Borumba Pumped Hydro Project -Proposed Halys Transmission Corridor

Final Corridor Selection Report

**SEPTEMBER 2023** 



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## **Executive summary**

This Final Corridor Selection Report (CSR) has been prepared by Queensland Electricity Transmission Corporation Limited, trading as Powerlink Queensland (Powerlink), for the proposed Halys transmission connection from the Borumba Pumped Hydro Energy Storage (PHES) Project. Powerlink has engaged AECOM Australia Pty Ltd (AECOM) to undertake technical, spatial and mapping analysis to support the preparation of both the Draft and Final CSRs.

## **Project background**

The Queensland Government has committed to unlocking renewable investment and achieving a Renewable Energy Target (RET) of 80% by 2035. In September 2022, the Queensland Government released the Queensland Energy and Jobs Plan (QEJP), identifying the critical role of long duration PHES in Queensland's energy transformation, and more broadly in meeting our global responsibilities to reduce greenhouse gas emissions. The QEJP also outlined the need for the transmission network to evolve to meet the changing electricity system.

As part of delivering on this commitment, the Queensland Government also announced the creation of Queensland Hydro, a publicly owned entity to carry out detailed analytical studies for a PHES facility at Borumba Dam, located near Imbil and south-west of Gympie. Powerlink has been engaged by Queensland Hydro to develop two new transmission lines to connect the PHES to the existing transmission network.

This includes new high voltage transmission lines connecting the PHES at Woolooga in the north and Halys in the south-west. These connections are the first stage in the development of the transmission network required under the QEJP, providing support for load growth, future renewable energy developments in Wide Bay and Central Queensland, and access to high quality renewables in South West Queensland.

The detailed analytical studies for the PHES are considering a facility capable of generating between 1,500 megawatts (MW) to 2,000MW with up to 24 hours of storage. When operational, the facility will have the capacity to supply electricity to up to two million Queensland homes.

This increase in generation capacity will require new transmission connections. This Final CSR has been prepared on the basis of 500 kilovolt (kV) transmission connections to Powerlink's network for the PHES facility.

The purpose of this Final CSR is to outline the engagement undertaken with landholders, the community and other stakeholders regarding the corridor selection process, how feedback has been considered, and refinements made to finalise a 1km-wide corridor, in which a 70m-wide easement alignment will be determined.

## Approach to corridor selection

Initial stakeholder engagement regarding the proposed project began in December 2021 and was followed by the release of a study area in mid 2022, when Powerlink commenced investigations into potential corridor options to connect the PHES facility to the transmission network.

As a key component of the transmission network development processes, Powerlink sought community and stakeholder input on the study area in July and August 2022. This engagement included hearing from local councils, Traditional Owners, peak bodies and the wider community to understand and gain better insights into important community matters and what is happening in the area. These investigations also involved a strategic desktop assessment of legislative frameworks, and spatial analysis of land characteristics, environment, heritage and social constraints. It also



included broad and targeted site visits with Traditional Owner representatives to advise on cultural values and constraints.

Corridor options considering these constraints were then developed, including three potential transmission corridors four kilometres (km) in width, with a sub-option for each. These corridor options were taken to the community for their feedback and input in late 2022 and early 2023.

The corridor selection process builds on the outcomes of the earlier corridor options analysis, which examined each of the corridor options based on further assessment of feedback received from community engagement, physical land, environment and heritage values, social impacts, legislative requirements, and technical input from Powerlink in relation to constructability of transmission lines.

Three objectives were identified to inform the approach to corridor selection:

Social To consider the use of land and the community livelihood within and adjacent to corridor options.



Environment To consider a balanced approach to corridor selection with the least practicable impact on environment and heritage values.



**Economic** To consider construction and operational factors such as cost at a preliminary level, given the scale of the project.

The methodology for corridor selection was developed to incorporate:

- the feedback from engagement with landholders, Traditional Owner groups, the local community and other stakeholders
- publicly available spatial data relating to environment, planning and heritage constraints
- technical information provided by Powerlink relevant to the planning and delivery of transmission line infrastructure.

Corridor selection has been undertaken in two phases:

- 1. corridor selection selecting which 4km-wide corridor option has the least overall impact across the objectives
- 2. corridor refinement identifying a 1km-wide recommended corridor within the 4km-wide corridor option.

Each phase was driven by the identified social, environment and economic objectives.

Halys Central (Option A) corridor was selected as the 4km-wide corridor option with the least overall impact across social, environment and economic objectives when compared to the other corridor options. A 1km-wide recommended corridor was than identified within the selected 4km-wide corridor based on the same set of objectives. Further information on the 4km-wide corridor analysis and identification of the 1km-wide recommended corridor is set out in Powerlink's Borumba Pumped Hydro Project – Proposed Halys Transmission Corridor Draft Corridor Selection Report (available online at <u>powerlink.com.au/borumbatransmission</u>). A summary of the full document is also available on this webpage.

### Final 1km-wide corridor

Throughout the corridor selection process, Powerlink sought feedback at various stages to help inform the refinement and selection of a final 1km-wide corridor. Recent feedback on the 1km-wide recommended corridor, as part of the Draft CSR consultation period, identified opportunities within sections of the corridor where improved co-existence between Powerlink's potential infrastructure and existing land uses could be achieved. Working with landholders in those areas, Powerlink

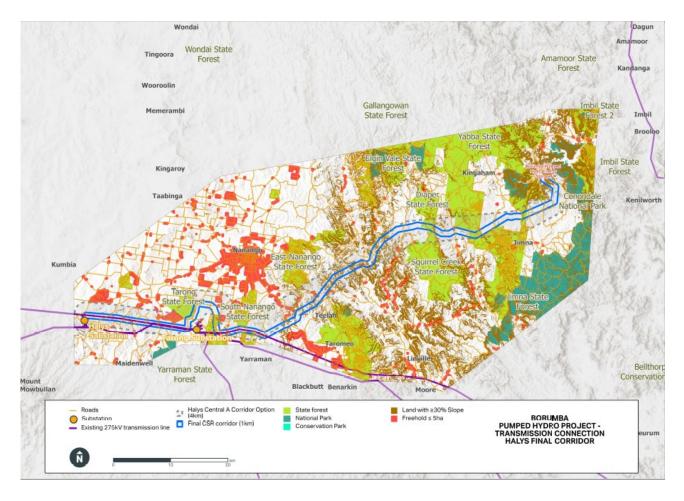


considered and adopted feedback resulting in minor realignments of the corridor (located within the 4km-wide corridor option) with a slight increase in length (1km) to the overall corridor.

Through the corridor selection process a final 1km-wide corridor has been identified, in which a 70m-wide easement alignment will be determined. The final 1km-wide corridor maintains the ability to:

- reduce the impact on the number of landholders and particularly smaller land parcels
- avoid National Parks
- avoid critical infrastructure, community facilities and townships
- minimise impacts on agriculture, intensive land use and strategic cropping land
- optimise the use of State-owned land
- identify potential to co-locate with existing transmission lines
- minimise the overall land required to support new transmission infrastructure
- enhance opportunities for co-existence.

Figure 1: Final 1km-wide corridor





# **1.0 Introduction**

## 1.1 **Project background**

The Queensland Government has committed to unlocking renewable investment and achieving a Renewable Energy Target (RET) of 80% by 2035. As part of delivering on this commitment, Queensland Hydro is carrying out detailed analytical studies for a potential Pumped Hydro Energy Storage (PHES) facility at Borumba Dam, located near Imbil and south-west of Gympie.

Land parcels adjoining Borumba Dam were acquired to support a future PHES facility nearly four decades ago. This land is now owned by Queensland Hydro as the delivery entity of the PHES facility.

Detailed analytical studies for the PHES are considering a facility capable of generating between 1,500 megawatts (MW) to 2,000MW with up to 24 hours of storage. When operational, the facility will have the capacity to supply electricity to up to two million Queensland homes.

This increase in generation capacity will require new transmission connections. This Final CSR has been prepared on the basis of 500 kilovolt (kV) transmission connections to our network for the PHES facility.

The QEJP applies a whole-of-system planning approach, setting out the pathways and targets that will facilitate a low carbon economy in the future and ensure an orderly, least-cost transformation of Queensland's power system.

Powerlink will play a critical role in supporting the energy transformation over the coming decade.

Figure 2: Queensland Energy and Jobs Plan

### Plan and Blueprint



- Three focus areas: Clean Energy Economy
  - Empowered households and businesses
  - Secure jobs and communities



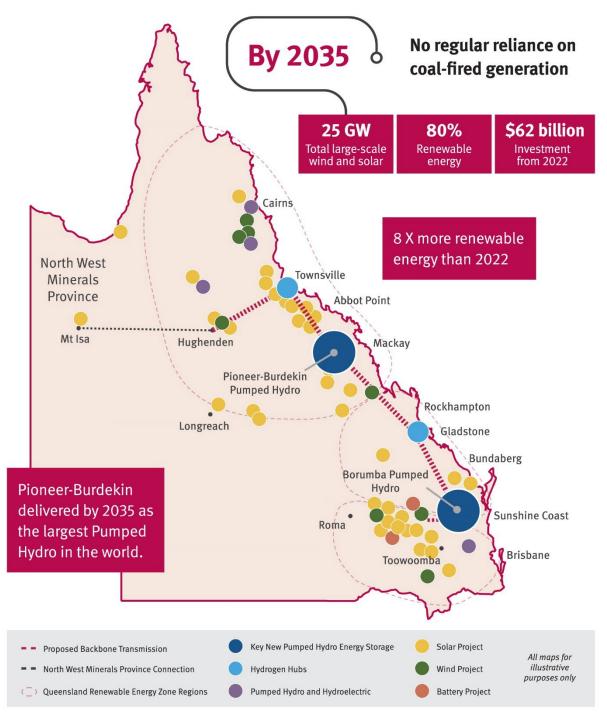
- Queensland SuperGrid Infrastructure Blueprint outlines the infrastructure to enable the decarbonisation of the existing electricity system
- Includes Renewable Energy Zones, Pumped Hydro Energy Storage and High Capacity Transmission

### Key targets and objectives









The Queensland Government has outlined the optimal infrastructure pathway in the *Queensland SuperGrid Infrastructure Blueprint*.

