HWL EBSWORTH
LAWYERS

Our Ref: PNL:ACS:1002900

8 December 2023

Dr Sheridan Coakes
Commissioner (Panel Chair)
Independent Planning Commission
Level 15, 135 King Street
SYDNEY NSW 2000

Dear Commissioners

State Significant Development Application SSD-21208499
Glanmire Solar Farm
Site: 4823 Great Western Highway, Glanmire (Lot 141 in DP 1144786)
Submission on behalf of Fitzsummer Pty Ltd

We act for Fitzsummer Pty Ltd (***Fitzsummer***).

We refer to the submissions made at the public meeting held in Bathurst on 30 November 2023, and the subsequent site visit on 1 December 2023.

Fitzsummer is the registered proprietor of land adjoining and adjacent to the Site, being the land known as [redacted], Glanmire and [redacted] Glanmire (***Fitzsummer Land***), as shaded orange in the aerial image below.

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Perth
Sydney

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The Fitzsummer Land is used for residential and agricultural purposes, being primarily for the raising of crops and/or animal husbandry, dependent upon the season and market conditions.

This submission has been prepared in addition to Fitzsummer's original submission dated 15 December 2022.

Executive Summary

1. The Development has unacceptable impacts beyond the Site boundaries, which have not been effectively mitigated.

2. Impacts on adjoining residential properties could be considered reasonable, were the development proposed within a Renewable Energy Zone.

3. The social impacts of the Development within the locality have not been assessed. There is no social licence for the Development in its proposed location.

4. The bushfire risks associated with fire emanating from the Site and migrating onto the Site as a result of cropping activities on neighbouring properties has not been effectively mitigated.

5. The increased risk of fire gives rise to a significant insurance burden on adjoining owners, for which the Applicant proposes no recompense. Fitzsummer and adjoining owners have received advice that premiums of up to $200,000 per annum are expected.

6. Whilst Fitzsummer maintains that the impacts of the Development are sufficient to warrant refusal of the Application, an increased boundary setback of 50m would assist in mitigating the bushfire risk, and may enable cost effective insurance cover to be obtained.

7. Visual impacts have not been adequately assessed or mitigated. There is insufficient assessment or understanding concerning solar panel height, transformer height, and the height of the perimeter security fence. Provision of a 20m vegetated buffer - as part of the overall 50m setback - will ensure adequate vegetative screening at depth, to provide long-term viable mitigation.

8. Impacts on water resources are unacceptable. The Application fails to appropriately preserve and manage existing water resources. On Site water detention and reuse has not been addressed at all. Significant stands of water should be retained and used to maintain screening vegetation and Site maintenance. There is inadequate water storage proposed for the Site.

9. Impacts on biodiversity and the threatened ecological community on Site are unacceptable. There is insufficient justification provided for the level of clearing proposed of the *Box Gum Woodland* present on Site, with a limited extent of avoidance proposed.

10. Fitzsummer submits that the impacts above are sufficient to warrant refusal of the Application in its current form.

Expert Reports

In support of this further objection, Fitzsummer has commissioned the following **updated** consultant reports:

1. BDAR Review for 4823 GWH Glanmire, prepared by Cumberland Ecology dated 6 December 2023 (***Updated Cumberland Ecology Report***).

2. Updated Visual Impact Assessment Report prepared by Urbaine Design Group dated October 2023 (***Updated Urbaine VIA Report***).

Bushfire Mitigation

The Development has not been designed to mitigate the risk of fire spreading from the Site or the threat of fire entering the Site.

Asset Protection Zone is Inadequate

The Application proposes a **10m** Asset Protection Zone (***APZ***) around the perimeter.

Part 8.3.5 of *Planning for Bush Fire Protection* (November 2019) (***PFBP***) states that (our emphasis):

> *… solar farms **require special consideration** and should be provided with adequate clearances to combustible vegetation as well as **firefighting access and water**.*

PFBP goes on to state that a ***minimum** 10m APZ for structures and associated buildings* should be provided for solar farms.

The Applicant's nomination of a 10m APZ for the Development does not mean that it is compliant with PFBP. Compliance with PFBP requires a site specific assessment which takes into consideration the threat of fire from the Site, as well as external threats.

The proposed 10m APZ in the circumstances is inadequate. The purpose of an APZ is to ensure there is an area for firefighters to defend property the subject of the fire threat.

In this regard, the NSW Rural Fire Service (***RFS***) has published *OP 1.2.22 Operation Protocol for Incidents Involving Photovoltaic (Solar) Arrays and Battery Electronic Storage Systems* (***Protocol***), which guides RFS firefighters on how to safely fight fires which involve solar generation infrastructure.

Specifically, Part 7.3 of the Protocol, which addresses solar farms, relevantly states (emphasis added):

> ***[f]irefighting activities will not occur within 8m** of any generation infrastructure (such as panels, batteries, or transmission infrastructure), or by accessing a fenced-off area, without explicit assurance from the facility manager of de-energisation of the infrastructure.*

In the event of a fire within the Site or an external fire threat, the RFS will not be able to fight the fire from the APZ unless they are able to do so in the 2m that is not adjacent to the solar

infrastructure. In addition, given the width of an RFS general fire appliance is 2.5m, the appliance will not be able to use the APZ to protect the Site, particularly where the fire (or threat of fire) is located on the southern or western boundary of the Site.

