project will connect the Wambo Wind Farm to the grid. Through the utilisation of the existing transmission line corridor, it is considered that the project uses an appropriate location.

Infrastructure integration

This State interest provides that “the benefits of past and ongoing investment in infrastructure and facilities is maximised through integrated land use planning”.

The Project will enable the connection of the Wambo Wind Farm to the national electricity network and through the utilisation of an existing easement minimises impacts to surrounding land uses.

Table 5.11 Assessment against SPP Infrastructure Integration assessment benchmarks

SPP benchmarks	Project assessment
The benefits of past and ongoing investment in infrastructure and facilitates are maximised through integrated land use planning.	
The outcomes of significant infrastructure plans and initiatives by all levels of government are considered and reflected, where relevant.	Complies All levels of government have been considered and reflected in the planning of this project. Active engagement has occurred with the relevant local governments regarding this State-level proposal.
Development achieves a high level of integration with infrastructure planning to: <ol style="list-style-type: none"> a) promote the most efficient, effective and flexible use of existing and planned infrastructure b) realise multiple economic, social and environmental benefits from infrastructure investment c) ensure consideration of future infrastructure needed to support infill and greenfield growth areas d) optimise the location of future infrastructure within communities to provide greater access to facilities and services and enable productivity improvements. 	Complies The project has been coordinated in accordance with infrastructure planning to ensure the efficient and beneficial delivery of the project.
Development occurs: <ol style="list-style-type: none"> a) in areas currently serviced by state and/or local infrastructure and associated services; or b) in a logical and orderly location, form and sequence to enable the cost-effective delivery of state and local infrastructure to service development. 	Complies The operation will utilise existing State and local road infrastructure during construction and maintenance. During operation the project will not require a connection to services.
Existing and planned infrastructure is protected from development that would compromise the ability of infrastructure and associated services to operate safely and efficiently.	Complies As the project is primarily contained within an existing transmission corridor and will therefore be protected from infrastructure that would compromise its ability to function safely and efficiently.

5.1.5 State development assessment provisions

The State Development Assessment Provisions (SDAP) set out the matters of interest to the State for development assessment that the Chief Executive of the SARA may have regard to. The SDAP is prescribed in Schedule 9 and 10 of the Planning Regulation and provides applicants with the opportunity to address performance criteria to demonstrate that a development adequately manages impacts to matters of state interest.

A review of the SDAP has shown that the below matters of state interest affect the project corridor.

- Fish habitat areas
 - Queensland waterways for waterway barrier works
- Water resources
 - Water resource planning area

- Native vegetation clearing
 - Regulated vegetation management map
- State transport corridor
 - State controlled road

Table 5.12 identifies the SDAP triggers and where these have been addressed.

Table 5.12 State referral triggers and relevant SDAP

Trigger	Relevant State code (SDAP)	Location where State code addressed
Development within State controlled road	State code 1: Development in a State-controlled road environment	Transport Impact Assessment (Appendix C) and Appendix H.
Clearing of native vegetation	State code 16; Native vegetation clearing	Ecological Assessment Report (Appendix F) and Appendix H.

5.2 Regional plans

The project corridor is subject to the Darling Downs Regional Plan 2013 (DDRP) and the Wide Bay-Burnett Regional Plan 2011 (WBBRP). The following section provides an assessment of the project's compliance with the abovementioned regional plans

5.2.1 Darling Downs Regional Plan

The DDRP is a statutory planning instrument that aims to deliver outcomes for the region in line with State planning interests. The project responds to the following key drivers of the DDRP:

- Enable opportunities for economic growth to ensure our regions are resilient and prosperous, and
- Identify infrastructure outcomes that will support economic growth.

The DDRP identifies that the region has a prominent electricity sector, and that the high voltage transmission grid is dominated by the Qld-NSW interconnector. A priority outcome for the region is to respond to the expected growth in demand for power generation and transmission and consider of neighbouring regions and energy efficiency efforts.

This project responds to this priority outcome as the new high voltage transmission line will enable greater transmission capacity into neighbouring regions and facilitate connection of a renewable energy facility (Wambo Wind Farm) to the national electricity grid.

5.2.2 Wide Bay-Burnett Regional Plan

The WBBRP is a statutory planning instrument that identifies regional planning policy direction for the region over a 20 year horizon. Major interests identified for this region include an ageing population, climate change, consolidation of urban growth to protect environmental areas, and capitalising on infrastructure investments.

The project is consistent with the following desired regional outcomes under the WBBRP:

- Infrastructure supporting job creation and business opportunities, and
- Infrastructure planning – energy.

The WBBRP supports establishing well-planned, coordinated, accessible, sustainable and reliable infrastructure and also support the transition to a carbon constrained and climate changed future. The project directly responds to this aim, through the use of an existing transmission line corridor. The design is well planned, with very minimal additional land required which will not contribute to further fragmentation of urban and rural land.

5.3 Local planning framework assessment

The project corridor traverses two LGAs, namely the Western Downs Regional Council, and the South Burnett Regional Council. As both Council's are considered key stakeholders to the project, Powerlink considers it important to demonstrate the project meets the relevant provisions of the two local planning frameworks.

5.3.1 Western Downs Regional Council Planning Scheme

The *Western Downs Planning Scheme 2017* (WDRC Planning Scheme) is the relevant local planning instrument that governs the western portion of the proposed transmission line corridor (refer to Figure 2.2). Table 5.13 provides a summary of the local planning framework provisions that are applicable to the project.

Table 5.13 Western Downs Regional Council Planning Scheme relevant provisions

Planning Scheme Aspect	Project relevance
Defined use	Major Electricity Infrastructure
Zone	Rural
Overlays	<ul style="list-style-type: none"> ■ OM-002 Biodiversity ■ OM-003 Bushfire Risk ■ OM-006 Infrastructure ■ OM-007 Exploration Permit – Coal ■ OM-008 Agriculture Land Classification ■ OM-009 Water Resource Catchment ■ OM-010 Stock Routes ■ OM-011 Scenic Amenity ■ OM-014 Wetlands ■ OM-015 Road Hierarchy
Level of assessment	Code Assessable
Secondary assessment benchmarks	<ul style="list-style-type: none"> ■ Transport, access and parking code ■ Infrastructure services code

Rural zone code

All requirements of the Rural zone code are satisfied by the design of the project. Adjoining rural uses will not be affected by fragmentation or alienation by the project corridor as it is predominantly widening an existing easement.

Compliance against the overall outcomes of the Rural zone code is demonstrated in Table 5.14.

