EnergyConnect (NSW – Eastern Section)
Response to Department of Planning and Environment Request for Information

30 August 2022

This memorandum provides responses to various Requests For Information (RFI) raised by the NSW Department of Planning and Environment (DPE) in June, July and August 2022.

1. Visual

1.1. Photomontages

Photomontages from representative locations for the following receivers have been prepared and included as Figure 1-1 to Figure 1-10 below:

- R186 – Elswick, 5746 Olympic Highway, Uranquinty
- R233 – Berkley, 99 Rowan Road, Rowan
- R385 – Andriskes Lane, Cullivel (noting the location for this photomontage is taken from the land adjacent to the property due to land owner restriction to access the property)
- R422 – 823 Fernbank Road, Argoon
- R432 – 'Rosebank' 535 Tuttys Lane, Tootool
- R450 – 128 Slys Lane, Milbrulong
- R461 – 731 Hendersons Road, Tootool
- R501 – 6645 Holbrook Road, Gelston Park
- R26749 – 6707 Holbrook Road, Gelston Park
- R534 – Colombo Water ski club – toilet block and picnic shelters.

The above photomontages have only been provided without screening proposed at this time (as agreed with DPE). For the properties identified above, appropriate visual screening (or other feasible options) would be confirmed in consultation with the affected landholder and implemented during construction. As this consultation, and agreement with the affected landholders has not yet been achieved, a commitment to a proposed approach to screening for each of these properties is not possible to be included with any accuracy as to what may be delivered.

It should be noted that the photomontages presented are indicative. The final tower design and associated infrastructure is subject to ongoing finalisation of the project and may change prior to construction.

(Top – before, bottom, with project)
Photomontages are indicative and the tower design, location and associated infrastructure is subject to finalisation of the project design

Figure 1-1 Photomontage of R186 – Elswick, 5746 Olympic Highway, Uranquinty

(Top – before, bottom, with project)
Photomontages are indicative and the tower design, location and associated infrastructure is subject to finalisation of the project design

Figure 1-2 Photomontage of R233 – Berkley, 99 Rowan Road, Rowan

(Top – before, bottom, with project)
Photomontages are indicative and the tower design, location and associated infrastructure is subject to finalisation of the project design

Figure 1-3 Photomontage of R385 – Andriskes Lane, Cullivel (noting the location for this photomontage is taken from the land adjacent to the property due to land owner restriction to access the property)

(Top – before, bottom, with project)
Photomontages are indicative and the tower design, location and associated infrastructure is subject to finalisation of the project design

Figure 1-4 Photomontage of R422 – 823 Fernbank Road, Argoon

(Top – before, bottom, with project)
Photomontages are indicative and the tower design, location and associated infrastructure is subject to finalisation of the project design

Figure 1-5 Photomontage of R432 – 'Rosebank' 535 Tuttys Lane, Tootool

(Top – before, bottom, with project)
Photomontages are indicative and the tower design, location and associated infrastructure is subject to finalisation of the project design

Figure 1-6 Photomontage of R450 – 128 Slys Lane, Milbrulong (top – before, bottom, with project)

(Top – before, bottom, with project)
Photomontages are indicative and the tower design, location and associated infrastructure is subject to finalisation of the project design

Figure 1-7 Photomontage of R461 – 731 Hendersons Road, Tootool

(Top – before, bottom, with project)
Photomontages are indicative and the tower design, location and associated infrastructure is subject to finalisation of the project design

Figure 1-8 Photomontage of R501 – 6645 Holbrook Road, Gelston Park

(Top – before, bottom, with project)
Photomontages are indicative and the tower design, location and associated infrastructure is subject to finalisation of the project design

Figure 1-9 Photomontage of R26749 – 6707 Holbrook Road, Gelston Park

(Top – before, bottom, with project)
Photomontages are indicative and the tower design, location and associated infrastructure is subject to finalisation of the project design

Figure 1-10 Photomontage of R534 – Colombo Creek water ski club and camp ground

1.2. Revised landscape and visual impact assessment

The following sections provide an update to provide the following information:

- clarification on previously identified receiver types
- confirmation of the assessment undertaken for public viewpoints
- additional visual impact assessment of the Colombo Water Ski Club and Campground and the adjacent campground and jetty area to the west.

Clarification on previously identified receiver types

With respect to the clarification of the receiver types that were identified as not being a dwelling as part of the *Revised Landscape and Visual Impact Assessment* (Iris, 2022), one receiver – the Colombo Water Ski Club, was identified in the EIS as a residential receiver. This receiver has been confirmed as a non-residential receiver. The assessment of visual impact from this ski club as a public viewpoint has been updated based on recent field investigations.

All of the remaining receivers on private property that were confirmed as not being dwellings were either sheds or stockyards. In some cases, additional locations on these properties containing dwellings were identified. These additional sites were included in the revised private receptor assessment presented in the *Revised Landscape and Visual Impact Assessment*. An updated version of Table 2 has been reproduced below to provide greater clarify on the receiver type of the non-dwelling receivers (shown as additional blue underlined text).

Confirmation of the assessment undertaken for public viewpoints

With respect to the consideration of public viewpoints, the assessment of potential visual and landscape impacts included consideration of views that represent the range of public views to the project alignment, as well as views from all identified higher value/scenic viewing locations. This approach is consistent with the guidance for Landscape Character and Visual impact assessment for linear infrastructure projects.

To the best of Transgrid's knowledge, all key public viewpoints with the potential for a visual impact (including within 500 metres of the alignment) have been considered in the assessment. R534, the Colombo Water Ski Club was identified in EIS as a potential high visual impact. As part of the response to the public submissions following exhibition of the EIS, this site was not included in the refined table which only assessed private dwellings impacts. With respect to the request for a photomontage from R534 (Colombo Water Ski Club and Campground with amenities), this has been included as Figure 1-10 in the previous section.

With respect to the additional campground and jetty area to the north west of the Colombo Water Ski Club, the creek and the jetty at this site are accessible to the public. The site is occasionally used as a camp ground, and the rest of the land is used as stock reserve.

An additional visual impact assessment of both the Colombo Water Ski Club and site, as well as the additional campground and jetty area to the north west have been provided in the following section below.

Impact on public view points

Viewpoint 21: View south from the Colombo Creek Ski Club, Coonong Road, Morundah

Existing conditions: This view is from the carpark of the Colombo Creek Ski Club, in the vicinity of the picnic area where there is a playground and amenities building (refer to Figure 1-10). This view is oriented away from the creek and the main focus of activity and views from this area. This view is enclosed by vegetation along Coonong Road and includes glimpses to the surrounding rural landscape. This view includes the access road and would often include vehicles manoeuvring and parked.

Sensitivity: This view is from a recreational area that would be experienced by a higher number of receivers, including locals and visitors and is therefore a view of **local visual sensitivity**.

Visual impact during construction: The proposed transmission line construction activity would be visible in the middle ground of this view, rising above the existing trees in the middle ground of the view. The installation of the galvanised steel towers and stringing of the wires and conductors would be seen against the skyline and include the use of large machinery such as cranes and ground pulled draw wire or stringing drones as required.

This temporary construction activity would contrast with the otherwise vegetated character of this view. Due to the proximity of the transmission line easement and scale of the works there would be a high magnitude of change and a **moderate visual impact** during construction.

Visual impact during operation: A new large-scale transmission line tower would be seen in the middle ground of this view, rising above the intervening vegetation. This tower would be viewed against the sky, in a view that is otherwise leafy. The transmission line easement, would introduce an infrastructure character to views from the Colombo Creek Ski Club, detracting from the amenity of this view. Overall, the tower would be prominent and contrast with the character of this view, resulting in a high magnitude of change and a **moderate visual impact**.

Viewpoint 22: View west from area used for camping near the Colombo Creek Ski Club, Coonong Road, Morundah

Existing conditions: This view is from a field, adjacent to Colombo Creek near a jetty and the Ski Club. This view is oriented away from the creek, and main focal point of views from this area. This view is partly enclosed by vegetation along Coonong Road to the west and offers glimpses to the surrounding rural areas.

Sensitivity: While this is not a formal recreation area, when used for camping, this area could be experienced by a higher number of receivers, including locals and visitors, using this area for the purposes of recreation. This is a view of **local visual sensitivity**.

Visual impact during construction: The nearest proposed transmission tower would be about 250 metres from this area. Construction activity would be visible in the middle ground of this view, rising above the intervening trees in the middle ground of the view, and through the gap in the vegetation. The installation of the galvanised steel towers and stringing of the wires and conductors would be seen above the trees and viewed against the skyline. This would include the use of large machinery such as cranes and ground pulled draw wire or stringing drones as required.

This temporary construction activity would contrast with the otherwise vegetated character of this view. Due to the proximity of the transmission line easement and scale of the works there would be a high magnitude of change and a **moderate visual impact** during construction.

Visual impact during operation: A new large-scale transmission line tower would be seen in the middle ground of this view, rising above the intervening vegetation, and through the gaps in the existing trees. This tower would be viewed against the sky, increasing its visual prominence. The transmission line easement would introduce an infrastructure character to views, contrasting with the otherwise rural and leafy view. Overall, there would be a high magnitude of change and a **moderate visual impact** in views from this location.

Mitigation measures: Screening vegetation along Coonong Road would provide low level screening from the campground area, where there is a break in the existing vegetation. This additional screening would not alter the overall visual impact level as the upper portion of the nearest tower would continue to be visible from this location, contrasting with the existing character of this view.

Additional commitment

Transgrid is committed to working with adjoining landholders to determine reasonable and feasible treatments to reduce visual impacts as far as practicable.

As indicated in Table 2 below, the potential residual visual impact level with mitigation for receiver R26749 remains at 'High'. For this location, Transgrid would examine a range of at-site treatments, together with examining the feasibility of micro-siting towers immediately adjacent to the property in order to reduce visual impacts. This would occur in consultation with the landholder.