It is also relevant, as indicated by the extracted image below, that a portion of the western boundary of the Site adjoins an area of bushfire prone land.

This fire hazard is over and above the risk of the Site being located adjoining and adjacent to commercial farms that engage in cropping activities which increase the fire risk.

Given the Protocol and the level of bushfire risk, the proposed APZ is not adequate to protect the Development or to provide workable and safe defendable space to allow the RFS to fight fires.

In this respect, the correspondence from RFS dated 4 October 2023 states that the Development **must** comply with Part 8.3.5 of PFBP. The correspondence does not confirm any compliance.

The Applicant has not demonstrated that the Development is able to comply with PFBP. The Draft Conditions of Consent (***Draft Conditions***) relevantly propose the preparation of a 'Fire Study' (Condition C27) and an 'Emergency Plan' (Condition C30) assessing the *'reasonable worst case fire scenario to and from the battery storage and measures to mitigate the expansion of any fire incident*' and to more generally *'minimise the fire risks of the development*'.

In the circumstances, the fire assessments required by Condition C27 and Condition C30 should be undertaken now and assessed as adequate by the IPC prior to the determination

of the Application. Condition C29 again references a requirement for a '*minimum 10m defendable space around the perimeter that permits unobstructed vehicle access* [sic] *assist the RFS and emergency services as much as practicable*'. This is inappropriate for the reasons set out above.

We note that the Commission has sought clarification from the Applicant by letter dated 5 December 2023, and from DPE, as to the precise extent of proposed boundary setbacks, including details of the composition of the setbacks (vegetative screening, APZ, maintenance track and existing roads).

Site Access and Egress

As mentioned above, Part 8.3.5 of PFBP considers that site access is a key element when considering the adequacy of the bushfire protection measures.

The Application currently proposes that the Site have one shared access and egress point, which is to be located off Brewongle Lane, located in the north eastern corner of the Site.

The internal tracks (which incorporate the APZ) are proposed to be four metres wide. However, any fire located near the single Site access and egress point may mean that the RFS will not be able to enter the Site to fight the fire. Likewise, as the perimeter of the Site is proposed to be enclosed by a two metre high security fence, any emergency exit from the Site from any other location would not be possible.

The Applicant should be required to amend its plans to ensure that adequate access and egress is provided at the Site, to ensure that RFS and other persons are able to safely enter and exit the Site in the event of an emergency.

Proposed Bushfire Water Supply

As identified at Part 8.3.5 of PFBP, a consideration in understanding the adequacy of the bushfire measures is the availability of water.

The EIS states (p280) that a minimum of 20,000 litres will be reserved for firefighting purposes. However, in response to a question from the Commission at the public meeting on 30 November 2023, the Applicant stated that '*it is proposed to provide a 30KL non-potable water tank adjacent to the storage building. A portion of this storage tank will be dedicated for firefighting purposes.*'

The Applicant's response contradicts the Application (as detailed below) and fails to indicate what proportion will be for firefighting purposes and how that proportion will be managed.

Notwithstanding, the Department has recommended draft Condition C29, which requires provision of a 20,000 litre tank for the purposes of firefighting.

The Applicant has provided no assessment of the adequacy of the 20,000 litres storage volume for the proposed use and where the water supply would be secured, as the EIS states that there are no bores on Site (p174).

It is submitted that the Applicant's proposal to only install one 20,000 litre tank for fire protection purposes, is manifestly inadequate as a 20,000 litre supply is what PFBP requires for a large rural/lifestyle lot with no reticulated water, which has no industrial elements. The

Development is clearly an industrial facility necessitating the provision of a significantly greater water storage capacity than that proposed.

Given the scale of the Site, it is appropriate to install additional water tanks for the purposes of firefighting at locations along the perimeter of the solar array to ensure adequate and reliable supply in the event of an emergency.

Accordingly, the Applicant has not provided adequate information to allow an appropriate assessment of the fire risks associated with the Development under s4.15(1)(b) of the *Environmental Planning and Assessment Act 1979* (***Act***). Further and given the uncertainty of the fire risks with the Development the Application should be refused under s4.15(e) of the Act as it is not in the public interest.

However, if the Commission is minded to approve the Development, it is requested that the Condition of Approval be imposed which address the following.

1. As part of the **overall boundary setback of 50m**, the Applicant is to create a **30m APZ** around the Site, which is to be maintained as a defendable space which is trafficable (including creek crossings) and permits unobstructed vehicle access by RFS. The 30m APZ is not to include any vegetated area other than grass that is to be managed in accordance with Standards for Asset Protection Zones prepared by the RFS.

   Reason: to ensure that the Site is able to be adequately defended in the event of fire.

2. The Applicant is to provide three additional all-weather access/egress to points to Brewongle Lane.

   Reason: to ensure that the Site is able to be safely and efficiently accessed and exited in the event of an emergency.

