Submissions Report

Oxley Solar Farm

October 2022

Proposal Number: 21-393

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W. www.nghconsulting.com.au

E. ngh@nghconsulting.com.au

BEGA - ACT & SOUTH EAST NSW
Suite 11, 89-91 Auckland Street
(PO Box 470) Bega NSW 2550
T. (02) 6492 8333

NEWCASTLE - HUNTER & NORTH COAST
Unit 2, 54 Hudson Street
Hamilton NSW 2303
T. (02) 4929 2301

BRISBANE
T3, Level 7, 348 Edward Street
Brisbane QLD 4000
T. (07) 3129 7633

SYDNEY REGION
Unit 17, 21 Mary Street
Surry Hills NSW 2010
T. (02) 8202 8333

CANBERRA - NSW SE & ACT
Unit 8, 27 Yallourn Street
(PO Box 62) Fyshwick ACT 2609
T. (02) 6280 5053

WAGGA WAGGA - RIVERINA & WESTERN NSW
35 Kincaid Street (PO Box 5464)
Wagga Wagga NSW 2650
T. (02) 6971 9696

GOLD COAST
19a Philippine Parade
Palm Beach QLD 4221
(PO Box 466 Tugun QLD 4224)
T. (07) 3129 7633

WODONGA
Unit 2, 83 Hume Street
(PO Box 506) Wodonga VIC 3690
T. (02) 6067 2533

NSW • ACT • QLD • VIC
W. www.nghconsulting.com.au
ABN 31 124 444 622 ACN 124 444 622

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Acronyms and abbreviations

BC Act	*Biodiversity Conservation Act 2016* (NSW)
CEMP	Construction environmental management plan
CSIRO	Commonwealth Science and Industrial Research Organisation
Cwth	Commonwealth
DAWE	Department of Agriculture, Water and the Environment (Cwth)
DPE	Department of Planning and Environment (NSW)
EIS	Environmental impact statement
EMF	Electro-magnetic frequencies
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwth)
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
ESD	Ecologically Sustainable Development
FATA	*Foreign Acquisitions and Takeovers Act 1975* (Cth)
FATAR	Foreign Acquisitions and Takeovers Regulation 2015
Fees Imposition Act	*Foreign Acquisitions and Takeovers Fees Imposition Act 2015* (Cth)
FIRB	Foreign Investment Review Board
ha	hectares
IPC	Independent Planning Commission
ISEPP	State Environmental Planning Policy (Infrastructure) 2007 (NSW) (superseded by the TISEPP)
JRPP	Joint Regional Planning Panel
MLA	Moir Landscape Architects
PHA	Preliminary Hazards Assessment
REZ	Renewable Energy Zone
SCIA	*Security of Critical Infrastructure Act 2018* (Cth)
TIA	Traffic Impact Assessment
TISEPP	State Environmental Panning Policy (Transport and Infrastructure) 2021
TSR	Travelling Stock Reserves
VIA	Visual Impact Assessment

Table of definitions

Proponent	Oxley Solar Development (ACN 629 954 329)
Proposal	Oxley Solar Farm
Proposal site	The broader area of land considered for siting of the solar farm. The Proposal site is **1,048ha**
Development footprint	The area of land that would be directly impacted by the Proposal. This includes all stages; construction, operation and decommissioning. It includes all impacts, temporary and permanent, including access and a buffer to account for 'constructability' i.e. installation of environmental controls. The Development footprint for the Proposal is **268ha** and has been reduced since the exhibition of the Environmental Impact Statement (EIS).

Executive summary

The proposed Oxley Solar Farm is located on the southern side of Waterfall Way (Grafton Road), approximately 14 kilometres (km) south-east of Armidale, in the New England region of NSW. The Proposal includes the construction, operation and decommissioning of a ground-mounted PV solar array facility and associated 50MWh lithium-ion Battery Energy Storage System (the Proposal). Approximately 215MW (AC) of renewable energy would be generated and supplied directly to the national electricity grid.

The Oxley Solar Farm EIS was prepared in accordance with the Proposal-specific Secretary's Environmental Assessment Requirements (SEARs), issued on 2 August 2019. The EIS was placed on public exhibition from 17 March to 14 April 2021: https://www.planningportal.nsw.gov.au/major-projects/projects/oxley-solar-farm.

During the exhibition period, submissions from the public, public authorities and other interested parties in relation to the Proposal were invited. In total, the submissions included:

- 78 public submissions
- 1 special interest group submission
- 14 government agency submissions
- 2 submissions from Armidale Regional Council.

A variety of issues were raised by the public. Most centred-on visual impacts, proximity to the Oxley Wild Rivers National Park, land use compatibility and the consultation process. The breakdown of issues raised (ranked by their prevalence) and the Proposal's response are summarised below.

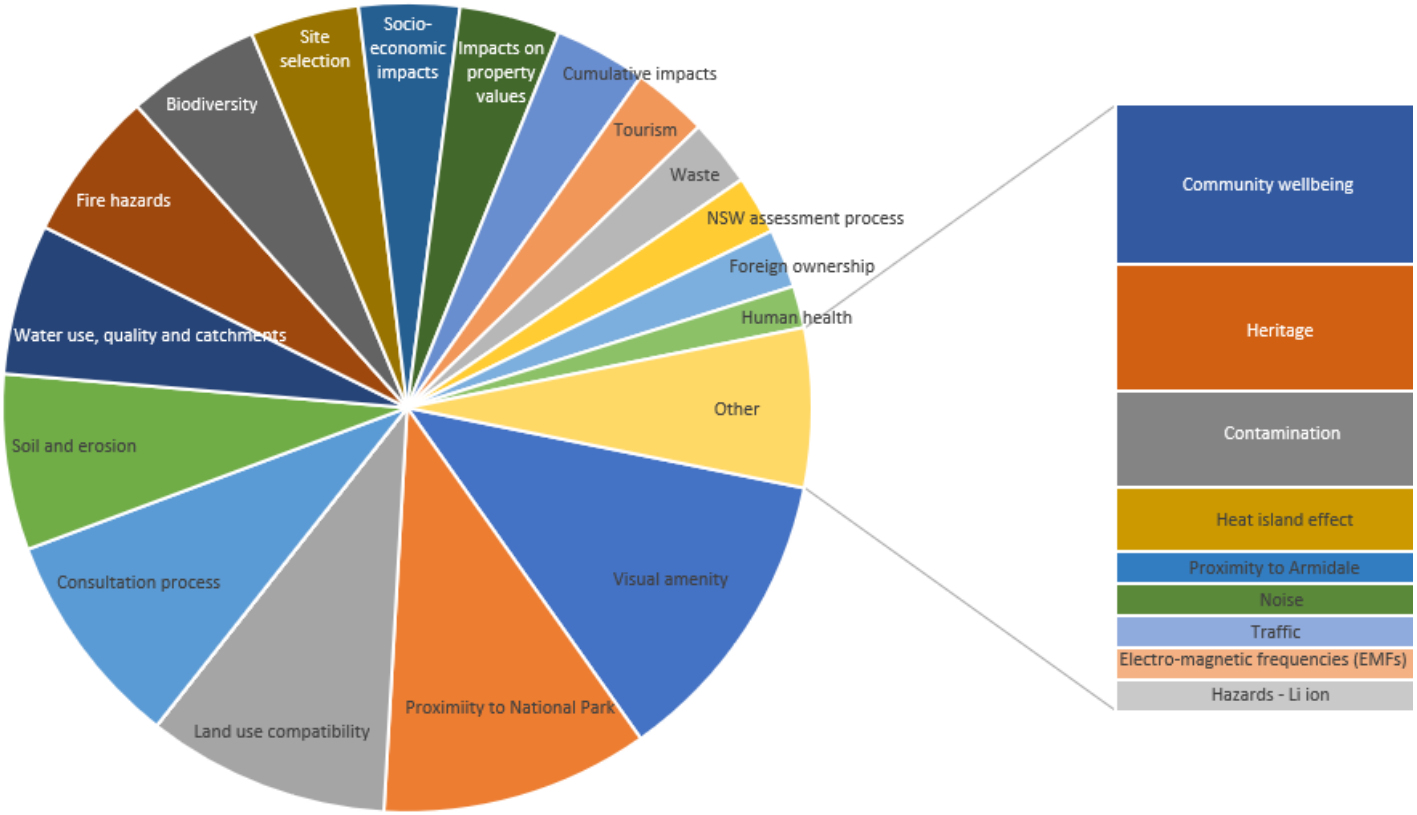


Figure ES 1 Summary of issues raised by the public

Table ES 1 Summary of Proposal's response to issues raised by the public

Issue	Submissions mentioning this issue	Proposal's response
Visual amenity	36	• Solar array area reduced. • Set back distances to key receivers (dwellings, national park, heritage items) increased.
Proximity to Oxley Wild Rivers National Park	32	• Infrastructure now removed from the National Park boundary. • Set back distances to National Park increased. • Buffer planting and connectivity enhancement proposed.
Land use compatibility	29	• Areas of proposed physical disturbance reduced. • Commitment to restoration to ensure no loss of agricultural capability after the Proposal is decommissioned.
Consultation process	26	• Clarified that consultation has been carried out as required under the SSD planning process.
Soil and erosion	21	• Additional soil impact assessment and soil and water management planning have been undertaken.
Water use, quality and catchments	18	• Large areas of the solar array removed north and south of Gara River. • Gara River crossing to be upgraded.
Fire hazards	18	• Further clarification provided around fire risks and emergency protocols in construction, operation and decommissioning.
Biodiversity	16	• Further avoidance of conservation significant Box Gum Woodland – no solar panels proposed in these areas. • Further information provided on bird collision risks. • Additional commitment to wildlife corridor connectivity enhancement.
Site selection	13	• Further clarification provided on how the site was selected. • Further layout refinements responsive to the site's environmental and social values.
Socio-economic impacts	12	• Further information now provided.
Impacts on property values	12	• Further information now provided.
Cumulative impacts	11	• Further information now provided.
Tourism	9	• Further information now provided.

Issue	Submissions mentioning this issue	Proposal's response
Waste	8	• Further information now provided.
NSW planning and assessment process	*7*	*Beyond the scope of this assessment*
Foreign ownership	7	• Further information now provided.
Human health	5	• Further information now provided.
Community wellbeing	5	• A Voluntary Planning Agreement is currently being negotiated with Armidale Regional Council to enhance benefit sharing with the community
Heritage	4	• Results of test pitting survey now provided. • Additional exclusion zones now proposed. • Additional assessment of historic heritage architectural significance now provided. • Increased set backs from historic heritage items.
Contamination	3	• Further information now provided.
Heat island effect	2	• Further information now provided.
Proximity to Armidale	1	• Further information now provided.
Noise	1	• Increased set backs to residential receivers now provided.
Traffic	1	• Changes to site access to improve traffic safety. • Further detail on traffic upgrades now including Gara Road and Gara River crossing.
Electro-magnetic frequencies (EMFs)	1	• Further information now provided.
Hazards - Li ion battery	1	• Further information now provided.

Special interest group (Castle Doyle Solar Farm Action Group), Council and other government agency submissions were considered separately, addressing matters specific to each group / agency including:

- Proposed infrastructure, access and materials use clarifications
- Environmental assessment guidelines, methodologies, impacts and management.
- Impacts on government owned assets (Crown land and public roads).

Proposal refinements

As set out above, the Proponent has made significant refinements to the Proposal as originally described and assessed in the EIS, including significant reductions to the Development footprint. These reflect the Proponent's desire to develop a project that responds to local values and concerns. Together, the refinements and reductions also better address potential cumulative impacts which may occur in the future, given the site's location within the New England Renewable Energy Zone. This is a location well placed to be a driving force to deliver affordable energy to the grid and is experiencing an increase in renewable energy proposals.

The refinements can be summarised as:

1. Refinements to the Development footprint that are responsive to the environmental constraints of the Proposal site and the surrounding landscape, particularly:
    a. Less area now proposed to be impacted by the Proposal,
    b. Visual set back distances to dwellings increased,
    c. Proximity to National Park set back distances increased,
    d. Less impact on agricultural land,
    e. Less impact on better condition native vegetation and habitat.
2. Strengthening mitigation strategies to better recognise the site's values and identify opportunities for enhancement, primarily:
    a. Improved soil and water outcomes based on specialist assessment,
    b. Biodiversity connectivity enhancement,
    c. Bush fire mitigation improvements based on NSW FFS submissions,
    d. More detailed hazard controls following Preliminary Hazards Assessment completion.
3. Changes to the proposed site access and inclusion of a Gara River crossing upgrade. These will improve traffic safety and have benefits for local traffic during flooding.
4. Amendments to the proposed subdivision layout have been included to facilitate connection of the Proposal to the existing 132kV transmission line that intersects the site and subdivide what will become Transgrid substation assets.

The changes to the Proposal between the Scoping Report (NGH June 2019), the EIS (NGH March 2021) and this report can be summarised in Table ES 2 and Figure ES 2 illustrates the comparison between the EIS's indicative infrastructure layout and the updated Development footprint which reflects the changes above. The Amendment Report (NGH, 2022h), submitted concurrent with this Submissions Report, provides more detail on these changes.

Table ES 2 Key changes to the Proposal between the Scoping Report, the EIS and the Amendment Report

	Scoping report	EIS Proposal	Amended Proposal	*Difference between EIS and Amended Proposal*
Proposed infrastructure				
Capacity of solar generation	300MW	255MW	**215MW**	*Reduced by 40MW*
Percentage generation capacity compared with Scoping Report	-	85%	**72%**	*Reduced by 13%*
Solar Panel Area (including access road)	380.66ha	269.78ha	**195.25ha**	*Reduced by 74.5ha*
Percentage solar panel area compared with Scoping Report	-	71%	**51.29%**	
Number of solar panels	1,017,856	715,680	**385,280**	*Reduced by 330,400 panels*
Percentage solar panels compared with Scoping Report	-	70%	**38%**	
Development footprint area	-	895ha [1]	**268ha** [2]	*Reduced by 627ha*
Percentage reduction in Development footprint area compared to EIS			**70%**	

[1] The EIS Development Footprint covered the worst-case impact scenario and allowed for flexibility in the infrastructure layout.
[2] The amended Development Footprint considers the infrastructure footprint on the basis of further civil design work; this footprint is more realistic in terms of total impact area, and now provides more certainty in terms of the final siting for the infrastructure.