Revised Table 2: Summary of revised visual impact assessment – private dwellings

No.	Building ID	Holding No.	Location / address	Property visit undertaken	Preliminary potential visual impact level from EIS	Verified potential visual impact level (pre-mitigation), post field validation	Key factors supporting the verified visual impact level	Potential mitigation measures	Potential residual visual impact level with mitigation (subject to agreement with land holder)
1	422	H90	823 Fernbank Rd, Argoon	No	High	Moderate	• Main living areas oriented north and not towards the alignment • Existing trees surrounding the dwelling would provide some screening of the towers.	• Not required as dwelling not currently occupied	Moderate
2	20519	H094	Thurrowa Road, Bundure	N/A	High	N/A	• Identified during field validation as not being a dwelling. This building was identified as a shed structure.	• N/A	N/A
3	20522	H113	877 Coonong Road, Morundah	Yes	High	Low-moderate	• Camp accommodation oriented towards the creek and one of the tower locations • Existing creekside vegetation would partly screen the closest tower.	• Additional trees along the western bank of the creek (opposite the campsite) to screen gaps between the existing trees.	Low
4	20523	H113	877 Coonong Road, Morundah	Yes	High	Low	• Main living areas oriented away from the alignment • Existing trees around the camp accommodation and along the creek would provide a high level of screening	• None proposed due to low visual impact level	Low
5	533	H113	877 Coonong Road, Morundah	Yes	High	N/A	• Identified during field validation as not being a dwelling. This building was identified as a shed structure.	N/A	N/A
6	534	X-3645	Water Ski Club, Coonong Road, Morundah	Yes	High	N/A – refer to assessment of public viewpoint above	• Identified during field validation as not being a dwelling. This building was identified as being the amenities block and picnic tables for the ski club facility.	N/A	N/A
7	12943 / 14909	H126	Woodlands, 4536 Boree Creek Road, Urana	Yes	High	Low	• Dwelling oriented away from the alignment • Sheds and vegetation would obstruct the view to the towers.	• None proposed due to low visual impact level	Low
8	12942	H129	The Pines, 1072 Cullivel Road, Cullivel	Yes	High	Low	• Dwelling oriented towards the alignment, however, the view would be mostly blocked by existing trees and sheds.	• None proposed due to low visual impact level	Low

No.	Building ID	Holding No.	Location / address	Property visit undertaken	Preliminary potential visual impact level from EIS	Verified potential visual impact level (pre-mitigation), post field validation	Key factors supporting the verified visual impact level	Potential mitigation measures	Potential residual visual impact level with mitigation (subject to agreement with land holder)
9	385	H134	Andriskies Lane, Cullivel	Observed from the Lane	Very high	High	• View would be under and between the towers • Panoramic rural view with view to Lake Cullivel (water visible at time of visit) • Vegetation surrounding the house directs view towards and beyond the alignment.	• Additional trees provided to the northwest and northeast of the residence on adjacent fields or on the perimeter of the garden to provide additional screening and fil gaps between existing trees.	Moderate
10	12296	H145	747 Urana-Lockhart Road, Lockhart	Yes	High	Low	• Intervening landform and vegetation along the driveway would screen the view from this dwelling • House oriented to the north and not towards the alignment • View along the driveway to a tower.	• Not required due to low visual impact level and dwelling not currently occupied • Investigate the possibility of moving the tower at the end of the driveway further northeast so that it is not in-line with the view from the driveway (*Note: resident requested this as part of field verification*).	Negligible
11	450	H172	128 Slys Lane, Milbrulong	Yes	High	High	• Tower located on a rise in the landscape • Dwelling and living areas oriented towards a view to The Rock • This is a whole view to The Rock which is a regional icon in the landscape • Multiple towers would be seen crossing the view • Towers would rise above the skyline, partly obstructing and detracting from the visual prominence of The Rock in this view.	• Additional vegetation along the boundary of the garden and / or on adjacent fields would provide some screening of the closer towers to the south, and not crossing the main viewline. • Adjust tower locations (if feasible and reasonable) to avoid a tower being directly in line with / obstructing the view to The Rock	High-moderate

No.	Building ID	Holding No.	Location / address	Property visit undertaken	Preliminary potential visual impact level from EIS	Verified potential visual impact level (pre-mitigation), post field validation	Key factors supporting the verified visual impact level	Potential mitigation measures	Potential residual visual impact level with mitigation (subject to agreement with land holder)
12	461	H176	'Yarraw' 731 Hendersons Road, Tootool	Yes	High	High-moderate	• Dwelling, pool and partly constructed tennis court oriented towards the alignment • Some trees and shrubs in the garden would screen the view from the dwelling • There is more visibility of the alignment from outdoor areas associated with the house, including a view to The Rock from tennis court area.	• Additional trees and shrubs to the south of the dwelling to screen views to the nearest towers and fill gaps in the trees • Trees along the driveway to reduce the visibility of the towers on the approach to the dwelling.	Moderate
13	432	H179	'Rosebank' 535 Tuttys Lane, Tootool	Yes	High	Moderate	• Views south and southeast towards The Rock • Water tank and trees on the side of the house closest to the view.	Not required as dwelling not currently occupied	Moderate
14	249	H181	'Gala' 1066 Bullenbong Road, Tootool	Yes	High	N/A	• Identified during field validation as not being a dwelling. This building was identified as a shed structure.	N/A	N/A
14b	N/A (near 249)	H181	'Gala' 1066 Bullenbong Road, Tootool	Yes	Site of demolished dwelling intended for future dwelling, identified by landowner.	Low-moderate	• View to The Rock partly obstructed by existing mature trees • The view includes stored material, sheds and other structures.	Not required as dwelling not currently occupied	Low-moderate
15	188	H184	Boyds Road, The Rock	Observed from Boyds Road	High	Negligible	• Dwelling not orientated towards the alignment • Trees and sheds would obstruct view to the alignment.	None proposed due to low impact level	Negligible
16	1712	H184	Boyds Road, The Rock	Observed from Boyds Road	High	Negligible	• Dwelling not orientated towards the alignment • Trees and landform would obstruct view to the alignment.	None proposed due to low impact level	Negligible

No.	Building ID	Holding No.	Location / address	Property visit undertaken	Preliminary potential visual impact level from EIS	Verified potential visual impact level (pre-mitigation), post field validation	Key factors supporting the verified visual impact level	Potential mitigation measures	Potential residual visual impact level with mitigation (subject to agreement with land holder)
17	211	Not line affected	'Stray Leaves' 2 Mcgeachies Lane, The Rock	Observed from Mcgeachies Lane	High	Low-moderate	• Trees around the dwelling and along the road would partly obstruct the view • The landform rises to the south of the road partly enclosing the view south towards the alignment.	None proposed due to low impact level	Low-moderate
18	468	H185	709 The Rock-Collingullie Rd, The Rock)	Yes	High	N/A	• Identified during field validation as not being a dwelling. This building was identified as a shed structure.	N/A	N/A
19	26907	H185	Kiyuga, 709 The Rock-Collingullie Road, The Rock	Yes	High	Low	• Dwelling not oriented towards the alignment • Trees on intervening track around the dwelling would screen the view.	None proposed due to low impact level	Low
20	208	H185	709 The Rock-Collingullie Road, The Rock	Yes	High	N/A	• Identified during field validation as not being a dwelling. This building was identified as a shed structure.	N/A	N/A
21	26908	H185	709 The Rock-Collingullie Road, The Rock	Yes	High	N/A	• Identified during field validation as not being a dwelling. This building was identified as a shed structure.	N/A	N/A
21a	26905	H185	709 The Rock-Collingullie Road, The Rock	Yes	Additional dwelling identified by owner	Low-moderate	• Dwelling and main living areas not oriented towards the alignment • View to The Rock from the dwelling oriented away from the alignment • Some intervening trees would screen the visibility of the towers.	None proposed due to low impact level	Low-moderate
22	313	H191	Greendale 389 Uranquinty Cross Road, Uranquinty	No	High	N/A	• Identified during field validation as not being a dwelling. This building was identified as a shed structure.	None proposed due to low impact level	N/A

No.	Building ID	Holding No.	Location / address	Property visit undertaken	Preliminary potential visual impact level from EIS	Verified potential visual impact level (pre-mitigation), post field validation	Key factors supporting the verified visual impact level	Potential mitigation measures	Potential residual visual impact level with mitigation (subject to agreement with land holder)
23	185	H193	Glencoin, 5888 Olympic Highway, Uranquinty	Yes	High	Low	• Dwelling and main living areas oriented away from the alignment • Trees in the gardens around the house and several rows of trees, between the house and the alignment, obstruct the view.	None proposed due to low impact level	Low
24	186	Not line affected	Elswick, 5746 Olympic Highway, Uranquinty	Yes	High	High-moderate	• Dwelling and main living areas oriented towards the alignment • Existing towers visible from the house between intervening trees • Trees frame view across fields to the north • Views to mountains to the northeast and northwest are features of this view.	Additional vegetation could be provided along the northern boundary of the property to provide screening of the towers while maintaining views through the towers and to the distant hills.	Moderate
25	26950	H194	Oxley Bridge Road, Uranquinty	No	High	N/A	Identified during field validation as not being a dwelling. This building was identified as a shed structure.	N/A	N/A
26	20533	H195	11146 Oxley Bridge Road, Uranquinty	Yes	High	Low-moderate	• House oriented away from the alignment • Dense vegetation around the house would screen the alignment • Local landform may also intervene to screen the towers.	None proposed due to low impact level	Low-moderate
27	26749	H200	6707 Holbrook Road, Gelston Park, Rowan	Observed from Holbrook Road	High	High	• Dwelling oriented parallel to the alignment • A tower would be located to the northwest of and in close proximity to the pool area • A tower would be located prominently on the ridgeline to the northeast and in the middle ground of this view • Towers of a large scale and would be prominently located on higher ground.	Vegetation could be provided to the northwest of the pool area to provide some screening of the nearest tower. Otherwise, there is limited opportunity on this property to screen the view to the most visible tower that would be located to the northeast of the dwelling.	High
28	26750	H200	6701-6739 Holbrook Road, Gelston Park, Rowan	Observed from Holbrook Road	High	N/A	• Identified during field validation as not being a dwelling. This building was identified as a shed structure.	N/A	N/A