3. Prior to construction:

   (a) agree the size and locations within the Site for additional water tanks for the purpose of firefighting.

   (b) must obtain all required approvals and construct a bore with adequate flow to accommodate the tanks installed for the purposes of firefighting.

   Reason: to ensure the Site has adequate water to service RFS in the event of a fire.

Whist discussed in further detail below, the above conditions may also assist in reducing the increase in insurance premiums that will be borne by neighbouring properties as a result of the Development.

Insurance Burden

As stated by several speakers at the public meeting, the increased risk of fire gives rise to a significant insurance burden on adjoining owners, for which the Applicant proposes no recompense. Fitzsummer and adjoining owners have received advice that premiums of up to

$200,000 per annum are expected. Such insurance fees would be cost prohibitive for the continued operation of Fitzsummer's cropping farm.

Whilst Fitzsummer maintains that the impacts of the Development are sufficient to warrant refusal of the Application, an increased boundary setback of 50m would assist in mitigating the bushfire risk, and may enable cost effective insurance cover to be obtained.

As noted by the Commission in its correspondence to DPE requesting further information dated 5 December 2023, fire insurance risks are a matter of real concern, having been addressed in the NSW Government's Response to the NSW Agriculture Commissioner's Report dated 1 March 2023.

The level of consultation on insurance risk undertaken by the Applicant is wholly inadequate to address the very real concern held by adjoining landowners. This has been appreciated by the Commission in its letter to the Applicant dated 5 December 2023, requesting whether and to what extent consideration has been given to public liability insurance requirements for adjacent properties and whether '*any solutions are proposed to address any increased cost for those landowners*'. The response to this question is critical in order for this issue to be properly assessed and a solution identified.

As stated above, the statement in the Department's Assessment Report (November 2023) suggesting that *the Department considers that with the recommended conditions there would not be an increase in bushfire risk* is incorrect. As was evident from the site visit, the Fitzsummer Land is used for cropping.

It is submitted that a greater eastern and western boundary setback is required, to mitigate the risk of fire from cropping activities on the Fitzsummer Land migrating onto the Site. As stated above, as part of an overall 50m boundary setback, a fire exclusion area of no less than 30m is required.

Heat Island Effect

As indicated in the IPC letter to DPE dated 5 December 2023, the site inspection and locality tour made clear that cropping activity occurs up to the western boundary of the Site. The proposed western boundary setback and its use of adjoining land outside of the Site is unacceptable.

The statement at Table 8 (page 28) of the Department's Assessment Report is clearly incorrect, where it concludes that a setback of 20m '*is appropriate given that there is no horticultural or cropping activity on the adjacent property, and that the proposed landscaping buffer would further mitigate potential heat island effects*.'

It is clear that the proposed eastern and western boundary setbacks do not comply with the *Large-Scale Energy Guideline* dated August 2022 (***2022 Guidelines***) (p35). The 2022 Guidelines provide that:

> *where a solar energy project is located adjacent to a horticultural or cropping activity, the solar array should be* ***setback from the property boundary by at least 30m*** *to mitigate any heat island effect*. (our emphasis)

We emphasise that a setback **of at least 30m** is required by the 2022 Guidelines.

For the reasons given above, and further discussed below, Fitzsummer maintains that a minimum **50m** boundary setback should be provided.

Visual Impact

Visual impacts have not been adequately assessed or mitigated. There is insufficient assessment or understanding concerning solar panel height, transformer height, or the height of the perimeter security fence.

Provision of a 20m vegetated buffer - as part of the overall 50m setback - will ensure adequate vegetative screening at depth, to provide long-term viable mitigation.

The Application fails to accurately model key features of the Development that will cause a visual impact. Specifically, the panel heights, transformer height and security fencing have been incorrectly modelled in the Applicant's Visual Impact Assessment. These inaccuracies are identified in the Updated Urbaine VIA Report

Based upon the observations made during the site visit on 1 December 2023, there is real concern as to the conclusion in the Department's Assessment Report that:

> *… the visual assessment concluded that the visual impact for all residences surrounding the site would be nil to low, due to distance, topography and the extent of intervening vegetation along the project boundary, which would be further enhanced by Elgin's proposed screen planting.*

It is clear that there will be significant visual impact from the existing Fitzsummer residence (R7) and from the location of the two proposed new residences to be located in proximity to Brewongle Lane. Vegetative screening staggered in depth within a 20m vegetative screening buffer would go some way to mitigate visual impact from these locations.

As stated at the public meeting, in the event that the Commission determines to approve the Application, additional conditions should be imposed limiting the height of the solar array to 2.65m, being the height confirmed by the Applicant. There is uncertainty in the DPE Assessment Report to the IPC, which indicates a maximum height of 3.5m. Any uncertainty as to this fundamental aspect of the Development is unacceptable. This matter must be clarified before the Application is determined.