	Scoping report	EIS Proposal	Amended Proposal	*Difference between EIS and Amended Proposal*
Visual impact reductions				
Distance of nearest above ground infrastructure to dwelling R3 (m) [3]	200	597	**778**	*Increased by 181m*
Distance of nearest above ground infrastructure to dwelling R4 (m)	400	570	**1,392**	*Increased by 822m*
Distance of nearest above ground infrastructure to dwelling R7 (m)	500	739	**1,584**	*Increased by 845m*
Oxley Wild Rivers National Park				
Distance of nearest infrastructure to the Blue Hole picnic table (m)	200	475	**1,285**	*Increased by 810m*
Distance of nearest infrastructure to the Threlfall walking track (m)	50	667	**1,165**	*Increased by 498m*

[3] Visual impact assessment receiver distances will not always be consistent with the noise assessment distances, as noise considers all works, including road upgrades, whereas for the visual, the nearest above ground operational infrastructure is more relevant.

	Scoping report	EIS Proposal	Amended Proposal	*Difference between EIS and Amended Proposal*
Biodiversity				
Native vegetation impacts	-	86.8ha	**93.78ha**	*6.45ha increase, in lower condition zones. This includes area considered non native in the EIS but now classified and assessed as native vegetation.*
Hollow bearing trees to be removed		20	**7**	*Reduce impact on 13 additional hollow-bearing trees.*
Serious and Irreversible Impact candidate Box Gum Woodland impacts (zones 2 and 4)	-	6.67ha	**2.6ha**	*Development has reduced in higher quality zones. No panels proposed in these zones.*
Serious and Irreversible Impact candidate species	-	2	**2**	*Assumed habitat areas now increased in accordance with BCD[4] guidance.*

[4] BCD; Biodiversity Conservation Division guidance confirmed June 2022.

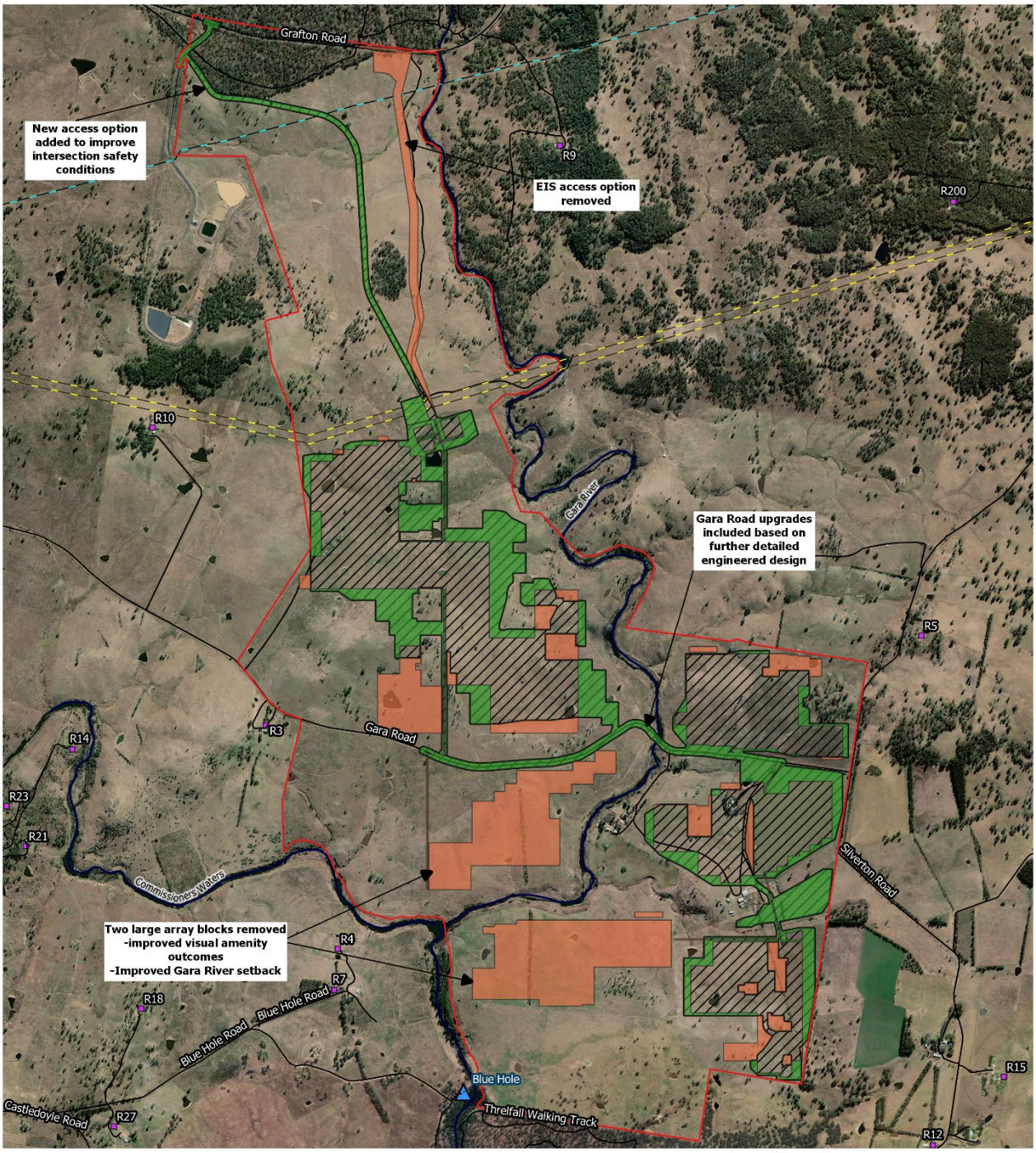


Figure ES 2 Comparison of changes made between the EIS indicative layout and the now refined Development footprint

Overall justification for the Proposal

The justification of the Oxley Solar Farm development remains consistent with the EIS.

In addition, due to the responses documented in this report to the public and agency submissions, the refinements now proposed:

- Provide increased certainty in relation to areas that will be impacted and areas that will be protected from impacts
- Provide increased certainty in relation to the management of environmental impacts.
- Include additional enhancement actions to improve on assets valued by the local community.
- Improve traffic safety and flood access for proposal and also for local road users.
- Share the benefits of the Proposal to the broader community by entering a Voluntary Planning Agreement (VPA) with Armidale Regional Council:
    - Over a significant period of time Oxley Solar has been actively working with both previous and current Armidale Regional Council personnel to develop a VPA to benefit the Armidale Regional community. Oxley Solar is keen to finalise such an agreement with Armidale Regional Council in the near future.
- Better address potential cumulative impacts, important to the site's location within the New England Renewable Energy Zone.

The updated evaluation of the Proposal, considering the refinements, as detailed in the Amendment Report (NGH, 2022h) is summarised below.

Table ES 3 Updated environmental evaluation of Proposal, extracted from Amendment Report (NGH 202 Improve traffic safety 2)

Impact areas	Net result
Visual impacts	Reduced Development footprint and increased setbacks to dwellings and National Park have reduced visual impacts significantly: • Public roads visual impacts and glare – two sections of Silverton Road assessed as high visual impact where they are adjacent the site. Silverton Road, Gara Road, Blue Hole Road warrant supplementary screen planting for potential glare. • Dwellings visual impacts and glare – one moderate visual impact R4, 13 low or negligible, 14 nil. Five warrant supplementary screen planting for potential glare; R3, R4, R7, R10, R14. • National Park (Threlfall Walking Track and Blue Hole Picnic area) visual impacts and glare - now nil to negligible. • Limited cumulative impacts with other proposed or approved solar farms in the locality (two assessed as low with mitigation). Landscape Management Plan updated to demonstrate the effectiveness of proposed plantings.
Hydrological impacts	No significant impacts expected, in line with the conclusions of the EIS. Gara River causeway design would result in improved crossing conditions along Gara Road.

Impact areas	Net result
Combined physical impacts, including soil and water	No adverse impacts to Gara River water quality. High certainty around preservation of land capability throughout the life of the project.
Biodiversity	No anticipated significant impacts to Commonwealth listed entities (no referral under the EPBC Act). Offsets proposed in accordance with the NSW Biodiversity Offset Scheme for vegetation and three species 'assumed to occur'. Serious and Irreversible Impact candidate Box Gum Woodland impacts of 2.6 ha; physical offsets demonstrated to be feasible.
Aboriginal heritage impacts	Impacts to 13 sites and potential indirect impacts to 4 sites. 48 sites avoided. Mitigation including salvage and buffering of specific sites for avoidance agreed with the Registered Aboriginal Parties participating in this assessment.
Historic heritage impacts	No physical impacts on any historic heritage item. Minor visual impact on one unlisted item; the old Gara Homestead and shed (GH1), now 60m from the nearest infrastructure.
Noise and vibration impacts	Compliance with all applicable noise criteria.
Traffic and transport impacts	Compliance with all traffic safety guidelines. Upgrades have been agreed to by all road's authorities.
Hazards and risks	Compliance with all safety guidelines. All risks manageable.
Cumulative impacts	Updated cumulative impact assessment has been included in the Amendment Report (NGH, 2022h). Potential for low cumulative visual impacts with two local solar farms. Potential cumulative traffic impacts if construction programs coincide with other large developments The Proponent will liaise with council and representatives of nearby major developments to ensure cumulative impacts are managed. All risks manageable.

The Oxley Solar Farm would result in numerous benefits, local and regional at a time of crisis in the energy network. As of June 2022, the combined effects of the war in Ukraine and flooding in Queensland and New South Wales have seen the price of fuel, gas and electricity increase exponentially. Short term electricity price caps have been imposed by the Australian Energy Market Operator (AEMO). The impact on electricity prices is contributing to a cost-of-living crisis for NSW residents. Increased renewable energy generation supported by transmission capability and storage are required to provide downward pressure on electricity prices and support long-term energy security, economic growth and prosperity.

The Proposal's objectives centre on the development of a viable renewable energy generation and storage facility that will provide a meaningful contribution to the state's transition to renewable energy technologies. The Oxley Solar Farm would:

- Generate electricity from a low-cost renewable source.
- Provide storage in order to deliver electricity at high demand times, when roof top solar is unavailable.
- Address Federal, state and local policies as well as international agreements in relation to reducing greenhouse gas emissions, global warming and the transition to greater renewable energy generation.
- Supply the equivalent of about 78,000 average NSW homes, displacing approximately 382,000 metric tonnes of carbon dioxide, currently generated by non-renewable sources.
- Provide employment, economic stimulus and diversification of the local agricultural economy.
- Contribute to the 'powerhouse' proposed for the New England REZ, the second highest solar penetration region in NSW.
- Seek an ongoing positive relationship with the local community by its commitment to incorporate local values and provide local enhancement of the landscape into the Proposal's design.
- Minimise environmental impacts during construction and operation and ensure the site, when decommissioned, has the same or better land capability and land use options.

These objectives align closely with Environmentally Sustainable Development (ESD), in their focus on the protection of natural resources and a better future of all Australians in the long-term. The assessment and mitigations underpinning the project are highly conservative where uncertainty is present.

On balance the Proposal can be seen to be well justified, meet all relevant planning provisions and guidelines and is considered justifiable, acceptable and approvable.

1. Introduction

1.1 Proposal background

The proposed Oxley Solar Farm is located on the southern side of Waterfall Way (Grafton Road), approximately 14 kilometres (km) south-east of Armidale, in the New England region of NSW. The EIS proposed the construction, operation and decommissioning of a ground-mounted PV solar array facility and associated 50MWh lithium-ion Battery Energy Storage System (the Proposal). Approximately 215MW (AC) of renewable energy would be generated and supplied directly to the national electricity grid.

The Proposal requires development consent under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The Proposal is classified State Significant Development (SSD) under the EP&A Act as it is development for the purpose of electricity generating works with a capital investment value of greater than $30 million (clause 20, Schedule 1 of the *State Environmental Planning Policy (State and Regional Development) 2011).*

The Oxley Solar Farm Environmental Impact Statement (EIS) was prepared in accordance with the Proposal-specific Secretary's Environmental Assessment Requirements (SEARs), issued on 2 August, 2019. The EIS was placed on public exhibition from 17 March to 14 April 2021: https://www.planningportal.nsw.gov.au/major-projects/projects/oxley-solar-farm. The key environmental issues identified in the EIS were biodiversity, visual amenity and landscape character, hydrology, Aboriginal heritage, noise and vibration, socio-economic, and compatibility with existing land uses. These issues were characterised and assessed in the EIS via specialist technical assessments. Detailed safeguards and mitigation measures were developed and included as commitments of the Proposal.

1.2 Submissions received

During the exhibition period, submissions from the public, public authorities and other interested parties in relation to the Proposal were invited. In total, the submissions included:

- 78 public submissions
- 1 special interest group submission
- 14 government agency submissions
- 2 submissions from Armidale Regional Council.

Refer issues raised, graphed by their prevalence, below.

Table 1-1 Issues raised in public submissions, by guideline category (including prevalence)

The Proposal itself:	• Proximity to sensitive areas including Oxley Wild Rivers National Park and Blue Hole recreation area (32) • Concerns regarding foreign ownership (7) • Proximity to Armidale (1)	
Procedural concerns:	• The consultation process (26)	
Environmental, social and economic impacts:	• Visual amenity (36) • Land Use (29) • Soils and erosion (21) • Water use, quality and catchments (18) • Biodiversity (16) • Fire hazard (18) • Impacts on property values (12) • Socio-economic impact (non-tourism) (12)	• Cumulative impacts (11) • Tourism (9) • Waste management (8) • Human health impacts (5) • Community wellbeing (5) • Heritage concerns (4) • Heat Island effects (2) • Noise (1) • Traffic (1) • Electromagnetic fields(1)

Some submissions related to the broader NSW and regional planning processes which were considered beyond the scope of this report.

