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11 April 2024

Iwan Davies
Director - Energy Assessments
NSW Department of Planning, Housing and Infrastructure
12 Darcy Street
Parramatta NSW

Re: Birriwa Solar and Battery Project (SSD-29508870): Request for additional information

Dear Iwan,

The purpose of this letter is to respond to the request for additional information relating to the Birriwa Solar and Battery Project (the project), received from the Department of Planning, Housing and Infrastructure (DPHI) in a letter dated 8 April 2024. The request relates to additional information regarding the following:

1. clarity around the visual impacts associated with the project, including justification of potential impacts at receivers

2. an updated site layout figure for the entire development, which identifies the site area and development footprint along with all relevant constraints

3. confirmation that the project will not rely on any existing treatment at the intersection between Barneys Reef Road and the Castlereagh Highway

4. the number of heavy vehicles required per hour during peak construction.

Responses are provided to these four requests below.

1 Visual impacts

1.1 'Moderately' impacted non-associated receivers

Clarifications have been sought relating to the potential visual impacts at non-associated receivers, as assessed by the visual impact assessment (VIA) prepared for the project, and specifically relating to the receivers that were assessed as having a 'moderate' visual impact rating.

After the implementation of mitigation measures included in the project design, four non-associated residential dwellings in the vicinity of the project were assessed as having a 'moderate' visual impact rating by the VIA, as follows:

- R5 (591A Birriwa Bus Route South, approximately 250 m from the development footprint)
- R7 (50 Birriwa Bus Route South, approximately 910 m from the development footprint)
- R11 (261 Birriwa Bus Route North, approximately 1.78 km from the development footprint)
- R12 (678 Birriwa Bus Routhe North, approximately 1.26 km from the development footprint)

As discussed at a meeting with DPHI on 4 April 2024, an updated assessment has been undertaken at these receivers using the Visual Magnitude Grid Tool as referenced within the *Large-Scale Solar Farm Guidelines* and the *Technical Supplement* (DPE 2022). These guidelines were adopted in August 2022, post issue of the Secretary's Environmental Assessment Requirements (SEARS) for the project (issued in November 2021) and finalisation of the VIA.

The Visual Magnitude Grid Tool enables a quantitative assessment of visual impacts at receivers. As the original VIA for the project was undertaken prior to the adoption of the new guidelines and this quantitative approach, a qualitative approach was applied to the VIA at the time. Given the qualitative and hence subjective nature of that assessment, a very conservative approach was applied, resulting in the moderate visual impact rating at the four receivers noted above.

The Visual Magnitude Grid Tool has been applied as part of the updated assessment over photomontages prepared for R5, R5a, R11 and R12. At R7, a photomontage has also been used; however, as access was not gained at this property, the photomontage has been produced from Viewpoint 4, which is just to the north-east of R7.

The updated quantitative assessment has determined that each dwelling has a 'low' visual impact rating without the need for mitigation measures. The assessment has been attached to this letter in Attachment 1.

1.2 Receiver 5a

Receiver 5a is a cottage adjacent to R5 on Birriwa Bus Route South, approximately 700 m from the development footprint and has been considered as part of the updated assessment using the Visual Magnitude Grid Tool. At R5 and R5a, the photomontage for Viewpoint 3 was used because access was not gained for these residences. Viewpoint 3 is located west of R5 and R5a and is higher on the hill, giving a broader view of the proposed project. The updated assessment has determined that these two dwellings have a 'low' visual impact rating without the need for mitigation measures.

2 Updated site layout

An updated site layout of the project is included as Attachment 2 to this letter.

3 Traffic matters

3.1 Barneys Reef Road and the Castlereagh Highway intersection

DPHI have sought clarification on whether the existing treatment at the intersection between Barneys Reef Road and the Castlereagh Highway will be relied upon by the project; that is, whether the intersection will be used for any early works activities associated with the project prior to the upgrade of the intersection as recommended by the Traffic Impact Assessment (EMM 2023).

A swept path analysis has been conducted of this intersection, which demonstrates that a 26 m B-double cannot use this intersection in its current form without an upgrade, as shown in the image below.