<u>Glint and Glare</u>

The Assessment Report states:

> *The project would present a low impact to the nearby residences, road users and aircrafts, and any impacts (if experienced) would be temporary, depending on the season, time of day and location of the residence.*
>
> *One residence (R7) is predicted to experience a yearly total of 100 minutes of glare (less than five minutes a day on sunrise, for about a month in mid-winter) prior to the implementation of proposed vegetation screening. Views from this residence would be obstructed over time with the establishment of the proposed screening vegetation along the north western boundary, and glare impacts are predicted to be nil.*

With respect to visual impact, the Draft Conditions at condition C10(a) provides that:

The Applicant must:

(a) *limit the angle of solar panel backtracking to a minimum of 4 degrees*.

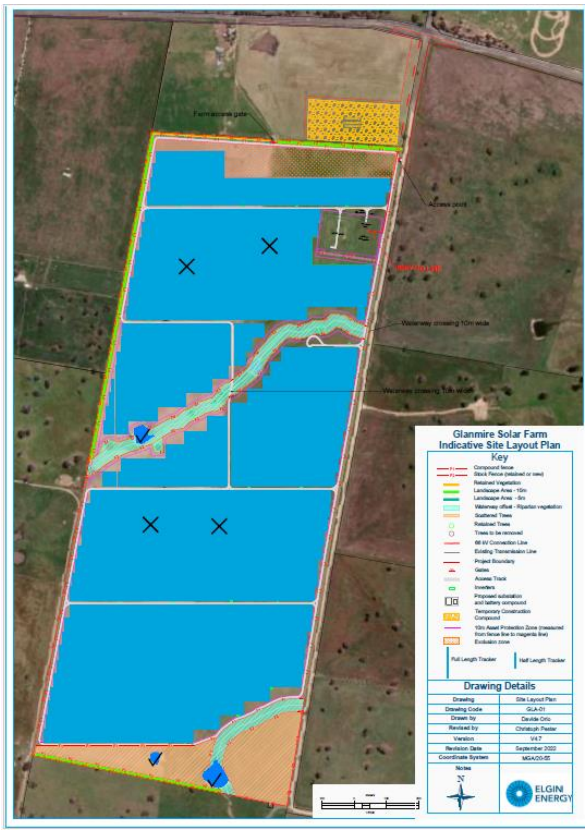
Fitzsummer strongly submits that there should be no glare impact on the Fitzsummer Land as a result of the Development. Accordingly, if the Department is minded to approve the Development, Fitzsummer submits that there should be a condition to mitigate this, so that there be no glare impact on the Fitzsummer Land.

Water

Impacts on water resources are unacceptable. The Application fails to appropriately preserve and manage existing water resources.

On-site water detention and reuse has not been addressed at all. Significant stands of water should be retained and used to maintain screening vegetation and Site maintenance.

The Development proposes to infill four dams, and to retain three dams, as marked on the map below.



Fitzsummer submits that the four dams to be infilled should be retained and the water used as part of Site maintenance and maintenance of the vegetative buffer.

As queried by the Commission, there has been no water budget prepared for all uses, nor an adequate assessment of water storage volumes, beyond the 20,000 litre tank referred to above, which is considered inadequate.

As was stated during the public meeting, there are concerns as to water flow changes and potential flooding impacts, both on Site and to neighbouring properties. This issue has been identified by the Commission in its correspondence to DPE dated 5 December 2023.

Fitzsummer submits that the Application fails to recognise that there will be localised concentration of runoff from the panel array. Whilst in a fully vegetated state this may not be an issue in terms of water flows, in practical terms, stability of the soil surface will take a period of time to settle and establish connection between the body of surface vegetation and the soil itself. There is no contingency in terms of groundwater management during this establishment period. A Groundwater Management Plan should be prepared and considered by the IPC prior to the determination of the Application.

Whilst flood modelling has been undertaken to identify stormwater management strategies, the modelling has not considered impacts arising during the construction phase where compaction by machinery during earthworks will occur and significant disruption of the ground cover is expected.

Ecology

Failure to Avoid Impacts

As indicated in the Updated Cumberland Ecology Report, the updated Biodiversity Development Assessment Report (***BDAR***) prepared by AREA dated November 2023 remains insufficient to permit the grant of consent.

In particular, the BDAR does not provide sufficient justification of the clearing of the Critically Endangered Ecological Community - White Box Yellow Box Blakely's Red Gum Woodland (***CEEC***).

A key function of the *Biodiversity Conservation Act 2016* (***BC Act***) is to establish a framework of avoid, minimise, and offset the impacts of proposed development and land use change on biodiversity.

Consistently with the BC Act, the Court in *Tomasic v Port Stephens Council* [2021] NSWLEC 56 at [169] stated that (emphasis added):

> *the biodiversity mitigation hierarchy requires, in order, avoiding impacts, minimising impacts and only then offsetting or compensating for residual impacts that remain after all steps are taken to avoid or minimise these impacts.*

The BDAR states that the Development has been designed to avoid the impact on native vegetation through retention in road corridors and the riparian corridor. However, these areas are not permitted to be developed. In essence the Application proposes to clear all of the CEEC which is located on land able to be developed for the proposed use.

Retaining native vegetation on areas of the Site which is not able to be developed for the proposed use is not an avoidance measure: *Planners North v Ballina Shire Council* [2021] NSWLEC 120 (***Planners North***) at [173].