No.	Building ID	Holding No.	Location / address	Property visit undertaken	Preliminary potential visual impact level from EIS	Verified potential visual impact level (pre-mitigation), post field validation	Key factors supporting the verified visual impact level	Potential mitigation measures	Potential residual visual impact level with mitigation (subject to agreement with land holder)
29	20572	H197	6823 Holbrook Road, Rowan	No	High	N/A	• Identified during field validation as not being a dwelling. This building was identified as a shed structure.	N/A	N/A
30	500	Not line affected	Rowanfeyld, 6701 Holbrook Road, Rowan	Observed from Holbrook Road	High	Low-moderate	• Located on lower slopes, below the alignment • Vegetation would intervene and reduce the visibility of the towers • Main view line is away from the alignment, towards the valley, so any view would be oblique to the main view line.	None proposed due to low impact level	Low-moderate
31	501	Not line affected	Ubatuba, 6645 Holbrook Road, Gelston Park	Yes	High	Moderate	• Elevated location with panoramic view across the valley • Towers would be partly screened by intervening vegetation and landform • Complex view, with existing transmission lines seen • Pool and living areas oriented to the northeast towards the panoramic view • Closest towers would be on the periphery of the main view line.	Limited opportunity on this property to screen the view	Moderate
32	502	Not line affected	6720 Holbrook Road, Rowan	Yes	High	Moderate	• Main view oriented towards the alignment • Tower locations would be either side of the main view line.	Limited opportunity on this property to screen the view to the nearest tower due to their elevated location. However, some mounded gardens with trees and shrubs could be provided along the western boundary of this property to provide some screening of the closest towers, while maintaining the view to sections of the ridgeline between the towers.	Moderate

No.	Building ID	Holding No.	Location / address	Property visit undertaken	Preliminary potential visual impact level from EIS	Verified potential visual impact level (pre-mitigation), post field validation	Key factors supporting the verified visual impact level	Potential mitigation measures	Potential residual visual impact level with mitigation (subject to agreement with land holder)
33	503	Not line affected	6640 Holbrook Road, Gelston Park	Yes	High	Negligible	• Existing vegetation between the dwelling and the alignment would provide good screening of this view • Limited visibility expected.	None proposed due to low impact level	Negligible
34	504	Not line affected	6823 Holbrook Road, Rowan	Yes	High	Low-moderate	• House and pool oriented away from the closest towers • Existing vegetation within the gardens has been established to screen the existing transmission lines • There may be some reduced leaf cover in winter.	Additional trees could be provided to the south and southeast of the existing dwelling to provide further screening of the towers.	Low
35	27028	H205	21-275 Rowan Road, Rowan	Yes	High	N/A	• Identified during field validation as not being a dwelling. This building was identified as a shed structure.	N/A	N/A
35b	233	H205	21-275 Rowan Road, Rowan	Yes	Dwelling associated with this landholding.	Moderate	• Approach to the dwelling passes under powerline (would be three in total) • House with veranda and living rooms oriented towards the alignment • Corner towers and converging lines would not be seen from the house • Gardens and sheds to the side of the house would limit views to multiple towers • Existing mounded garden beds with trees and dense shrubs established between the house and the alignment screening the view of the existing towers from the house	Additional trees provided to the north of the existing garden areas to screen the towers within the adjacent fields. Gardens could be mounded to increase the effectiveness of screening.	Low-moderate
36	202	X-002	Benlock, 83 Ashfords Road, Gregadoo	Yes	High	Low	• Dense trees along the driveway and in the vicinity of the substation limit view.	• None proposed as dwelling currently unoccupied and due to low impact level.	Low

2. Traffic and Transport

Consolidated list of potential intersection upgrades and access points

A consolidated list detailing the proposed potential intersection upgrades and access points (access tracks) is provided in Appendix 1 – Table 1. The requirement for these would be determined post-approval following finalisation of the proposal design and construction methodology and in ongoing consultation with the relevant road authority. The number and location of access points ultimately used would not increase the proposal-related traffic volumes along each route, as presented and assessed in the EIS and Amendment Report.

The proposal includes installing new site access points for the following accommodation camps and construction compounds:

- Wagga Wagga construction compound (Ashfords Road);
- Lockhart construction compound and accommodation camp (County Boundary Road);
- Dinawan construction compound and accommodation camp (Kidman Way); and
- Cobb Highway construction compound and accommodation camp (Cobb Highway).

In relation to the Lockhart construction compound and accommodation camp, the EIS indicated a site access point near the intersection of Lockhart-Collingullie Road and County Boundary Road. Transgrid now proposes that the site access point would be on County Boundary Road. Figure D-4e from the Submission Report has been updated to reflect this site access point change and is provided as Appendix 3. The access road from Yanga Way to the proposed Balranald construction compound location already has an appropriate site access point. No upgrades are required nor included in the proposal for that site access point.

The proposed Balranald accommodation camp is an existing facility on Church Street within the town of Balranald. As this site would be accessed primarily by the construction workforce and camp support services rather than heavy vehicles associated with construction, no upgrade to the existing site access point is required nor included in the proposal.

With respect to the potential intersection treatments for each of the access points located along the alignment, the type of treatment would be dependent on the type of roadway on which the access point would be located, the type of access required and the total number of expected proposal-related traffic movements through the access point. The indicative intersection treatments which may potentially be required for each access point (subject to confirmation of the final construction methodology) are included in Appendix 1 – Table 2. These types of work were detailed in Section 5.1.3.1 of *Technical Paper 11 – Traffic and Transport Impact Assessment*.

In accordance with the commitments contained in the revised mitigation measures in the *EnergyConnect (NSW – Eastern Section) Amendment Report* (Transgrid, 2022a), the final intersection treatments would be confirmed in consultation with the relevant road authority. Works would be completed as required as construction moves along the alignment. The final treatments for access points onto private property (e.g. fencing, cattle grids, etc) would also be determined in consultation with the relevant land holder.

Consideration of the potential impacts at each access point and intersection where works may be required has been included in the disturbance area footprint and impact assessment for the proposal as presented in the EIS and revised as required in the Amendment Report.

Updated terminology

Transgrid has renamed ‘haulage routes’ as ‘access routes’ to reflect that these routes will be used by all project-related traffic accessing construction locations, not just heavy vehicles hauling plant and equipment. To account for this change, revised figures for inclusion in Appendix 4 of the project Infrastructure Approval have been provided below.

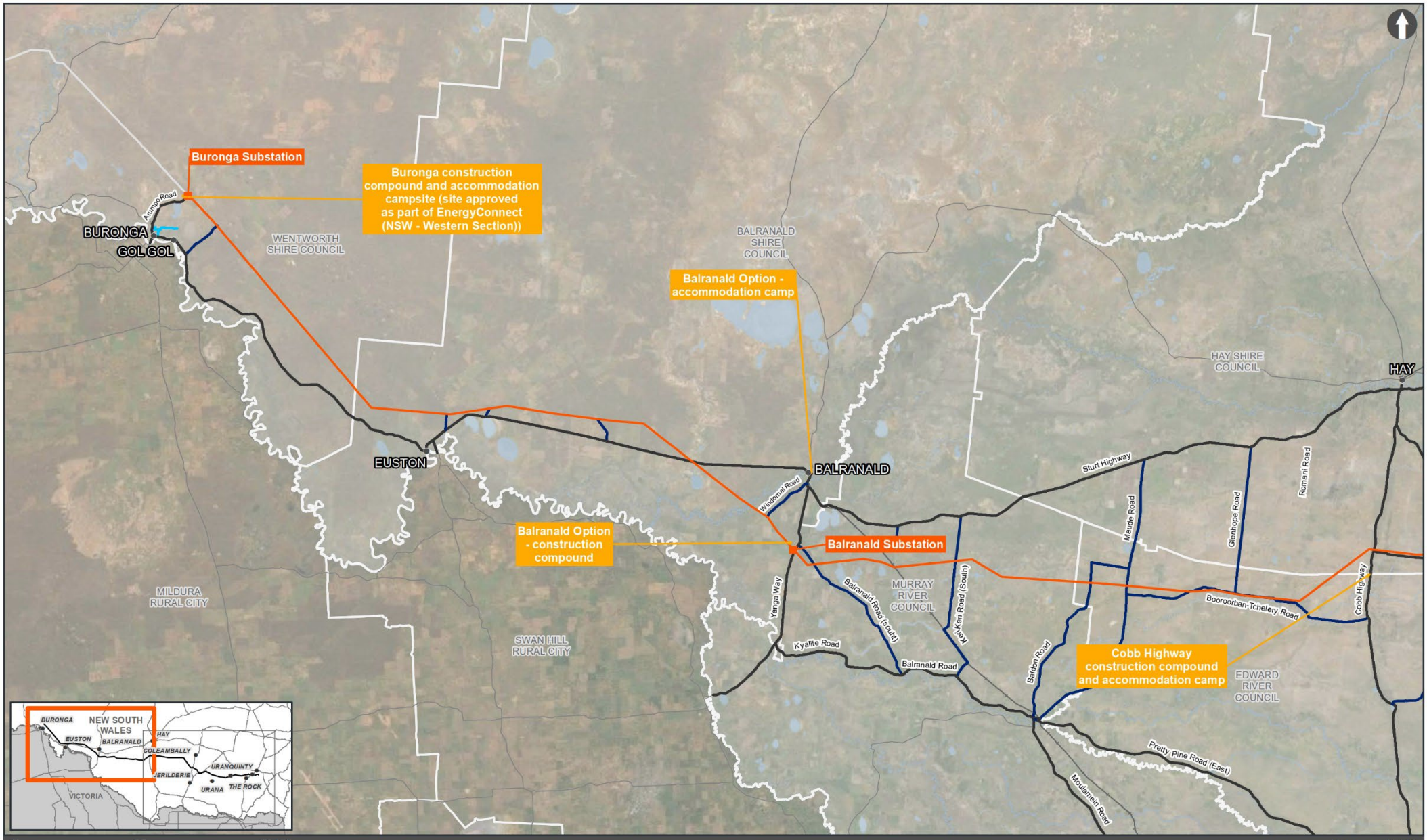

Figure 6-12

Prospective traffic access routes within the traffic and transport study area

Sheet 1 of 2

- EnergyConnect (NSW - Eastern Section)
- EnergyConnect (NSW - Western Section)
- Existing Substation
- Main Construction Compounds and Accomodation Sites
- Existing Railway
- Watercourse
- Local Government Areas
- Waterbody