Government agency submissions raised issues relevant to their jurisdiction, generally seeking clarifications or confirming approval and permitting processes.

In addition to locally planning and development approval processes, Council submissions also raised issue-specific concerns regarding:

- Visual impact
- Soil erosion
- Fire hazards
- Socio-economic concerns
- Waste management and end-of-life concerns
- Environmental management
- Cumulative impacts
- Biodiversity
- Traffic impacts and their management.

NGH has prepared this Submission Report to analyse the issues raised in submissions and explain what actions the applicant has taken since the EIS was publicly exhibited in relation to them. It includes a specific response to each issue raised in submissions, and provides an updated justification and evaluation of the Proposal as a whole having regard to the detailed findings in each section of the submissions report and the principles of ecologically sustainable development.

The report is guided by the *State significant development guidelines – preparing a submissions report* (DPIE, 2021), and is structured as follows:

- Section 2 summarises the submissions received.
- Section 3 summarises the actions taken by the Proponent since public exhibition of the EIS to address issues raised by the submissions. This includes an overview of additional consultation and specialist assessments undertaken by the Proponent.
- Section 4 details the Proponent's responses to issues raised in public and government agency submissions.
- Section 5 provides an updated justification and evaluation of the Proposal.

1.3 Key outcomes in response to submissions

In response to the public and agency submissions, the Proponent has made significant refinements to the Proposal as originally described and assessed in the EIS. These reflect the Proponent's desire to develop a Proposal that responds to local values and concerns.

Specifically, the refinements have been done in consideration of visual, traffic and transport, biodiversity, heritage, soil and water impacts. Together these better address potential cumulative impacts which may occur in the future. Given the site's location within the New England Renewable Energy Zone, this is a location well placed to be a driving force to deliver affordable energy to the grid and is experiencing an increase in renewable energy proposals.

The refinements can be summarised as:

1. Refinements to the Development footprint that are responsive to the environmental constraints of the Proposal site and the surrounding landscape, particularly:
    a. Less area now proposed to be impacted by the Proposal,
    b. Visual set back distances to dwellings increased,
    c. Proximity to National Park set back distances increased,
    d. Less impact on agricultural land,
    e. Less impact on native vegetation and habitat.
2. Strengthening mitigation strategies to better recognise the site's values and identify opportunities for enhancement, primarily:
    a. Improved soil and water outcomes based on specialist assessment
    b. Biodiversity connectivity enhancement
    c. Bush fire mitigation improvements based on NSW FFS submissions
    d. More detailed hazard controls following Preliminary Hazards Assessment completion.
3. Changes to the proposed site access and inclusion of a Gara River crossing upgrade. These will improve traffic safety and have benefits for local traffic during flooding.
4. Amendments to the proposed subdivision layout have been included to facilitate connection of the Proposal to the existing 132kV transmission line that intersects the site.

1.4 Relationship to the Oxley Solar Farm Amendment Report

Concurrent with this Submissions Report, an Amendment Report has been prepared by NGH on behalf of the Proponent.

The Amendment Report provides:

- Detailed account description of all changes to the Proposal since public exhibition of the EIS, including an updated Proposal summary and supporting mapping.
- Additional environmental assessment, where required by the changes to the Proposal.
- Additional consultation undertaken to support the additional assessments.
- A consolidated and updated set of mitigation measures to manage the Proposal's environmental impacts.

The details of the Amendment Report are not duplicated in this report, unless otherwise required to contextualise the Submissions Report and provide evidence of the Proponent's responses to the submissions.

2. Analysis of submissions

2.1 Breakdown of submissions

The EIS was placed on public exhibition between 17 March and 14 April 2021.

The total number of submissions received for the Oxley Solar Farm by the end of the public exhibition period was 96. Submissions were received from agencies, councils, special interest groups and individuals as provided in Table 2-1.

Of the submissions present in the Major Projects website:

- 77 public submissions objected to the Proposal
- One public submission supported in principle but objected to lack of consultation.
- One special interest group objected to the Proposal.
- Public agencies and Armidale Regional Council only provided comment.

Table 2-1 Submissions received

Category	Number of responses received
Public	78 submissions received
Special interest groups • Castle Doyle Solar Farm Action Group	1 submission received
Public agencies: • Department of Planning and Environment (DPE) -Planning • Department of Planning and Environment (DPE) - Crown Lands • Department of Primary Industries (DPI) – Fisheries • DPE – Biodiversity Conservation Division • DPE - Hazards • DPE - Water • DPI – Agriculture • Heritage NSW (Aboriginal Heritage) • Heritage NSW (Historic Heritage) • Department of Regional NSW– Mining, Exploration and Geoscience (MEG) • NSW Environmental Protection Authority (EPA) • NSW Rural Fire Service (RFS) • Transgrid • Transport for NSW (TfNSW) – *two submissions received.*	15 submissions received

Category	Number of responses received
Water NSW • Department of Planning and Environment (DPE) -Planning • Department of Planning and Environment (DPE) - Crown Lands • Department of Primary Industries (DPI) – Fisheries • DPE – Biodiversity Conservation Division • DPE - Hazards • DPE - Water • DPI – Agriculture • Heritage NSW (Aboriginal Heritage) • Heritage NSW (Historic Heritage) • Department of Regional NSW– Mining, Exploration and Geoscience (MEG) • NSW Environmental Protection Authority (EPA) • NSW Rural Fire Service (RFS) • Transgrid • Transport for NSW (TfNSW) – *two submissions received* • Water NSW	
Council/s • Armidale Regional Council (Council Officers) • Armidale Regional Council (Mayor). Note: Comments received on the EIS were received from the previous mayor and council officers. New representative occupy these positions at Armidale Regional council.	2 submissions received
Total	**96**

2.1.1 Spatial distribution of public submissions

The majority of submissions were submitted by residents in the Castle Doyle and Armidale areas (51% of Public submissions). Five interstate submissions were received (three from QLD and two from Victoria). One submission was received from Singapore. Refer to Figure 2-1.

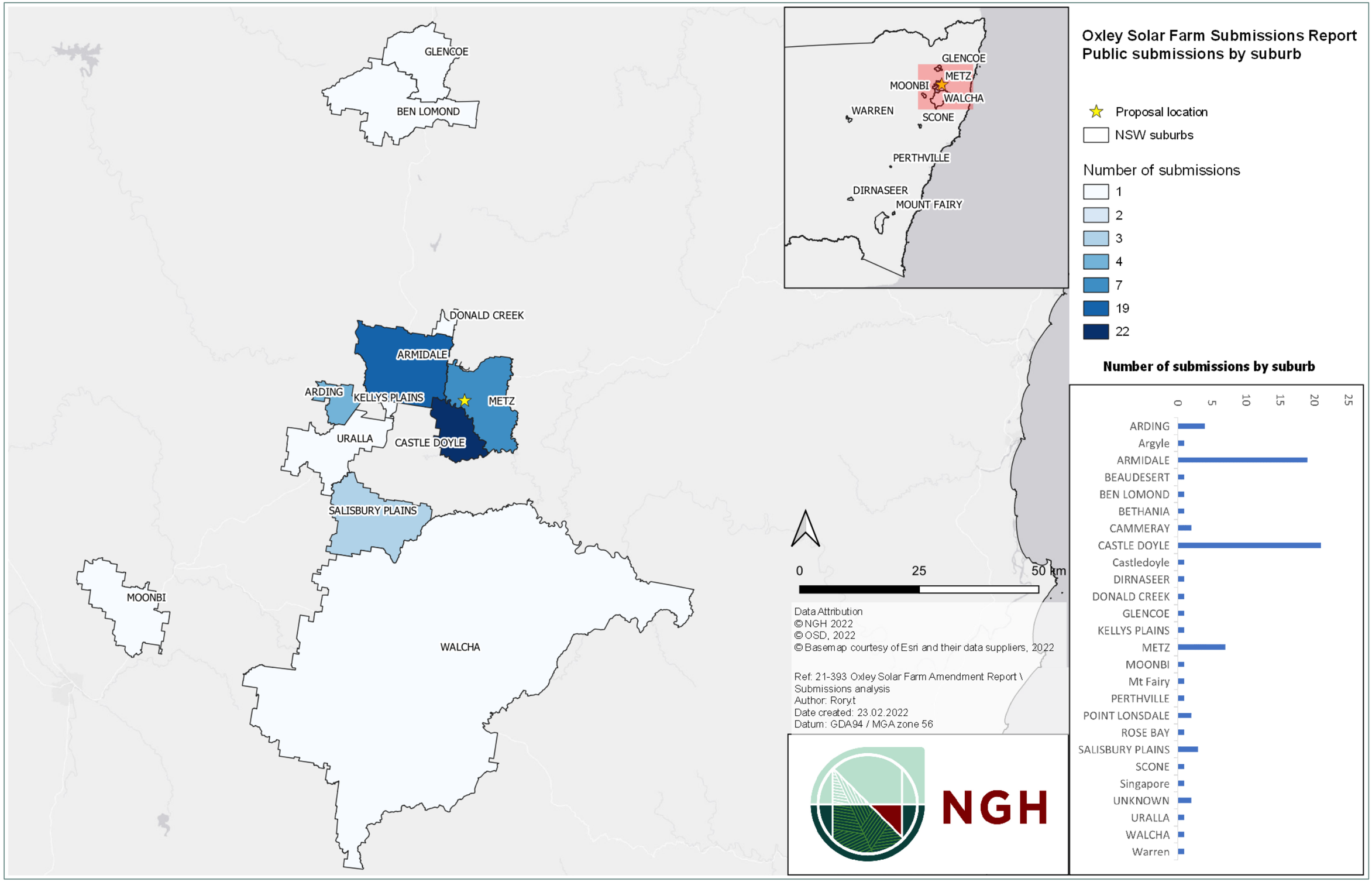


Figure 2-1 Spatial distribution of public submissions by suburb across NSW (where suburb data was provided in the submission)

2.1.2 DPIE RFI

DPIE provided a 'Request for Additional Information' on 2 June 2021. This has been included in Section 4.3.

2.2 Categorisation of issues raised

The issues raised in public submissions are shown by prevalence in Figure 2-2 and then categorised in Table 2-2. In addition, the number of submissions received that raised each issue and the ranking of each issue (1=most submissions received; 24=lease submissions received) is also provided.

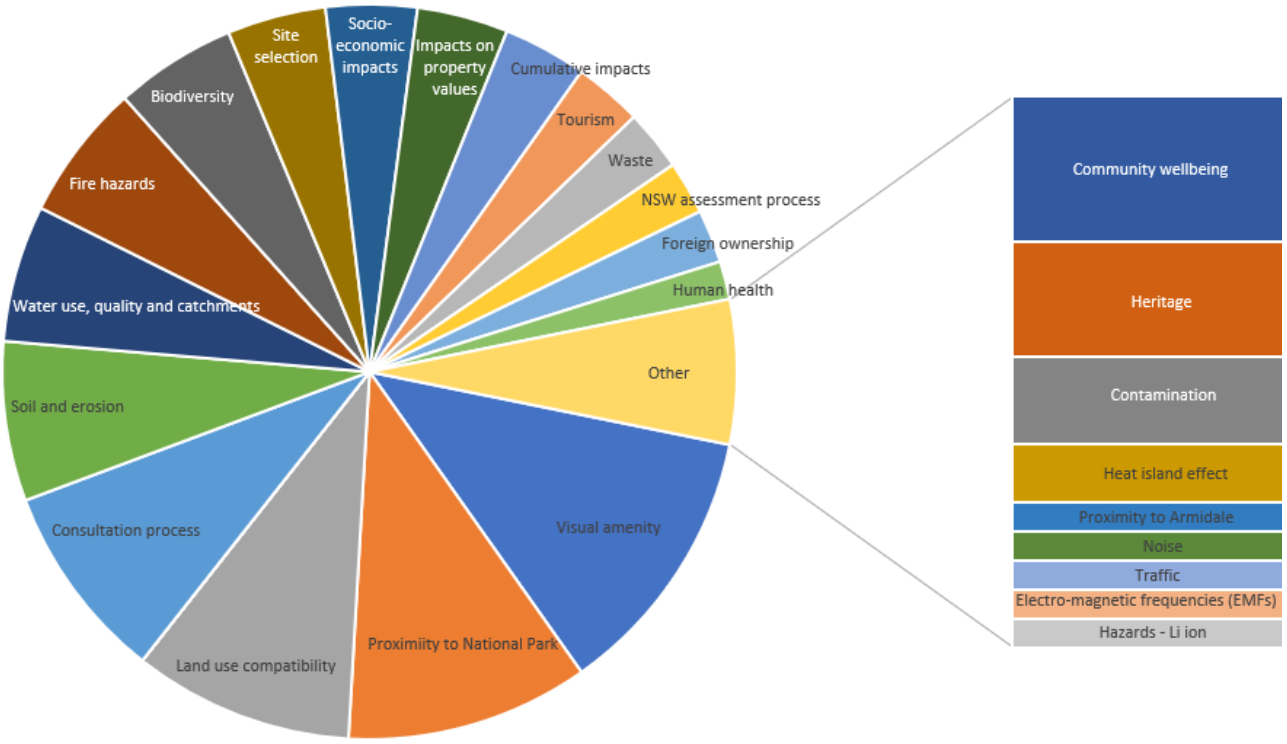


Figure 2-2 Summary of issues raised by the public showing prevalence.