Table 5.14 Project compliance with the overall outcomes of the Rural zone

Purpose	Response
(1) The zone primarily accommodates cropping or animal husbandry and ancillary detached dwellings.	<p>Complies</p> <p>The project corridor utilises an existing easement and does not impact the capability of the zone to primarily accommodate cropping, animal husbandry and ancillary detached dwellings.</p> <p>While the corridor will have temporary impacts on the existing grazing activities during construction, once operational the easement will be able to be utilised for grazing purposes.</p>

Purpose	Response
<p>(2) All rural land is protected from alienation and fragmentation. A lack of viability for existing farming operations and small holdings does not provide suitable and sufficient planning justification for further subdivision or uses for non-rural purposes.</p>	<p>Complies</p> <p>Due to the presence of the existing easement, the project will not cause any fragmentation or alienation of land. The proposed extension of the easement by 10m in width is not likely to have any significant impact upon existing rural activities.</p>
<p>(3) Residential development within the rural zone only occurs to the extent that it supports and is ancillary to the productive use of the land. Urban and residential development is contained within designated zonings for such uses and will not be permitted to expand into rural areas.</p>	<p>Not applicable</p> <p>The project does not involve any residential development.</p>
<p>(4) New enterprises, such as rural service industries and tourism activities, are accommodated where:</p> <ul style="list-style-type: none"> (i) they are directly associated with rural production, a natural resource or the natural environment or need to be remote from urban uses as a result of their impacts; (ii) the productive capacity of the land is not diminished and conflicts with existing and intended activities in the surrounding area are avoided. (iii) the existing landscape and natural resource values of the land are maintained; and (iv) the proposed use could not be more appropriately located in another zone. 	<p>Not applicable</p> <p>The project does not propose new enterprises, such as rural service industries and tourism activities.</p>
<p>(5) Extractive resources and existing extractive operations on rural land are protected from encroachment from incompatible land uses;</p>	<p>Complies</p> <p>The project will not encroach on existing extractive activities.</p>
<p>(6) The environmental, character and landscape values of all rural land are protected from encroachment by incompatible land uses;</p>	<p>Complies</p> <p>The project will utilise an existing easement for the majority of its length and as such additional impacts to environmental, character and landscape values will be minimised.</p> <p>The visual impact of the proposal is minor, as confirmed in the Visual Impact Assessment Report (Appendix D).</p>
<p>(7) Adequate separation and buffering is provided by new development in nearby or adjoining urban or rural residential zone land to ensure that encroachment, fragmentation or alienation of rural land by these uses is avoided.</p>	<p>Complies</p> <p>The project is not located in proximity to a rural residential or urban zone.</p>
<p>(8) Special industry uses that require separation distances from sensitive land uses are supported and encouraged to locate in areas identified as Special Industrial Areas.</p>	<p>Not applicable</p> <p>The project is not defined as special industry under the WDRC Planning Scheme.</p>
<p>(9) Any proposed reconfiguring of lots must facilitate allotments to ensure that battle-axe allotments are not created and that the location of any proposed future dwelling will allow for the front entrance of the building to address the street. Any proposed reconfiguration should take into account the direction of prevailing winds to ensure climate-responsive building design.</p>	<p>Not applicable</p> <p>Reconfiguring of a lot is not proposed as part of the project.</p>
<p>(10) Development is connected to available urban infrastructure networks or is provided with suitable onsite potable water supply and a sustainable wastewater disposal system to ensure the protection and maintenance of environmental health and human wellbeing and safety</p>	<p>Not applicable</p> <p>Once constructed, the project will operate unmanned, meaning that there will be no need for a potable water supply, or sustainable wastewater disposal system. Construction will be undertaken in accordance with a CEMP and will include measures to manage waste water during construction.</p>

Purpose	Response
(11) Ecologically significant features including waterways, wetlands and significant vegetation are retained and buffered from the impacts of development or where appropriate, vegetation is integrated within the development to ensure the long term protection of these features.	Complies The project corridor will encompass an existing easement, which will reduce the amount of vegetation that will be required to be cleared for the project. The project corridor traverses multiple waterways and under the Fisheries Act, and defined watercourses under the Water Act. However, where possible towers have been setback from water features to ensure ecological impacts are limited. The construction works will be conducted under a CEMP which will include measures to manage water quality in the relevant waterways and watercourses in the corridor.
(12) Development is located and designed to achieve ecological sustainability by ensuring that the proposed development incorporates the objectives and principles of energy efficiency, water conservation, water quality management and the principles Crime Prevention through Environment Design (CPTED).	Complies The project will connect the nearby Wambo Wind Farm (renewable energy facility) to the national electricity grid and as such will contribute to the reduction in carbon emissions.
(13) Places, buildings or items of heritage character or heritage significance are protected and enhanced by development to preserve the historic character, amenity and identity of the locality	Complies No local heritage items have been identified within proximity to the project corridor.
(14) Development responds to land constraints such as topography, bushfire and does not impact on the flood capacity or impede the flood conveyance function of land. Development is not located where it will increase the number of people or structures at risk of natural hazards.	Complies The project corridor intersects mapped waterways and watercourses that are sensitive to flooding events. As the proposed transmission line will largely use the same alignment as the existing, soon to be decommissioned transmission line, it is not considered likely that the development would exacerbate the existing flooding situation of the surrounding area.
(15) Where development is not consistent with the purpose and intent of the Rural zone, overriding community need will need to be demonstrated as well as valid planning justification provided as to why the proposed use cannot be reasonably established in a more appropriate zone.	Complies The project is consistent with the purpose and intent of the rural zone code. The project will enable the generation of renewable energy, and the continued use of sustainable electricity in the Western Downs LGA and the State of Queensland.

5.3.2 South Burnett Regional Council Planning Scheme

The *South Burnett Planning Scheme 2017* (the SBRC Planning Scheme) is the local planning instrument that governs the eastern portion of the proposed transmission line corridor (refer to Figure 2.2).

Table 5.15 provides a summary of the local planning framework provisions that are applicable to the proposed transmission line corridor.

Table 5.15 SBRC Planning Scheme relevant provisions

Planning scheme aspect	Project relevance
Defined use	Major electricity infrastructure
Zone	<ul style="list-style-type: none"> ■ Rural ■ Community facilities
Overlays	<ul style="list-style-type: none"> ■ OM2 – Bushfire Hazard Overlay ■ OM3 – Flood Hazard Overlay ■ OM4 – Regional Infrastructure Overlay ■ OM5 – Biodiversity Area Overlay ■ OM8 – Agricultural Overlay ■ OM10 – Landslide Hazard Overlay

Level of assessment	<ul style="list-style-type: none"> ■ Code assessment in Rural Zone ■ Impact assessable in Community Facilities Zone
Secondary assessment benchmarks	<ul style="list-style-type: none"> ■ Services and works code

Rural zone

The development meets all requirements of the Rural zone code. While the proposed use is not rural in nature, it will encompass an existing transmission line corridor and as such will have limited impacts on the existing agricultural activities.