Transport Access Routes

- Primary Access Route
- Secondary Access Route
- Water Access Route
- Local Access Route
- Collector Access Route

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Source: NSWSS, ESRI, Transgrid, WSP

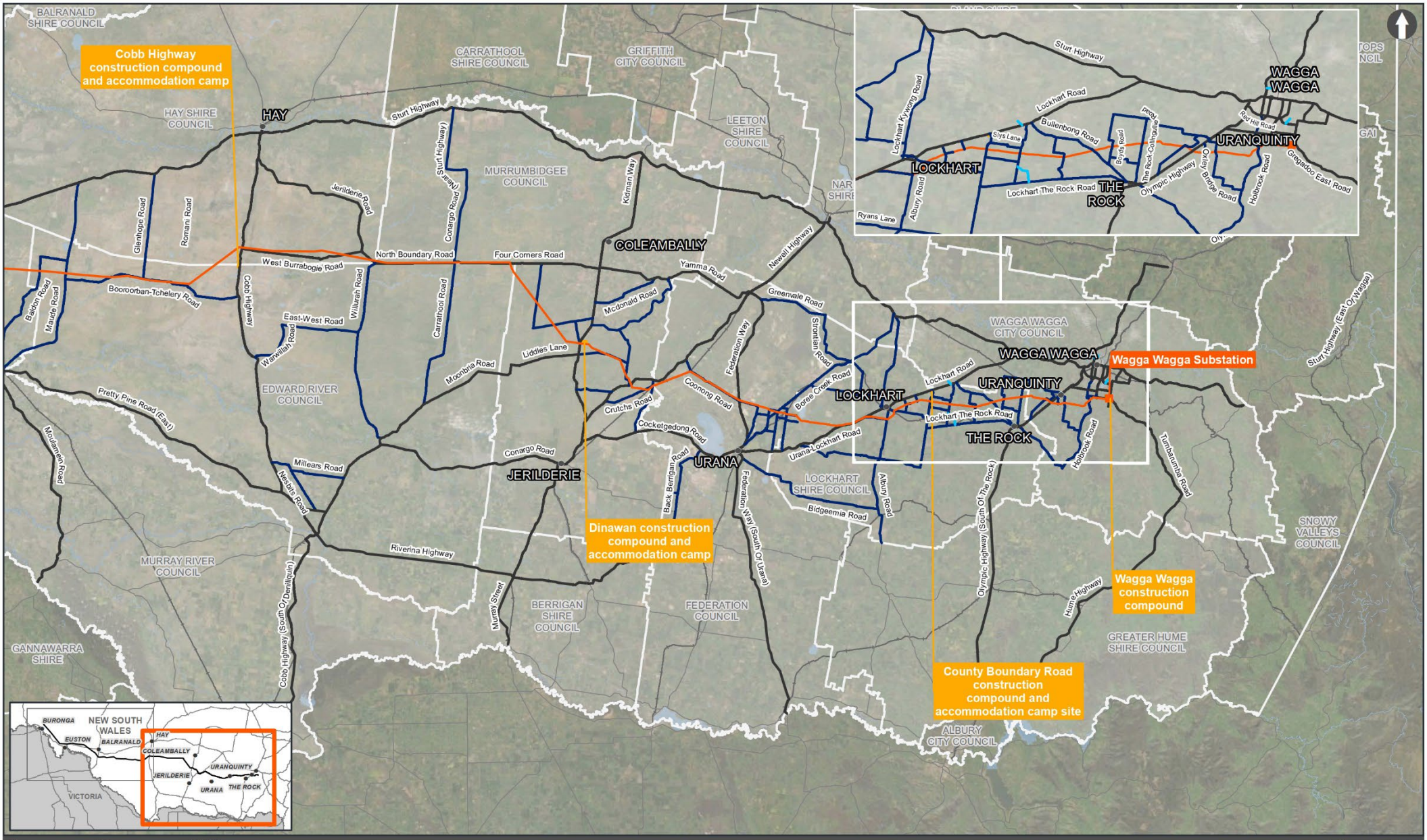

Figure 6-12

Prospective traffic access routes within the traffic and transport study area

Sheet 2 of 2

- EnergyConnect (NSW - Eastern Section)
- EnergyConnect (NSW - Western Section)
- Existing Substation
- Main Construction Compounds and Accomodation Sites
- Existing Railway
- Watercourse
- Local Government Areas
- Waterbody

Transport Access Routes

- Primary Access Route
- Secondary Access Route
- Water Access Route
- Local Access Route
- Collector Access Route

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Source: NSWSS, ESRI, Transgrid, WSP

3. Biodiversity

The Biodiversity and Conservation Division (BCD) of DPE has provided a letter (dated 6 July 2022) (REF: DOC22-423085) with additional comment on particular issues in the EnergyConnect NSW - Eastern Section Revised Biodiversity Development Assessment Report (BDAR) (WSP, June 2022).

Subsequently Transgrid has engaged with BCD on particular matters raised in the letter. These matters relating to species credit liabilities have been resolved in the recent engagement activities (refer Appendix 2). A revised final biodiversity offset liability has been determined for the project in accordance with the Biodiversity Assessment Methodology (BAM) based on the outcomes agreed with BCD and DPE.

A revised final credit liability has been determined for the project in accordance with BAM based on the outcomes agreed with BCD. The EnergyConnect NSW – Eastern Section project's total credit liability in accordance with BAM is **$313,417,479.03** (excluding GST).

For the species associated with areas of assumed presence, the credit liability is a conservative worst case. Where, prior to construction, targeted surveys and/or an approved expert report are provided in accordance with BAM the credit liabilities for these species are likely to be revised down.

For species that have been assumed present within properties that are unlikely to be accessed for targeted surveys and/or an expert report is not available prior to construction, no further reduction in species credit liability is likely. A summary of these species credit liabilities is **$5,225,996.11**.

Other matters will be addressed and documented in an updated consolidated Revised BDAR. Transgrid has committed to preparing the updated Revised BDAR and submitting to BCD and DPE prior to construction commencing on the project.

Transgrid is committed to minimising all environmental impacts during construction and operation of the Project. The revised mitigation measures in the *EnergyConnect (NSW – Eastern Section) Submissions Report* (Transgrid, 2022b) commit to minimising potential impacts via avoidance during the finalisation of the design and the development of construction methods. Furthermore, revised mitigation measure B15 committed to confirming and meeting all offset requirements based on actual clearing. The requirement to confirm the credit liability in accordance with the Biodiversity Assessment Methodology (BAM) and meet that liability will be included and detailed in the Construction Environmental Management Plan (CEMP) Biodiversity Sub-Plan. This Sub-Plan must be prepared to the satisfaction of the Planning Secretary and implemented during construction.

Transgrid is currently preparing the Draft Biodiversity Offset Package for the EnergyConnect (NSW – Eastern Section) project (Draft Offset Package East). The Draft Offset Package East is being prepared holistically to augment and compliment the Offset Package prepared for the approved EnergyConnect – Western Section. The Draft Offset Package East will be provided to DPE as a draft for consultation and review.

The Draft Offset Package East is being prepared to meet the requirements of Draft Condition of Infrastructure Approval D26, together with the commitments made in the Environmental Impact Statement (EIS), Submissions Report and the Amendment Report. It details the status of Transgrid's strategy for meeting all biodiversity offset liabilities.

3.1. Offset status

The biodiversity offset strategy includes three key components:

1. Establishing Biodiversity Stewardship Agreement sites (BSAs) on lands with equivalent biodiversity values to those impacted by the Project

2. Purchasing credits from the market from established BSAs

3. Making a payment into the Biodiversity Conservation Fund (BCF) for outstanding liabilities.

Transgrid is well advanced in meeting offset liabilities for both the NSW Western and Eastern sections of EnergyConnect. Central to Transgrid's strategy to meet offset liabilities is establishing BSAs for lands with equivalent biodiversity values to those impacted by the project. Transgrid is actively progressing a number of potential BSA sites that have been identified as containing equivalent biodiversity values.

Two sites have been surveyed in accordance with the BAM, and BSA applications have been submitted. Table 3-1 provides a summary of these two proposed BSA sites. Further details would be included in the Biodiversity Offset Package.

Table 3-1 BSA site summary

BSA Site Name	Area	Attributes	Ecosystem credits	Species credits
BSA 1 'Big Bend'	6,424ha	High conservation value arid and semi-arid shrublands and woodlands	33,087	340
BSA 2	8,303ha	High conservation value shrublands, grasslands, wetlands and the Weeping Myall Woodland TEC.	44,705	6,843
Total	**14,727ha**		**78,512**	**7,183**

Combined, these two BSA sites would meet about 65% of the total ecosystem credits and about 6% of the species credits required by the biodiversity offset liability for the EnergyConnect NSW - Western and Eastern Section projects.

3.2. Biodiversity offset security

Transgrid will establish a financial security arrangement, such as a bank guarantee facility, for the project's offset liability in consultation with DPE.