Likewise, the claim in the BDAR that avoidance is achieved though selecting a site which comprises limited native vegetation is incorrect. Avoidance of the impact of a development on land presupposes that the subject development is otherwise permitted to be carried out

on the land: *Planners North* at [173]. Accordingly, the Applicant is required to seek to avoid the impact of CEEC that exists on the Site. Simply selecting a site with a limited presence of native vegetation does not satisfy this obligation.

In direct contrast to its obligation to avoid, the Applicant proposes to clear all the CEEC that is within the developable area of the Site. In this regard, the Updated Cumberland Ecology Report states that *potential to avoid more of these trees and so possibly retain the majority of trees on site, while still extensively developing the residual for a solar farm*.

As the Applicant made no meaningful attempt to avoid impacting the CEEC, it is submitted the Application should be refused.

Failure to Minimise Impacts

The Updated Cumberland Ecology Report identifies that the further benefit of maintaining the CEEC, is that those trees with hollows will be retained. However, as these are proposed to be clear, the Applicant has included a mitigation measure to replace large hollows with nest boxes.

This is considered inadequate, as the two of the species that are to be offset, being Polytelis swainsonii and Myotis Macropu, use small or medium sized hollows.

In addition, the clearing of trees with hollows should entail offsetting for the loss of all hollows, and replacement using appropriately targeted nest boxes, that is, nest boxes suitable for the threatened species that could occur on Site.

As identified in the Further Ecological Review, that Applicant has not made a genuine attempt to minimise the impacts of the proposed clearing at the Site.

As the Applicant made no meaningful attempt to minimise the impacts of the proposed clearing, it is submitted the Application should be refused.

Yours faithfully

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6 December 2023

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BDAR Review for 4823 GWH Glanmire

Dear Paul,

I have now reviewed the Submissions Report by NGH and the updated BDAR prepared by AREA.

My original review of the EIS and BDAR raised issues associated with the total impacts to a threatened ecological community (TEC) called Box Gum Woodland, the limited extent of avoidance proposed, and the potential impacts to two threatened species (Myotis and Superb Parrot), which were not surveyed for at the correct time.

I note that the BDAR has been updated to consider the impacts on Myotis and Swift Parrot, and now four species credits are being offered for each species to address potential impacts to these animals.

In relation to Box Gum Woodland, I retain my original concern that insufficient justification is being provided for the level of clearing. There are also some additional related issues now as the Submissions Report is inconsistent with the BDAR with respect to biodiversity. For example, the submissions report states:

> *While the vegetation would have been derived from Box Gum Woodland, which qualifies as a Critically Endangered Ecological Community at both State and Federal levels, subject to its condition and extent, the vegetation onsite at this time has been highly modified by agricultural practices and the community would not be considered a Critically Endangered Ecological Community at the State or Federal level.*

However, Section 4.3 of the BDAR states that the trees on site are part of the Box Gum Woodland TEC as listed by the Biodiversity Conservation Act, as follows:

"Vegetation within the development footprint was consistent with the BC Act definitions of a TEC (White Box Yellow Box Blakely's Red Gum Woodland) but was not consistent with the definitions of the equivalent TEC under the EPBC Act."

Section 4.3 of the updated BDAR also states that the TECs identified within the development footprint are listed in Table 6 and their extent is shown on Figure 16. I have reproduced Table 6 as follows:

Table 6 from the Updated BDAR TECs within the development footprint

TEC name	Profile ID (from TBDC)	BC Act status	EPBC Act status	Associated vegetation zones within the development footprint	Area within development footprint (ha)
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	10837	Critically Endangered Ecological Community (CEEC)	Equivalent TEC (*White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland)* is listed as Critically Endangered but does not occur in development footprint.	Zone 1	0.8

I have also examined the mapping of the TEC within the BDAR and note that the majority of the woodland patches (about two thirds) appears to be within the area proposed for clearing. That is, it hasn't been avoided. For example, figures 11 and 16 of the BDAR illustrate that the majority of mapped occurrences of the TEC will be cleared.

In my view there is clearly potential to avoid more of these trees and so possibly retain the majority of trees on site, while still extensively developing the residual for a solar farm. Retention of trees is important because

it would retain quite old trees with hollows (ie likely to be 50 years to over 100 years of age), and also trees that assist with visual amenity. Clearing of any such trees obviously cannot be addressed and ameliorated by replanting as it will take decades to replace.

Similarly, in the mitigation summary within the Submissions report, there is a commitment to replace large hollows with nest boxes. Such a commitment is inadequate as two of the species that are to be offset use small or medium sized hollows. The clearing of trees with hollows should entail offsetting for the loss of all hollows, and replacement using appropriately targeted nest boxes (ie nest boxes suitable for the threatened species that could occur on site).

Both documents are somewhat inconsistent and it is not clear to me:

- How many trees will be cleared versus retained and precisely, where retained trees are located;
- How big and old are each of the trees cleared versus retained?
- What are the tree species to be retained?