Compliance against the overall outcomes of the Rural zone code is demonstrated in Table 5.16.

Table 5.16 Project compliance with the overall outcomes of the Rural zone

Overall outcome	Response
(a) Land that is essential to the economic viability of productive Agricultural Land Classification Class A or Class B and rural land uses within the region is conserved.	Complies The project is largely contained within the existing easement and as such the project will not significantly impact the conservation of Agricultural Land Classification Class A or Class B, or the rural land uses within the region.
(b) Development comprises a wide range of existing and new rural pursuits, including cropping, intensive horticulture and animal industries, animal husbandry and keeping and other compatible primary production uses.	Complies The project will be largely contained within an existing transmission line easement. Whilst there may be temporary impacts to grazing activities during construction, once operational, ongoing impacts to these activities will be minimal.
(c) On farm value adding in the form of small scale agri-tourism is supported where associated with the rural use of the site.	Not applicable The project does not involve any agri-tourism uses.
(d) Infrastructure is provided at a standard normally expected in rural locations.	Complies The infrastructure proposed will be delivered to the same standard of existing electricity infrastructure in the area.
(e) Areas of land used for primary production are conserved and not unnecessarily fragmented.	Not applicable The project will not impact land used for primary production.
(f) The viability of existing and future rural uses and activities are protected from the intrusion of incompatible uses.	Complies The majority of the project corridor will utilise an existing 50 m transmission line easement which will be extended by 10 m to accommodate the project. As discussed in Section 2.2, the project corridor predominantly traverses land used for grazing purposes, however, some cropping activities are present. The project will lead to a minor and temporary reduction in grazing land during construction, however, once operational limited impacts are anticipated as livestock will be able to enter the corridor. Tower locations have been appropriately setback from cropping land and as such the project will have minimal impacts on existing cropping activities.
(g) Uses that require isolation from urban areas as a consequence of their impacts such as noise or odour may be appropriate where land use conflicts are minimised.	Complies The project is adequately set back from urban areas. Noise and odour impacts during construction will be managed through the implementation of a CEMP.

Overall outcome	Response
(h) Development embraces sustainable land management practices and contributes to the rural amenity and landscape of the area.	Not applicable Following the construction of the transmission line, it will operate unmanned and will therefore not require the development of sustainable land management practices or rural amenity.
(i) Development is reflective of and responsive to the surrounding character of the area, natural hazards and the environmental constraints of the land.	Complies This project has appropriately accounted for environmental constraints and hazards on the land it traverses.
(j) Sites that are contaminated or pose a health risk from prior activities are remediated prior to being developed for sensitive land use (as defined in the Regulation).	Not applicable A search of the EMR and CLR has not identified the land within the project corridor as being contaminated.
(k) Residential or other sensitive land use (as defined in the Regulation) are not intensified in the identified separation area around the Swickers Kingaroy Bacon Factory on Overlay Map 11.	Not applicable The project is not defined as a sensitive land use under the planning scheme.
(l) New residential development of historic or remote residential subdivisions is inconsistent with the purpose of this zone code.	Not applicable The project is not defined as a residential development under the SBRC me.
(m) Non-rural development is appropriate only where directly associated with the rural use of the zone and does not compromise the rural use of the land.	Not applicable The proposed transmission line is not considered non-rural development under the planning scheme.
(n) Natural features such as creeks, gullies, waterways, wetlands and bushland are retained, managed, enhanced and buffered from adjacent development.	Complies The project will utilise an existing easement corridor and as such minimise the amount of clearing required. The corridor does cross multiple waterways under the Fisheries Act, and defined watercourses under the Water Act. The construction works will be conducted in accordance with a CEMP which will include measures to manage impacts to water quality.

Community facilities zone

The Community facilities zone is associated with the existing Halys Substation to which the project will connect. The siting of the transmission line does not prevent the establishment of future community infrastructure. Compliance against the Overall Outcomes of the Community Facilities zone code is demonstrated in Table 5.17.

Table 5.17 Project compliance with the overall outcomes of the Community Facilities Zone

Overall outcome	Response
(a) Retain and reserve appropriate land throughout the Council area to accommodate activities which have a specific public function that are essential for the wellbeing of the community.	Complies The project will not impact land which has a specific public function.
(b) Provide for the location of those public infrastructure services and facilities which have significant amenity impacts on adjoining land and the protection of such uses from intrusion by incompatible uses.	Not applicable The project does not include the operation of any community facilities. Additionally, the transmission line will operate unmanned and will therefore not require sustained amenities.
(c) Ensure that the built form and operation of community facilities are compatible with their neighbourhoods.	Not applicable This project does not include the operation of any community facilities.

Overall outcome	Response
(d) Where possible, encourage the co-location of community facilities.	Not applicable This project does not include the operation of any community facilities.
(e) The location of development is appropriate for the intended use and is consistent with the nature of surrounding development.	Complies The project is considered appropriate and consistent with the surrounding development as it is primarily contained within an existing transmission line easement.
(f) The Kingaroy and Nanango airports are preserved for the exclusive use of air service and industries or businesses with a direct association with the provision of air service.	Complies The project will not impact the air services or relevant businesses for both the Kingaroy and Nanango Airport.
(g) Existing community uses are intended to continue and intensify if necessary having regard to road and other infrastructure capacity and the amenity of surrounding areas.	Complies The Community Facility zoning is associated with the existing Halys Substation which the project will connect into. The project will not impact on the potential for future intensification of the Substation.
(h) The form of the development is specific to the facility in recognition of particular operational, functional and locational benchmarks of government functions.	Complies The project will remain functional and consistent with the scale and bulk with that of other transmission lines within the LGA
(i) Physical infrastructure that has an overbearing nature that cannot be mitigated through design or screening is not located in visually prominent locations.	Complies The project is not located in visually prominent locations.
(j) The viability of essential community infrastructure is protected by requiring on-site buffering and separation of new development on adjoining sites that could limit the on-going operation of existing special uses or prejudice appropriate new activities.	Not applicable The Community facility zoning is associated with the existing Halys Substation which the project will connect into.
(k) Social facilities and service establishments are supported by the necessary infrastructure and located in highly accessible locations that promote safe and efficient public transport use, walking and cycling.	Not applicable This project does not include the operation of any community facilities.
(l) Development will be provided with a level of infrastructure that is appropriate to the use.	Complies The project will be consistent with the existing high voltage electricity infrastructure in the area.
(m) Community uses and works are located, designed and managed to maintain safety to people and minimise impacts on adjacent land.	Not applicable This proposed transmission line does not include the operation of any community facilities.
(n) Adverse impacts on natural features and processes, both on-site and from adjoining areas, are avoided and any unavoidable impacts are minimised through location, design, operation and management of development.	Complies The transmission line will be predominantly located within an existing transmission line easement thus minimising potential adverse impacts on the natural environment.
(o) Should land in this zone cease to be used for community purposes at some future time, redevelopment of the site to a use compatible with the intent of the surrounding zones is encouraged.	Complies Potential redevelopment of this land within the future would be compatible with the surrounding local environment.
(p) Development is reflective of and responsive to the environmental constraints of the land and the impacts of natural hazards are avoided or safely managed.	Complies The project will utilise an existing easement corridor and as such minimise the amount of clearing required. The corridor does cross multiple waterways under the Fisheries Act, and defined watercourses under the Water Act. The construction works will be conducted in accordance with a CEMP which will include measures to manage impacts to water quality.