Table 2-2 Categorisation of key issues raised during public exhibition of the Oxley Solar Farm EIS

Category	No. of submissions	*Ranking (by no.)*
The Proposal		
Proximity to Oxley Wild Rivers National Park	32	*2*
Site selection	13	*9*
Foreign ownership	7	*16*
Proximity to Armidale	1	*22*
Procedural concerns		
Consultation process	26	*4*
Beyond Proposal scope		
Concerns with NSW planning and assessment process	7	*15*
Environmental, social and economic impacts		
Visual amenity	36	*1*
Land use	*29*	*3*
Soil and erosion	*21*	*5*
Water use, quality and catchments	*18*	*6*
Fire hazards	*18*	*7*
Biodiversity	*16*	*8*
Socio-economic impacts (excl. tourism)	12	*10*
Impacts on property values	12	*11*
Cumulative impacts	11	*12*
Tourism	*9*	*13*
Waste	*8*	*14*
Human health	*5*	*17*
Community wellbeing	5	*18*
Heritage	*4*	*19*
Contamination	*3*	*20*
Heat island effect	*2*	*21*
Noise	*1*	*23*
Traffic	*1*	*24*
Electro-magnetic frequencies (EMFs)	*1*	*25*
Hazards - Li ion	1	26

3. Actions taken since exhibition

3.1 Refinements/amendments to Proposal

The EIS presented a broad Development footprint, in order to allow flexibility as the design work progressed, particularly in relation to ancillary areas impacted temporarily during construction. Most assessment in the EIS was undertaken using this broad area and so represented a 'worst case' impact assessment. The exception to this was:

- Visual impact; the montages prepared used the indicative panel area to represent a more realistic representation of the look of operational infrastructure.
- Biodiversity; the biodiversity offset obligation was calculated on a buffered indicative infrastructure layout, to represent a more realistic obligation.
- Aboriginal heritage; the test pitting survey strategy was undertaken on a buffered indicative infrastructure layout, to curtail the cost of this expensive assessment methodology.

However, this approach created uncertainty for several respondents (evidenced in submissions).

In response, the Proponent undertaken additional civil design work that supports a much reduced Development footprint that still provides for sufficient flexibility in the detailed design stage that will occur closer to construction.

The refinements reflect the Proponent's desire to develop a Proposal that responds to local values and concerns. Specifically, the refinements reduce key environmental impacts and together, these better address potential cumulative impacts which may occur in the future, given the site's location within the New England Renewable Energy Zone.

The changes between the publicly exhibited Proposal and the updated Proposal are summarised as:

1. **Refinements to the Development footprint that are responsive to the environmental constraints of the Proposal site and the surrounding landscape.** The Development footprint has been reduced based on further civil design to provide greater certainty regarding the extent of the final infrastructure layout. The updated Development footprint includes 'constructability' buffers to ensure all activities and controls required to construct and operate the project are included. It now provides for:
    a. Less area now proposed to be impacted by the Proposal,
    b. Visual set back distances to dwellings increased,
    c. Proximity to National Park set back distances increased,
    d. Less impact on agricultural land,
    e. Less impact on better condition native vegetation and habitat.
2. **Strengthening mitigation strategies to better recognise the site's values and identify opportunities for enhancement.** Primarily:
    a. Improved soil and water outcomes based on specialist assessment
    b. Biodiversity connectivity enhancement
    c. Bush fire mitigation improvements based on NSW FFS submissions
    d. More detailed hazard controls following Preliminary Hazards Assessment completion.

3. **Changes to the proposed site access and inclusion of a Gara River crossing upgrade.** These will improve traffic safety and have benefits for local traffic during flooding
4. **Amendments to the proposed subdivision layout** have been included to facilitate connection of the Proposal to the existing 132kV transmission line that intersects the site.

3.1.1 Refinements to the development footprint

The Development footprint area has reduced by 627ha and the solar panel area including access roads has reduced by 74.5ha. The overall reduction in the Proposal's capacity however, is not substantively affected (13% reduction; now 215MW). The key change has been to reduce temporary impact areas required for construction and include additional 'exclusion zones' to protect biodiversity and heritage areas.

Solar infrastructure has now been removed from the southwestern edge of the Proposal site (refer to Figure 3-4). The solar array areas were removed to lessen the visual impact of the solar farm. The resulting change now means that the nearest piece of solar farm infrastructure to the Blue Hole picnic area is 1,285m away and the nearest piece of solar farm infrastructure to the Threlfall walking track is 1,165m distant. These revisions bring the solar farm 810m and 498m further away from these sensitive areas respectively. Similar reductions in views are seen for residential receivers (refer to Table 3-1).

No infrastructure now proposed in the moderate constraint native vegetation between Gara Road and Gara River or the area immediately south of Gara River, on the site's west. Increased setbacks from Gara River on the site's north-eastern boundary have also been implemented. Together, these setbacks would reduce the Proposal's direct impacts on better condition native vegetation and the potential to impact Gara River. These were issues of concern to the community as highlighted during the submissions process refer to Figure 3-4.

No solar panels would be installed in areas of Box Gum Woodland with a vegetation integrity score of 30 or more. This vegetation community is a Serious and Irreversible Impact (SAII) candidate, and the updated Development footprint reduces impacts by 4ha. Only impacts that cannot be avoided (limited fencing and access alignments) are now proposed here. Hollow bearing tree impacts have also been reduced. Overall, a 6.45ha increase in native vegetation removal has occurred however, as these areas include areas considered non-native in the EIS but now classified and assessed as native vegetation, following further consultation with BCD.

Increased setbacks from the Oxley Wild Rivers National Park are now included. While habitat enhancement may be undertaken in the southern section of the Proposal site, extensive panel areas have now been removed from this area.

3.1.2 Strengthening mitigation strategies to better recognise the site's values and identify opportunities for enhancement

In response to community concerns, a further Soil Impact Assessment (NGH , 2022f) and Soil and Water Management Plan (NGH, 2022g) were prepared to support the mitigation strategies developed to protect soil and water resources. This increases the certainty with regard to protection of Gara River and the Oxley Wild Rivers National Park and catchment values.

The Proposal has investigated the potential to secure Box Gum Woodland offsets locally and demonstrated this is feasible. In this way, a newly established biodiversity stewardship agreement, the preferred offset option under the Biodiversity Conservation Act 2016 has been shown to be

able to offset clearing and provide in perpetuity protection and enhancement of this vegetation community.

In response to consultation with the Armidale Tree Group (refer Section 3.2.2, and to address broader community concerns raised about water quality and impacts on Oxley Wild Rivers National Park, the Proposal has included an additional commitment; preparation and implementation of a Wildlife Corridor Connectivity Enhancement Plan. The aim of the plan would be to improve connectivity in specific areas of the site and to maintain this improvement for the life of the Proposal.

Bush fire measures have been updated to specify the 10m management zone should be maintained between all vegetation and infrastructure and that fire-fighting equipment has been amended to include a 20,000-litre water supply (tank) fitted with a 65mm storz fitting as per the submission from NSW RFS. A Preliminary Hazards Analysis (NGH, 2022e) has been completed to address DPE's requirement for BESS's above 30MWh. The Preliminary Hazards Analysis is summarised in the Amendment Report and commits the Proposal to a suit of controls that include fire hazard reduction, contamination management, and electrical exposure. These controls will be referenced in the Fire Management Plan, Fire Safety Plan and the Emergency Response Plan, when these are prepared.

3.1.3 Changes to site access and crossing upgrades

Site access options

During further design works and consultation with Transport for NSW, it was identified that without substantial road upgrade works, the site access location presented in the EIS would not meet the safety requirements. Therefore a new site access option was identified which would meet the Transport for NSW safety requirements, and the access presented in the EIS is now withdrawn. The Proponent proposing to seek approval proposed option. The proposed option turning off Waterfall Way (Grafton Road), via the existing Council landfill access road, and running east to join the Proposal site via a new access track is shown in Figure 3-3.

Causeway upgrades across Gara River

Further investigation has determined these are required for heavy vehicles to travel along Gara Road. This will improve safety and flood immunity along Gara Road, for the Proposal, neighbours of the Proposal and local traffic.

3.1.4 Updated indicative subdivision layout.

The Proposal would require three subdivisions; 1) The proposed onsite substation (to Transgrid), 2) The land to enable connection to the transmission lines and which will be incorporated into an expanded Lot 5 DP253346 (to the proponent), and 3) The BESS zone (to the proponent).

Boundaries of both Lot 2 DP1206469 and Lot 5 DP253346 would be modified by the proposed subdivision. Figure 3-1 shows the lots within and surrounding the Proposal site. The indicative subdivision of the site is indicated in Figure 3-2. The areas have been shown as:

Lot A, residual agricultural land, about 208ha, to be retained by the existing landowner.

Lot B, to enable connection to 132kV easement, about 26.5ha, to be incorporated into an expanded Lot 5 DP253346.

Lot C, substation, about 2.4ha.

Lot D, solar farm, about 668ha.

Lot E, BESS, about 3ha.

Pending approval, the subdivisions would be administered through consultation with Armidale Regional Council. The subdivision areas shown are indicative only and would be formalised through subsequent subdivision applications.

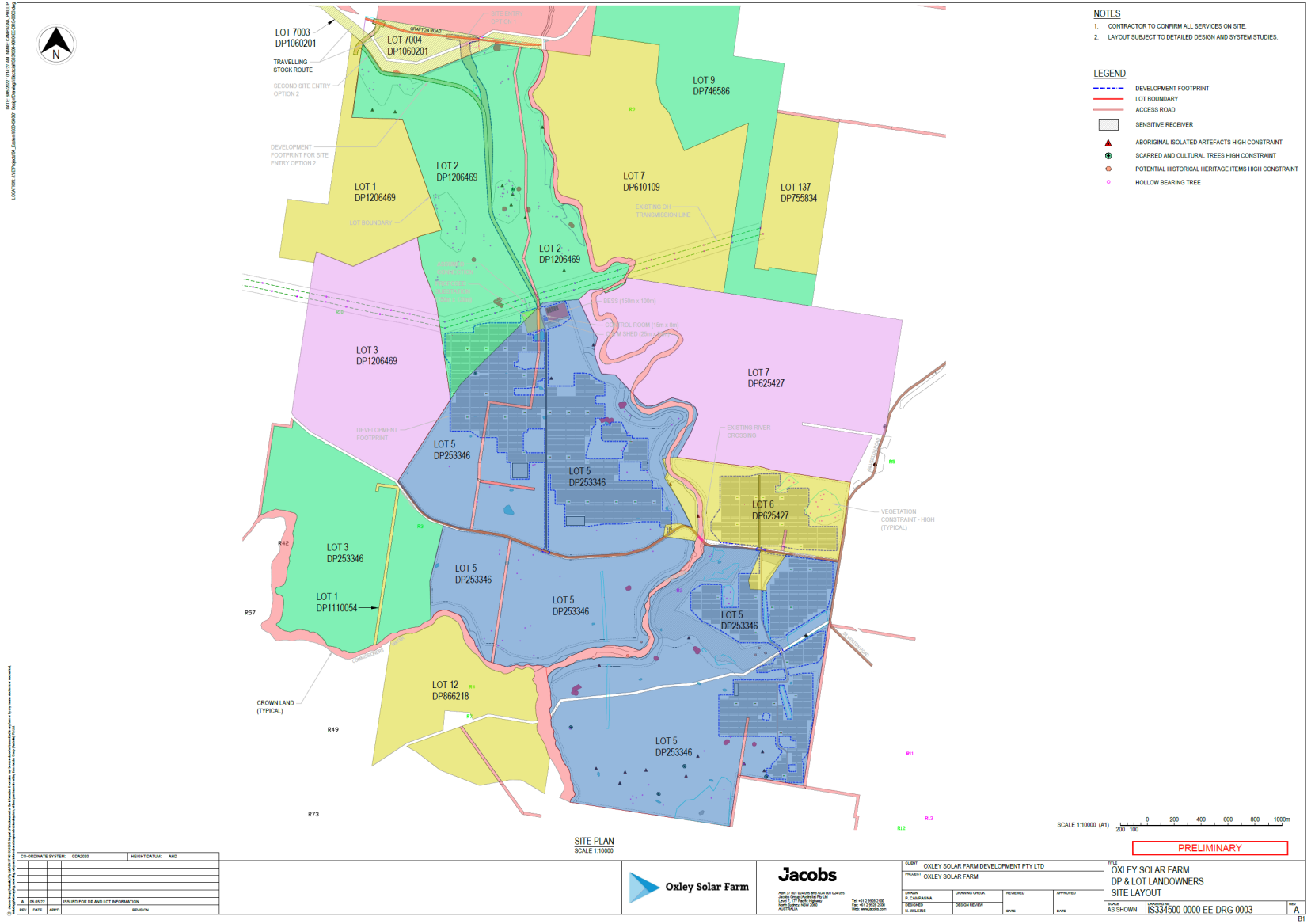


Figure 3-1 Lots and DP's (including neighbouring lots)