3.3. Consultation

Transgrid has consulted with the BCD South West branch regularly during the preparation of the EIS, Submissions Report and Amendment Report stages. BCD has been updated on the status of the BSA sites, and the quantum of residual offset credits possibly required.

4. Corona discharge noise

4.1. At source noise mitigation

There are limited options available for at-source mitigation of potential operational noise.

The use of increased conductor diameters in selected areas would present significant engineering challenges for both construction and operation. To significantly reduce the operational noise impacts the conductor sizes would need to be increased in diameter by 83 per cent (from 27 millimetres to 49.5 millimetres) for the 330kV line section and by 46 per cent (29.3 millimetres to 42.8 millimetres) for the 500kV line section. The cost of the larger conductors alone is significant, as conductors are installed in 10 kilometre sections. Larger conductors would require larger towers with greater quantities of steel and other material requirements (estimated to be an increase of approximately 25 per cent). The change in conductor sizes would also need to be located at heavy tension towers, which are approximately double the cost of inline suspension towers. Stringing the larger conductors would require larger construction equipment, a larger construction footprint and add considerable construction time.

Using a larger conductor for a 10 kilometres section of line is estimated to result in additional costs in excess of $15.2 million. This cost would not include delay costs, property costs, studies to determine any environmental impacts, or increased biodiversity offsets. Maintenance of different diameter conductors would be difficult, particularly as conductors of this size are not used on Transgrid's network. In the event of a network outage repairing or replacing different sized conductors would potentially add time to any network outage.

The use of larger towers would introduce additional environmental impacts associated with construction footprints, increased steel and other construction material requirements. Visual impacts on surrounding properties would increase. If larger diameter conductors were used for the entire project, the additional environmental impacts would occur across the project route.

The tower geometry has some effect on the potential operational noise, however the separation of the conductors would need to be increased by more than 10 metres to have a significant effect on the predicted noise levels. This option is not considered feasible as the costs and environmental impacts of the increase in tower size would be substantially larger than the current project as proposed.

Corona rings can be installed on the end of insulators to reduce corona discharge and associated noise from the insulator fittings. Corona rings also prevent accelerated degradation of the insulator hardware that could lead to increased corona discharge and related noise. Transgrid typically uses corona rings on the end of insulators and would do the same for this infrastructure. The modelling of operational noise due to corona discharge presented in the Environmental Impact Statement assumes that corona rings are in use.

The Noise and Vibration assessments detailed in the EIS, Submissions Report and Amendment Reports identified a total of eight properties that may potentially be affected by operational noise to a moderate (six) or significant (two) level. Impacts would be restricted to specific weather conditions, such as rain or mist. Of these eight properties, four have signed agreements for the easement and infrastructure on their property.

Two properties were identified as being potentially highly (significantly) affected under the worst case scenario. One of these properties is currently not occupied, and the landholder has signed the agreement for the easement and infrastructure.

There is one occupied property that is identified as potentially highly (significantly) affected by operational noise. This property is a non-associated neighbouring property. Transgrid has written to the landholder of this property, and is committed to on-going consultation with this landholder to determine suitable mitigation measures for potential noise and visual impacts. This property is located in the proposed 500kV section of the project. As detailed above, there is limited scope for at-source mitigation for the 500kV section of the line. Furthermore, any increase in tower size would exacerbate the visual impact on this property.

Given that there is one occupied residence that has been identified as potentially affected by operational noise to a potentially significant level, the above identified technical issues associated with at-source mitigation would not be reasonable or feasible.

In relation to the issue of potential amenity impacts from operational noise during the day time when residents are working or using outdoor areas, potential operational noise impacts from corona discharge would occur during and after rain, or when mist is present. The noise of heavy rain would mask noise associated with corona discharge. Furthermore, ambient noise during the daytime has the potential to also mask noise associated with corona discharge. In mist conditions, operational noise corona discharges may occur. This is discussed further in the following sections, and would not occur frequently.

4.2. Corona noise during rain events and mist

The exact percentage per year of anticipated corona discharge noise associated with rain and mist conditions is not able to be quantified. The EIS identified the known average days per year of both rain and mist events based on recent average meteorological data records however this data is an average and not the same for every year on record. There is potential for there to be increased or decreased days each year of these types of meteorological events.

Rain events

Elevated audible noise levels can occur on power lines during rain events and for a short period after the rain event. The length of time that the audible noise continues after the cessation of a rain event can depend on atmospheric conditions, e.g. temperature or wind effects on drying rates on the infrastructure, however more significant effect is observed with electrical loading on the line. For a line with low electrical loading and atmospheric conditions not conducive to rapid drying (low temperature, low wind) the audible noise levels can remain elevated for periods of up to 1.5 hours after cessation of the rain event. However for lines which are carrying electrical load current the drying time (and associated noise impact duration) can be as short as 5 minutes following the rain event. Therefore the actual duration of elevated audible noise levels will depend heavily on electrical line loading. Assuming the line is under electrical load most of the time (which is the intended operational scenario for the project), the period of elevated audible noise levels will correlate relatively directly with durations of rain events.

Transgrid would like to correct an typographical error made in the EIS. The EIS quoted an average of 140 rain days per year in Wagga Wagga. The actual figure is 104 days, equating to around 28 per cent annual percentage of days with wet conditions (per the data identified and included in Technical Paper 10 – Noise and Vibration Impact Assessment: Appendix D, Table 5). Wet weather events do not typically occur for the full 24 hours period of each day. Based on this data and with consideration of the potentially worst case additional 1.5 hours of impact after a rain event, it is expected that the audible noise impacts would be less than around 28 per cent of days per year.

Mist events

Based on eight days of mist per year, even if the corona discharge persisted for the full 24 hours on each of these mist days, a maximum percentage of the year for corona discharges in mist conditions would be 2.2 per cent of the year. Noting there is potential for these mist days to also occur on the same days as the rain event days.

4.3. Corona noise during dry conditions

Corona discharge would not occur during dry conditions. The Beca report states: “The line’s corona performance is less influenced by secondary factors such as altitude and pollution”.

The EPRI AC Transmission Line Reference Book notes that the effect on altitude above sea level can be approximated by an increase in audible noise of 1dB for every 300 metres in elevation. The proposed line is situated at altitudes of less than 150m for the majority of the line. Some areas near Wagga Wagga reach elevations of up to 380 metres where the line would pass over hills. Based on this, altitude effects on the audible noise performance of the proposed line are not expected to be significant.

Pollution effects on fair weather audible noise are generally only applicable in cases where there is exceptionally long periods between rainfall, i.e. desert areas, where pollution is able to accumulate on the conductors over a long time. Even in these cases, fair weather audible noise is only typically an issue at high elevations or with designs that result in significantly high conductor surface voltage gradient.
For locations with at least occasional rainfall, which is the case for this Project, pollution has a negligible effect on fair weather audible noise.

The impacts identified are the potential worst modelled case. Based on this modelling the Project has the potential to impact one occupied residence to a high (significant) level with audible noise, one unoccupied residence to a high (significant) level, and six other receivers to a moderate level without mitigation being applied. Confirmation of the identified impact levels would be undertaken through monitoring once the infrastructure is in place. Transgrid is committed to consulting with the landholders of the occupied properties to facilitate suitable mitigation measures for the operational noise impacts.

5. Aboriginal Heritage

5.1. Additional heritage assessment in unsurveyed areas

Access to specific properties was not available during the preparation of the heritage assessments that informed the Environmental Impact Statement and subsequent environmental assessment documentation. Also, certain activities, such as site access point installation, might affect land adjacent to areas subject to heritage survey. Transgrid is committed to ensuring all impacted areas are subject to appropriate heritage assessment before any ground disturbance occurs. Consequently, Transgrid plans to conduct additional heritage assessments in unsurveyed areas where project activities will occur.

Revised Mitigation Measure AH3 in Table C-1 in Appendix C to the Amendment Report commits that if additional heritage assessments carried out in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (2010) do not find any Aboriginal objects that project activities would impact, a clearance letter would be issued and suitable activities could proceed in that location. Transgrid's intention with this commitment is that only 'pre-construction minor works' and 'road upgrades' (i.e. activities that are not 'construction' by definition) could commence in those locations based on a clearance letter. All construction activities would wait until approval of an associated addendum to the Supplementary Aboriginal Cultural Heritage Assessment Report.

Appendix 1 – Traffic and transport: Intersection and access points

Table 1 Potential intersection upgrades and access point (access tracks)

Location	Road	Intersection Treatment
Main construction compounds and camps		
Cobb Highway construction compound and accommodation camp	Cobb Highway	An access point, directly from the highway road shoulder Basic Right Turn and Basic Left Turn
Dinawan substation	Kidman Way	Basic Right Turn and Basic Left Turn
Lockhart construction compound and accommodation camp	Country Boundary Road	Basic Right Turn and Basic Left Turn
Wagga Wagga construction compound	Ashfords Road	Basic Right Turn and Basic Left Turn
Access points *(roads listed below indicate where the access point is from to an existing or proposed track)*		
Access Pt #100	Arumpo Road	Type 2 – Minor paved road
Access Pt #101	Dansons Road	Type 4 – Minor unsealed road
Access Pt #102	Dansons Road	Type 4 – Minor unsealed road
Access Pt #103	Un-named Track	Type 4 – Minor unsealed road
Access Pt #104	Sturt Highway	Type 1 – Major road
Access Pt #105	Un-named Track	Type 4 – Minor unsealed road
Access Pt #106	Un-named Track	Type 4 – Minor unsealed road
Access Pt #107	Sturt Highway	Type 1 – Major road
Access Pt #108	Un-named Track	Type 4 – Minor unsealed road
Access Pt #109	Euston Prungle Road	Type 3 – Major unsealed or gravel road
Access Pt #110	Euston Prungle Road	Type 3 – Major unsealed or gravel road
Access Pt #111	Bewanee Koorakee Road	Type 3 – Major unsealed or gravel road
Access Pt #112	Bewanee Koorakee Road	Type 3 – Major unsealed or gravel road
Access Pt #113	Abbots Tank Prungle Road	Type 4 – Minor unsealed road
Access Pt #114	Abbots Tank Prungle Road	Type 4 – Minor unsealed road
Access Pt #115	Sturt Highway	Type 1 – Major road
Access Pt #116	Un-named Track	Type 4 – Minor unsealed road
Access Pt #117	Sturt Highway	Type 1 – Major road
Access Pt #118	Un-named Track	Type 4 – Minor unsealed road
Access Pt #119	Un-named Track	Type 4 – Minor unsealed road
Access Pt #120	Windomal Road	Type 2 – Minor paved road
Access Pt #121	Windomal Road	Type 2 – Minor paved road
Access Pt #122	Mallee Highway	Type 1 – Major road
Access Pt #123	Mallee Highway	Type 1 – Major road
Access Pt #124	Mallee Highway	Type 1 – Major road
Access Pt #125	Balranald Road	Type 3 – Major unsealed or gravel road