Projections informed by independent modelling and internal analysis

## 1.2 Purpose of this report

Powerlink has prepared this Final Corridor Selection Report (Final CSR), to conclude the early engagement, corridor selection and assessment processes, involving landholders, Traditional Owners, the community and other stakeholders, to identify a final 1km-wide corridor.



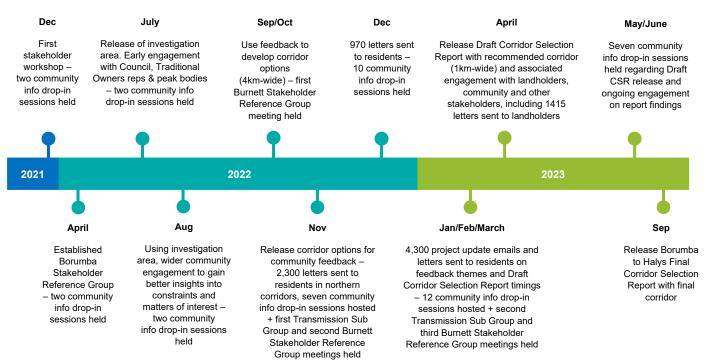
Following the finalisation of the 1km-wide corridor, detailed discussions will continue with all directly impacted landholders, Traditional Owners and other stakeholders, and further analysis and studies undertaken to enable the refinement of the final 1km-wide corridor to a 70m-wide easement alignment.

The purpose of this Final CSR is to document the overall corridor selection process including early engagement and assessment outcomes as described below:

- consideration of all stakeholder input and feedback in identifying key criteria
- development of objectives, criteria and measures to identify and select a corridor option that has the least overall impact from a social, environmental and economic perspective
- selection of the 4km-wide corridor option, with further refinement to a 1km-wide recommended corridor in consideration of the corridor selection objectives
- engagement with landholders to understand land use and any known constraints
- identification of a final 1km-wide corridor for further refinement to a 70m-wide easement alignment.

Subsequent phases of the project will include further landholder and stakeholder engagement including Traditional Owners, detailed environmental and social impact assessments including targeted investigations and the development of planning, design and construction considerations. Figure 4 provides the timeframe for the corridor selection process and engagement.







## 2.0 Final 1km-wide corridor

Following release of the Draft CSR, landholders, Traditional Owners, the community and other stakeholders were invited to provide feedback on the 1km-wide recommended corridor. Valuable feedback influenced the location of the final corridor through identification of how the land is used, local constraints, improvements and future development plans. Based on this feedback, minor realignments of sections of the previously identified recommended corridor have been adopted.

The final 1km-wide corridor will now be further refined, narrowing to a 70m-wide easement alignment. Powerlink will continue to work directly with landholders and key stakeholders, in parallel with completing field and site investigations, to best determine the final alignment.

## 2.1 Corridor engagement and feedback

Powerlink acknowledges the time and effort undertaken by landholders, Traditional Owners, the community and other stakeholders who provided feedback on the Draft CSR. In addition, it is important to note that the analysis of community feedback on the Draft CSR within this report forms part of Powerlink's broader commitment to genuine and meaningful engagement, which has been underway since December 2021. Further details on early engagement matters and related feedback is available in the Draft CSR and associated summary document which can be viewed on the Powerlink website - <u>powerlink.com.au/borumbatransmission</u>.

### 2.1.1 Corridor engagement

Powerlink has established constructive working relationships with nearby landholders and other stakeholders. In April 2023, Powerlink released the recommended corridor in the Draft CSR, completing a further round of community consultation with directly impacted landholders, Traditional Owners, the broader community, state government agencies and other stakeholders. Information on the Draft CSR release was shared via:

- phone calls to landholders
- letters and emails to landholders, the community and other stakeholders
- briefings with the Stakeholder Reference Groups, Traditional Owner representatives, local government agencies and environmental groups
- Draft CSR summary fact sheet
- Powerlink website information
- provision of hard copy Draft CSR in local libraries
- media release.

Community consultation on the Draft CSR was open for public comment between 27 April 2023 and 3 July 2023. During this time, feedback was received via various methods including emails, feedback forms and through Powerlink's online interactive mapping, providing the opportunity to comment directly on the 1km-wide recommended corridor map, highlighting their areas of interest and feedback. Throughout this consultation period, Powerlink had 128 interactions with landholders, providing copies of mapping and discussing on-ground insights as to how properties are used, helping to identify the final corridor.

In addition, four Community Information Drop-In Sessions were held in May and June 2023 at Jimna, Nanango, Yarraman and Maidenwell to enable face-to-face engagement. These sessions were promoted via Powerlink's website and social media channels, newspaper advertisements, various community Facebook groups, local government channels, and posters/flyers on community noticeboards in key townships.



Since December 2021, Powerlink has shared information and gathered feedback for the Borumba Pumped Hydro Project transmission connections (regarding both the Borumba to Halys and Borumba to Woolooga transmission lines) via:

- 44 community information drop-in sessions, attended by more than 2,100 residents
- 5,757 project update emails and 8,615 letters sent to landholders
- more than 581 digital and hardcopy feedback forms received
- 1,127 comments received and responded to on our online interactive map
- phone calls and emails with landholders
- meetings with local community groups and landholders
- letterbox drops across the wider community in the South Burnett and Somerset areas
- briefings with Stakeholder Reference Groups, Traditional Owners representatives, state and local government officials, and representatives from a number of state government departments
- selective site visits with Traditional Owner representatives
- social media channels, and advertisements in local newspapers and other publications, and radio stations
- more than 21,536 visits to the project webpage (<u>powerlink.com.au/borumbatransmission</u>).

### 2.1.2 Corridor feedback

All feedback received during the Draft CSR consultation period has been incorporated by theme into this report with a detailed summary enclosed within Appendix A of the report.

Feedback received from landholders within the recommended corridor was consistent with earlier engagement for the project which commenced in a more targeted manner in July 2022. The themes cover a wide range of topics including biosecurity, impacts to properties and accessibility, impacts to land values, visual amenity, economic impacts and compensation.

The top five matters raised by landholders regarding the Borumba to Halys transmission line connection included:

- corridor alignment requests (to minimise property impacts)
- biosecurity (including the control and prevention of invasive weeds and pests)
- compensation
- property accessibility
- impacts to properties (including impact to farming operations, planned subdivisions and future builds).

Through Powerlink's ongoing engagement with landholders, 'corridor alignment' emerged as the most common feedback theme. This included areas that can be taken into consideration within the 1km-wide corridor and also included proposed realignment of sections outside of the 1km-wide corridor. In response to the feedback received, Powerlink has made direct changes to the 1km-wide corridor (see Figure 5), taking into consideration:

- business/farming impacts
- environmental constraints
- design and engineering constraints (e.g. steep terrain)



• proximity to residential homes.

Ongoing discussions with landholders will consider other areas within the proposed 1km-wide corridor identified through this feedback theme as we determine a potential alignment for the 70m-wide easement.

### 2.1.3 Corridor alignments

Powerlink's commitment to early, ongoing and transparent engagement with landholders, Traditional Owners and government agencies, has resulted in tangible changes to the corridor. As a result of feedback received, Powerlink has investigated four areas for realignment:

1. Lake Borumba

The anticipated connection to the proposed substation at Borumba has shifted within Queensland Hydro-owned properties. As a result, the connecting transmission lines have been realigned with these same properties, continuing to minimise any further impacts to surrounding landholders. This realignment has been **adopted** in the final 1km-wide corridor.

2. Kilcoy-Murgon Road East

This alignment commences east of the Jimna State Forest. This change is to avoid a dwelling site and to accommodate changes adopted west of Kilcoy-Murgon Road West. This realignment has been **adopted** in the final 1km-wide corridor.

3. Kilcoy-Murgon Road West

This alignment occurs near the Jimna and Diaper State Forests intersection. A combination of environmental constraints, steep terrain, and impacts to current farming and business practices were factors in this alignment. This will include the addition of three new landholders from within the existing 4km-wide corridor option. The three new landholders and existing landholders worked collaboratively to consider the realignment to agree on a solution. This realignment has been **adopted** in the final 1km-wide corridor.

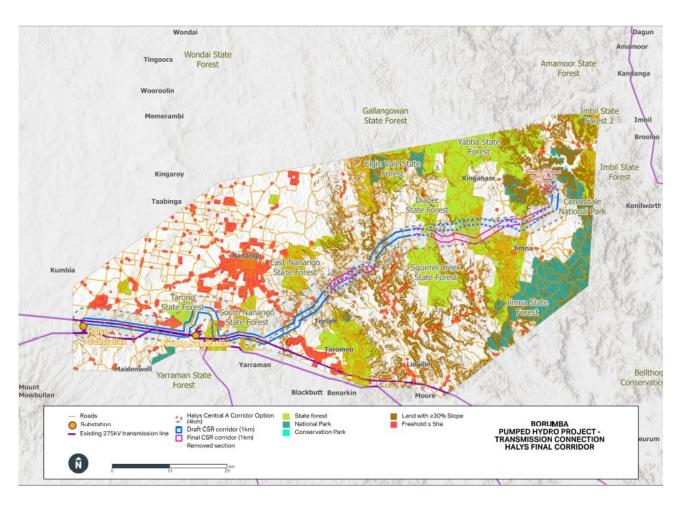
4. Brisbane River

This alignment occurs in the Brisbane Valley area where the corridor intersects the Brisbane River. This area is constrained by existing land use, location of residential dwellings, proximity to flood plains and various other environmental factors. With the identified constraints, the realignment offers greater ability to minimise impacts in this area. Detailed discussion with landholders will continue through our next phase as we identify a 70m-wide easement alignment in this area. This realignment has been **adopted** in the final 1km-wide corridor.

With these realignments adopted, the final 1km-wide corridor length has increased by 1km (1%) overall, resulting from landholder consultation to improve co-existence opportunities with possible infrastructure in this area. Further detail on the social, environment and economic criteria is contained in Appendix B.