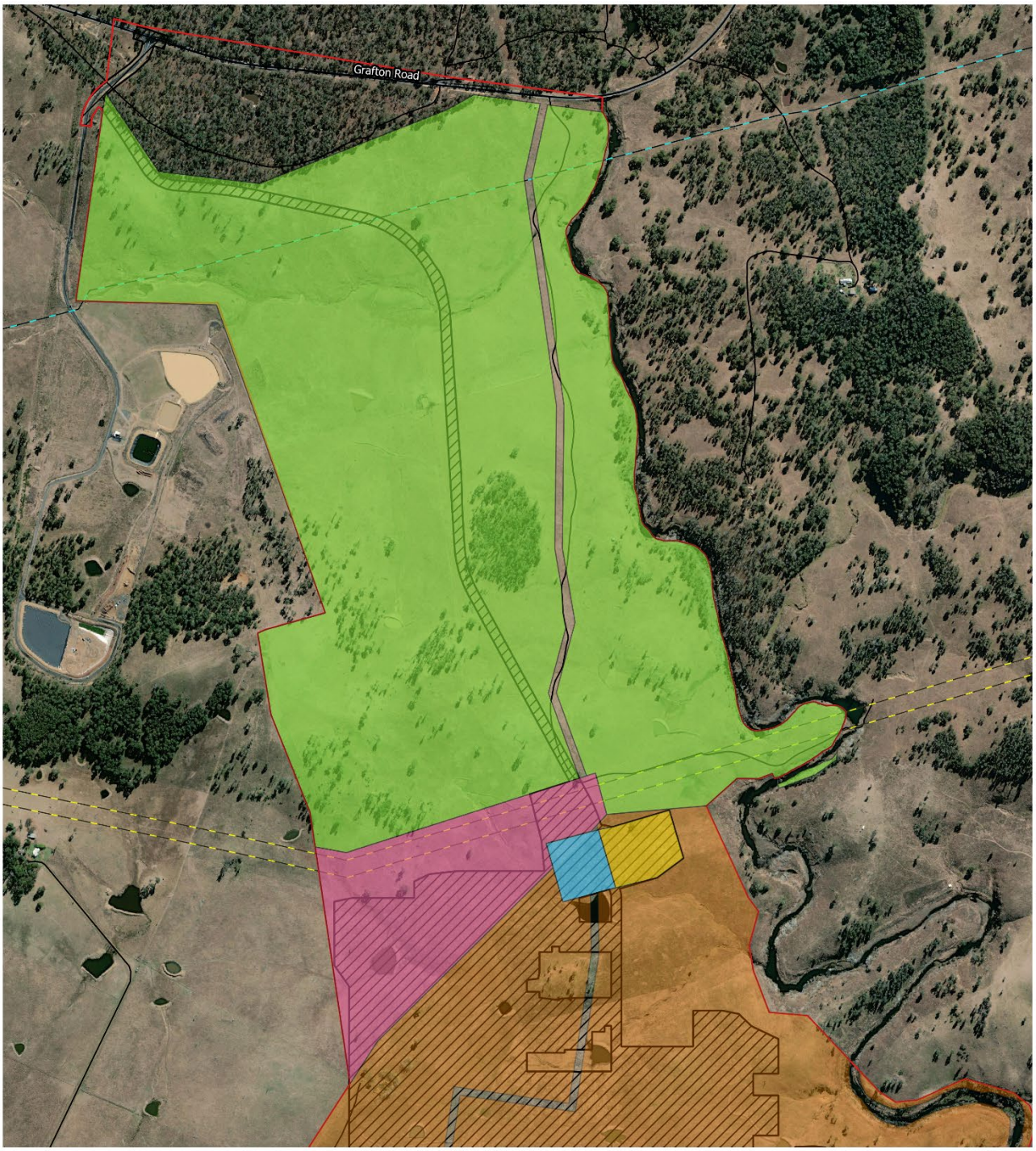


Figure 3-2 Indicative area to be subdivided from Lot 2 DP1206469 and Lot 5 DP253346

3.1.5 Consolidation of Proposal changes

The changes to the Proposal's key parameters, between the Scoping Report (NGH June 2019), the EIS (NGH March 2021) and this report can be summarised in the table below Table 3-1. This includes changes to capacity, panel number and disturbance footprint.

The updated Development footprint is provided in Figure 3-3 and Figure 3-4 shows areas added or removed from the Proposal. Key environmental constraints considered in the refinement of the Development footprint are shown in Figure 3-5.

The updated Proposal description is provided in full in Appendix A of the Amendment Report (NGH 2022). Where required, updated assessments to reflect the changes are provided in the Amendment Report. The updated combined set of all mitigation measures is provided in Appendix B of this Submissions Report (as well as within the Amendment Report, so these documents can be considered 'stand alone').

Table 3-1 Proposal changes summary

	Scoping report	EIS Proposal	Amended Proposal	*Difference between EIS and Amended Proposal*
Proposed infrastructure				
Capacity of solar generation	300MW	255MW	**215MW**	*Reduced by 40MW*
Percentage generation capacity compared with Scoping Report	-	85%	72%	*Reduced by 13%*
Solar Panel Area (including access roads)	380.66ha	269.78ha	**195.25ha**	*Reduced by 74.5ha*
Percentage solar panel area compared with Scoping Report	-	71%	**51.29%**	
Number of solar panels	1,017,856	715,680	**385,280**	*Reduced by 330,400 panels*
Percentage solar panels compared with Scoping Report	-	70%	**38%**	
Development footprint area	-	895ha [5]	**268ha** [6]	*Reduced by 627ha*
Percentage of Development footprint area compared with the EIS			70%	

[5] The EIS Development footprint covered the worst-case impact scenario and allowed for flexibility in the infrastructure layout.
[6] The amended Development footprint considers the infrastructure footprint on the basis of further civil design work; this footprint is more realistic in terms of total impact area, and now provides more certainty in terms of the final siting for the infrastructure.

	Scoping report	EIS Proposal	Amended Proposal	*Difference between EIS and Amended Proposal*
Visual impact reductions				
Distance of nearest above ground infrastructure to dwelling R3 (m) [7]	200	597	**778**	*Increased by 181m*
Distance of nearest above ground infrastructure to dwelling R4 (m)	400	570	**1,392**	*Increased by 822m*
Distance of nearest above ground infrastructure to dwelling R7 (m)	500	739	**1,584**	*Increased by 845m*
Oxley Wild Rivers National Park				
Distance of nearest infrastructure to the Blue Hole picnic table (m)	200	475	**1,285**	*Increased by 810m*
Distance of nearest infrastructure to the Threlfall walking track (m)	50	667	**1,165**	*Increased by 498m*

[7] Visual impact assessment receiver distances will not always be consistent with the noise assessment distances, as noise considers all works, including road upgrades, whereas for the visual, the nearest above ground operational infrastructure is more relevant.

	Scoping report	EIS Proposal	Amended Proposal	*Difference between EIS and Amended Proposal*
Biodiversity				
Native vegetation impacts	-	86.8ha	**93.78ha**	*6.45ha increase, in lower condition zones. This includes area considered non-native in the EIS but now classified and assessed as native vegetation.*
Hollow bearing trees to be removed		20	**7**	*Reduce impact on 13 additional hollow-bearing trees.*
Serious and Irreversible Impact candidate Box Gum Woodland impacts (zones 2 and 4)	-	6.67ha	**2.6ha**	*Development has reduced in higher quality zones. No panels proposed in these zones.*
Serious and Irreversible Impact candidate species	-	2	2	*Assumed habitat for one species now increased in accordance with BCD[8] guidance.*

[8] BCD; Biodiversity Conservation Division guidance confirmed June 2022.

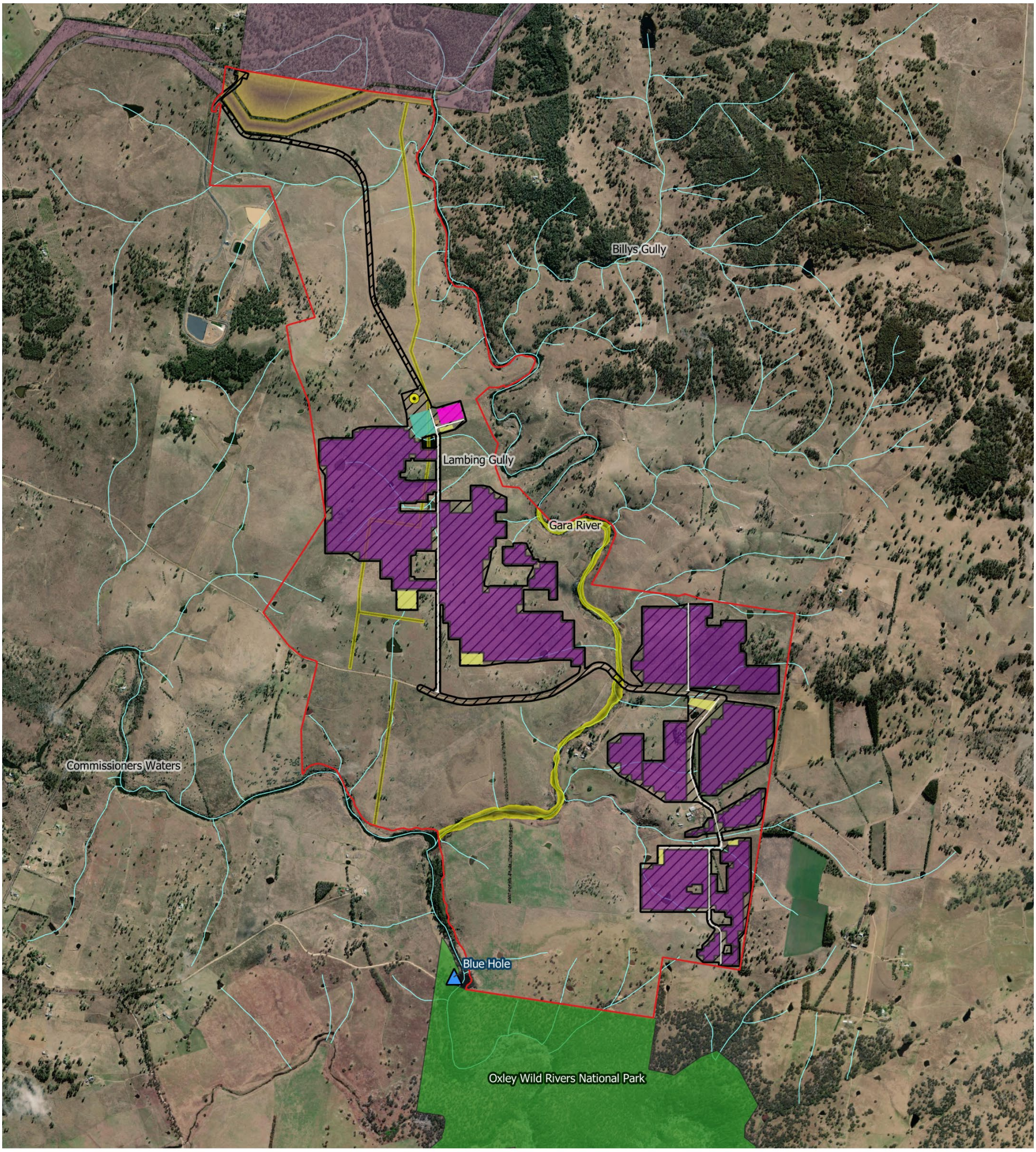


Figure 3-3 Updated development footprint

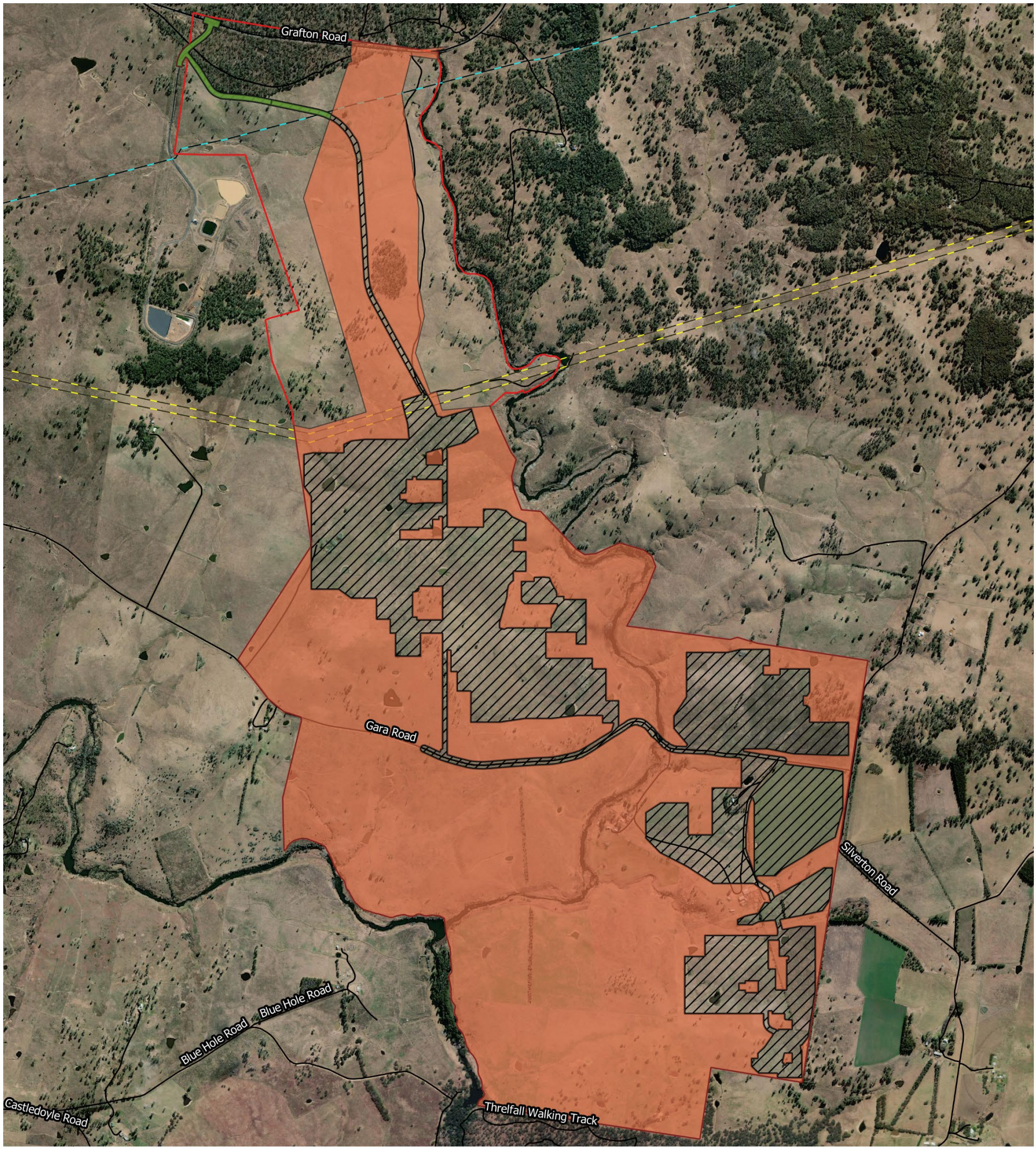
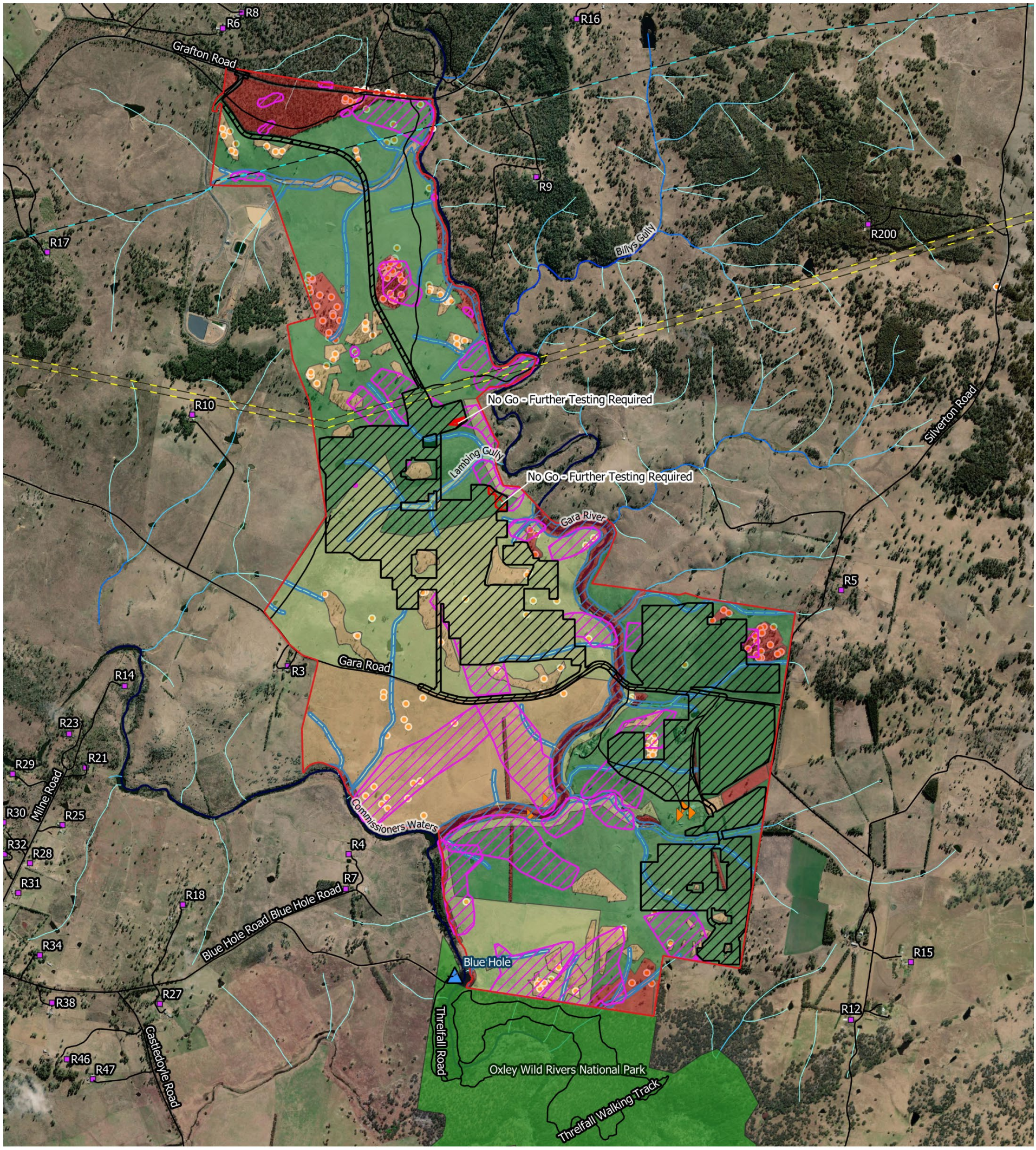