Overall outcome	Response
(q) Sites that are contaminated or pose a health risk from prior activities are remediated prior to being developed for sensitive land use (as defined in the Regulation).	Not applicable A search of the EMR and CLR has not identified the land within the project corridor as being contaminated.
(r) Residential or other sensitive uses are not intensified in the identified separation area around the Swickers Kingaroy Bacon Factory on Overlay Map 11.	Not applicable The proposed transmission line is not defined as a residential or sensitive use under the SBRC Planning Scheme.

6 Environmental and planning assessment

To make a designation, the Minister of DSDIGLP must be satisfied that an adequate environmental assessment has been carried out in relation to the proposed infrastructure. As such, the purpose of the following section is to provide a summary of the environmental impacts of the project.

6.1 Biodiversity

An Ecological Assessment Report has been prepared by Aurecon and is provided in Appendix F. This section provides a summary of the findings. The following biodiversity values were identified during the ecological field assessment undertaken in February and August 2022:

- A conservation significant flora species, the Bailey's Cypress Pine (*Callitris baileyi*) listed as near threatened under the NC Act was identified within the project corridor
- Regional ecosystems 12.3.3 (Endangered), 11.8.3, 12.8.16 (Of concern) and 11.3.25, 11.8.5, 11.9.2, 11.10.1, and 12.3.7 (least concern)
- No threatened ecological communities were identified within the project corridor
- Potential habitat for threatened fauna, including South-eastern glossy black-cockatoo (*Calyptorhynchus lathami lathami*), Painted honeyeater (*Grantiella picta*), White-throated needletail (*Hirundapus caudacutus*), Swift parrot (*Lathamus discolor*), Black-breasted button-quail (*Turnix melanogaster*), Corben's long-eared bat (*Nyctophilus corbeni*), Greater glider (*Petauroides volans*), Yellow-bellied glider (*Petaurus australis australis*), Koala (*Phascolarctos cinereus*), Grey-headed flying-fox (*Pteropus poliocephalus*), Delma (*Delma torquata*) and Yakka skink (*Egernia rugosa*)
- One migratory species Rufous fantail (*Rhipidura rufifrons*)
- Suitable habitat for the Short-beaked Echidna (*Tachyglossus aculeatus*) a Special Least Concern species under the NC Act

The project has the potential to impact on biodiversity values, including:

- Removal of approximately 5.28 ha of remnant vegetation and wildlife habitat potentially compromising the viability of the community and associated habitat
- Displacement of flora and fauna species
- Loss of habitat causing a reduction of biological diversity or loss of local populations
- Loss of or disturbance to microhabitat features such as tree hollows, leaf litter, ground timber, dense shrubs and hollows
- Removal of animal breeding places.

A significant impact assessment was undertaken for potential impacts to MNES / MSES species determined to have a high likelihood of occurrence within the disturbance footprint. The assessment identified that the project is unlikely to have a significant impact on MNES. However, it was determined that a significant impact is likely for MSES regulated vegetation (defined watercourse).

To mitigate potential impacts on biodiversity values the following measures are proposed:

- Implement a high risk species management program for the tampering of animal breeding places under the NC Act
- Clearing of all areas will be restricted to the minimal area required to enable safe construction, operation and maintenance of the Project infrastructure. Vegetation will be avoided and minimised where possible within 20 m of the waterway mapped in the Disturbance footprint
- Ensure that vegetation clearing boundaries are established with appropriate signage at regular intervals and visible and physical markings

- A certified fauna spotter/catcher (i.e., holding a Damage Mitigation Permit (Removal and Relocation of Wildlife) and / or Rehabilitation Permit issued by DES) will be engaged to inspect the project area and be present during vegetation clearing

6.2 Cultural heritage

6.2.1 Aboriginal cultural heritage

There are three Cultural Heritage Parties for the project, including the Barunggam People, the Auburn Hawkwood People, and the Wakka Wakka #3 People.

Powerlink have an existing Whole of Country CHMA with the Barunggam People, which covers the western portion of the transmission line. As part of the agreed terms of this CHMA, Powerlink have completed a Cultural Heritage Survey with the Barunggam People, which has identified a number of Aboriginal cultural heritage sites and matters relating to their portion of Project.

Powerlink is now working closely with Barunggam to plan and implement a range of management measures and processes that are designed to protect and conserve the significance of the Aboriginal Cultural Heritage sites and features identified in the area into the future. These management measures and processes will be implemented across the lifecycle of the transmission line, including pre-construction, clearance, construction, use, and maintenance.

Powerlink has also commenced engagement with the Auburn Hawkwood People and the Wakka Wakka #3 People and are currently in the process of negotiating CHMAs for their portions of the Project in accordance with the ACH Act.

6.2.2 European cultural heritage

A search of the relevant Commonwealth, State and local heritage registers was conducted and identified the following:

- There are no heritage sites listed on the Australian Heritage Database within or in proximity to the project corridor.
- The Queensland Heritage Register Map and SARA DA Mapping System did not identify any Queensland Heritage Places within the project corridor. The nearest Queensland Heritage Places are located in Kingaroy (“Wylarah”) approximately 20 km north of the transmission line, and in Tarong (“Tarong Homestead”) approximately 30 km east from the transmission line.
- A review of both the WDRC Cultural Heritage mapping and SBRC ‘Historic Subdivision’ mapping identified no local heritage areas within or in proximity to the corridor.

6.3 Social and economic impacts

The project is expected to generate between 100 and 110 jobs during its peak construction period, providing new employment opportunities to the region. Employment will be sourced from the local area wherever possible, therefore providing employment opportunities across a broad geographic area.