Figure 5 below shows the recommended corridor in blue, while the final corridor realignments are shown in pink. The hatched line areas reveal where changes have been made and these sections removed between the draft and final corridor, based on landholder and key stakeholder feedback.







### 2.2 Summary of final 1km-wide corridor

Overall, the final 1km-wide corridor continues to achieve the least overall impact across social, environment and economic objectives.

The final 1km-wide corridor further reduces impacts on strategic cropping land and Category A,B,C,R Least Concern vegetation, while increasing impacts on vegetation Category A,B,C,R Of Concern and Essential Habitat. Refinement of the 1km-wide corridor to a 70m-wide easement alignment will be aimed at avoiding and minimising these impacts.

With a slightly longer corridor now being finalised (1km of additional length), three new landholders have been amicably introduced to the project. Appendix C identifies the high-level constraints and opportunities across the final corridor.

Further opportunities to minimise social, environmental and economic impacts will be identified and maximised as the final 1km-wide corridor is refined to a 70m-wide easement alignment. The design phase is key to being able to take advantage of any opportunity to further reduce impacts in conjunction with feedback from landholders.



Objective and Criteria	Unit	Recommended Corridor (1km-wide)	Final Corridor (1km-wide)	
Social				
Criteria 1: Strategic cropping and agricultural land use	ha	858	798	
Criteria 2: Properties <5ha	count	18	19	
Criteria 3: State-owned land	%	12	10	
Criteria 4: Number of properties	count	164	168	
Criteria 5: Intensive use	ha	25	25	
Environment				
Criteria 1: Endangered RE (Cat A,B,C,R)	ha	325	325	
Criteria 2: Of Concern RE (Cat A,B,C,R)	ha	1946	2148	
Criteria 3: Least Concern RE (Cat A,B,C,R)	ha	1484	1114	
Criteria 4: Essential habitat	ha	681	1085	
Criteria 5: National Park	ha	0	0	
Economic				
Criteria 1: Corridor length	km	105	106	
Criteria 2: Land >30% slope	%	10	10	
Criteria 3: Co-location with 275kV line	km	26	26	

Table 1: Assessment of Halys 1km-wide recommended corridor and final corridor

The engagement completed to date reflects Powerlink's commitment to a project that serves the needs of Queensland, but also to understanding and responding to the needs of landholders and Traditional Owners. It shows Powerlink's commitment to actively listen to feedback received and respond where feasible to lessen impacts to properties, business operations and environment.

Powerlink has considered and utilised State Forests and other State-owned land to lessen impacts to the community, and as a result, is continuing to engage with the relevant state agencies.

Powerlink acknowledges the deep and ongoing connection the Traditional Owner parties have with the area, and value their insights provided. The project team is continuing to engage with Traditional Owners beyond the formal consultation period, helping to gain more in-depth insights into areas of cultural significance.



## 3.0 Legislative and approval requirements

There are a number of potential legislative and approval requirements in order to progress the project. Some of the local, state and federal government approval frameworks are discussed in this section.

## 3.1 **Potential environmental approvals**

The final 1km-wide corridor requires further investigation from an environmental perspective. At this scale, the potential for approvals for a transmission line through this corridor can only be provided at a preliminary level. A full list of legislative considerations and other obligations is provided within Appendix D. Potential approvals are identified below and are subject to further corridor refinement, actual infrastructure disturbance locations and further ecological and cultural heritage investigations:

- Ministerial Infrastructure Designation under the Planning Act 2016 (Qld)
- *Environment Protection and Biodiversity Conservation Act (EPBC) 1999 (Cth)* referral and potential approval for significant impact on Matters of National Environmental Significance
- clearing permit under the Nature Conservation Act 1992 (Qld)
- species management program (SMP) under the *Nature Conservation (Animals) Regulation* 2020 (*Qld*) for the tampering of active breeding places where impact cannot be avoided (Low Risk SMP required for impact to Least Concern species / High Risk SMP is required for impact to colonial breeders, near threatened, Vulnerable, Endangered and Critically Endangered species)
- soil disposal permit under the *Environmental Protection Act (EP Act) (Qld)* to remove contaminated soil for treatment and/or disposal
- riverine protection permit where the Riverine protection permit exemption requirements under the *Water Act 2000 (Qld)* cannot be met.

Offsets are likely to be applicable to some of the approvals above. To determine the likely offset requirements under the EPBC Act (Cth) and *Environmental Offsets Act (Qld)*, field surveys and the following assessments are recommended:

- a significant impact assessment using the EPBC Act Significant Residual Impact Guidelines Policy Statement 1.1
- a significant residual impact assessment under the Queensland Environmental Offsets Policy Significant Residual Impact Guideline: *Nature Conservation Act 1992*, and *Environmental Protection Act 1994*.

Prior to the future construction of the project, further assessment of the project's potential legislative obligations should be undertaken once the corridor is further refined, and once additional desktop and field investigations have been undertaken. Additionally, where approvals are required, potential offsets will also need to be considered.

For further detail on legislation potentially applicable to the corridor, refer to Appendix E.



## 4.0 Conclusion and future studies

The final 1km-wide corridor has been identified for the Halys connection for the Borumba Pumped Hydro Project. The assessment used criteria and measures informed by feedback from landholders, Traditional Owners, the community and other stakeholders, and spatial analysis.

Engagement with landholders as part of the Draft Corridor Selection Report (CSR) process has established constructive relationships. Powerlink will seek to build on and incorporate further collaboration with landholders and other stakeholders moving forward. This collaborative approach will strengthen our ability to identify and integrate amicable solutions, resulting in stronger opportunities for co-existence with landholders.

Through the corridor selection and refinement processes, the final 1km-wide corridor:

- seeks to minimise the impact on the number of landholders and particularly smaller land parcels
- avoids National Parks
- avoids critical infrastructure, community facilities and townships
- minimises impacts on agriculture, intensive land use and cropping lands
- optimises the use of State-owned land
- identifies potential to co-locate with existing transmission lines
- minimises the overall land required to support new transmission infrastructure
- enhances opportunities for co-existence.

Following release of the Final CSR, additional detailed technical studies and continued engagement will help to narrow down and determine a 70m-wide easement for the final transmission line alignment.

### 4.1 Future studies

Detailed field studies are required to further identify project constraints at an individual property level, and opportunities within the final 1km-wide corridor, to optimise the transmission line design whilst achieving the social, environment and economic objectives of the project. This phase (design) of the project focuses heavily on identifying specific areas to avoid, mitigate and to further manage throughout the design of the proposed transmission line alignment.

Planning approval through the use of the Ministerial Infrastructure Designation process will be required for this project. In addition, detailed environmental assessments and approvals will also be undertaken as part of the design phase. Concurrent to these processes, property access and easement negotiations will also commence. To facilitate these processes, various elements require further details such as those referenced below.

#### Social

- Collaboration ongoing engagement with affected landholders and Traditional Owner groups on the final 1km-wide corridor to understand use of land, areas of cultural value and where possible to minimise potential impacts.
- Visual amenity assessment further assess visual amenity in relation to possible transmission tower locations, proximity from dwellings and areas with significant community value.



### Environment, heritage and planning

- Ecology based on the vegetation present within the 1km-wide final corridor, there is
  potential for the corridor to contain areas of habitat for threatened flora and fauna species,
  or threatened ecological communities. Further assessment will be undertaken to determine
  the potential impact to habitat for threatened flora and fauna species. Assessment should
  comprise a detailed desktop assessment and targeted field surveys.
- Biosecurity matters field investigations, ecology reports and detailed discussions with landholders are needed to identify potential biosecurity risks and the appropriate management plans.
- Heritage studies ongoing close engagement with Traditional Owner groups and subject matter experts is required to identify any potential risk to Aboriginal and Non-Aboriginal heritage values that should be avoided or managed.

### Economic

 Design phase – various detailed investigations are required to assist and define the detailed design of the final easement alignment including tower locations. These studies are not limited to but include land use, terrain, geology, soil and ground conditions, flood potential and unexploded ordnance (UXO). Field investigations including sampling and analysis are recommended where possible and can be combined with technical surveys where appropriate.

The corridor selection process has relied on data from publicly available data sources and the feedback of all engagement activities undertaken to date. Investigations will need to be undertaken and mapped at the individual lot-based/property-specific level and taken into consideration during the design of the proposed transmission line.



# Appendix A – Feedback themes and responses

The need to balance community and landholder expectations with the project objectives remains a priority for Powerlink as the project moves into the design phase, narrowing the final 1km-wide corridor to a 70m-wide easement alignment.

Feedback received through the Draft Corridor Selection Report (CSR) consultation phase has been categorised into 11 themes listed below as a reflection of the key interests and concerns held by impacted landholders.

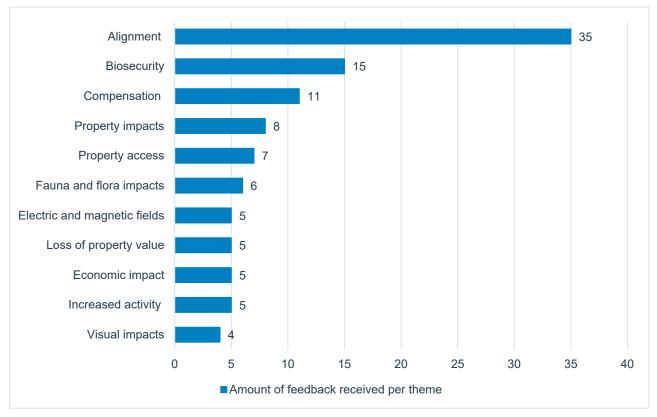


Figure 6: Key themes from landholder engagement on Draft CSR

Each theme summary shows how Powerlink has considered, will look to include in future steps, or provided further details for clarity. Feedback at this stage may still be considered and used in future stages such as easement and land access negotiations, tower placement and easement alignment.

In addition to these themes, it's important to note that many productive interactions have occurred with landholders, demonstrating that landholders are seeking further information, and or clarification of the details regarding steps ahead of this process and are generally open to working effectively and productively with Powerlink.