Plate 3.1 Swept path of a B-double at the Castlereagh Highway/Barneys Reef Road intersection

While a B-double cannot use the existing intersection, the swept path analysis demonstrates that a 19 m truck and dog trailer can use this intersection in its current form without an upgrade, as shown in the image below. The vehicles will be able to turn left and right simultaneously from the north.

Plate 3.2 Swept path of a 19 m truck and dog trailer at the Castlereagh Highway/Barneys Reef Road intersection

Therefore, only site establishment/early works not requiring the use of a B-double could be commenced prior to the intersection upgrade, that is, works requiring access by light vehicles and or a 19 m truck and dog trailer (maximum size of vehicle), only. It is noted however that Birriwa Bus Route and Barneys Reef Road will need to be upgraded, as proposed by the project, for these activities to occur.

3.2 Heavy vehicles

The estimated daily and peak hourly vehicle movements/trips for the project are outlined in Table 4.3 of the Amendment Submissions Report (EMM 2023). The total number of heavy vehicles estimated per hour during peak construction of the project is approximately 27 (or 53 heavy vehicle movements).

Further clarification is also provided on the heavy vehicle movements requiring escort during construction, upgrading and decommissioning (throughout the life of the project). Six movements of heavy vehicles requiring escort throughout the life of the project are required, rather than the three originally noted in the Oversize Over-mass (OSOM) Report prepared for the project (refer to Appendix D (Addendum TIA) of the Amendment Submissions Report). The Addendum TIA assessed the impact of no more than one heavy vehicle movement requiring escort per day during the project and therefore the change from three to six movements throughout the life of the project will not change the impacts already assessed.

4 Closing

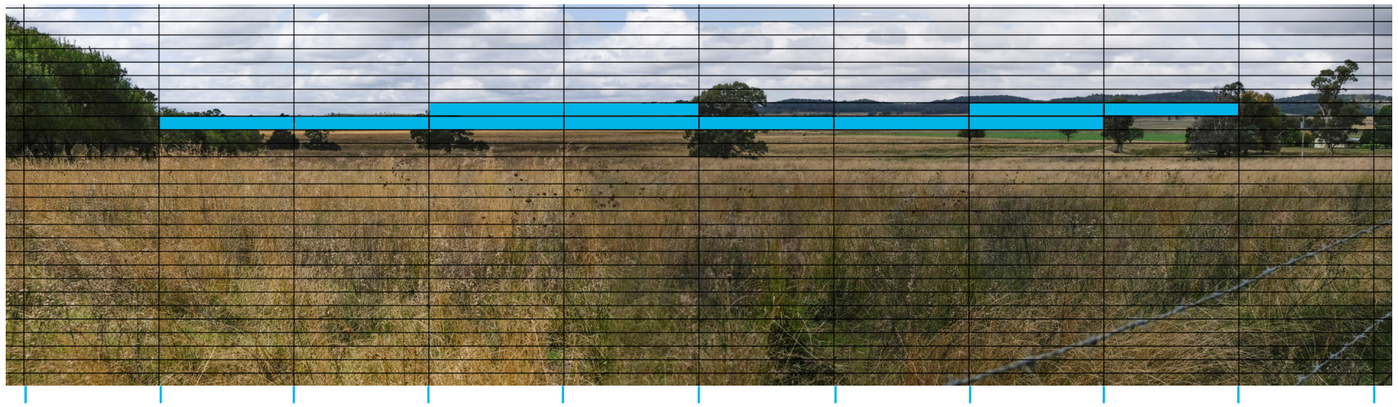
We trust the information in this letter provides the information required by the department. If further information is required, please contact Cédric Bergé, Project Development Manager (ACEN Australia) at cedric.berge@acenrenewables.com.au, or the EMM project team (Nicole Armit at narmit@emmconsulting.com.au or Rachel Dodd at rdodd@emmconsulting.com.au).

Attachment 1

Viewpoint - R5 and R5a

Panoramic photomontage of the proposed development

Visual magnitude grid tool overlay



Angle (degrees) of horizontal view

Coordinates (Lat, Long)	-32.136209, 149.518711
Distance to development	835 m
Viewpoint type	Private
Viewpoint sensitivity	Moderate
Scenic quality	Low
Overall sensitivity	Low
Occupied Cells	11
Magnitude rating	Low
Visual impact rating	Low

The visual impact rating at R5 and R5a is low.