Location	Road	Intersection Treatment
Access Pt #126	Balranald Road	Type 3 – Major unsealed or gravel road
Access Pt #127	Impimi Road	Type 4 – Minor unsealed road
Access Pt #128	Keri Keri Road	Type 3 – Major unsealed or gravel road
Access Pt #129	Keri Keri Road	Type 3 – Major unsealed or gravel road
Access Pt #130	Baldon Road	Type 3 – Major unsealed or gravel road
Access Pt #131	Baldon Road	Type 3 – Major unsealed or gravel road
Access Pt #132	Moulamein Road	Type 2 – Minor paved road
Access Pt #133	Moulamein Road	Type 2 – Minor paved road
Access Pt #134	Booroorban Tchelery Road	Type 2 – Minor paved road
Access Pt #135	Booroorban Tchelery Road	Type 2 – Minor paved road
Access Pt #136	Un-named Track	Type 4 – Minor unsealed road
Access Pt #137	Booroorban Tchelery Road	Type 3 – Major unsealed or gravel road
Access Pt #138	Booroorban Tchelery Road	Type 2 – Minor paved road
Access Pt #139	Booroorban Tchelery Road	Type 3 – Major unsealed or gravel road
Access Pt #140	Booroorban Tchelery Road	Type 2 – Minor paved road
Access Pt #141	Booroorban Tchelery Road	Type 2 – Minor paved road
Access Pt #142	Booroorban Tchelery Road	Type 2 – Minor paved road
Access Pt #143	Booroorban Tchelery Road	Type 2 – Minor paved road
Access Pt #144	Romani Road	Type 3 – Major unsealed or gravel road
Access Pt #145	Romani Road	Type 3 – Major unsealed or gravel road
Access Pt #146	Cobb Highway	Type 1 – Major road
Access Pt #147	Cobb Highway	Type 1 – Major road
Access Pt #148	W Burrabogie Road	Type 3 – Major unsealed or gravel road
Access Pt #149	W Burrabogie Road	Type 3 – Major unsealed or gravel road
Access Pt #150	W Burrabogie Road	Type 3 – Major unsealed or gravel road
Access Pt #151	Jerilderie Road	Type 2 – Minor paved road
Access Pt #152	Jerilderie Road	Type 2 – Minor paved road
Access Pt #153	Northern Boundary Road	Type 3 – Major unsealed or gravel road
Access Pt #154	Northern Boundary Road	Type 3 – Major unsealed or gravel road
Access Pt #155	Northern Boundary Road	Type 3 – Major unsealed or gravel road
Access Pt #156	Northern Boundary Road	Type 3 – Major unsealed or gravel road
Access Pt #157	Northern Boundary Road	Type 3 – Major unsealed or gravel road
Access Pt #158	Conargo Road	Type 2 – Minor paved road
Access Pt #159	Four Corners Road	Type 4 – Minor unsealed road
Access Pt #160	Four Corners Road	Type 3 – Major unsealed or gravel road
Access Pt #161	Four Corners Road	Type 3 – Major unsealed or gravel road
Access Pt #162	Four Corners Road	Type 3 – Major unsealed or gravel road
Access Pt #163	Four Corners Road	Type 3 – Major unsealed or gravel road

Location	Road	Intersection Treatment
Access Pt #164	Four Corners Road	Type 3 – Major unsealed or gravel road
Access Pt #165	Un-named Track	Type 3 – Major unsealed or gravel road
Access Pt #166	Un-named Track	Type 3 – Major unsealed or gravel road
Access Pt #167	Fernbank Road	Type 3 – Major unsealed or gravel road
Access Pt #168	Fernbank Road	Type 3 – Major unsealed or gravel road
Access Pt #169	McLennons Bore Road	Type 3 – Major unsealed or gravel road
Access Pt #170	McLennons Bore Road	Type 3 – Major unsealed or gravel road
Access Pt #171	Kidman Way	Type 2 – Minor paved road
Access Pt #172	Kidman Way	Type 1 – Major road
Access Pt #173	Ashfords Road	Type 2 – Minor paved road
Access Pt #174	Boiling Down Road	Type 3 – Major unsealed or gravel road
Access Pt #175	Boiling Down Road	Type 3 – Major unsealed or gravel road
Access Pt #176	Boiling Down Road	Type 3 – Major unsealed or gravel road
Access Pt #177	Boiling Down Road	Type 3 – Major unsealed or gravel road
Access Pt #178	Redbank Road	Type 3 – Major unsealed or gravel road
Access Pt #179	Boiling Down Road	Type 3 – Major unsealed or gravel road
Access Pt #180	Boiling Down Road	Type 3 – Major unsealed or gravel road
Access Pt #181	Boiling Down Road	Type 3 – Major unsealed or gravel road
Access Pt #182	Plumpton Road	Type 3 – Major unsealed or gravel road
Access Pt #183	Rowan Road	Type 4 – Minor unsealed road
Access Pt #184	Holbrook Road	Type 2 – Minor paved road
Access Pt #185	Holbrook Road	Type 2 – Minor paved road
Access Pt #186	Oxley Bridge Road	Type 2 – Minor paved road
Access Pt #187	Old Station Road	Type 3 – Major unsealed or gravel road
Access Pt #188	Old Station Road	Type 3 – Major unsealed or gravel road
Access Pt #189	Kendells Road	Type 3 – Major unsealed or gravel road
Access Pt #190	Kendells Road	Type 3 – Major unsealed or gravel road
Access Pt #191	Kendells Road	Type 3 – Major unsealed or gravel road
Access Pt #192	Collingullie Road	Type 2 – Minor paved road
Access Pt #193	Collingullie Road	Type 2 – Minor paved road
Access Pt #194	Boyds Road	Type 3 – Major unsealed or gravel road
Access Pt #195	Boyds Road	Type 3 – Major unsealed or gravel road
Access Pt #196	Boyds Road	Type 3 – Major unsealed or gravel road
Access Pt #197	The Rock Bullenbong Road	Type 2 – Minor paved road
Access Pt #198	Hendersons Road	Type 3 – Major unsealed or gravel road
Access Pt #199	Hendersons Road	Type 3 – Major unsealed or gravel road
Access Pt #200	French Park Bullenbong Road	Type 3 – Major unsealed or gravel road
Access Pt #201	French Park Bullenbong Road	Type 3 – Major unsealed or gravel road

Location	Road	Intersection Treatment
Access Pt #202	Country Boundary Road	Type 2 – Minor paved road
Access Pt #203	Country Boundary Road	Type 2 – Minor paved road
Access Pt #204	Collingullie Jerilderie Road	Type 2 – Minor paved road
Access Pt #205	Dunlevys Lane	Type 3 – Major unsealed or gravel road
Access Pt #206	Dunlevys Lane	Type 3 – Major unsealed or gravel road
Access Pt #207	Strongs Lane	Type 3 – Major unsealed or gravel road
Access Pt #208	Strongs Lane	Type 3 – Major unsealed or gravel road
Access Pt #209	Strongs Lane	Type 3 – Major unsealed or gravel road
Access Pt #210	Strongs Lane	Type 3 – Major unsealed or gravel road
Access Pt #211	Ben Hoffmans Lane	Type 3 – Major unsealed or gravel road
Access Pt #212	Lockhart The Rock Access Point	Type 2 – Minor paved road
Access Pt #213	Albury Road Access Point	Type 3 – Major unsealed or gravel road
Access Pt #214	Albury Road Access Point	Type 3 – Major unsealed or gravel road
Access Pt #215	Urana Lockhart Road	Type 3 – Major unsealed or gravel road
Access Pt #216	Urana Lockhart Road	Type 3 – Major unsealed or gravel road
Access Pt #217	Un-named Track	Type 3 – Major unsealed or gravel road
Access Pt #218	Urana Lockhart Road	Type 3 – Major unsealed or gravel road
Access Pt #219	Un-named Track	Type 3 – Major unsealed or gravel road
Access Pt #220	Commera Wilsons Lane	Type 3 – Major unsealed or gravel road
Access Pt #221	Commera Wilsons Lane	Type 1 – Major road
Access Pt #222	Andriskes Lane	Type 3 – Major unsealed or gravel road
Access Pt #223	Andriskes Lane	Type 3 – Major unsealed or gravel road
Access Pt #224	Andriskes Lane	Type 3 – Major unsealed or gravel road
Access Pt #225	Andriskes Lane	Type 3 – Major unsealed or gravel road
Access Pt #226	Andriskes Lane	Type 3 – Major unsealed or gravel road
Access Pt #227	Andriskes Lane	Type 3 – Major unsealed or gravel road
Access Pt #228	Andriskes Lane	Type 3 – Major unsealed or gravel road
Access Pt #229	Webbs Lane	Type 3 – Major unsealed or gravel road
Access Pt #230	Cullivel Road	Type 3 – Major unsealed or gravel road
Access Pt #231	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #232	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #233	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #234	Barragunda Road	Type 3 – Major unsealed or gravel road
Access Pt #235	Spraydon Road	Type 3 – Major unsealed or gravel road
Access Pt #236	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #237	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #238	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #239	Gums Road	Type 3 – Major unsealed or gravel road