### Alignment

- Landholders were encouraged to submit their alignment proposals. Powerlink has carefully evaluated for feasibility, cost-effectiveness and minimal disruption to the community and surrounding environment to achieve a similar or lessor outcome to determine where realignments were required to the final 1km-wide corridor. Through the feedback received, there were minor realignments to four sections of the 1km-wide corridor.
- The majority of the feedback received related to alignment within the 1km-wide corridor. Powerlink will continue to work collaboratively with landholders to assess and accommodate alignment requests to determine a 70m-wide easement.



#### Biosecurity

- Powerlink seeks to understand landholders' biosecurity arrangements and current practices to limit any introduction or further spread of invasive weeds and pests.
- To address biosecurity concerns, Powerlink will implement strict biosecurity measures and controls. This may include regular inspection and monitoring of project sites, and wash stations for all project vehicles to go through before and after entering landholders' property.

#### Compensation

- Powerlink is committed to being fair, transparent and equitable when negotiating payments with hosting landholders.
- Powerlink acknowledges the impact of the project on landholders and in accordance with our new Supergrid Landholder Payment Framework, will look to make payments not only to hosting landholders, but also adjoining landholders within 1km of a new easement alignment. In addition, Powerlink also offers a Project Participation and Access Allowance to eligible landholders whose properties we expect will be affected by field investigations. This payment is separate and in addition to landholder payments for hosting the line.

#### Property accessibility

• Powerlink is working collaboratively with landholders to establish access arrangements that minimise inconvenience and disturbance. This includes coordinating construction schedules to accommodate landholder needs and providing alternative access routes when necessary.

#### Impacts to property

 Powerlink is committed to working with landholders to understand how their land is used including timing of key activities such as farming operations, future development plans and any potential incompatibility these activities may have when placing towers and accessing properties. Mitigation strategies will be developed to minimise impacts, such as adjusting construction schedules to coincide with the agricultural calendar and working closely with landholders to ensure their long-term property development plans are considered during the project's execution.

#### Fauna and flora impacts

- As Powerlink moves into the design phase of the project, a key focus will be siting of transmission towers and access that avoids impacts on fauna and flora.
- Extensive consultation and environmental investigations are required to establish a final easement alignment for the transmission line. This includes commissioning an Environmental Assessment Report (EAR) to address likely impacts on matters of local, state and national environmental significance. The EAR will address the requirements for project interfaces with endangered, vulnerable, rare and threatened species within the final corridor with avoidance being a priority.
- Continued environmental investigations will aid Powerlink to minimise impacts, including the use of third-party subject matter experts such as an ecologist to confirm any impacts and advise on measures to minimise, mitigate or avoid.
- The development of the EAR also allows Powerlink to employ contemporary environmental management practices during construction to mitigate impacts on native fauna. One such method includes the employment of fauna spotter-catchers to enact an approved Species Management Plan to protect fauna from the acute effects of construction and limit the impact to their breeding seasons.



• The design of our assets also reflects the need to protect local fauna. For example, in areas where fauna interactions are likely, fauna friendly anti-climb barriers are installed on towers. Where practicable Powerlink seeks to retain habitat features, such as hollow logs or relocates them in adjacent areas.

### Electric and Magnetic Fields (EMF)

- We recognise the community concern about the potential health impacts of EMF. To appropriately manage EMF, we rely on expert advice from government and health authorities in Australia and around the world to ensure that we practice prudent avoidance when designing and operating Queensland's transmission network.
- Where possible, we locate proposed transmission infrastructure away from houses and habitable buildings so they do not materially add to EMF levels that already exist in a typical household environment.
- EMF will be examined as part of ongoing investigations as the project progresses, with detailed information to be shared publicly when the project's EAR is released for review and comment.

#### Economic impacts

• A part of Powerlink's commitment to fair, transparent and equitable negotiations is to understand the current and future potential economic loss and or impacts resulting from a proposed transmission line. Powerlink will seek the use of third-party services such as valuation services and other subject matter experts to help inform and work through monetary and non-monetary matters with landholders.

#### Loss of property value

• Powerlink will seek the use of third-party valuation services to help inform and work through compensable matters with landholders. This will take into consideration elements such as the value of the property both before and after the project and other elements that are required to be compensated under the *Acquisition of Land Act 1967* which is a foundational element of our SuperGrid Landholder Payment Framework.

#### Increased activity

- Powerlink and our contractors typically inspect a transmission line based on its condition and risk factors. Current practices are to inspect overhead transmission lines approximately every two to four years, with higher risk parts of the network inspected annually. Maintenance personnel are required to adhere to Powerlink's commitments in relation to engaging with landholders, adhering to reasonable requirements and land access protocols.
- Increased activities will also be considered at a broader scale through the Ministerial Infrastructure Designation process which factors both the corridor selection phase with the construction phase of the project having regard for matters such as suitability of local roads, accommodation strategies and other planning matters.

#### Visual impacts

• Visual amenity is a key consideration in the design phase of a Powerlink project. Powerlink is committed to working with landholders and the surrounding community to understand the most appropriate location for a transmission line and tower. Powerlink will seek to minimise and mitigate any potential impacts by strategically designing the line where possible (e.g. avoiding known high community valued areas), noting other environment, social and economic factors.



# Appendix B – Key considerations

Table 2: Halys 1km-wide final corridor – key considerations

Considerations	Final 1km-wide corridor		
Opportunity for co-location with existing 275kV network	The Halys Central (Option A) corridor provides the ability to co-locate with existing Powerlink transmission lines around Tarong Power Station and Halys Substation. This part of the final corridor is approximately 26km long which is around 25% of the total corridor length (106km). The interface with lower voltage transmission infrastructure will be defined in future stages.		
Number of crossings (roads and rail)	Local roads will be traversed through this corridor including: • Tungi Road • Borgan Road • Yabba Road • Yabba Road • Kilcoy-Murgon Road (State-controlled) • Kimbala Road • Noora Road • Noora Road • Din Din Road • Munt Road • Nanango Neumgna Road • Tarong Railway Road • Braunholtz Road • Oaky Creek Back Road • Eastern Branch Road	<ul> <li>Linville Road</li> <li>Old Esk Road</li> <li>Sauer Road</li> <li>Thrower Track Daguilar Highway (State-controlled)</li> <li>Tarong Power Station Road</li> <li>Kingaroy-Cooyar Road (State-controlled)</li> <li>Brooklands Peron Road</li> <li>Greenslade Road</li> <li>Brooklands Pimpimbudgee Road</li> <li>Nanango-Tarong Road (State-controlled)</li> <li>Several other un-named tracks and access roads, particularly associated with Gallangowan State Forest and Jimmy's Scrub State Forest</li> </ul>	
Flood hazard areas (Ha of moderate or higher risk)	Queensland Globe extreme basin events flood level mapping indicates areas of potential flooding within the	<ul> <li>Meandu Creek</li> <li>Middle Creek</li> <li>Tanduringie Creek</li> </ul>	



Considerations	Final 1km-wide corridor			
	Final 1km-wide corridor to the west of the D'Aguilar Highway and the east of Kilcoy-Murgon Road.	Barker Creek		
Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships (DSDSATSIP) Sites		<ul> <li>The corridor intersects drainage lines as defined and mapped under the <i>Water Act 2000</i> at the following approximate locations: <ul> <li>near Tanduringie Creek</li> <li>Tarong Substation</li> <li>land surrounding Brisbane River</li> <li>land east of Thrower Track</li> </ul> </li> <li>Several additional watercourses mapped of fisheries significance and other small unnamed drainage features, are present throughout the corridor.</li> <li>within the final corridor and one Cultural Heritage Inventory be to work closely with Traditional Owner groups to avoid or manage y unrecorded Aboriginal cultural heritage.</li> </ul>		
Protected plant survey trigger area	extent practicable at the 1km-wide scale. The largest area	corridor, however it was selected to avoid these areas to the greatest s of protected plant survey trigger areas are surrounding the Tarong advantage of the existing easement through this area, additional		
Wetlands – General Ecological Significant (GES) /	<ul> <li>The following wetlands of State significance (High Ecologic and General Ecological Significance (GES)) are mapped a</li> <li>associated with Yabba Creek (GES)</li> </ul>	cal Significant wetlands (HES), HES Great Barrier Reef (GBR HES) as occurring within the corridor:		



Considerations	Final 1km-wide corridor
High Ecological	<ul> <li>associated with the Brisbane River (GES)</li> </ul>
Significant (HES)	<ul> <li>associated with the Cooyar Creek (GES)</li> </ul>
	<ul> <li>associated with the Yarraman Creek (GES)</li> </ul>
	east of Middle Creek (GBR HES)
	In addition to the state regulated wetlands, areas of vegetation where wetlands comprise up to 51% of the vegetation type are also present within the corridor.
Unexploded ordnance (UXO)	Department of Defence mapping indicates there is one UXO area of slight potential located between Diaper State Forest, Squirrel Creek State Forest and Jimna State Forest, adjacent to Kilcoy Murgon Road. This area was authorised for Artillery Practice in 1942 under the <i>National Security Act</i> 1939-1940. This area will require further assessment during subsequent stages of the project.
Airports, heliports and landing strips	There are no airports or heliports however there is one landing strip within the final 1km-wide corridor.
Mining lease	The corridor avoids interaction with active mining leases but interfaces with existing exploration tenure north of Tarong Substation.
Strategic cropping	Several areas of Strategic Cropping Land (SCL) are present within the corridor near:
and agricultural	Eastern Branch Road
lands	Sauer Road
	D'Aguilar Highway
	Rocky Creek Road
	Tarong Railway Road and surrounding Tanduringie Creek
	Adjacent to Middle Creek near Brookland Peron Road
	Adjacent to Barker Creek
	Munt Road
	Adjacent to Oaky Creek Back Road in several locations.