While the project will be visible from R5, the impact is low as views will be filtered by intervening vegetation, and a setback from the solar panels has been included at this property in the project design.

R5a is a cottage visible at the right side of the photograph (labelled in the photo above). It is at a similar elevation and distance from the solar arrays to this viewpoint. There are trees surrounding R5a and views from R5a would be similar to the photomontage above. Therefore the visual impact rating would be similar, at low.

Viewpoint - 3b (R5 and R5a)

Panoramic photomontage of the proposed development

Visual magnitude grid tool overlay

Coordinates (Lat, Long)	-32.136209, 149.518711
Distance to development	1,065 m
Viewpoint type	Public - road
Viewpoint sensitivity	Moderate
Scenic quality	Low
Overall sensitivity	Low
Occupied Cells	8
Magnitude rating	Low
Visual impact rating	Low

Viewpoint 3b is used as a representative viewpoint to further demonstrate the rationale for a low visual impact rating for dwellings R5 and R5a. It is located 180 m west of the dwellings and at a higher elevation. From this location, the entire width of the eastern solar array can be seen. The trees surrounding R5 and R5a screen parts of the view, as they do from the dwellings.

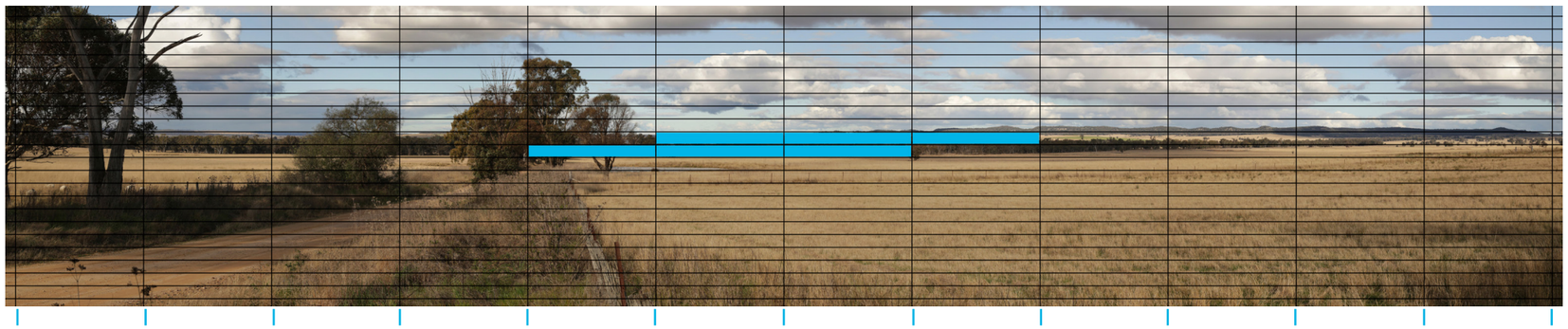
Because of the wide views in relation to R5 and R5a, this viewpoint is considered to have a higher visual impact than R5 and R5a would have.

The visual impact rating at this viewpoint is low due to the distance from the arrays and the intervening vegetation. Therefore R5 and R5a are also considered to have a low visual impact.

Viewpoint - 4 (R7)

Panoramic photomontage of the proposed development

Visual magnitude grid tool overlay



Angle (degrees) of horizontal view

Coordinates (Lat, Long)	-32.119021, 149.474058
Distance to development	900 m
Viewpoint type	Private
Viewpoint sensitivity	Moderate
Scenic quality	Low
Overall sensitivity	Low
Occupied Cells	6
Magnitude rating	Very low
Visual impact rating	Very low

The visual impact rating at Viewpoint 4 is very low and therefore the rating at R7 is considered low.