Figure 3-4 Updated development footprint compared to the EIS development footprint



Environmental constraints

Legend

- Proposal site
- Development Footprint
- Roads

Waterways

- 1st Order Stream
- 2nd Order Stream
- 3rd Order Stream
- 4th Order Stream
- >5th Order Stream
- National Park
- Blue Hole Picnic Area
- Sensitive receivers
- Aboriginal heritage no go zones
- Aboriginal heritage no go zones - futher testing required to impact
- Possible historic heritage items
- Waterway buffers
- Hollow Bearing Trees

Plant community constraints

- High
- Moderate
- Low-Moderate
- Low

Electricity transmission lines

- 132kV
- 66kV

0 500 1,000 m

Ref: 21-393 Submissions and Amendment workspace 20220523 \ Environmental constraints
Author: kyle.m
Date created: 26.09.2022
Datum: GDA94 / MGA zone 56

NGH

Figure 3-5 Environmental constraints

3.2 Consultation

Consultation undertaken with community and agency stakeholders since public exhibition of the EIS is summarised below.

3.2.1 Agencies and stakeholders

Table 3-2 Outcomes of agency consultation

Agency stakeholder	Date	Consultation comments
Department of Planning and Environment	May 2022	Justification for requiring more time to submit the submissions and Amendment reports, on account of further civil design work being undertaken to inform the changes, provided to DPE.
Biodiversity Conservation Service	June 2022	Discussion around new species that the BAM calculator is returning, since the EIS was submitted, and how to define suitable habitat.
	June 2022	Discussion around how to assess new Serious and Irreversible Impact Candidates that the BAM calculator is returning, since the EIS was submitted.
Northern Region Transport for NSW	October 2020	Staff were contacted to review proposed access arrangements off Waterfall Way and advise of any proposed roadworks which may impact the construction of the Oxley Solar Farm. Comments provided on 15 October 2020 have been addressed within the Amendment Report and attached *Updated Traffic Impact Assessment* (New England Surveying & Engineering , 2022).
NSW Heritage	December 2021	Site cards from test pitting surveys registered.
Armidale Regional Council	Initial contact with Armidale Regional Council was in early 2019 Numerous in-person and other communications from April 2021 to May 2022	Engineering staff contacted to seek advice and information on roads and access, traffic volumes, crash history and any known traffic issues in proximity to the site. Advice was received that Council have no capital works planned in the area, and there are no identified road safety issues. Council staff also noted that development consent (DA-112-2019, PPSNTH-6) had been issued for the adjoining 29.9MW Stringybark Solar Farm having access from Gara Road. There has been ongoing liaison and consultation with Armidale Regional Council staff and elected members over all stages of the project since early 2019. Since the EIS exhibition in March 2021 Council has been regularly consulted and informed.

Registered Aboriginal Parties (RAPs)

Since the EIS was submitted, the RAPs for this Proposal were contacted and involved in the development and implementation of a test pitting survey program to better understand the potential Aboriginal cultural heritage impacts of the Proposal.

- On 27 March 2020, an Assessment Methodology (survey with provision for testing if required) document was sent to RAPs for review and comment.
- Test pitting was undertaken on 21–24 June, 26 June, 28 June – 1 July 2021 and 31 August – 3 September 2021, by NGH archaeologists and a rotation of representatives from the same five RAP groups engaged for the 2020 surveys.
- The report summarising the results was forwarded for review at the end of May 2022, allowing a 28-day review period.
- Comments provided by one RAP group and impact assessment finalised, 30 June 2022.

Full details are provided in the Amendment Report and attached *Archaeological Report – Subsurface Testing* (NGH, 2022c).

3.2.2 Community consultation

Table 3-3 Outcomes of community consultation

Stakeholder group	Date	Consultation methods
Australian Energy Infrastructure Commissioner	June 2022	Discussed with Commissioner and staff, promotion of best practice approaches by proponents when developing large scale solar generation facilities.
State Government member for Northern Tablelands	February 2022	Briefed the member, communicated Oxley Solar responses to community submissions and shared latest project information.
Armidale Tree Group	November 2021 January 2022	Discussed ways the project could support the groups aims including habitat enhancement to promote wildlife corridor connectivity (refer details below). Letter encouraging the Proposal to implement vegetation enhancement initiatives was received from the Group.
Sustainable Living Armidale	November 2021 January 2022	Met with and briefed, Kept updated and discussed the project.
Rotary International (Armidale arm)	November 2021 February 2022	Discussed potential for support of community groups public service activities.
Tour de Rocks 2022	March 2022	Oxley Solar Sponsorship of Armidale based charity cycle ride in support of childhood

Stakeholder group	Date	Consultation methods
		cancer research
Anya's wish Walk (19 for 19 challenge)	November 2021	Oxley Solar Sponsorship of Armidale based walk in support of childhood cancer research
Liaison with residents	April 2021 to June 2022	In the various public communications (newsletter, direct contacts and website updates) from Oxley Solar offers were made to meet discuss the project. As a result of this, and on Oxley Solar initiatives, interactions occurred with members of the public and landowners. Additional specific liaison with landowners and photos (for relevant sites) occurred with receivers: R3, R4, R5 R7, R10, R18, R31, R39, R88, R200.
	During 2021 phone / email communications. Meeting on site January 2022.	R3 – Met with the landowner and family, communicated Oxley Solar responses to community submissions and shared latest project information including reduction of the solar panel footprint.
	November 2021	R4 – Met with landowner off site November 2021- communicated Oxley Solar responses to community submissions and shared latest project information including reduction of the solar panel footprint.
	November 2021	R7 - Met with landowner off site November 2021 plus communications thereafter - communicated Oxley Solar responses to community submissions and shared latest project information including reduction of the solar panel footprint. Undertook visual assessment from residence January 2022.
	June 2021	R5 - Met with landowner on site June 2021 plus communications beforehand - communicated Oxley Solar responses to community submissions and shared latest project information including reduction of the solar panel footprint. Undertook visual assessment from residence

Stakeholder group	Date	Consultation methods
		June 2021.
	November 2021	R10 - Met with landowner on site November 2021 - communicated Oxley Solar responses to community submissions and shared latest project information including reduction of the solar panel footprint. Communication has been undertaken with this landowner over the past two years. Undertook visual assessment from residence November 2021.
	September 2020	R18 - Met with landowner on site September 2020 – electronic communication subsequently sharing latest project information including reduction of the solar panel footprint.
	June 2021	R31 - Met with landowner on site June 2021 - communicated Oxley Solar responses to community submissions and shared latest project information including reduction of the solar panel footprint. Undertook visual assessment from residence June 2021.
	June 2021	R39 - Met with landowner on site June 2021 - communicated Oxley Solar responses to community submissions and shared latest project information including reduction of the solar panel footprint. Undertook visual assessment from residence June 2021.
	June 2021	R88 - Met with landowner on site June 2021 - communicated Oxley Solar responses to community submissions and shared latest project information including reduction of the solar panel footprint. Undertook visual assessment from residence June 2021.
	June 2021	R200 - Met with landowner on site June 2021 - communicated Oxley Solar responses to community submissions and shared latest project information including reduction of the solar panel footprint.

Stakeholder group	Date	Consultation methods
		Undertook visual assessment from residence June 2021.
Community newsletter communications:	July 2021 September 2021 June / June 2022	Since the project investigation commencement the Oxley Solar website has had an email and phone number available for use by the public at any time. The newsletters are located on the Oxley Solar Website and emailed to Stakeholders that have registered an interest.

Armidale Tree Group

The Tree Group submitted a letter of support for the project, subject to conditions, to the DPE in February 2022. The Proponent has met with the Armidale Tree Group in Armidale on a number of occasions during late 2021 to early 2022 and conversations have been ongoing, with specific regard to the potential impacts and opportunities for the Proposal in relation to wildlife corridors. The Proposal site includes areas of denuded and eroding creek banks, that have potential to be rehabilitated, improving landform stability, water quality as well as restoring connectivity for a range of fauna. It borders Oxley Wild Rivers National Park, an important nature conservation reserve. Further, it contains areas of fragmented high-value vegetation including PCT 567 *Broad-leaved Stringybark - Yellow Box shrub/grass open forest of the New England Tableland Bioregion* and 510 *Blakely's Red Gum - Yellow Box grassy woodland of the New England Tableland Bioregion*. Both communities constitute a Threatened Ecological Community (TEC) and SAII candidate, reflecting their high conservation value and inability to withstand further loss.

In response to consultation with this stakeholder, and to address broader community concerns raised about water quality and impacts on Oxley Wild Rivers National Park, the Proposal has included an additional commitment: *preparation and implementation of a Wildlife Corridor Connectivity Enhancement Plan*. The aim of the plan would be to improve connectivity in specific areas of the site and to maintain this improvement for the life of the Proposal. The new commitment is included in the updated mitigation measures in Appendix B, as follows:

Preparation and implementation of a Wildlife Corridor Connectivity Enhancement Plan to improve vegetation connectivity in specific areas of the site and maintain this improvement for the life of the Proposal. The plan must:

- Target areas including:
    - The Gara River riparian corridor:
        - Enhance tree cover and then shrub cover successionally to enhance bank stabilisation. Supplementing ground cover would be considered.
        - Use species appropriate to the location of planting (PCT 84 close to the banks, PCT 510 at distance).
    - The boundary to the Oxley Wild Rivers National Park:
        - Enhance tree cover to improve the buffer between the park and adjacent land uses on the Proposal site.
        - Use species appropriate to the location of planting (PCT 567 and PCT 510).

        - Linking Oxley Wild Rivers NP and the TSR at Grafton Rd in the north of the Proposal site
- Detail appropriate:
    - Land use restrictions, such as restricting or removing grazing and appropriate fencing.
    - Width of planting (to be effective as a vegetated buffer, facilitating wildlife movement and providing a buffer to protect the waterway and national park).
    - Density of plantings.
    - Method of planting, appropriate to the community and function of the planting.
    - Timing of planting, considering appropriate seasonal windows to maximise success.
    - Maintenance and monitoring requirements including monthly monitoring for the first 12 months and replacement of mortalities for the first 5 years.
- Be adaptive, in response to monitoring, to improve the outcomes for the life of the Proposal.
- Commence implementation concurrent with construction, to continue for the life of the Proposal.

This is included as an additional mitigation measure in the BDAR and carried through to Appendix B; updated mitigation measures.

It is noted that subsequent to the public exhibition, the Armidale Tree Group have sent a letter of support to the Proponent and DPE.

3.2.3 Future consultation

Oxley Solar will continue to be available in the future to discuss any aspect of the project with any stakeholder at any time via the contact us page on the Oxley Solar Farm website (https://www.oxleysolarfarm.com.au/contactus/). During the upcoming Environmental review process Oxley Solar will provide updated information on the website, communicate with registered interested parties and also undertake public community consultation as and where it would most benefit the community.