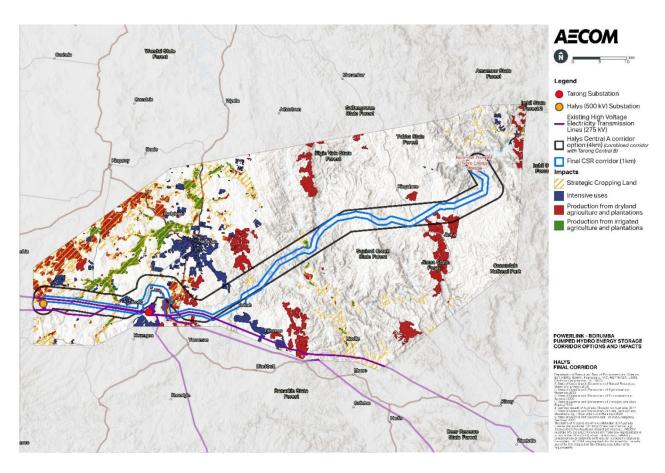
Considerations	Final 1km-wide corridor
	The area of SCL and agricultural lands within the corridor is 798ha.
State-owned land	<ul> <li>The following areas of State land, comprising both State Forest or State-owned land is present within the corridor:</li> <li>Yarraman State Forest</li> <li>South Nanango State Forest</li> <li>Gibson State Forest</li> <li>Diaper State Forest</li> <li>Squirrel Creek State Forest</li> <li>Yabba State Forest</li> <li>Jimna State Forest</li> <li>Jimna State Forest</li> <li>Land owned by Stanwell Corporation</li> </ul>
Intensive use lands	The corridor contains 25ha of land which is mapped for intensive land. The preference is to avoid this in future corridor refinement and investigations.
Number of lots	The total number of freehold properties within the final corridor is 168, including lots partially within the corridor.
Proximity to public amenity (townships, town halls, churches, schools)	Small properties of less than 5ha have been used as a proxy for the locations of housing clusters as well as townships and associated community infrastructure. Properties smaller than 5ha have been considered as a high priority to avoid and buffers of 200m have been applied within the corridor refinement (spatial analysis) process. This buffer is used to better identify small properties and clusters of small properties that may have associated support services.



**Table 3:** Table of changes to final 1km-wide corridor when compared to recommended 1km-wide corridor (against social objectives)

Social	Result
Tenure	No change to tenures
Land Use	Decrease in strategic cropping land to 798ha
Property	Increase by four (from 164 to168 properties). Three of these properties are the result of negotiations with directly impacted properties near Kilcoy Murgon Road West. Due to a detailed design change at the proposed Borumba PHES, an additional property is intercepted by the 1km corridor connection.
Resource Interest	No change
Transport	Increase 1 landing strip
Native Title	No change

#### Figure 7: Land use constraints

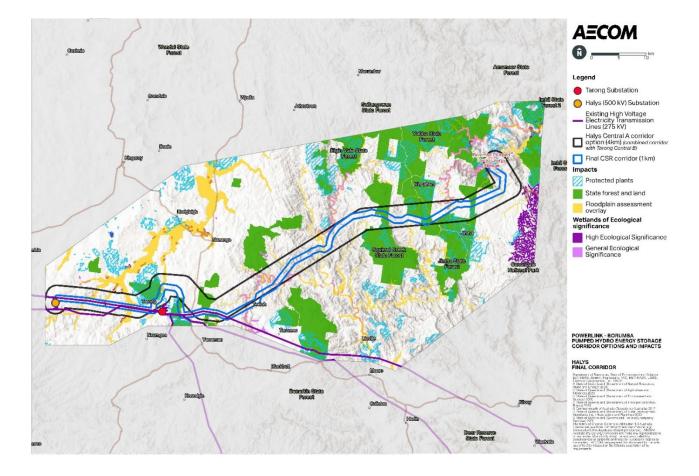




**Table 4:** Table of changes to final 1km-wide corridor when compared to recommended 1km-wide corridor (against environment objectives)

Environment	Result
Heritage	Increase 1 CHIMS site
Flora	No change in impacts to category A,B,C,R Endangered vegetation Increase to A,B,C,R Of Concern by 200ha Reduction to Category A,B,C,R Least Concern by 370ha No change in high risk areas for protected plants
Fauna	Increase by 404ha to mapped Essential Habitat, mostly due to PHES realignment Opportunities to minimise impact to Essential Habitat through this area will continue to be investigated

#### Figure 8: Protected plants constraints





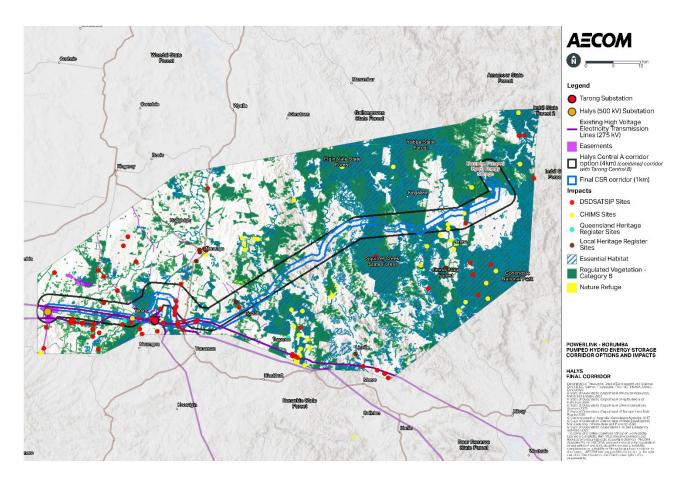


Figure 9: Heritage and essential habitat constraints

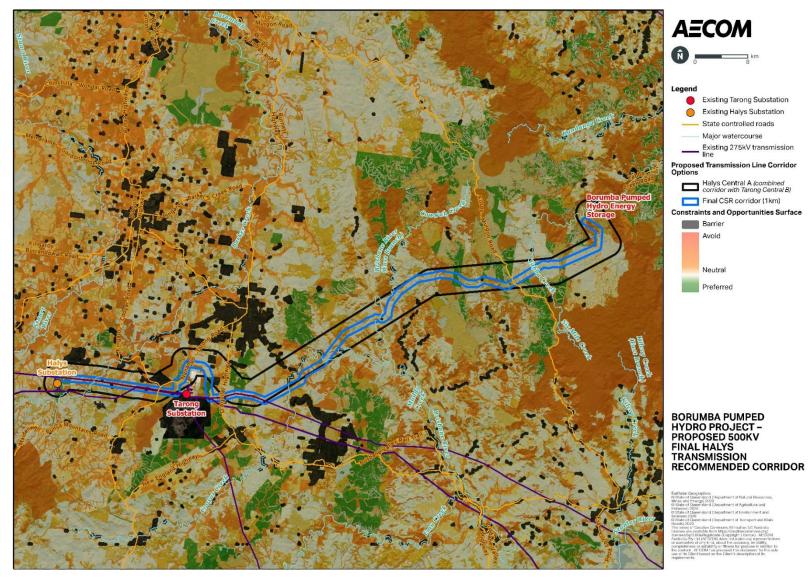
**Table 5:** Table of changes to final 1km-wide corridor when compared to recommended 1km-wide corridor (against economic objectives)

Economic	Result
Topography	No change
Geology	No change
Soils	No change
Hydrology	No change
Contaminated Land	No change
UXO	No change



## Appendix C – Detailed constraints mapping of final corridor

Figure 10: Detailed constraints mapping of final corridor





# Appendix D – Detailed flora and fauna information

EPBC Act-listed threatened ecological communities are listed in in Table 6.

**Table 6:** EPBC Act listed threatened ecological communities

Common name	Threatened category	Likelihood within Study Area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Likely
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Мау
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Likely
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Мау
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Мау
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Likely
Weeping Myall Woodlands	Endangered	Мау

The Protected Matters Search Tool (PMST) identified 37 EPBC Act-listed threatened flora species with potential to occur within the final 1km-wide corridor listed in Table 7.

**Table 7:** EPBC Act listed threatened flora

Scientific name	Common name	Threatened category	Likelihood within Study area
Rhodamnia rubescens	Scrub Turpentine, Brown Malletwood	Critically Endangered	Known
Rhodomyrtus psidioides	Native Guava	Critically Endangered	Known
Cossinia australiana	Cossinia	Endangered	Likely
Lepidium peregrinum	Wandering Pepper-cress	Endangered	Likely
Phaius australis	Lesser Swamp-orchid	Endangered	May
Phebalium distans	Mt Berryman Phebalium	Endangered	Known
Planchonella eerwah	Shiny-leaved Condoo, Black Plum, Wild Apple	Endangered	Мау



Scientific name	Common name	Threatened category	Likelihood within Study area
Plectranthus nitidus	Nightcap Plectranthus, Silver Plectranthus	Endangered	Likely
Plectranthus omissus	N/A	Endangered	Known
Triunia robusta	Glossy Spice Bush	Endangered	Likely
Arthraxon hispidus	Hairy-joint Grass	Vulnerable	Likely
Bertya opponens	N/A	Vulnerable	Known
Bosistoa transversa	Three-leaved Bosistoa, Yellow Satinheart	Vulnerable	Known
Bothriochloa bunyensis	Satin-top Grass	Vulnerable	Known
Cadellia pentastylis	Ooline	Vulnerable	Likely
Clematis fawcettii	Stream Clematis	Vulnerable	Known
Cryptostylis hunteriana	Leafless Tongue-orchid	Vulnerable	Мау
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	Vulnerable	Likely
Denhamia parvifolia	Small-leaved Denhamia	Vulnerable	Known
Dichanthium setosum	Bluegrass	Vulnerable	Likely
Floydia praealta	Ball Nut, Possum Nut, Big Nut, Beefwood	Vulnerable	Known
Fontainea rostrata	N/A	Vulnerable	Likely
Fontainea venosa	N/A	Vulnerable	Мау
Haloragis exalata subsp. velutina	Tall Velvet Sea-berry	Vulnerable	Known
Macadamia integrifolia	Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak	Vulnerable	Known
Macadamia ternifolia	Small-fruited Queensland Nut, Gympie Nut	Vulnerable	Known
Macadamia tetraphylla	Rough-shelled Bush Nut, Macadamia Nut, Rough- shelled Macadamia, Rough-leaved Queensland Nut	Vulnerable	Likely
Paspalidium grandispiculatum	Grass	Vulnerable	Known
Persicaria elatior	Knotweed, Tall Knotweed	Vulnerable	May



Scientific name	Common name	Threatened category	Likelihood within Study area
Picris evae	Hawkweed	Vulnerable	Known
Polianthion minutiflorum	N/A	Vulnerable	Likely
Rhaponticum australe	Austral Cornflower, Native Thistle	Vulnerable	Likely
Samadera bidwillii	Quassia	Vulnerable	Likely
Sarcochilus fitzgeraldii	Ravine Orchid	Vulnerable	May
Sarcochilus weinthalii	Blotched Sarcochilus, Weinthals Sarcanth	Vulnerable	Known
Sophora fraseri	N/A	Vulnerable	Мау
Thesium australe	Austral Toadflax, Toadflax	Vulnerable	Known

High risk areas for protected plants are mapped over land where plants listed as Endangered, Vulnerable or near threatened under the *Queensland Nature Conservation Act 1992* are known or likely to occur.