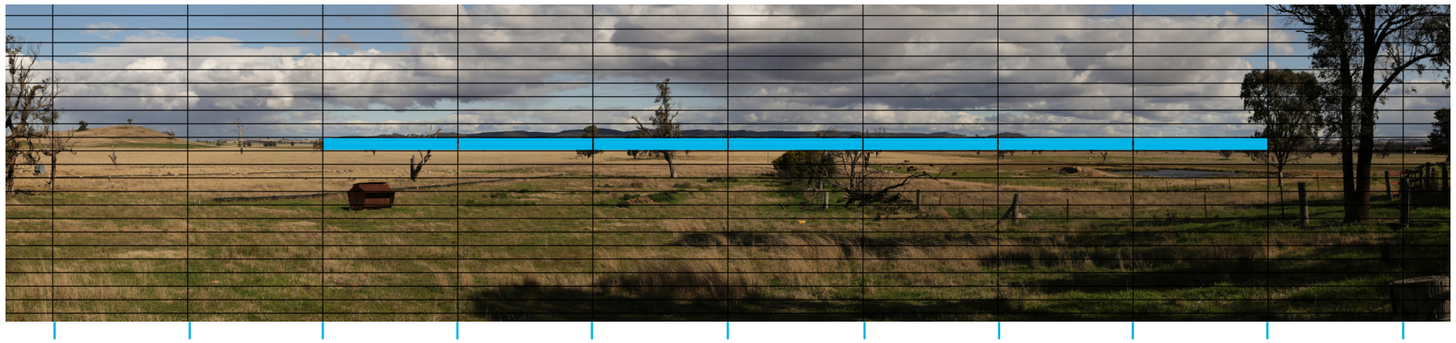
Portions of the project will be visible above the tree line from this viewpoint. However, most of the project is screened from view by the existing trees, giving it a very low rating.

Dwelling R7 is located 155 m south of this viewpoint and it is slightly higher in elevation. The higher elevation would theoretically expose more of the project. However, the visible portion of the project would not increase significantly, giving R7 a visual impact rating of low.

Viewpoint - R11

Panoramic photomontage of the proposed development

Visual magnitude grid tool overlay



Angle (degrees) of horizontal view

Coordinates (Lat, Long)	-32.096006, 149.525278
Distance to development	1775 m
Viewpoint type	Private
Viewpoint sensitivity	Moderate
Scenic quality	Low
Overall sensitivity	Low
Occupied Cells	7
Magnitude rating	Low
Visual impact rating	Low

The visual impact rating at R11 is low.

While the project will be visible from this property, the impact is low as the distance is significant and views will be filtered by intervening vegetation.