Location	Road	Intersection Treatment
Access Pt #240	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #241	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #242	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #243	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #244	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #245	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #246	Gums Road	Type 3 – Major unsealed or gravel road
Access Pt #247	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #248	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #249	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #250	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #251	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #252	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #253	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #254	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #255	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #256	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #257	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #258	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #259	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #260	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #261	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #262	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #263	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #264	Coonong Road	Type 3 – Major unsealed or gravel road
Access Pt #265	Colombo Road	Type 3 – Major unsealed or gravel road
Access Pt #266	McKinnons Lane	Type 3 – Major unsealed or gravel road
Access Pt #267	McKinnons Lane	Type 3 – Major unsealed or gravel road
Access Pt #268	McKinnons Lane	Type 3 – Major unsealed or gravel road
Access Pt #269	McKinnons Lane	Type 3 – Major unsealed or gravel road
Access Pt #270	McKinnons Lane	Type 3 – Major unsealed or gravel road
Access Pt #271	McKinnons Lane	Type 3 – Major unsealed or gravel road
Access Pt #272	McKinnons Lane	Type 3 – Major unsealed or gravel road
Access Pt #273	McKinnons Lane	Type 3 – Major unsealed or gravel road
Access Pt #274	McKinnons Lane	Type 3 – Major unsealed or gravel road
Access Pt #275	Newell Highway	Type 1 – Major road
Access Pt #276	Thurowa Road	Type 3 – Major unsealed or gravel road
Access Pt #277	Thurowa Road	Type 3 – Major unsealed or gravel road

Location	Road	Intersection Treatment
Access Pt #278	Thurowa Road	Type 3 – Major unsealed or gravel road
Access Pt #279	Bundure Road	Type 3 – Major unsealed or gravel road
Access Pt #280	Bundure Road	Type 3 – Major unsealed or gravel road
Access Pt #281	Bundure Road	Type 3 – Major unsealed or gravel road

Table 2 Access point requirements based on road type connection

Type of access point intersection	Description of potential works required
Type 1 – Major road	The typical types of works that would be required for this access type would include: • prevision of new access point(s) in accordance with Austroads requirements including Basic Right Turn (BAR), Basic Left Turn (BAL), Channelised Right Turn (CHR) and/or Auxiliary Left Turn (AUL) at nominated locations • line marking and signage at access points • temporary signage to indicate trucks turning.
Type 2 – Minor paved road	The typical types of works that would be required for this access type would include: • line marking and signage at access points • potential use of road plates, propping or similar over culverts • limited intersection upgrades to allow access for long vehicles e.g. Semi-trailers • passing bays at strategic locations – most likely at access points • temporary signage to indicate trucks turning.
Type 3 – Major unsealed or gravel road and Type 4 – Minor unsealed road	The typical types of works that would be required for these access types would include: • improvements to existing roads at new access points which may include importing of stabilising material (if required) • temporary signage at access points and truck turning • potential use of road plates, propping or similar over culverts • limited intersection upgrades to allow access for long vehicles e.g. semi-trailers • passing bays at strategic locations – most likely at access points • use of water trucks for gravel/dust suppression.

Appendix 2 – Biodiversity: Agreed assumed habitat species areas

SPECIES NAME	IBRA SUBREGION					WSP CONCLUSION STATEMENT	BCD POSITION ON WSP CONCLUSION STATEMENT	ADDITIONAL BCD COMMENTS	FINAL AGREED ASSUMPTIONS
	SOP	LAC	MUR	LS	IS				
Litoria raniformis Southern Bell Frog		X	X	X		Excluded based on survey and absence of micro habitat impacts	Agree	-	*Exclude from Candidate species*
Burhinus grallarius Bush Stone-curlew	X	X				Excluded based on Distribution limits and survey.	Agree	-	*Exclude from Candidate species*
			X	X	X	Assumed habitat in areas not ruled out by nocturnal call playback survey and associated with large (>5 ha) areas of habitat consist of the following PCT's in moderate to good condition 5, 7, 8, 11, 13, 15, 22, 23, 26, 28, 58, 74, 75, 76, 80, 249, 267, 277	Agree	-	Assumed habitat in areas not ruled out by nocturnal call playback survey and associated with large (>5 ha) remnants
Calidris ferruginea Curlew Sandpiper		X				Exclude from Candidate species	Agree	-	*Exclude from Candidate species*
Climacteris affinis White-browed Treecreeper – endangered populations		X				Exclude from Candidate species	Agree	-	*Exclude from Candidate species*
Hamirostra melanosternon Black-breasted Buzzard						Exclude Breeding habitat based on survey and lack of habitat features	Agree	-	*Exclude from Candidate species*
Haliaeetus leucogaster White-bellied Sea-Eagle			X			Excluded based on survey and absence of micro habitat impacts (breeding nests).	Agree	-	*Exclude from Candidate species*
Hieraaetus morphnoides	X		X	X	X	Exclude Breeding habitat based on survey and lack of habitat features	Disagree	Exclusion is not possible. Assume presence where there	Assumed habitat for suitable PCT habitats (canopy trees,

SPECIES NAME	IBRA SUBREGION					WSP CONCLUSION STATEMENT	BCD POSITION ON WSP CONCLUSION STATEMENT	ADDITIONAL BCD COMMENTS	FINAL AGREED ASSUMPTIONS
	SOP	LAC	MUR	LS	IS				
Little Eagle								was no access and suitable PCT present (likely a small area only), consistent with other subregions	not derived) with no access or survey in breeding.
Lophochroa leadbeateri Major Mitchell's Cockatoo			X			Exclude Breeding habitat based on survey and lack of habitat features	Disagree	Assume present unless able to demonstrate how it is known that large tree hollows were not recorded	Assumed habitat for suitable PCT habitats (canopy trees, not derived) with no access or survey in breeding.
Lophoictinia isura Square-tailed Kite	X		X			Exclude Breeding habitat based on survey	Agree	-	*Exclude Breeding habitat based on survey*
Ninox connivens Barking Owl			X	X	X	Assume habitat in larger riparian remnants (>5 ha) not subject to complete (4 nights) survey including Brookong SF and Cullivel SF	Agree	-	Assume habitat in larger riparian remnants (>5 ha) not subject to complete (4 nights) targeted survey including Brookong State Forest and Cullivel State Forest
Polytelis swainsonii Superb Parrot			X	X	X	Assume habitat in areas of PCTs containing habitat and no survey in breeding season	Assume habitat in areas of PCTs containing habitat and no survey in breeding season - for PCTs 5, 7, 11, 13, 23, 26, 28, 45, 46, 74, 75, 76, 80, 110, 249, 267, 277	-	Assume habitat in areas of PCTs containing breeding habitat and no survey in breeding season.
Tyto novaehollandiae Masked Owl				X	X	Exclude from Candidate species	Agree	-	*Exclude from Candidate species*
Myotis Macropus Southern Myotis			X		X	Assume habitat includes additional Holding with permanent water/drainage lines with limited survey, including Yanco	Agree	-	Assume habitat in areas with permanent water/drainage

SPECIES NAME	IBRA SUBREGION					WSP CONCLUSION STATEMENT	BCD POSITION ON WSP CONCLUSION STATEMENT	ADDITIONAL BCD COMMENTS	FINAL AGREED ASSUMPTIONS
	SOP	LAC	MUR	LS	IS				
						Cr, Colombo Cr, Coleambally Outfall Drain, Bullenbong and Burke's Creeks, Dam in Gregadoo waste mgt.			lines with limited survey, including Yanco Cr, Colombo Cr, Coleambally Outfall Drain, Bullenbong and Burke's Creeks, Dam in Gregadoo waste mgt.
Acacia acanthoclada	X					Assume present in all PCTs 170, 171 and 172 in moderate to good condition in areas not subject survey H015	Agree	-	Assume habitat in unsurveyed areas
Austrostipa metatoris			X			Assume present in all PCTs 28 and 170 in moderate to good condition in areas not subject survey H015	Agree	-	Assume habitat in unsurveyed areas
				X		Exclude from Candidate species	Agree	-	*Exclude from Candidate species*
Austrostipa wakoolica			X			Species excluded on H094 and parts of H093 based on disturbance and lack of suitable microhabitats	Disagree	-	Assume habitat in unsurveyed areas
Calotis moorei	X					Exclude from Candidate species	Disagree	Lack of records is not adequate justification. Species is recorded as common in north west Victoria. Species not occurring in other parts of the potential habitat in the study area not suitable justification for exclusion in the absence of targeted survey.	Assume habitat in unsurveyed areas

SPECIES NAME	IBRA SUBREGION					WSP CONCLUSION STATEMENT	BCD POSITION ON WSP CONCLUSION STATEMENT	ADDITIONAL BCD COMMENTS	FINAL AGREED ASSUMPTIONS
	SOP	LAC	MUR	LS	IS				
								Prepare SAII assessment based on assumed presence.	
			X			Exclude from Candidate species	Disagree	Exclusion requires an expert report. Assume presence and prepare SAII assessment.	Assume habitat in unsurveyed areas
Caladenia arenaria			X			Exclude from Candidate species	Disagree	Exclusion requires an expert report. Assume presence and prepare SAII assessment.	Assume habitat in unsurveyed areas
Convolvulus tedmoorei			X			Exclude from Candidate species	Disagree	-	Assume habitat in unsurveyed areas
Cullen parvum				X	X	Assume habitat in unsurveyed areas	Agree	-	Assume habitat in unsurveyed areas
Euphrasia arguta					X	Exclude from Candidate species	Agree	-	*Exclude from Candidate species*
Lasiopetalum behrii	X					Exclude from Candidate species	Disagree	"Lack of records is not adequate justification. Species is recorded as common in north west Victoria. Species not occurring in other parts of the potential habitat in the study area not suitable justification for exclusion in the absence of targeted survey.	Assume present in all PCTs 170 in moderate to good condition in areas not subject to survey on H015