The PMST report identified 50 EPBC Act-listed threatened and migratory species that have the potential to occur within the final 1km-wide corridor as outlined in Table 8.

**Table 8**: EPBC Act listed threatened fauna

Scientific name	Common name	Threatened category	Likelihood
Birds			
Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Мау
Calidris ferruginea	Curlew Sandpiper	Critically Endangered	Мау
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	Critically Endangered	Known
Lathamus discolor	Swift Parrot	Critically Endangered	Likely
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew	Critically Endangered	Мау
Botaurus poiciloptilus	Australasian Bittern	Endangered	Known
Erythrotriorchis radiatus	Red Goshawk	Endangered	Known
Rostratula australis	Australian Painted Snipe	Endangered	Likely
Calyptorhynchus Iathami lathami	South-eastern Glossy Black-Cockatoo	Vulnerable	Known
Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)	Vulnerable	Мау
Falco hypoleucos	Grey Falcon	Vulnerable	Likely



Scientific name	Common name	Threatened category	Likelihood
Geophaps scripta scripta	Squatter Pigeon (southern)	Vulnerable	Known
Grantiella picta	Painted Honeyeater	Vulnerable	Known
Hirundapus caudacutus	White-throated Needletail	Vulnerable	Known
Stagonopleura guttata	Diamond Firetail	Vulnerable	Known
Turnix melanogaster	Black-breasted Button- quail	Vulnerable	Known
Fish			
Maccullochella mariensis	Mary River Cod	Endangered	Known
Neoceratodus forsteri	Australian Lungfish, Queensland Lungfish	Vulnerable	Known
Frog			
Mixophyes fleayi	Fleay's Frog	Endangered	Known
Mixophyes iteratus	Giant Barred Frog, Southern Barred Frog	Vulnerable	Known
Assa darlingtoni	Pouched Frog	Vulnerable	Likely
Mammals			
Dasyurus hallucatus	Northern Quoll, Digul (Gogo-Yimidir), Wijingadda (Dambimangari), Wiminji (Martu)	Endangered	Likely
Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted- tail Quoll, Tiger Quoll (southeastern mainland population)	Endangered	Known
Petauroides volans	Greater Glider (southern and central)	Endangered	Known
Phascolarctos cinereus (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Endangered	Known
Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat	Vulnerable	Мау
Macroderma gigas	Ghost Bat	Vulnerable	Мау
Nyctophilus corbeni	Corben's Long-eared Bat, South-eastern Long-eared Bat	Vulnerable	Мау



Scientific name	Common name	Threatened category	Likelihood
Petaurus australis australis	Yellow-bellied Glider (south-eastern)	Vulnerable	Known
Petrogale penicillata	Brush-tailed Rock-wallaby	Vulnerable	May
Potorous tridactylus tridactylus	Long-nosed Potoroo (northern)	Vulnerable	Known
Pseudomys novaehollandiae	New Holland Mouse, Pookila	Vulnerable	May
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Known
Migratory			
Actitis hypoleucos	Common Sandpiper	Migratory	Мау
Apus pacificus	Fork-tailed Swift	Migratory	Likely
Calidris acuminata	Sharp-tailed Sandpiper	Migratory	Мау
Calidris ferruginea	Curlew Sandpiper	Migratory	May
Calidris melanotos	Pectoral Sandpiper	Migratory	May
Crocodylus porosus	Salt-water Crocodile, Estuarine Crocodile	Migratory	Likely
Cuculus optatus	Oriental Cuckoo, Horsfield's Cuckoo	Migratory	Known
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	Migratory	Known
Hirundapus caudacutus	White-throated Needletail	Migratory	Known
Monarcha melanopsis	Black-faced Monarch	Migratory	Known
Motacilla flava	Yellow Wagtail	Migratory	Мау
Myiagra cyanoleuca	Satin Flycatcher	Migratory	Known
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew	Migratory	May
Pandion haliaetus	Osprey	Migratory	Known
Rhipidura rufifrons	Rufous Fantail	Migratory	Known
Symposiachrus trivirgatus	Spectacled Monarch	Migratory (as Monarcha trivirgatus)	Known
Tringa nebularia	Common Greenshank, Greenshank	Migratory	May

The final 1km-wide corridor includes major-risk waterways for waterway barrier works, as well as high, moderate and low risk waterways



# Appendix E – Summary of legislative considerations

A summary of legislation potentially applicable to the project is provided below in Table 9 based on the 1km-wide recommended corridor. However, further design and detailed investigations and assessment will be required to confirm the appropriate approval pathway for the project.

Table 9: Summary of legislation

Legislation	Summary
Commonwealth Legis	slation
Environment Protection and Biodiversity Conservation Act	The <i>Environment Protection and Biodiversity Conservation Act</i> 1999 (EPBC Act) is the centrepiece of Commonwealth environmental laws. Broadly, it protects and regulates impacts on the following Matters of National Environmental Significance (MNES):
1999	The world heritage values of a declared world heritage property
	<ul> <li>The national heritage values of a declared national heritage place</li> </ul>
	<ul> <li>The ecological character of a declared Ramsar wetland (wetlands of international importance)</li> </ul>
	Listed threatened species and ecological communities
	Listed migratory species
	<ul> <li>Nuclear actions (including uranium mining)</li> </ul>
	Commonwealth marine areas
	The Great Barrier Reef Marine Park
	• A water resource, in relation to coal seam gas development and large coal mining development.
	Actions that have, will have, or are likely to have a significant impact on MNES and actions by the Commonwealth, or involving Commonwealth land are called controlled actions and require approval under the EPBC Act.
	The process of assessing and approving a controlled action under the EPBC Act potentially involves three stages, including referral, assessment and approval. At the first stage a person refers a proposed action for determination of whether it is a controlled action. If the proposed action is determined to involve a controlled action it is then assessed in accordance with the EPBC Act before the Minister (or delegate of the Minister) determines whether it can proceed and any conditions that should apply.
Native Title Act 1993	The <i>Native Title Act 1993</i> (NT Act) establishes a national framework for the protection and recognition of Native Title, including by conferring on Indigenous people who hold (or claim to hold) Native Title rights and interests in respect of any land or waters, the right to be consulted with and in some cases to participate in decisions about activities proposed to be undertaken.
	Native Title interests and rights may continue to exist over a number of impacted tenures including reserves, State Forest and National Parks, land that is or has been subject to lease, waters that are not privately



Legislation	Summary
	owned, as well as parcels of unallocated state land. The NT Act prescribes the statutory process to allow parties to reach agreement about the use of land or waters where Native Title may continue to exist and for state governments and territories to grant interests over that land to both Native Title claimants and non-Native Title parties.
State legislation	
Aboriginal Cultural Heritage Act 2003	The purpose of the <i>Aboriginal Cultural Heritage Act 2003</i> (ACH Act) is to provide effective recognition, protection and conservation of Aboriginal and Torres Strait Islander cultural heritage. The ACH Act protects all Aboriginal cultural heritage in Queensland, whether or not it has been recorded in a database.
	The ACH Act requires anyone who carries out a land use activity to exercise a duty of care to take all reasonable and practicable measures to avoid harm to Aboriginal cultural heritage.
	Failure to comply with the duty of care is an offence, including unlawfully harming, excavating, relocating, taking away and possessing Aboriginal cultural heritage.
Biosecurity Act 2014	The <i>Biosecurity Act 2014</i> (Biosecurity Act) provides a biosecurity system framework which aims to minimise biosecurity risk and facilitate responses to biosecurity impacts, to ensure the safety and quality of agricultural inputs and to align the state's management of biosecurity risk and other requirements for plant and animal responses to biosecurity risk with federal and international obligations. The Act also aims to manage emerging endemic and exotic pests and diseases as well as the transfer of diseases between humans and animals and contaminants in carriers.
	Under the Act, a general biosecurity obligation is placed on all persons to undertake all reasonable and practicable measures to prevent or minimise biosecurity risk. Additionally, the movement of biosecurity matter must comply with movement restrictions associated with each relevant biosecurity zone, and biosecurity instrument permits are required for the movement of biosecurity matter which cannot comply with movement restrictions.
Environmental Offsets Act 2014	The purpose of the <i>Environmental Offsets Act 2014</i> (EO Act) is to counterbalance the significant residual impacts of particular activities on prescribed environmental matters through the use of environmental offsets.
	Prescribed environmental matters are described under the EO Act as a:
	Matter of National Environmental Significance (MNES)
	Matter of State Environmental Significance (MSES)
	<ul> <li>Matter of Local Environmental Significance (MLES).</li> </ul>
	An environmental offset may be required as a condition of development approval, where following consideration of avoidance and mitigation measures, a prescribed activity is likely to result in a significant residual impact on a prescribed environmental matter. Once the administering authority has decided that a prescribed activity is required to provide an