Viewpoint - R12

Panoramic photomontage of the proposed development

Visual magnitude grid tool overlay

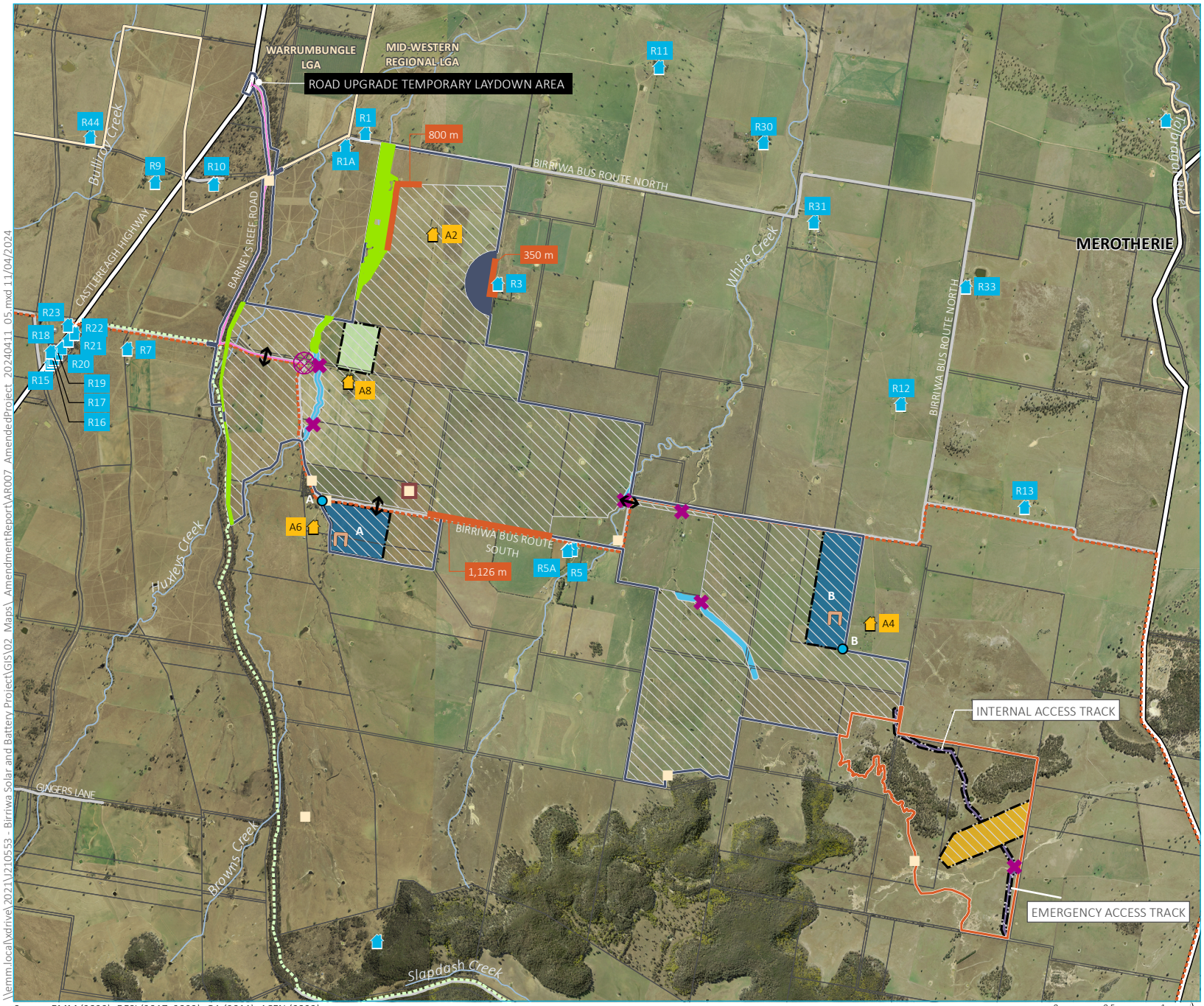
Angle (degrees) of horizontal view

Coordinates (Lat, Long)	-32.123544, 149.549785
Distance to development	1265 m
Viewpoint type	Private
Viewpoint sensitivity	Moderate
Scenic quality	Low
Overall sensitivity	Low
Occupied Cells	11
Magnitude rating	Low
Visual impact rating	Low

The visual impact rating at R12 is low.

While the project will be visible from this property, the impact is low as the distance is significant and views will be filtered by intervening vegetation.

Attachment 2



KEY

- Develoment footprint
- Road upgrade corridor
- Restricted development area
- Vegetation to be retained
- Potential public road crossing location

Project layout

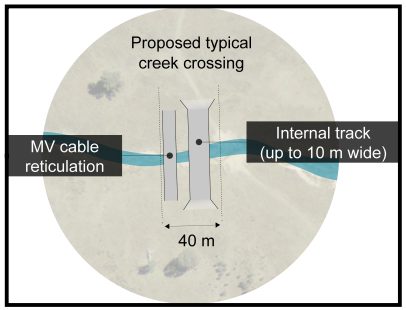
- Potential creek crossing point (refer to inset below for indicative design)
- Connection point (option A or B)
- Indicative noise wall location
- Solar panel setback
- Solar and BESS study area
- Accommodation facility study area
- Landscape screen planting
- Proposed access point to the project
- Proposed operational infrastructure area including substation, operational facility and BESS (option A or B)
- Accommodation facility
- Temporary construction compound

Existing environment

- Dwelling not associated with the project
- Dwelling associated with the project
- Aboriginal heritage site (to be salvaged)
- Aboriginal heritage site (to be avoided)
- Major road
- Minor road
- Named watercourse
- Cadastral boundary
- Local government area boundary

Central West Cycle (CWC) Trail

- CWC main route - Gulgong to Dunedoo
- CWC alternate route - Slap Dash Creek side trail



Project Layout

Birriwa Solar and Battery Project

Figure 1.0

Source: EMM (2023); DFSI (2017, 2023); GA (2011); ACEN (2023)

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