Powerlink has committed to providing employees with an allowance to find accommodation in local towns as opposed to providing worker’s camps. This will provide a greater contribution to the local economy by integrating workers and encouraging participation in the existing towns.

During the construction phase the project is unlikely to have a significant impact on the community as the construction phase is temporary and the proposed workforce is small. Further, any out of town workers that are required during the construction phase are not proposed to permanently relocated to the region.

The operational phase of the Project is not anticipated to have any material impact upon the demographic profile of local and regional populations. Workers will travel to the Project area during the operational phase to undertake maintenance activities, however, it is short term and temporary in nature.

Overall, the Project is unlikely to have significant adverse impacts on the socio-economic profile of the area during the construction or maintenance / operational phases of the Project, therefore no specific management and mitigation measures are required.

6.4 Agriculture

As discussed in Section 2.2, the project corridor is currently characterised by predominantly rural land utilised for grazing and some cropping activities. For the majority of its alignment, the project will utilise an existing transmission line easement which will be widened from 50 m to 60 m.

During construction there may be a small reduction in available grazing land however once operational grazing activities will be able to recur within the easement. As such, it is considered that the project will have limited impacts on agricultural land and existing activities.

As part of the corridor selection process, consultation has been undertaken with landholders surrounding the easement to determine the most appropriate alignment of the transmission line for the community, agricultural practices and the environment.

6.5 Flooding and hydrology

The project area is located within the Condamine and Balonne Basin in the west and the Burnett Basin in the east. The transmission line traverses three main watercourses identified under the Water Act, including Ironpot Creek, Boyne River and Stuart River. A review of the 1% AEP flood level was undertaken identified areas within the Project area are susceptible to 1% AEP which are predominantly associated with the watercourses.

The project has the potential to impact on riparian areas and surface water quality through clearing of tracks and transmission line sites.

Mitigation measures to manage flooding and hydrology impacts include:

- Position the transmission lines to be set back from the waterway banks
- Minimise clearing within the riparian areas
- Position transmission lines on higher ground and span the watercourses.

Overall, through the implementation of mitigation measures the flooding and hydrology impacts is considered moderate and manageable and would not compromise surrounding land uses. A detailed flooding and hydrology assessment will be undertaken prior to construction and will inform the project's detail design.

6.6 Bushfire

A review of the SARA DA Mapping System bushfire mapping layer identified portions of the transmission line within medium, high and very high bushfire prone areas. There is the potential for bushfire risk as a result of the project due to surrounding vegetation, climate conditions and land use activities.

Powerlink have an established On-site Fire Prevention Procedure (ASM-O&FS-PRO-A2364455) which will be applied to the project. The procedure outlines the requirements for Powerlink controlled activities that have been identified as having the potential to start fires. A fire danger rating control matrix has been established which provides controls for fire management activities. Key mitigation measures include:

- No burning of vegetation is to occur
- Cleared vegetation is not to be placed in a location which may increase any fire hazard

- Storage of flammable and combustible liquids as per the AS1940– 2004 'The Storage and Handling of Flammable and Combustible Liquids'
- Firefighting equipment must be kept on site when hot works are being undertaken
- Procedures guiding the response to emergency and fire situations, and requests from emergency management authorities

A project specific bushfire management plan will be developed prior to the commencement of construction and identify appropriate mitigation measures to minimise the risk of bushfires as a result of construction as well as appropriate emergency management procedures.

Overall, through the implementation of mitigation measures the bushfire impacts is considered moderate and manageable and would not compromise surrounding land uses.

6.7 Traffic and transport

A Transport Assessment has been prepared by Aurecon and is provided in Appendix C. It constitutes a high-level strategic assessment of the project. The TIA identifies that the peak construction activity is likely to generate 285 vehicles per day, spread between light vehicles travelling locally and heavy vehicles travelling in the region and hauling materials from the Port of Brisbane.

A road link impact assessment undertaken identifies that the construction period volume (of 15 months only) increase exceeds the 5% specified by TIA. However, this does not impact the level of service for the links after the construction period and it is deemed to be only temporary and therefore have a negligible impact only.

After the appointment of a contractor to the project, further recommendations are recommended to investigate matters regarding intersection capacity, traffic management plans, crash history, road geometry checks, capacity of bridges and culverts to carry loads, pavement impact assessment, and development of a construction traffic management plan. It is understood that the future contractor will obtain necessary transport permits from the WDRC, SBRC, DTMR and Qld Police regarding haulage of large equipment, including impact on stock routes.

Overall, the traffic generation from the proposal is considered moderate and manageable in terms of its impact on the surrounding road network and would not compromise the functionality of the Bunya Highway.

Prior to the commencement of construction, a construction traffic management plan (CTMP) will be prepared identify measures such as speed reductions, advance warning signs and site traffic control, and any other safety measures as recommended from a crash analysis.

6.8 Visual amenity

A Visual Impact Assessment Report (VIA Report) has been prepared by Aurecon and is provided in Appendix D. The assessment considered all 11 viewpoints where the transmission line intersected with roads. Viewpoints were assessed according to their visual sensitivity and the magnitude of change to visual amenity from the representative viewpoints. This sought to provide a contextual assessment of each viewpoint based upon its location and setting and provide a judgement on the impact of the proposal on the location.

There was some variance between viewpoints in terms of the type of road traversed by the transmission line with some being highways and others being small rural back roads. The assessment considered that the development is replacing an existing transmission line and the impact will be limited to the difference in height between the existing and new towers. The assessment did not review viewpoints from residential dwellings, however it is anticipated that the impacts are likely to be minor due to the existing transmission line already being present.

Overall, the sensitivity of all viewpoints were considered 'low' or 'negligible', and the magnitude of change through the replacement of towers was considered to be 'negligible'.