Legislation	Summary
	offset, the environmental offset is required to be delivered in accordance with the EO Act, the <i>Environmental Offsets Regulation 2014</i> (EO Regulation) and the Queensland Environmental Offsets Policy. The desktop assessment has identified that MNES and MSES are potentially present within the final 1km-wide corridor, however this will need to be confirmed during future phases of the project through field surveys.
	To avoid duplication between jurisdictions, state and local governments can only impose an offset condition in relation to a prescribed activity if the same, or substantially the same impact, or substantially the same matter has not been subject to assessment under the EPBC Act.
	It is important to note that advice from Queensland Treasury is that the EO Act does not apply to the designation of premises for development of infrastructure, however the designation decision can still apply compensatory measures/requirements akin to an offset.
Electricity Act 1994	The <i>Electricity Act 1994</i> (Electricity Act) sets out the requirements that all electricity industry participants are required to promote a safe, efficient and reliable supply and use of electricity. The Act also requires that the supply of electricity is undertaken in an environmentally sound manner. Under Section 31(b) of the Electricity Act, a transmission entity is required to properly consider the environmental effects of its activities under the transmission authority.
	Powerlink will be required to implement project-specific Environmental Management Plans (EMPs) to comply with requirements of the Electricity Act. The EMPs will be implemented through the construction, operation and maintenance stages of the Project.
Electrical Safety Act 2002	The <i>Electrical Safety Act 2002</i> (Electrical Safety Act) seeks to prevent through regulation, the death, injury and destruction that can be caused by electricity. Accordingly, the purpose of the Electrical Safety Act is to establish a legislative framework for:
	<ul> <li>preventing persons from being killed or injured by electricity</li> </ul>
	<ul> <li>preventing property from being destroyed or damaged by electricity.</li> </ul>
Environmental Protection Act 1994	The purpose of the <i>Environmental Protection Act 1994</i> (EP Act) is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.
	The EP Act regulates activities that will or may have the potential to cause environmental harm and prescribes several mechanisms to ensure that objectives are met. The two primary environmental duties that apply to everyone in Queensland are:
	<ul> <li>general environmental duty – a person must not carry out any activity that causes, or is likely to cause environmental harm, unless all reasonable and practicable measures to prevent or minimise the harm have been taken. Environmental harm is defined in Section 14 of the EP Act as any adverse effect, or</li> </ul>



Legislation	Summary
	potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value and includes environmental nuisance
	<ul> <li>duty to notify of environmental harm – a person must inform the administering authority and landholder or occupier when an incident has occurred that may have caused or threatens serious or material environmental harm that is not authorised.</li> </ul>
	The EP Act also provides the power to administering authorities to order actions to be taken to improve environmental performance, conduct audits and environmental evaluations of activities, approve environmental management programs and impose penalties or prosecute persons for non-compliance with the requirements of the EP Act.
	The EP Act is supported by the following subordinate legislation:
	Environmental Protection Regulation 2019 (EP Regulation)
	Environmental Protection (Air) Policy 2019 (EPP (Air))
	Environmental Protection (Noise) Policy 2019 (EPP (Noise))
	<ul> <li>Environmental Protection (Water and Wetland Biodiversity) Policy 2019 (EPP (Water and Wetland Biodiversity)).</li> </ul>
	The EP Act also describes Environmentally Relevant Activities (ERAs) for which an Environmental Authority (EA) is required. Some significant construction activities can trigger the requirement for an ERA.
Fisheries Act 1994	The <i>Fisheries Act 1994</i> (Fisheries Act) provides for the use, conservation and enhancement of fisheries resources and fish habitats in Queensland. The Department of Agriculture and Fisheries (DAF) is responsible for development assessment under the Fisheries Act in combination with the Planning Act, along with the conservation and management of fish habitats in Queensland.
	A development under the Fisheries Act can be either an accepted development or assessable development for, relevantly, works involving the construction or raising of waterway barrier works. An accepted development must comply with all the requirements within the relevant accepted development requirements. If the development does not comply, it is assessable development, and a development application must be lodged.
	The final 1km-wide contains waterways for waterway barrier works. If proposed works by Powerlink traverse mapped waterways, this may require waterway barrier works and therefore trigger a requirement to obtain a development permit for operational works, that is constructing or raising waterway barrier works, unless the works are designed to comply with accepted development requirements under the Fisheries Act.
Forestry Act 1959	The <i>Forestry Act 1959</i> (Forestry Act) provides for forest reservations, the management, silvicultural treatment and protection of State Forests, and the sale and disposal of forest products and quarry material, the property of the Crown on State Forests, timber reserves and on other



Legislation	Summary
	lands, and for other purposes. The Forestry Act is administered primarily by the DAF.
	State Forests are managed by the Department of Environment and Science (DES) and Queensland Parks and Wildlife Service (QPWS). Areas of State Forest may require revocation to facilitate the provision of infrastructure. This process is regulated under the <i>Forestry Act 1959</i> and where the future intent of the revoked area is for a particular purpose other than a tourist purpose or use as a public road, a regulation to revoke all or part of an area may only be made where the Legislative Assembly has passed a resolution requesting the Governor in Council to make the revocation.
	An application to revoke an area of State Forest should only be undertaken as a last resort where no alternative options are available. Revocation of state land will only be considered when it can be demonstrated that it is in the interests of the specific tenure or where there is a net forest production benefit outcome to the QPWS managed area as an outcome.
	Purposes relevant to the project which may be considered by the State for revocation include:
	<ul> <li>where there is a mutual benefit to the state and applicant</li> </ul>
	• to enable essential public infrastructure works to be undertaken to support delivery of a specific government commitment.
Nature Conservation Act 1992	The purpose of the <i>Nature Conservation Act 1992</i> (NC Act) is the conservation of nature while allowing for the involvement of landholders and Indigenous people in the management of protected areas in which they have an interest under Aboriginal tradition or Island custom.
	A framework is created under the NC Act for the dedication, declaration and management of protected areas, protection of wildlife and its habitat. The clearing regulatory requirements and the list of critically endangered, endangered, vulnerable or near threatened plants are contained in the <i>Nature Conservation (Plants) Regulation 2020.</i>
	The final 1km-wide corridor potentially contains protected plants and protected areas, however this will require confirmation during further ecological surveys during the next phase of the project. The clearing of native flora species and native fauna habitat protected under the NC Act. It is recommended that detailed ecological field surveys are undertaken to confirm the requirements of the NC Act, which may include protected plants permits.
Planning Act 2016	The <i>Planning Act 2016</i> (Planning Act) establishes a framework and overarching policy for land use planning and development assessment in Queensland. The purpose of the Planning Act is to provide an efficient, effective, transparent, integrated, coordinated and accountable system of land use planning and development assessment to facilitate the achievement of ecological sustainability.
	The Planning Act and <i>Planning Regulation 2017</i> (Planning Regulation) describes the type of development, the level of assessment required for particular development, responsible entity for assessing development,



Legislation	Summary
	assessment benchmarks, as well as the process for making, assessing and deciding development applications.
	The Planning Act and Planning Regulation also prescribes the assessment and approval process for the designation of premises for development of infrastructure (an 'infrastructure designation') prescribed within the Planning Regulation. Infrastructure designation is a Ministerial approval pathway, which is commonly used to facilitate electricity distribution and transmission infrastructure. Where an infrastructure designation is obtained, assessable development in relation to the infrastructure is deemed accepted development under the Planning Act, excluding building works under the <i>Building Act 1975</i> . This means that when an infrastructure designation is in effect, the development normally assessable under the Planning Act, apart from building works.
	In practice, an infrastructure designation assessment will address the applicable State interests and constraints ordinarily made assessable under the Planning Act (i.e., vegetation clearing, waterway barrier works, etc).
Queensland Heritage Act 1992	The objective of the <i>Queensland Heritage Act 1992</i> is to provide for the conservation of Queensland's cultural heritage for the benefit of the community and future generations. The <i>Queensland Heritage Act 1992</i> is administered by DES and the Queensland Heritage Council to identify and protect places that have special heritage values to the community and future generations.
	The <i>Queensland Heritage Act 1992</i> conserves and protects Queensland Heritage Places by:
	establishing heritage registers
	<ul> <li>regulating development that may impact on registered places</li> </ul>
	<ul> <li>establishing a process for reporting discoveries of objects that may be of cultural heritage significance.</li> </ul>
	Section 89 of the <i>Queensland Heritage Act 1992</i> requires a person to notify DES of an archaeological artefact that is an important source of information about an aspect of Queensland history.
State Planning Policy	The State Planning Policy (SPP) identifies matters of State interest requiring protection and enhancement. The SPP is at the top of the planning hierarchy in Queensland and is the overarching policy for all other regional and local planning instruments. The SPP States that the SPP applies to the extent relevant, when designating premises for infrastructure under the Planning Act and development applications.
<i>Stock Route Management Act 2002</i>	The <i>Stock Route Management Act 2002</i> (Stock Route Management Act) provides a framework for management of Queensland's stock routes. Local government authorities are responsible for the day-to-day administration and management of stock routes. The Queensland Stock Route Network Management Strategy has been prepared under the Stock Route Management Act. The strategy is a tool to link legislative principles with decision making, to ensure a consistent approach.