3.3 Further assessment and supporting information

The substantive changes to the Development footprint have required updates to several specialist assessments:

- *Updated Visual Impact Assessment* (Moir Landscape Architecture, 2022)
- *Updated Hydrology assessment* (Footprint sustainable engineering , 2022)
- *Updated Biodiversity Development Assessment Report* (NGH , 2022a)
- *Biodiversity offset strategy* (NGH, 2022b)
- *Archaeological Report – Subsurface Testing* (NGH, 2022c)
- *Updated Historic Heritage Assessment* (NGH, 2022d)
- *Updated Noise and Vibration Impact Assessment* (Renzo Tonin & Associsates , 2022)
- *Updated Traffic Impact Assessment* (New England Surveying & Engineering , 2022)
- *Updated Preliminary Hazard Analysis* (NGH, 2022e).

The results of these assessments are cited where relevant in this report but contained in full in the Amendment Report, which is being submitted concurrently.

In addition, to assist the response to submissions, further supporting information is appended to this report and is cited where relevant:

- *Soil Impact Assessment* (NGH , 2022f)
- *Soil and water management plan* (NGH, 2022g)
- *Slope analysis, Appendix C.1* (Jacobs , 2022).

4. Response to submissions

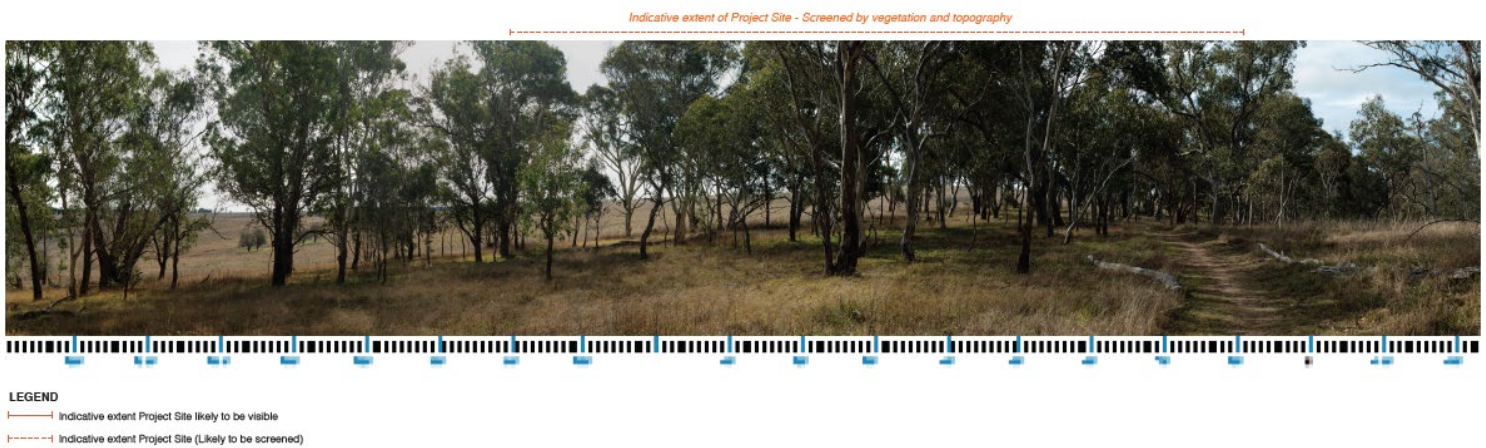
4.1 Proponent's response to public submissions

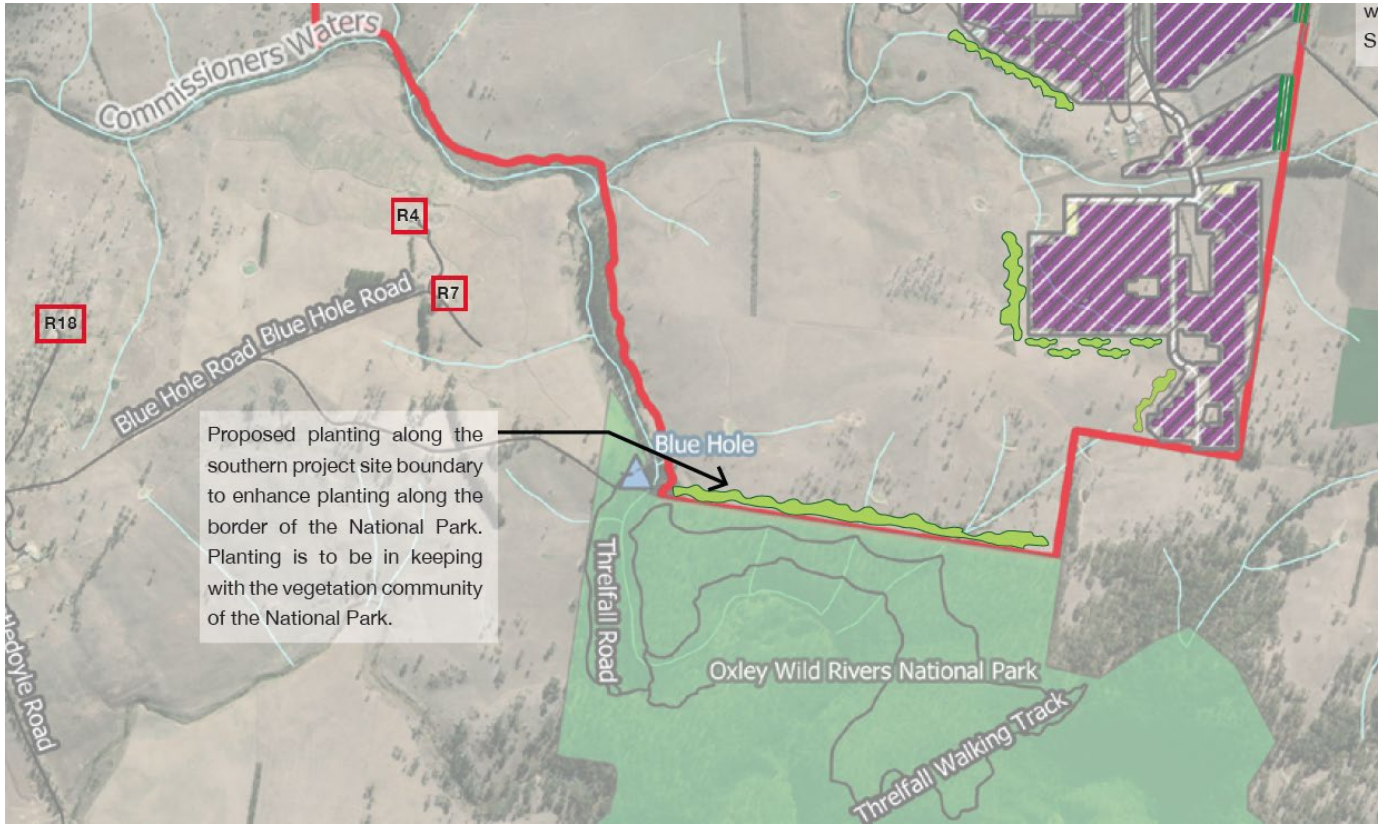
Each issue raised through public submissions is addressed below. Submission IDs are used to show the number of submissions that raised a particular issue. These issues are categorised as outlined in Section 2.2. Where consideration of the issue has led to further investigation or a change to the Proposal, this is summarised briefly. The detail of further investigations and Proposal changes is included in the Oxley Solar Farm Amendment Report.

Table 4-1 Public submissions

Issue	Number of submissions	Detail of issue	Proponent Response
Issue 1: Visual amenity	36	Submissions raised concerns about the Proposal's visual impacts. Concerns included:	
		Proximity of the Proposal to the Blue Holes picnic area in Oxley Wild River National Park. The Proposal is perceived to have an impact on the visual amenity of the picnic area, including specific viewpoints along Blue Hole Road and Threlfall Walking track. Secondary carry-over impacts on park usage and tourism value were also raised.	In consideration of the level of community concern regarding visual impacts, significant changes to the Development footprint have now been undertaken, and additional assessment (including two additional public viewpoints from the Oxley Wild Rivers National Park) carried out. The full assessment is included as Appendix D1.3 of the Amendment Report (NGH 2022) and demonstrates: • The distance of the nearest solar farm infrastructure to the Blue Hole picnic table has increased by 810m and is now 1,285m distant. • The distance of the nearest solar farm infrastructure to the Threlfall walking track has increased by 498m and is now 1,165m distant. • The Amended Proposal eliminates the potential to view the Project from Blue Hole Picnic Area (Viewpoint OSF16, Figure 4-1). • Opportunities to view the proposal from Threlfall Walking Track are limited due to vegetation (Viewpoint OSF17, Figure 4-2).

Issue	Number of submissions	Detail of issue	Proponent Response
			An updated Landscape plan has been prepared and has screen planting proposed on the southern project boundary, adjacent the to the National Park (Figure 4-3). Impacts on park usage and tourism value are therefore expected to be minimal.
		 Figure 4-1 View from Blue Hole Picnic Area (Oxley Wild Rivers National Park) OSF16	

		 Figure 4-2 View from Threlfall Walking Track (Oxley Wild Rivers National Park) OSF17

Issue	Number of submissions	Detail of issue	Proponent Response
		 Figure 4-3 Proposed planting on the southern project site boundary, in proximity to the National Park.	
		Direct and cumulative impacts on scenic amenity, including landscape views, for surrounding landowners and residents along Castledolye, Milne, Andersons, Blue Hole and Gara Roads.	The updated visual assessment (Appendix D1.3 of the Amendment Report; NGH 2022) has updated the assessment of residents and from local roads, based on the reduced Development footprint. It identified Castledoyle as the most populated area within close proximity to the Project Site. In this area, dwellings associated with Castledoyle Road are generally set back from the roadside and a large majority have wind break planting along boundaries and

Issue	Number of submissions	Detail of issue	Proponent Response
			fence lines. Although views to the original infrastructure layout were limited, the Proponent has addressed community concerns and the Development footprint has now been reduced to further reduce visibility from Castledoyle. Residences on the eastern side of Milne and Andersons Road were identified as likely to have views to the Proposal to the east in the EIS submission. The Amended Development footprint has also reduced the visual impact from non-involved dwellings in this area. The assessment concludes: • There is now a reduction in the overall extent of visibility from areas of land to the south and west of the Project. • The views from nearby dwellings to the west have been significantly reduced. • For public viewpoints specifically, there is reduced visual impact for five of the public viewpoint locations assessed; two viewpoints retain a high visual impact rating where the Proposal site boundary is located on Silverton Road. Proposed on-site screen boundary planting along this road is anticipated to significantly reduce the visual impact from the low use road once established. Moderate impacts are predicted for Milne Road (unchanged from previous assessment). All other view points are rated nil to low (including Blue Hole Road and Gara Road). • For dwellings, 14 of the 28 non-involved dwellings assessed will have no views to the Project due to topography and / or vegetation. Of the remaining 14 non-involved dwellings: ○ 1 has been assessed as having a moderate visual impact rating (Dwelling R4, based on a desktop assessment alone), located on Blue Hole Road. ○ 13 have been assessed as having a low to nil visual impact rating.

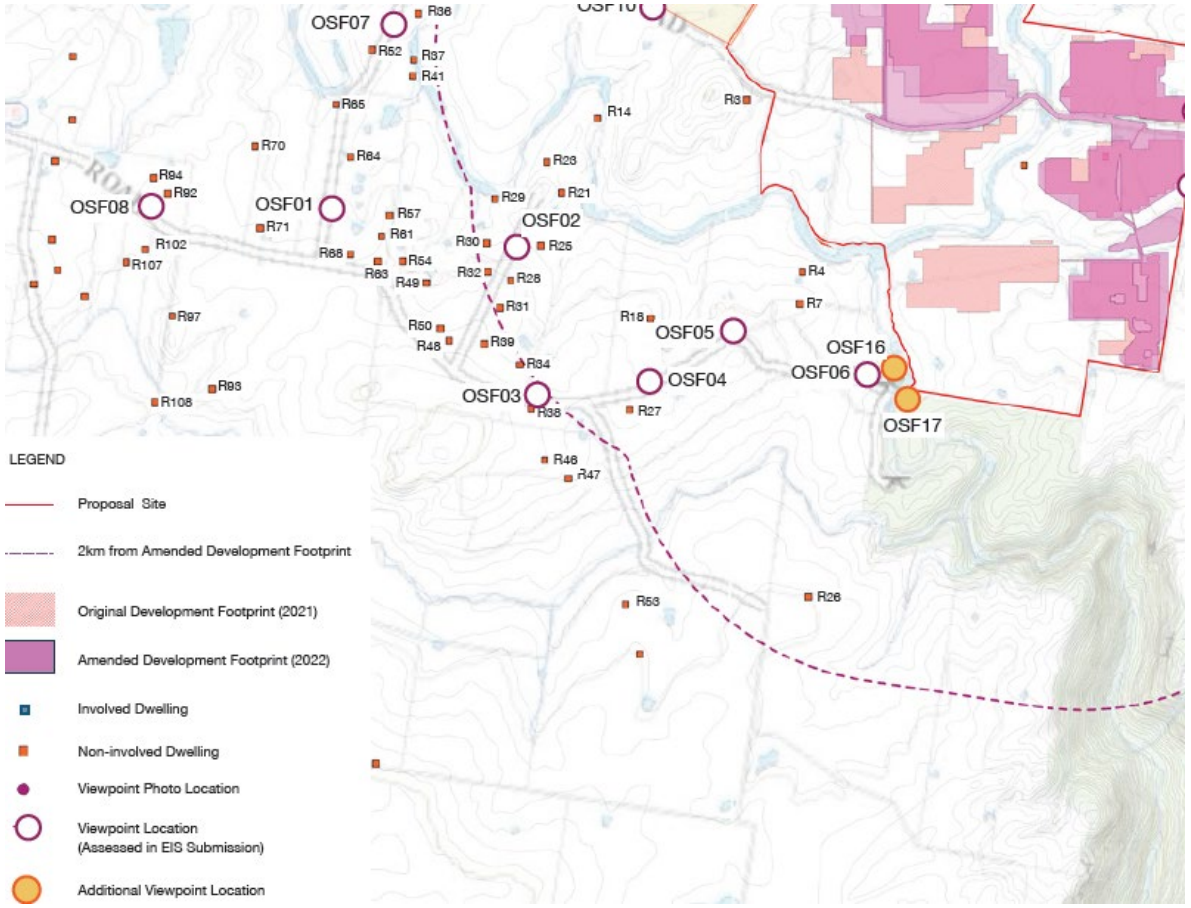
Issue	Number of submissions	Detail of issue	Proponent Response
			Considering cumulative impacts from other solar farms either approved or being assessed for approval, two were identified as relevant to the cumulative impacts of the Oxley Solar Farm: **Stringybark Solar Farm (APPROVED)** sited adjacent to the north western boundary of Oxley Solar Farm. A cumulative visual impact is likely to be felt by motorists travelling along Gara Road as they pass both projects, however in consideration of the mitigation measures proposed for each Project, the cumulative impacts are likely to be low. **Olive Grove Solar Farm (APPROVED)** located to the northwest of the Oxley Solar Farm Site, off Grafton Road. Due to the limited visibility of the Oxley Solar Farm Project and proposed mitigation measures, opportunities to view both projects from nearby dwellings is likely to be low.
		Representative viewpoints used to inform EIS stage visual impact assessment were taken from publicly accessible land and do not represent the actual views from individual residences.	There are no statutory guidelines for the assessment of visual impact of solar farms. The assessment references the *Guidelines for Landscape and Visual Impact Assessment (GLVIA3), Residential Visual Amenity Assessment* (RVAA), considered best practice, and Moir LA's extensive professional experience in undertaking landscape and visual assessments for infrastructure projects, including solar farms. It also considers draft guidelines developed to guide visual assessment of solar farms, now specifically considering key issues such as glare, elevated views and multiple sector views; *Appendix A – Visual Assessment Framework for Large-Scale Solar Energy Development* – of DPE's *Draft Large-Scale Solar Energy Guidelines* (DPE, 2021). While public viewpoints were used to assess impacts on roads and from the National Park, Appendix A of the full updated visual assessment includes seven montages taken from or near to dwellings to show how the infrastructure would look from these residences.
		Questioning the effectiveness of vegetative screens to mitigate visual impact given the	The visual impact assessment includes prescriptions that have been carried over into the mitigation commitments of the project, to maximise the success