SPECIES NAME	IBRA SUBREGION					WSP CONCLUSION STATEMENT	BCD POSITION ON WSP CONCLUSION STATEMENT	ADDITIONAL BCD COMMENTS	FINAL AGREED ASSUMPTIONS
	SOP	LAC	MUR	LS	IS				
								Prepare SAII assessment based on assumed presence."	
Lepidium aschersonii				X		Excluded based on survey and absence of micro habitat	Agree	Update C-3 to include reference to survey dates and PCTs with reference to subregion. Note that two very small patches have no survey tracks but are surrounded by Category 1 land on all sides and only 1 -2 trees wide. Ok	*Excluded based on survey and absence of micro habitat*
Lepidium monoplocoides			X			Assumed present for associated PCT habitats on H069, H071 and H082. Species excluded on H094 and parts of H093 based on disturbance and lack of suitable microhabitats	Disagree	-	Assume habitat in unsurveyed areas
	X					Assume present in PCT 170 in moderate to good condition in areas not subject survey on H015	Agree	-	Assume present in PCT 170 in moderate to good condition in areas not subject to survey on H015
Leptorhynchos orientalis			X			Species excluded on H094 based on disturbance and lack of suitable microhabitats	Disagree	Derived condition means that the native vegetation has entered a stable state without overstorey (refer BAM Operational Manual Stage 1, 2020). Data needed to demonstrate that specific habitat	Assume habitat in unsurveyed areas

SPECIES NAME	IBRA SUBREGION					WSP CONCLUSION STATEMENT	BCD POSITION ON WSP CONCLUSION STATEMENT	ADDITIONAL BCD COMMENTS	FINAL AGREED ASSUMPTIONS
	SOP	LAC	MUR	LS	IS				
								requirements for A. wakoolica are not provided in the vegetation zone, i.e. preferably via plot data or targeted survey. Based on absence of access and no visibility actual condition/VI within the property, assume presence. Also note that plot data from PCT 26 (derived) is still dominated by native species and introduced species are not dominant within the plot data and VI scores of 40 from adjacent property in derived condition does not suggest very low condition VI.	
Leptorhynchos waitzia	X					Exclude from Candidate species	Disagree	Also occurs on sandy or loamy soils so justification that areas of sandy intermittent flooding do not occur is not sufficient justification. Assume presence and survey Sep-Nov 2022.	Assume present in all associated PCTs in moderate to good condition in areas not subject survey on H015

SPECIES NAME	IBRA SUBREGION					WSP CONCLUSION STATEMENT	BCD POSITION ON WSP CONCLUSION STATEMENT	ADDITIONAL BCD COMMENTS	FINAL AGREED ASSUMPTIONS
	SOP	LAC	MUR	LS	IS				
Pilularia novae-hollandiae			X			Species excluded on H094 based on disturbance and lack of suitable microhabitats	Agree	Exclusion should not be based on the derived condition of the PCT but rather that lack of small gilgai depressions as viewed on aerial imagery across years and seasons as well as the lack of these microhabitats in other parts of the PCT.	*Excluded on H094 based on absence of micro habitat*
Pimelea serpyllifolia subsp. serpyllifolia	X					Assume present in all PCTs 170, 171 and 172 in moderate to good condition in areas not subject survey on H015	Agree	-	Assume habitat in unsurveyed areas
Pterostylis cobarensis	X					Exclude from Candidate species	Disagree	-	Assume habitat in unsurveyed areas
Solanum karsense	X					Exclude from Candidate species	Agree	-	*Exclude from Candidate species*
Swainsona colutoides	X					Assume present in all PCTs 170, 171 and 172 in moderate to good condition in areas not subject survey H015	Agree	-	Assume habitat in unsurveyed areas
Swainsona pyrophila	X					Assume present in all PCTs 170, 171 and 172 in moderate to good condition in areas not subject survey H015	Agree	-	Assume habitat in unsurveyed areas
Swainsona sericea			X			Species excluded on H094 and parts of H093 based on disturbance and lack of suitable microhabitats	Disagree	Based on absence of access and no visibility actual condition/VI within the property, assume presence. Also note that plot data from PCT 26 (derived) is still dominated by native	Assume habitat in unsurveyed areas of H094 and H093

SPECIES NAME	IBRA SUBREGION					WSP CONCLUSION STATEMENT	BCD POSITION ON WSP CONCLUSION STATEMENT	ADDITIONAL BCD COMMENTS	FINAL AGREED ASSUMPTIONS
	SOP	LAC	MUR	LS	IS				
								species and introduced species are not dominant within the plot data and VI scores of 40 from adjacent property in derived condition does not suggest very low condition VI.	

Appendix 3 – Updated Figure D-4e from Submissions Report

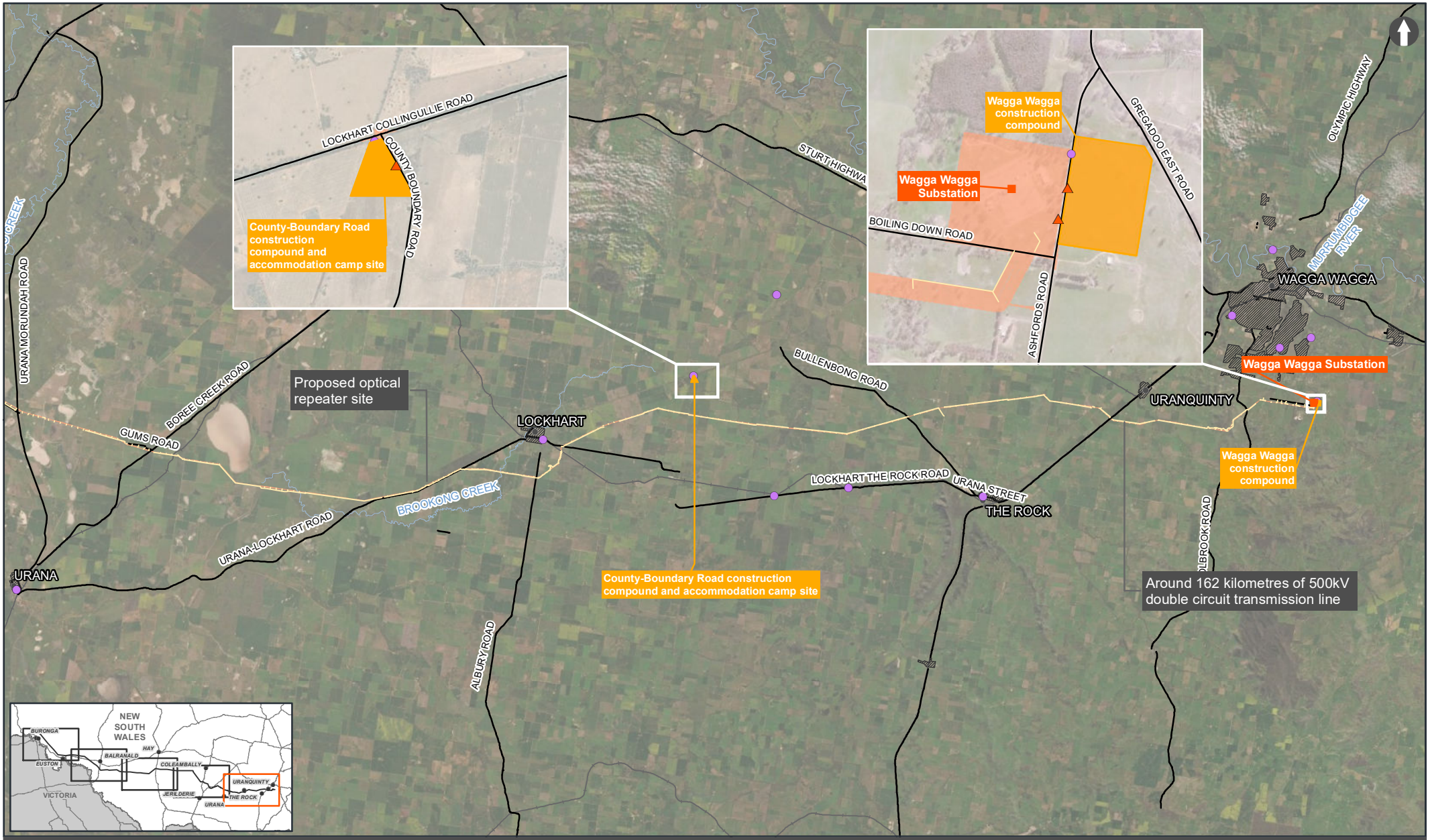

Figure D-4e

Detailed proposal and construction elements

- EnergyConnect (NSW - Eastern Section) 330kV transmission line (Parallel)
- EnergyConnect (NSW - Eastern Section) 500kV transmission line (Parallel)
- EnergyConnect (NSW - Eastern Section) 330kV transmission line (Greenfield)
- EnergyConnect (NSW - Eastern Section) 500kV transmission line (Greenfield)
- Existing Substation
- Existing Railway
- Existing Roads
- Built Up Areas

Construction Impact Area Components

- Construction Impact Area (transmission line component)
- Water Fill Point
- Access Tracks
- Main Construction Compounds and Accommodation Sites
- Access Point (Indicative)

C:\Users\AUDG504200\WSP O365\EnergyConnect - General\5_Shared\54_Production\Maps\003_PEC_East\01_EIS\Appendix_F\PS117658_EIS_F0005_ProposalConstructionDetail_e_r1v6.mxd

Source: NSWSS, ESRI, Transgrid, WSP