Legislation	Summary
Transport Infrastructure Act 1994	The overall objective of the <i>Transport Infrastructure Act 1994</i> (Transport Infrastructure Act) is to provide a regime that allows for and encourages effective integrated planning and efficient management of a system of transport infrastructure. The Act is administered by the Department of Transport and Main Roads (DTMR).
	Under section 50 of the Act, the ancillary works and encroachments within State-controlled roads can only be undertaken with the written permission of DTMR.
	Under section 33 of the Transport Infrastructure Act, written approval is required from the DTMR to carry out road works on a State-controlled Road (SCR) or interfere with a SCR or its operation. This may include where road works to a Council Road interferes with a SCR or its operations.
	Under section 62 of the Transport Infrastructure Act, written approval is required from DTMR to locate a permitted access on a SCR. A decision of access approval may include conditions or restrictions on the location or use of the permitted road access, type or number of vehicles to use the permitted road access location.
	Under the <i>Transport Infrastructure (Rail) Regulation 2006</i> permission from the railway manager (Queensland Rail) is required to take over dimensional road loads across Queensland Rail infrastructure (e.g. rail level crossings and rail bridges).
Vegetation Management Act 1999	The Vegetation Management Act 1999 (VM Act) regulates and manages the process and impacts of native vegetation clearing. The objectives of the VM Act include conservation of remnant regional ecosystems, prevention of the loss of biodiversity, maintenance of ecological processes, and conservation of vegetation in areas of high nature conservation value or lands vulnerable to land degradation.
	The Study Area contains areas of regulated vegetation under the VM Act, classified as Category A (declared), Category B (remnant), Category C (high value regrowth) and Category R (watercourse regrowth). Areas of Category X (non-remnant) vegetation also exist throughout the final 1km-wide corridor. The regional ecosystems (REs) present across the Halys Study Area include Endangered, Of Concern and Least Concern vegetation communities.
	Clearing of any relevant remnant or regulated regrowth vegetation constitutes operational work under schedule 10 of the <i>Planning</i> <i>Regulation 2017</i> , which will require development approval unless a vegetation clearing code or exemption applies. Under Section 22A of the VM Act, an application for operational work, including applications where Department of Resources (DoR) is a concurrence agency, cannot be accepted as properly made unless the Chief Executive is satisfied that the development is for a relevant purpose. Exemptions exist for electricity infrastructure where associated with an infrastructure designation.
	Any infrastructure designation or development application will need to demonstrate that Powerlink has sought to reduce the impacts of vegetation clearing through the hierarchy of avoid, minimise and



Legislation	Summary	
	mitigate. Where a significant residual impact remains, an offset, or compensatory measures may be required.	
Water Act 2000	The <i>Water Act 2000</i> (Water Act) provides a framework to deliver sustainable water planning, allocation, management and supply processes to provide for the improved security of water resources in Queensland. The Water Act is supported by the <i>Water Regulation 2016</i> and various water resource plans for the defined geographic regions. The Water Act provides a framework for relevant:	
	<ul> <li>The sustainable management of Queensland's water resources and quarry material by establishing a system for the:</li> </ul>	
	<ul> <li>Planning, allocation and use of water</li> </ul>	
	<ul> <li>Allocation of quarry material and riverine protection</li> </ul>	
	<ul> <li>The sustainable and secure supply and demand management for the south-east Queensland region and other designated regions.</li> </ul>	
	Under the Water Act, water licences or permits are required to take water and to interfere with the flow of water on, under or adjoining land, including interfering with water in aquifers (if determined necessary).	
Matters of State Environmental Significance	Matters of State Environmental Significance (MSES) are a component of the biodiversity state interest that is defined under the SPP and <i>Environmental Offsets Regulation 2014</i> . MSES includes certain environmental values that are protected under Queensland legislation. MSES are defined as:	
	<ul> <li>Protected areas (including all classes of protected areas except coordinated conservation areas) under the <i>Nature Conservation</i> <i>Act 1992</i></li> </ul>	
	<ul> <li>Marine parks and land within a 'marine National Park', 'Conservation Park', 'scientific research', 'preservation' or 'buffer' zone under the <i>Marine Parks Act 2004</i></li> </ul>	
	<ul> <li>Areas within declared fish habitat areas that are management A areas or management B areas under the <i>Fisheries Regulation</i> 2008</li> </ul>	
	• Threatened wildlife under the <i>Nature Conservation Act 1992</i> and special Least Concern animals under the Nature Conservation (Wildlife) Regulation 2006	
	<ul> <li>Regulated vegetation under the Vegetation Management Act 1999 that is:</li> </ul>	
	<ul> <li>Category B areas on the regulated vegetation management map, that are 'Endangered' or 'Of Concern' regional ecosystems</li> <li>Category C areas on the regulated vegetation management map that are 'Endangered' or 'Of Concern' regional ecosystems</li> </ul>	



Legislation	Summary
	<ul> <li>Category R areas on the regulated vegetation management map</li> <li>Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map</li> </ul>
	<ul> <li>Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map</li> <li>Strategic Environmental Areas under the <i>Regional Planning</i></li> </ul>
	<ul> <li>Interests Act 2014</li> <li>Wetlands in a wetland protection area of wetlands of high ecological significance shown on the map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019</li> </ul>
	• Wetlands and watercourses in high ecological value waters defined in the <i>Environmental Protection (Water) Policy 2009</i> , schedule 2
	Legally secured offset areas.
Regional Plans	<ul> <li>The Study Area is subject to the following regional plans:</li> <li>South East Queensland Regional Plan 2017 (ShapingSEQ)</li> <li>Wide Bay Burnett Regional Plan 2011 Reference is also made to The Draft Wide Bay Burnett Regional Plan 2022, expected to be released late 2023.</li> </ul>
South East Queensland Regional Plan 2017 (ShapingSEQ)	ShapingSEQ is a state planning instrument providing a framework to manage growth, change, land use and development in SEQ and is underpinned by five key themes: grow, prosper, connect, sustain and live. ShapingSEQ was prepared by the Department of Infrastructure, Local Government and Planning (DILGP) in 2017 and guides the future infrastructure planning and investment of 12 Local Government Areas (LGAs) within the region. ShapingSEQ defines the desired future settlement pattern that aims to use land more efficiently, while protecting the values important to the community into the following regional land use classifications:
	Urban Footprint
	Rural Living Area
	Regional Landscape and Rural Production Area.
	Key themes related to electricity infrastructure in ShapingSEQ include:
	Theme 3 – Connect
	<ul> <li>Our communities will have secure, high-quality food and water supplies as key elements of the region's sustainability, and will maximise technological advances in energy production, including renewable production and battery storage.</li> </ul>



Legislation	Summary
	Theme 4 – Sustain
	<ul> <li>SEQ will have reduced greenhouse gas emissions and be more resilient to the projected effects of climate change. SEQ will be carbon neutral and have zero net waste, and the region's food, water and energy supply systems will be flexible, reliable and secure.</li> </ul>
	<ul> <li>ShapingSEQ seeks to protect regional scenic amenity areas from development that would compromise their value. Regionally significant amenity is mapped to the east of Strategic Area 3 and to the south-east of Strategic Area 4.</li> </ul>
State Government Supported Infrastructure Koala Conservation Policy July 2017 (SGSIKCP)	This policy (SGSIKCP) is to ensure that state activities not regulated through planning schemes or in accordance with the koala assessment benchmarks in Schedule 11 of the <i>Planning Regulation 2017</i> meet the same requirements as the <i>Planning Regulation 2017</i> , to ensure equitable treatment of state and non-State infrastructure projects.
	The corridor is not located within the area covered by the SGSIKCP.
Wide Bay Burnett Regional Plan 2011	The Wide Bay region's economic drivers are in the agriculture, fishing and tourism sectors. As the gateway to the southern Great Barrier Reef and Fraser Island, tourism is also an important economic driver. The Wide Bay Regional Plan was prepared by the Department of Local Government and Planning in 2011 and covers the LGAs of Bundaberg Regional Council, Cherbourg Aboriginal Shire Council, Fraser Coast Regional Council, Gympie Regional Council, North Burnett Regional Council and South Burnett Regional Council.
	The Wide Bay Burnett Regional Plan aims to respond to the variety of distinct challenges facing the region over the next two decades and beyond by guiding and supporting projected growth. The plan recognises that the economy and population comprise an ageing population and workforce, a limited but strong number of economic drivers, and a need to prepare for, and appropriately respond to, the anticipated impacts of climate change.
	The Wide Bay Regional Plan identifies that energy requirements are escalating due to population growth, industrial development and economic growth.
	Wide Bay Burnett Regional Plan 2011. Reference is also made to the Draft Wide Bay Burnett Regional Plan 2022, expected to be released late 2023.
Local Laws	The <i>Local Government Act 2020</i> (Local Government Act) allows for councils to create laws for matters that the Council has function or power under the Local Government Act to undertake and to regulate specific matters within their local government area (LGA). While the Planning Scheme is exempt where an Infrastructure Designation has been enacted, local laws imposed by each local government authority will still apply and may trigger approvals for certain activities.



# Appendix F – Acronyms in Halys Final Corridor Selection Report

Table 10: Acronym list

ACH Act	Aboriginal Cultural Heritage Act 2003
AECOM	Infrastructure Consulting Firm (Architecture, Engineering, Construction, Operations and Management)
CHIMS	Cultural Heritage Inventory Management System
CSR	Corridor Selection Report
Cth	Commonwealth
DAF	Department of Agriculture and Fisheries
DES	Department of Environment and Science
DILGP	Department of Infrastructure, Local Government and Planning
DOR	Department of Resources
DSDSATSIP	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships
DTMR	Department of Transport and Main Roads
EA	Environmental Authority
EAR	Environmental Assessment Report
EMF	Electric and magnetic fields
EMP	Environmental Management Plan
ENA	Energy Networks Australia
EO Act	Environmental Offsets Act 2014
EO Regulation	Environmental Offsets Regulation 2014
EP Act	Environmental Protection Act 1994
EPP (Air)	Environmental Protection (Air) Policy 2019
EPP (Noise)	Environmental Protection (Noise) Policy 2019
EP Regulation	Environmental Protection Regulation 2019
EPP (Water and Wetland Biodiversity)	Environmental Protection (Water and Wetland Biodiversity) Policy 2019
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ERA	Environmentally Relevant Activities
GBR	Great Barrier Reef
GES	General Ecological Significance
ha	Hectares
HES	High Ecological Significant
km	Kilometres
kV	
	Kilovolt



m	Metres
MCA	Multi-Criteria Analysis
MLES	Matter of Local Environmental Significance
MNES	Matter of National Environmental Significance
MSES	Matter of State Environmental Significance
MW	Megawatts
NC Act	Nature Conservation Act 1992
NT Act	Native Title Act 1993
PHES	Pumped Hydro Energy Storage
PMST	Protected Matters Search Tool
QEJP	Queensland Energy and Jobs Plan
QPWS	Queensland Parks and Wildlife Service
RE	Regional ecosystem
RET	Renewable Energy Target
SCL	Strategic cropping land
SCR	State-controlled road
SEQ	South East Queensland
SGSIKCP	State Government Supported Infrastructure Koala Conservation Policy July 2017
SMP	Species Management Program
SPP	State Planning Policy
UXO	Unexploded ordnance
VM Act	Vegetation Management Act 1999