6.9 Air

The construction phase of the project will require activities that have the potential to impact the local air quality. Emission sources associated with the construction phase include the following:

- Site preparation activities including clearing, and grubbing required to establish tower pads
- Excavation required to establish the tower structures
- Stockpiling of excavated soil
- Dust from vehicle and machinery movements over access tracks
- Exhaust emissions from vehicle and machinery operations

The project also has the potential to impact air quality during operation and maintenance, however, these impacts are anticipated to be low. Activities associated with the operational and maintenance phase which have the potential to create air emissions include:

- Vegetation management control of regrowth within the project corridor
- Access track maintenance
- Exhaust emissions from maintenance vehicles and machinery
- Dust from maintenance vehicles using access tracks

The project will be setback from sensitive receptors, with the closest residential dwellings set back approximately 200 m from where construction activities will occur. Impacts to air quality will be managed and mitigated through measures identified in a CEMP. Recommended mitigation measures include:

- Watering stockpiles located near sensitive land uses to maintain a moisture content that minimises dust generation
- Restrict vehicle movements to within designated access tracks, and enforce speed limits where a track is unsealed
- Limit dust-producing work on windy days where possible or water down dusty works sites to minimise dust generation
- Limit work on days with high levels of bushfire smoke in the air
- Ensure chipping / mulching equipment has dust collection devices attached
- Revegetate / rehabilitate disturbed areas as soon as practical
- Ensure stationary plant, construction vehicles and equipment are working correctly and maintained as per manufacturers recommendations
- Shut down plant and equipment and avoid idling for excessive periods where possible

6.10 Electromagnetic

To determine potential increases to Electromagnetic field (EMF) strength levels Powerlink is required to perform an impact assessment associated with the transmission line. EMFs are found near high voltage and high current electrical plant and transmission lines.

A study was conducted by Powerlink in July 2022 to determine the electromagnetic impact associated with the new transmission line. The calculated field strength levels are to be compared to the International Commission on Non-Ionising Radiation Protection (ICNIRP) guideline for general public. It is noted that there are multiple existing sensitive land uses (e.g. residential dwellings) located within the study area and within 500 m of the transmission line.

The analysis considered the new transmission line being spaced 40m from the existing lines, or centrally on a 60m easement. Three areas of interest were assessed to ensure all network configurations were considered.

The magnetic field results identified that for all sections and scenarios are significantly below the ICNIRP guideline reference level for General Public of 2000 mG. The sections magnetic field maximum level results ranged from 261 to 313 mG.

The electric field results identified that for all scenarios and sections are significantly ICNIRP guideline reference level for general public of 5000 mG. The sections electric field maximum level results ranged from 1612 to 2846 mG.

Magnetic and electrical fields from the edge of the transmission line easement were noted to increase, however they remained well below the International Commission on Non-Ionising Radiation Protection (ICNIRP) guideline reference levels at 1m above ground level. As a result, the increased electromagnetic impacts caused from the new transmission line is considered safe and acceptable therefore no specific management and mitigation measures are required.

6.11 Biosecurity

An Ecological Assessment Report has been prepared by Aurecon and is provided in Appendix C. This section provides a summary of the biosecurity findings.

Restricted invasive matters are established in Queensland and seriously threaten Queensland's primary industries, natural environment livestock, human health, and people's livelihoods. The following 'Restricted Invasive Plants' under the *Biosecurity Act 2014* (Qld) were recorded within the Disturbance footprint during the ecological field investigation conducted in May 2022:

- Lantana (*Lantana camara*) – Category 3¹
- Giant Parramatta grass (*Sporobolus fertilis*) – Category 3¹

Through clearing activities, the project has the potential to increase weed proliferation. Further, there is potential for weeds to be introduced or moved during construction from earthwork equipment.

Key mitigation measures to be implemented for the project include:

- A Pest and Weed Management Plan (PWMP) will be developed as part of the Contractor's CEMP and will outline specific measures to minimise the risk of weed and pest animal establishment within and adjacent to the Project area.
- Fill and imported soil materials are to be declared weed free or to be sourced from weed free areas.
- Inspections are to be conducted to identify any significant weed infestation

Through the implementation of mitigation measures the biosecurity impacts is considered moderate and manageable.

6.12 Waste

Waste streams that will likely be generated from the project include general waste, recyclables, and regulated waste. During construction green waste will also be produced. During operation it is anticipated that the same waste streams will be produced but in much smaller quantities.

Potential impacts as a result of waste include:

- Inappropriate management or storage of wastes during the construction or operation phases of the Project can result in contamination of land and / or downstream environments.
- Generation of waste from the inefficient use of resources

A Waste Management Plan will be developed for the project to define the requirements for waste management and reporting.

¹Category 3 restricted matters must not be released into the environment, given away or sold.

6.13 Contaminated land

Searches of the Contaminated Land Register (CLR) and the Environmental Management Register (EMR) was undertaken for lots affected by the transmission line. Not lots traversed by the transmission line were identified on the CLR or EMR. The transmission line traverses rural properties which may be potentially affected by chemicals used in livestock dips and sprays. However, the impacts are likely to be minimal.

During construction unexpected finds procedure will be in place as part of the CEMP to manage contaminated land if encountered. Should contamination be confirmed present, on-site remediation of contaminated soil will be undertaken, with removal of contaminated soil for treatment or disposal off-site only to be carried out when that option is not practicable.

Overall, the contaminated land impacts are considered low and manageable for the project.

7 Consultation

Powerlink understands the importance of engaging in early discussions with key stakeholders to maintain positive and open communication and understand any key issues and / or concerns so they can be addressed prior to the submission of the MID proposal.

Powerlink has undertaken preliminary stakeholder engagement in accordance with the MGR and Attachment 2 of the *Operational Guidance for Making or Amending a Ministerial Infrastructure Designation*. A summary of the key stakeholders, engagement activities and key issues raised is provided in Table 7.2.

The following section provides a summary of the consultation undertaken to date in addition to the activities to be carried out as part of the formal consultation period as required by Part 5 of the Planning Act.

A comprehensive Project Engagement Plan (Appendix E) has been prepared by Powerlink Queensland and engagement has actively commenced. Table 7.1 identifies the relevant project stakeholders and their position against the IAP2 Public Participation Framework.

Table 7.1 Relevant project stakeholders against IAP2

IAP2 spectrum	Project stakeholders
Inform	<ul style="list-style-type: none"> ■ State MPs in region ■ Queensland Farmers' Federation/AgForce ■ Peak bodies/industry associations (including Clean Energy Council, Smart Energy Council) ■ Stanwell ■ CS Energy ■ CleanCo ■ RE-Alliance ■ Australian Energy Infrastructure Commissioner ■ Toowoomba Surat Basin Enterprise (TSBE) ■ Media
Consult	<ul style="list-style-type: none"> ■ Adjoining landholders (with potential to be impacted by new transmission infrastructure) ■ Ergon Energy ■ AGL (Coopers Gap Wind Farm owner) ■ Department of State Development, Infrastructure, Local Government and Planning ■ Local environment/community/tourism groups
Involve	<ul style="list-style-type: none"> ■ Directly affected landholders ■ Directly affected local councils – Western Downs Regional Council & South Burnett Regional Council ■ Aboriginal Parties and Native Title holders
Collaborate	<ul style="list-style-type: none"> ■ Department of Energy and Public Works (REZ delivery) ■ Cubico, Stanwell and their engagement consultant representatives ERM
Empower	Based on the nature and scope of this project, 'Empower' is not considered relevant in this context.