It is eminently possible to provide a simple and updated map to show the size, age and species of trees on site. Such information should form the basis for considerations about avoidance – and this has still not happened.

The BDAR claims that the selection of a farmed site that has been heavily cleared and modified is in itself an avoidance measure. While I agree, there is a clear reason to go further and to consider further avoidance of the trees on the property because they are part of the Box Gum Woodland TEC, located in an over cleared landscape where hollows are often in short supply for fauna. Moreover, large old trees with medium to large hollows are likely to be over 100 years old and so not quickly or expediently replaceable.

Yours sincerely

[redacted]

David Robertson
Director

[redacted]

urbaine design group

Responses to Submissions Report:
Glanmire Solar Farm, September, 2023.
From Urbaine Design Group, October, 2023.

K. Visual impacts of other Project components

Issue summary
LVIA d d not take nto cons derat on the other nfrastructure, nc ud ng the transformers and substat on that w be cons derab y h gher than the pane s.
D d not cons der the mpact on the upgraded ut ty po es, wh ch w ke y be made of concrete and w be between 2m and 6m h gher than the ex st ng po es a ong the Great Western H ghway
Submission reference
SE-52426488.
Glanmire Solar Farm Project response
A features of the Project that have the potent a to cause a v sua mpact have been cons dered.
• The v sua assessment (Append x D1 of EIS) nc udes a ons te nfrastructure, nc ud ng the secur ty fenc ng, substat on and connect ng transm ss on nes (underground), wh ch are nc uded n the 3D mode that has been used for the preparat on of photomontages and used for the magn tude ana ys s. Mode ng th s area cons dered a he ght of 3.5m, for a nfrastructure n th s area (nc ud ng nverters, substat on and operat ons bu d ngs). It s noted that the substat on wou d be a max mum of 5.5m ta and the operat ona ma ntenance bu d ng wou d be a max mum of 4m ta , however g ven the sma area of and taken up by these features re-mode ng of these he ghts wou d not resu t n a change n any v sua mpact assessments from any pub c or pr vate v ewpo nt.

• A separate mpact assessment has been undertaken spec f ca y for the proposed offs te transm ss on ne upgrade works (Append x E of EIS). Th s e ement s re ated to the Project but wou d be undertaken by Essent a Energy. It has been subject to a h gh eve env ronmenta assessment w th n the EIS and deta ed assessment wou d be undertaken by Essent a Energy when the des gn of the works s c oser to comp et on.

The h gh eve assessment conc uded that the andscape character where the transm ss on ne upgrade s proposed has a h gh capac ty to absorb th s v sua change. Th s s because the works wou d be arge y ocated n ex st ng easements conta n ng transm ss on nfrastructure. It s noted a so that undu at ng h s and scattered trees n the oca ty wh ch v ews from the eastern outsk rts of Rag an (where a h gher number of dwe ngs are ocated).

URBAINE Response:
All features of the Project that have the potential to cause a visual impact have been considered.
The features referred to have not all been included in the model, neither have they all been accurately modelled, as conceded, by the Applicant's Consultant, with the reduced heights of the substations.
The panel heights and security fencing are also inaccurately modelled within the Applicant's Visual Impact Assessment. The inaccuracies have been itemised and explained within the Urbaine Response, December 2022, and have a significant impact upon the visibility of the new proposal.

P. LVIA is misleading
Issue summary
Concern that the v sua mpact assessment s m s ead ng or naccurate. Spec f c concerns were deta ed and nc ude:
• _Pane he ghts, pos t on ng and sca e not correct, not ng compar son to human he ght.

• _Sca e and so d ty of the secur ty fence a ong Brewong e Lane not correct n magn tude ana ys s.

• _Regard ng pub c v ew po nts from roads: ○ V ewpo nt 1 om ts many nfrastructure e ements.
○ V ewpo nt 2 fa s to nc ude a cr t ca port on of the v ew where pane s and substat on and assoc ated nfrastructure w be v s b e.
○ Great Western H ghway and M tche H ghway, have undergone new p ant ngs recent y;
LVIA has fa ed to assess the mpact a ong these two ma n approaches roads.
○ V ewpo nt 3 s a gnment of the d stant sky ne s naccurate.

○ V ewpo nt 4 s d fferent to that shown n the EIS and based on the e evat on of the mage, the so ar pane s wou d be v s b e and m t gat on measures are necessary.
• G are n re at on to the v s b ty of the so ar pane s has not appropr ate y represented.

He ght s cons dered n two ma n ways n the v sua assessment methods; f rst to dent fy oca areas from wh ch the Project may be v s b e. Th s def nes the v sua catchment . In th s case a b ock represent ng the Project s mode ed over d g ta andform data der ved from L DAR. Second y; to cons der spec f c v ews at key ocat ons around the s te. The assessment team adopted best pract ce measures ava ab e at the t me and made conservat ve assumpt ons to prov de a rea st c worst case assessment nc ud ng mode ng pane ang es for greatest v s b ty / contrast, by us ng the argest array area that cou d be deve oped w th n the Deve opment Footpr nt and by mode ng the uppermost array he ght of 3.5m not ng: the average pane he ght s much ess than 3.5m.