Table 7.2 summarises the project's stakeholders and their interests in relation to the project.

Table 7.2 Preliminary stakeholder engagement

Stakeholder	Interest
Technical	
DSDILGP	Assessment manager
WDRC	<ul style="list-style-type: none"> ■ Project impacts and effect on local properties ■ Benefits of project for community

Stakeholder	Interest
SBRC	<ul style="list-style-type: none"> Project impacts and effect on local properties Benefits of Project for community
ERGON Energy	Owner of existing transmission line infrastructure located within the Project corridor
AGL	Owner of Coopers Gap Wind Farm
Political	
<ul style="list-style-type: none"> Elected representatives, including the Local, State and Federal members, namely: <ul style="list-style-type: none"> Mayor of WDRC, Cr Paul McVeigh Mayor of SBRC, Brett Otto State Member for Nanango, Deb Frecklington State Member for Colide, Colin Boyce Federal member for Maranoa, David Littleproud 	<ul style="list-style-type: none"> Project impacts and effect on local properties Benefits of Project for community
Landowners	
Directly affected landowners	Impacts of the Project on their land
General community	
Surrounding landowners, local businesses, and organisations	<ul style="list-style-type: none"> Impacts of the Project on their land Social and environmental interest in the Project
Indigenous groups/Native title party	
Relevant Aboriginal Parties	Cultural Heritage Management Agreement between Powerlink and traditional owners

7.1 Engagement approach

The engagement strategy focuses upon early and comprehensive engagement with a wide range of stakeholders. Extensive engagement has occurred to date as summarised in Table 7.3.

Table 7.3 Summary of stakeholder engagement

Stakeholder	Reason/s for engagement	Communications activity
Government Agencies		
DSDILGP	Assessing authority for MIDs	<ul style="list-style-type: none"> Pre-lodgement meeting to help understand key issues and information requirements for subsequent stages of MID. Endorsement of preliminary stakeholder and community engagement approach Liaise with DSDILGP assessment officers where necessary
Western Downs Regional Council	WDRC are responsible for managing local interests, particularly during the construction phases. WDRC will also be a key stakeholder in the Minister's decision.	<ul style="list-style-type: none"> Fact sheets and Q&As Local government briefing sessions Formal pre-lodgement meeting
South Burnett Regional Council	SBRC are responsible for managing local interests, particularly during the construction phases. WDRC will also be a key stakeholder in the Minister's decision.	<ul style="list-style-type: none"> Fact sheets and Q&As Local government briefing sessions Formal pre-lodgement meeting
Ergon Energy	Ergon Energy own existing transmission line infrastructure located within the project corridor.	<ul style="list-style-type: none"> Fact sheets and Q&As Stakeholder emails/phone calls

Stakeholder	Reason/s for engagement	Communications activity
AGL	Owner of Coopers Gap Wind Farm which is located within the Project corridor.	<ul style="list-style-type: none"> Fact sheets and Q&As Stakeholder emails/phone calls
Political		
Elected representatives, including the Local State and Federal members, being: <ul style="list-style-type: none"> Cr Paul McVeigh (Mayor of WDRC) Brett Otto (Mayor of SBRC) State Member for Nanango, Deb Frecklington State Member for Colide, Colin Boyce Federal member for Maranoa, David Littleproud 	Elected representatives for the Project area responsible for managing local interests. Potential escalation points for affected landholders.	<ul style="list-style-type: none"> Fact sheets and Q&As Government briefing meetings
Community		
Affected landowners	The project will impact 42 parcels of land and 32 landholders	<ul style="list-style-type: none"> Landholder meetings Project specific newsletter Project website
Surrounding landowners, local businesses and organisations	Local residents may have social and environmental interest in the Project and will have specialised insights and knowledge regarding the local area.	<ul style="list-style-type: none"> Fact sheets and Q&As Community Information Drop-In Sessions Project specific newsletter Project website
Indigenous groups/Native title party		
Relevant Aboriginal Parties	Cultural Heritage Management Agreement between Powerlink and traditional owners	<ul style="list-style-type: none"> Q&A, letters and meetings as required to establish cultural heritage arrangements.

Prior to submission of this assessment report, Powerlink has undertaken numerous engagement activities with all stakeholders. Table 7.4 provides an overview of activities undertaken and the timing.

Table 7.4 Summary of Powerlink engagement activities

Milestone	Communication activity	Timing	Target stakeholders	Notes
Preparation for initial engagement activities	Prepare high level messages	June 2021	<ul style="list-style-type: none"> Landholders Other stakeholders Wider community 	High-level messages to provide general project information. To be used by Cubico / Stanwell at community meetings (prior to PQ attendance)
	Project web page	August 2021	<ul style="list-style-type: none"> Landholders Other stakeholders Wider community 	Prep project web page to reflect process and next steps.
	Book government briefings	August 2021	<ul style="list-style-type: none"> Western Downs and South Burnett Regional Councils Local MP/s 	Lead-time to book meetings to provide formal update. For further discussion with the Minister's Office re local MP briefing requirements.

Milestone	Communication activity	Timing	Target stakeholders	Notes
	Q&As	July 2021	<ul style="list-style-type: none"> Other stakeholders Wider community 	Prepare Q&A document to reflect latest project intricacies.
	Prep for initial landholder engagement	July 2021	<ul style="list-style-type: none"> Landholders 	Establish contact list and provide context around project options and next steps.
Start targeted engagement	Government briefings	August/September 2021	<ul style="list-style-type: none"> Western Downs Regional Council South Burnett Regional Council Local MPs (non-govt) – Deb Frecklington, MP for Nanango + Colin Boyce, MP for Callide. Meetings to be scheduled based on feedback from Energy Minister’s office re engagement 	Refer to Q&As and provide overview information
	Landholder meetings	September 2021	<ul style="list-style-type: none"> Landholders on existing 132 kV line easement 	Refer to Q&As and provide information
	Stakeholder emails/ phone calls	September 2021	<ul style="list-style-type: none"> Other stakeholders in Stakeholder List as required 	Refer to Q&As and provide information.
Wider community engagement	Preliminary Engagement Plan, Q&As, key messages based on interactions to date	August/September 2021	<ul style="list-style-type: none"> All 	Strategic documents to underpin communication activities.
	Book and commence discussions with local interest groups Consider if project Facebook page is appropriate and/or use of other channels to share information	As required	<ul style="list-style-type: none"> Ergon Energy Directly connected customers (e.g., CS Energy, Stanwell) Industry bodies e.g., TSBE, CEC Tourism agencies Agriculture sector groups (e.g., Agforce, QFF) 	Presentation with an update on the project and the next steps.
	Draft web page content updates	September/October 2021	<ul style="list-style-type: none"> Landholders Other stakeholders Wider community 	Web page to include updated information.
	Prep for Community Drop-In Sessions	November 2021	<ul style="list-style-type: none"> Landholders Other stakeholders Wider community members 	Sessions to be held in Jandowae and Kingaroy
	Community Drop-in Sessions held in Jandowae and Kingaroy	November 2021	<ul style="list-style-type: none"> Landholders Other stakeholders Wider community members 	
Local Supplier/ Procurement engagement	Online forum on local supplier and procurement opportunities	November 2021	<ul style="list-style-type: none"> Local businesses and contractors 	Presentation prepared with key opportunities for local suppliers and contractors to seek work with Powerlink as part of the project.