A features of the project w th n the Project s te that have the potent a to cause a v sua mpact have been cons dered n the v sua assessment. They are cons dered n the preparat on of photomontages and used for the magn tude ana ys s. Regard ng off s te transm ss on ne works, a separate assessment has been undertaken spec f ca y for these works. Th s e ement s not nc uded n the photomontages. Th s assessment s d scussed above (refer to sect on 4.3.2, K).

Viewpoint 1 – Brewongle Lane.

Brewong e Lane s shown be ow, the pub c access road that wou d be used to access the s te. In both cases, the assumed so ar pane he ght of 3.5 metres s cons dered to represent a he ght greater than a worst-case scenar o. It s noted that as the pane s w track the sun, that ang e and he ght w vary across the day; steepest when the sun s ow n the sky. The mage be ow shows the steep ear y morn ng ang e fac ng east and nc udes the secur ty fenc ng.

F gure 4-12 Viewpoint 1, V ew south a ong Brewong e Lane, photomontage (day 1, no p ant ng shown) of the V sua Impact Assessment

URBAINE Response:

The modelling and positioning of Viewpoint 1 was extensively anlaysed within the Urbaine Design Group Review, dated 12.2022. The panels have not been modelled to the correct height, or location and the security fencing does not represent the actual, physical fence, in its substance, or visual impact.

With such inaccuracies, it could not be reasonably suggested that the analysis represents ‘best practice measures’.

The inaccuracy of the photomontaged views renders the assessments of those views invalid also, throughout the Applicant’s original Visual Impact Assessment.

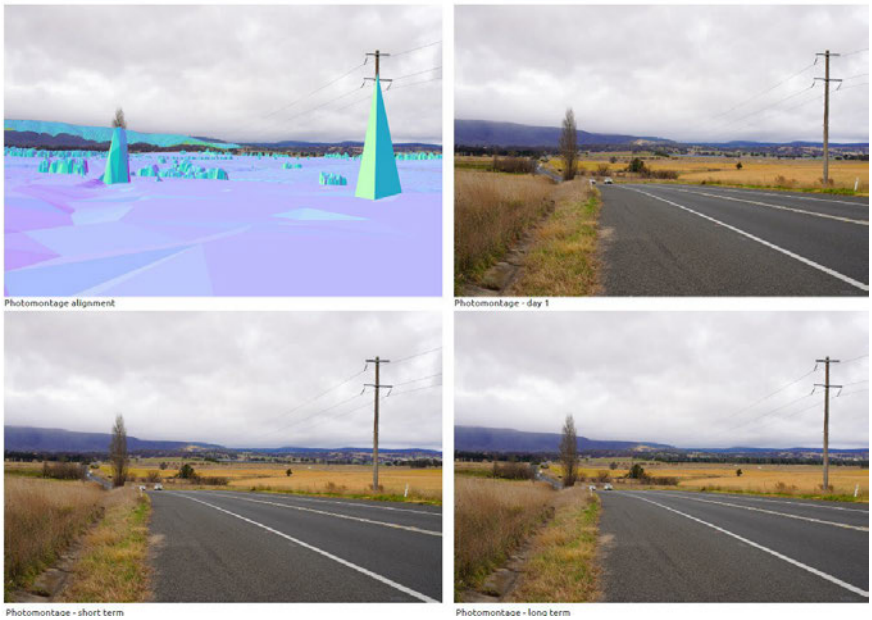
Viewpoints 2 and 3 – Great Western Highway.

In re at on to v ews from the approaches to Bathurst, the assessment determ ned there wou d not be a v sua mpact n v ews from the Great Western H ghway. Th s assessment has been prov ded through the two representat ve v ewpo nts, V ewpo nt 2 and 3, wh ch ustrate the ocat ons where there s the greatest potent a for a v ew of the project. The project wou d not affect the new p ant ngs that have been prov ded as a part of the BRVMP (Bathurst Reg ona Vegetat on Management P an) The assessment found no v sua mpact n westbound v ews (V ewpo nt 2) and very ow v sua mpact n eastbound v ews (V ewpo nt 3). The M tche H ghway s not ocated w th n the study area, and there wou d not be a andscape character or v sua mpact on v ews on th s approach to Bathurst.

A cons derab e setback from the Great Western H ghway and north-eastern corner of the s te. Th s setback was determ ned to e m nate any v sua mpact n v ews from the H ghway. The assessment cons ders the v s b ty of the substat on n a v ews and photomontages.

The photomontages prepared for v ewpo nt 3, have been ver f ed us ng L DAR data and are accurate. Photomontage a gnment for each v ew s prov ded n Append x B of the LVIA. Th s nc udes F gure 10B (refer to F gure 4-14 V ew east a ong the Great Western H ghway, v ew a gnment and photomontages wh ch shows ev dence of the project a gnment n the 3D mode for V ewpo nt 3, V ew east a ong the Great Western H ghway.