Milestone	Communication activity	Timing	Target stakeholders	Notes
Traditional Owner Group engagement	Initial engagement and engagement on Cultural Heritage matters	February – April 2022	<ul style="list-style-type: none"> Traditional Owner Groups 	Three Traditional Owner Groups with interest in the project
Preparation prior to Draft Corridor Selection Report release	Preliminary Engagement Plan, Q&As, key messages, as needed	February 2022	<ul style="list-style-type: none"> ALL 	
	Book Government briefings	March 2022	<ul style="list-style-type: none"> Western Downs and South Burnett Regional Councils Local MP/s 	Lead-time to book meetings to provide formal update on Draft CSR (+ Stanwell line relocation project). For further discussion with the Minister's Office re local MP briefing requirements.
	Web page information, add social pinpoint page to website	March 2022	<ul style="list-style-type: none"> Landholders Other stakeholders Wider community 	Include Draft CSR and relevant contact info to provide feedback.
	Landholder letter and planned engagement	March 2022	<ul style="list-style-type: none"> Landholders 	Network Property drafting letter to landholders
Draft Corridor Selection Report released	Engage directly with landholders	March 2022	<ul style="list-style-type: none"> Landholders 	Mail (or email) distribution of Draft CSR with cover letter explaining detail and process
	Engage with other stakeholders and community	March 2022	<ul style="list-style-type: none"> Western Downs and South Burnett Regional Councils Local MPs Other stakeholders (including community session attendees) Wider community 	Email distribution of Draft CSR to councils and local MPs, with offer of face-to-face briefing Email distribution of Draft CSR to other stakeholders (see stakeholder list)
Final Corridor Selection Report released	Engage with landholders	November 2022	<ul style="list-style-type: none"> Landholders 	Mail distribution of final CSR with cover letter highlighting changes between draft and final (at high level) and where landholder feedback was incorporated
	Engage with other stakeholders and community	May 2022	<ul style="list-style-type: none"> Western Downs and South Burnett Regional Councils Local MPs Other stakeholders (including community session attendees) Wider community 	Email distribution of Draft CSR to councils and local MPs, with offer of face-to-face briefing Email distribution of Draft CSR to other stakeholders (see stakeholder list)
	Web materials and Project Newsletter with details of Final CSR	May 2022	<ul style="list-style-type: none"> All 	Update all materials to reflect Final CSR release and details.

Milestone	Communication activity	Timing	Target stakeholders	Notes
Ministerial Infrastructure Designation Process begins	MID process begins. Preparation of Assessment Report underway.	At time of MID lodgement	<ul style="list-style-type: none"> All 	

7.2 Consultation and further engagement

Powerlink is continuing its direct engagement activities with stakeholders and land holders as a part of the public consultation process for this assessment report. Advertisements will be placed in local newspapers advertising the opportunity to view and provide a submission on the report to the Minister for State Development, Local Government and Planning.

A copy of the report has been provided direct to landholders and key stakeholders, and publicly displayed in relevant places in the local community.

Landholders and other stakeholders can lodge formal submissions on this document and the development in general by:

- Emailing infrastructuredesignations@dsdilgp.qld.gov.au or
- Posting PO Box 15009, City East Qld 4002.

This assessment report and public submissions will be considered by the Department of State Development, Infrastructure, Local Government and Planning.

Ongoing engagement with landholders and other stakeholders remains a key focus during all phases of Powerlink projects. This ensures Powerlink can strengthen and leverage relationships with landholders and other stakeholders well into the future for the entire project lifecycle.

8 Conclusion

This MID proposal has been prepared by Aurecon on behalf of Powerlink who are seeking a Ministerial Infrastructure Designation under Part 5 of the Planning Act for a proposed transmission line.

Powerlink has been engaged by the Wambo Wind Farm proponents (Cubico and Powerlink) to connect the renewable energy facility to the network. The connection works will comprise of a double circuit 275 (kV) high voltage transmission line, commencing at the proposed new Diamondy Substation to be constructed at the Wambo Wind Farm and tracking east for approximately 47 km, before connecting into Powerlink's existing Halys Substation.

The project is defined as 'electricity operating works' under Schedule 5, Part 2, Item 7 of the Planning Regulation.

The project corridor has been determined through a detailed corridor selection process which identified the preferred alignment as having the most minimal social and environmental impact. By utilising the existing transmission line easement, the overall impact of the project has been significantly reduced.

As demonstrated throughout this report and in the relevant supporting technical studies, impacts of the project have been thoroughly assessed and any relevant mitigation methods will be implemented through the future construction and implementation phases.

The key finding this MID proposal include:

- Community benefit of the project is expected to be positive, with creation of jobs sourced locally and placement of workers in towns will boost the local economy
- The project will help support Queensland's renewable energy production targets
- Environmental and social impacts of the project will be minimal given the utilisation of an existing transmission line corridor
- Several mitigation methods will be employed to reduce environmental impacts of the project, including reduction in the vegetation clearing area, the implementation of a CEMP and a high risk species management program
- Traffic impacts of the project during construction will be moderate and manageable in terms of its impact upon the surrounding road network and it is not likely to compromise the functionality of Bunya Highway.

Given the above, it is considered that the project appropriately manages or mitigates potential environmental impacts and that the proposed designation aligns with the guiding principles, policies and assessment benchmarks for the key State interests under the legislative framework. The project has undergone a comprehensive environmental assessment, in addition to extensive preliminary consultation with key stakeholders. As such, it is considered that the project is suitable for designation by the Minister under Section 36 of the Planning Act.

Appendix A

Project Plans



Appendix B

Initial Advice from DSDILGP



Appendix C

Transport Assessment



Appendix D

Visual Impact Assessment



Appendix E

Project Engagement Plan



Appendix F

Ecological Assessment Report



Appendix G

Corridor Selection Report



Appendix H

SDAP Code Assessment



Appendix I

Searches



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