F gure 4-13 V ew east a ong the Great Western H ghway, photomontage (day 1, no p ant ng shown)



F gure 4-14 V ew east a ong the Great Western H ghway, v ew a gnment and photomontages

W th reference to the andscape treatments proposed for h ghway v ews, n the context of ex st ng h ghway p ant ngs, the Landscape Concept P an prepared for the Project does not nc ude dec duous spec es as th s wou d reduce the effect veness of the screen ng. It prov des deta s of the proposed spec es, p ant ng dens ty and ocat on of p ant ng areas, as set out be ow n extracts from the p an.

URBAINE Response:

The photomontages prepared for viewpoint 3 have been verified using LiDAR data and are accurate. Photomontage alignment for each view is provided in Appendix B of the LVIA.

Importantly, LIDAR data does not verify a photomontaged view, but is one small part of the process of creating accurate photomontaged views, for the assessment of Visual Impact. As detailed within the Urbaine Report, the LIDAR data has not been accurately positioned over the base photography, in this instance, resulting in an inaccurate visual representation of the development. The alignment of LIDAR information over photography is not an automatic process and needs to be applied with great care and accuracy.

The misalignment of the existing landscape can be clearly seen in Figure 4.14, where the distant topography is misplaced by several hundred metres, in the far distance. The LIDAR mapping of existing trees is also significantly misaligned.

Of equal importance in these views, from the Great Western Highway, is the retention of existing trees. In the Applicant's VIA, trees in the foreground have not been correctly shown as retained and, similarly, to the rear of the site, some trees are shown that would actually be located behind the panels and, largely, not visible.

Views from the east, along the Great Western Highway, have been ignored and the setback to the site, in the northeastern corner, only serves to reduce the impact, but not to eliminate it, as suggested by the Applicant. This has been analysed within the Urbaine reponse document, December, 2012, where the built forms of the development have been shown in the correct location and height.

View point 4 - South Mersing Road

The descr pt on of the topography n the v ew from South Mers ng Road descr bes the andform as hav ng an undu at ng fore and m dd e ground, w th h s nc ud ng Mt Panorama n the background, and d stant range beyond, as ustrated n the accompany ng photograph. It s not expected that there wou d be any v s b e pane s from th s ocat on due to the ow prof e of the project e ements, setbacks, nterven ng andform and vegetat on. If any so ar arrays were g mpsed, they wou d not const tute a magn tude of change that wou d resu t n a v sua mpact that requ res m t gat on. The assessment has determ ned that there wou d be no v sua mpact from th s ocat on and no v sua m t gat on measures wou d be necessary.

F gure 4-16 Extracts from the v sua assessment F gure 6.10 V ew south from Mers ng Road (ex st ng v ew).

Panel glare assessment / representation

The g are ana ys s mode s used to der ve the number of g are m nutes . The g are ana ys s mode exaggerates the potent a for g are. The software s therefore ke y to pred ct so ar ref ect ons over a arger area and for a greater ength of t me than wou d be exper enced n rea ty. Furthermore, the g are assessment exceeds assessment requ rements; wh e the f na DPE Gu de ne (2022) on y requ res the assessment of g are from roads at a d stance of up to 1km, th s nvest gat on cons dered a d stance of 3km.

Photomontages are nd cat ve of one t me of day on y and do not represent a worst-case g are mpact. Th s s captured better by g are mode ng than by photography. The g are ana ys s mode conc udes that operat ona restr ct ons can be used to e m nate the m n ma g are from pub c v ew po nts.

URBAINE Response:

Figure 4 is not a view of significance within the area, being a distant, low-traffic road.

Responses to Amendment Report:
Glanmire Solar Farm, September, 2023.
From Urbaine Design Group, October, 2023.

6.3. Extent of impacts associated with the works

• No change to v sua mpact assessment conc us ons as the area of mpact and the bu k sca e of the BESS assumed n the assessment wou d not change n compar son to what was mode ed.

URBAINE Response:
The original Visual Impact Assessment was based upon incorrect modelling and location, as described within the Urbaine Analysis of December, 2022. The true impact and bulk is greater than shown and this would continue to be the case with the Amendments.

Table 6-1 Summary of the additional environmental impact of the 2MWh BESS

Environmental issue	Sensitivity of receiving environment	Nature and extent of impacts	Environmental impact risk rating	Mitigation requirements
Visual impacts	Low scenic quality, with low to moderate landscape sensitivity, as assessed in the visual assessment of the Project.	No visual impact discernible, in comparison to the modelling provided for the 1 -hour BESS.	Low	No additional measures

URBAINE Response:
The scenic quality would not be described as low, within any formal assessment methods. The uninterrupted, sweeping, undulating plains, with hills rising to the east, is an important landscape, particularly in relation to the visual approach to Bathurst along the Great Western Highway.
Although the visual impact is described: 'No visual Impact discernible', this is based around the original modelling and photomontages, which are incorrect cannot be relied upon as the basis for assessment.

SUMMARY:

The responses, as above, remain in line with the original assessment of the Applicant's Visual Impact Assessment. This was verifiably inaccurate and, therefore, misleading. The subsequent review of submissions and further amendments both relate back to the original VIA and are, as a consequence, also lacking in validity.

[redacted]

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