Issue	Number of submissions	Detail of issue	Proponent Response
		Proposal site's topography and the growth rate of proposed screening species.	and effectiveness of screen planting. This includes height, width and row spacing of the planting and the requirement for a Landscaping Plan. This plan will include more detail on planting and monitoring methods and will be required to be endorsed by DPE prior to implementation. The visual assessment modelling takes into account topography but not existing vegetation screening and is therefore considered conservative.
		Requesting further information on ancillary infrastructure such as fencing and lighting, and consideration of their potential visual impacts on neighbouring properties.	The visual assessment assessed the ancillary infrastructure and concluded that these aspects would make a minor contribution to the change in land character and generation of visual contrast. It is important to note that there will be no permanent night lighting installed within the array. Night lighting will only be used in the case of maintenance and in the event of an emergency and would be designed to ensure a minimal disturbance to neighbouring properties.
		Potential misleading statements in the EIS's visual analysis. For example: the use of slightly higher frequency of use in reference to Blue Hole Road in comparison the much lower traffic volumes of Silverton Road.	It was not the intention to make a false or misleading statement. Impacts on both roads have been assessed for visual impact, regardless of traffic volume.
		Submitter SE-17462710 and SE-17493277 are concerned about the proximity of Array blocks 25 and 28 to their residence and specifically the impact to rural views along Silverton Road and dwelling lot 45 (SE-17493277).	Silverton Road, Gara Road and residence R5 were included in the assessment: • 4 view points were assessed along Silverton Road; visual impacts rated from high to nil; being high in two locations. For these two locations, proposed on-site boundary planting is proposed to reduce the visual impacts along Silverton Road. • 2 view points were assessed along Gara Road; visual impacts rated as negligible at both locations. The project will remain largely screened by topography and vegetation.

Issue	Number of submissions	Detail of issue	Proponent Response
			• The residence R5 is now assessed as having negligible visual impacts and revised mitigation measures include on-site boundary planting along the western boundary of the Project to further reduce views from this dwelling
		Assessment of glare considered negligent.	Generally, reflectivity of solar farm infrastructure is considered lower than surrounding rural infrastructure. The primary function of PV panels is to absorb sunlight rather than reflect it. The technical process in manufacturing PV panels includes an anti-reflection, hydrophobic layers that minimises potential for sunlight reflection. However, this issue is increasingly of concern to residents and the updated visual assessment considers glare further. It states that glare can be broadly classified into three categories: low potential for after image, potential for after image, and potential for permanent eye damage. This is indicated by three colours: 1. Green glare: low potential for temporary after-image 2. Yellow glare: potential for temporary after-image 3. Red glare: retinal burn, not expected for PV. Mitigation is considered for yellow and red glare. The assessment concludes that three sections of road and five residences may experience yellow glare. No red glare is predicted. The updated assessment identifies: • Sections of Silverton Road, Gara Road, Blue Hole Road. These warrant screen planting as mitigation and are included in the Landscaping plan. • R3, R4, R7, R10, R14. Mitigation warranted, additional screening now proposed in the Landscaping plan. • R5, R11, R15, R200. No mitigation warranted due to existing screening.

Issue	Number of submissions	Detail of issue	Proponent Response
		Helicopter sightseeing tours were raised as a potential indirect visual impact of the Proposal.	Scenic flights aiming to show case only rural (agricultural) or wilderness features of the region may not choose to fly close to the solar farm. However, solar farms are becoming increasingly accepted as an important part of Australia's transition to a greener more sustainable future and in this regard, views of such facilities may be of interest to many tourists. Similarly, many wind farms include pull over areas where interested motorists can view the structures. The Proposal is unlikely to impact negatively on the scenic flight businesses of the area.
Issue 2: Proximity to sensitive areas (Oxley Wild Rivers National Park and Blue Hole recreation area)	32	Submissions raised concerns about the Proposal proximity to Oxley Wild Rivers National Park and the Blue Hole recreation area. Concerns included:	
		• The Oxley Solar Farm would present a bush fire risk to the Oxley Wild Rivers National Park • Bushfire prone land within and around the Proposal site would places the Development at risk and the site would act as a barrier to fire fighting efforts.	Standard setbacks for solar farm development in NSW are to provide a defensible space of 10m between assets and grasslands, and 20m between assets and woodlands. The internal access network can form part of this distance and assists an improved firefighting response by facilitating site access, in the event of a fire. There is not constraint to aerial firefighting. After consideration of submissions regarding the potential impacts on the Oxley Wild Rivers National Park values however, significant changes to the Development footprint have now been undertaken. Specifically, no infrastructure is now proposed in land adjoining the Oxley Wild Rivers National Park. The closest infrastructure would now be approximately 480m distant, in the site's south-eastern corner. Refer to Figure 3-2, comparing the old and new areas of impact proposed. This will further reduce potential ignition risks of the Proposal. It is noted that fire risks to the park and other adjoining properties will be addressed in detailed emergency response management planning, post approval with input from key agencies such as the NSW RFS. The emergency response management plan, will use the *Planning for Bush Fire Protection 2019* guideline as a key resource as it was in the EIS.

Issue	Number of submissions	Detail of issue	Proponent Response
			It should also be noted that the site only has a very small amount of mapped bushfire prone land, as the site is largely clear of trees. Fire on the site therefore are expected to be easily controllable. Recommendations from the NSW RFS have been considered in two bushfire mitigation changes. Mitigation measures BF4 and BF6 have amended wording that aligns with RFS recommendations (refer to Appendix B). The RFS did not raise any objections to the Proposal due to its siting nearby the Oxley Wild Rivers National Park. There are two clarifications that have been made to strengthen Bushfire mitigation measures, these are: • Clarifying that an APZ of minimum 10m would be maintained between all vegetation and solar farm infrastructure within the Development Footprint Inclusion of RFS recommended 20,000-litre water supply (tank) fitted with a 65mm storz fitting as a measure to be included in the final site design.
		Submissions have noted that the positioning of the Oxley Solar farm impacts the country drive towards the Oxley Wild Rivers National Park and Blue Hole recreation area.	In consideration of the level of community concern, significant changes to the Development footprint now include increased setbacks from Blue Hole within Oxley Wild Rivers National Park, as above. The setback has increased to distance of Blue hole from the nearest solar array from 500m to over 1.2km Refer to Figure 3-4. In the southwest of the proposal, the number of view points and dwellings assessed, including two new view point assessments, is shown below as well as the layout presented in the EIS and the now reduced Development footprint. The image shows 11 viewpoints along these country roads towards the National Park. None are assessed to have greater than low visual impact. Impacts on recreational values are therefore expected to be minimal

Issue	Number of submissions	Detail of issue	Proponent Response
		 Figure 4-4 View points and dwellings assessed southwest of the proposal.	
		Siltation of the Blue Hole and potential long term erosion impacts to the Oxley Wild Rivers National Park	Recreational areas such as the Blue Hole picnic area are of high importance to the local community. In consideration of the level of community concern, significant changes to the Development footprint now include increased setbacks from Blue Hole within Oxley Wild Rivers National Park, as above. The

Issue	Number of submissions	Detail of issue	Proponent Response
			setback has increased to distance of Blue hole from the nearest solar array from 500m to over 1.2km. Refer to Figure 3-4. However, while solar farms require ground disturbance, landform reshaping is only required for access tracks and discrete footing areas. The majority of the Development footprint will be impacted only by the screw in piles for the solar panel mounts and the shading of the panels themselves would only impact 75% of the Development footprint. The highest risk activities for soils and waterways are where cabling and tracks must cross waterways; these areas would be very limited. Waterway infrastructure works would be limited to the causeway along Gara Road. The crossing would be constructed in consideration of the following guidelines and is likely to improve the condition of the Gara River at this site as it would be transformed from a wet crossing (multiple vehicle crossings per day that would track sediment through the River) to a formalised culvert: • Guidelines for Watercourse Crossings on Waterfront Land (DPIE , 2012) • Guidelines for Laying pipes and Cables in Watercourses on Waterfront Land (DPI, 2012) • *Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings* (Fairfull & Witheridge, 2003) • *Policy and Guidelines for Fish Friendly Waterway Crossings* (DPI, 2003) Risks of these works are minimised by the implementation of a Soil and Water Management Plan (a draft has been prepared as Attachment C). Additionally, a Ground Cover Management Plan and Erosion and Sediment Control Plan will further manage and minimise potential impacts and form commitments of the Proposal.
		Cultural heritage values of the national park	The legislative and policy framework behind the management of the Oxley Wild Rivers National Park is directed primarily by the National Parks and Wildlife Act 1974, and directly relates to: nature conservation, Aboriginal and historic site conservation, recreation, commercial use, research and communication.

Issue	Number of submissions	Detail of issue	Proponent Response
			The cultural heritage assessment of the Proposal has followed the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (OEH, 2010a). It has been informed by test pitting and involved Registered Aboriginal Parties in the field and assessment, including review of recommendations. The assessment has been rigorous and no impact on the heritage values of the national park, now approximately 480m distant from the nearest infrastructure proposed, is anticipated. Notwithstanding the consideration of heritage values above, the Proposal site is not located within the boundary of the Oxley Wild Rivers National Park, and as such the Proposal does not need to align with the key values and management directions in the Oxley Wild Rivers National Park Plan of Management (NSW National Parks and Wildlife Service, 2005). Likewise existing land use (grazing) at the Proposal site would not align with the key values and management directions in the Oxley Wild Rivers National Park Plan of Management. As such it can be concluded the Oxley Solar Farm if construction would not impact the cultural heritage values of the national park.
		Incompatible with World Heritage Values	The boundary of the Gondwana Rainforests of Australia is approximately 480m distant from the nearest infrastructure proposed. This is listed both on the National Heritage List of Australia as well as the world heritage list. No impacts are anticipated. As part of the biodiversity assessment, Matters of National Environmental Significance are also addressed. The assessment found that a significant impact on MNES was not anticipated and no referral under the Commonwealth EPBC Act has been required.
Issue 3: Land Use	29	Submissions raised concerns abouts the Proposal's impacts on and conflict with existing land uses. Concerns included:	

Issue	Number of submissions	Detail of issue	Proponent Response
		Proposal is located on prime/good agricultural land – incompatible land use - land use conflicts	**The land on which the Oxley Solar Farm is sited is not considered highly productive land, solar infrastructure is also highly reversible.** Specific to solar development on agricultural land, Biophysical Agricultural Land (BSAL) and land with a land and soil class capability of 1, 2 or 3 are considered the most important land to retain in NSW for agricultural use. These are lands with high quality soil and water resources capable of sustaining high levels of productivity. NSW DPIE have been clear that locating solar panel infrastructure in these areas should be avoided. The Proposal would not impact any BSAL or Class 1, 2 or 3 land. The Proposal site is predominantly located on land mapped LSC class 5 (moderate-low capability land), with a few sections mapped as LSC class 6 (low capability land) and class 4 (moderate capability land). The current activities onsite align with class 5; grazing with occasional cultivation for pastures. The class 5 area is not capable of supporting regular cultivation due to the various limitation such as erosion and low fertility. Therefore, providing an alternative income stream from solar development, with the ability to continue to graze adjacent lands is financially justifiable. Additionally, solar farms are considered highly reversable in terms of their impact on agricultural land. While some infrastructure will remain in place after decommissioning, the vast majority of the site will be available for resumed agricultural or other land use. Landform reshaping is only required for access tracks and discrete footings. The vast majority of the Development footprint will be impacted only by the screw in piles for the solar panel mounts. A commitment to retain the agricultural capacity and productivity of the land will be expected and is considered highly achievable. **Effective renewable energy implementation benefits from both large scale and small scale solar installations, however cleared lands can provide more efficient energy production**

Issue	Number of submissions	Detail of issue	Proponent Response
			While rooftop solar installation in cities can offer many benefits, the scale and efficiency required to replace existing energy sources could not be achieved without a combined approach with large-scale installations. Adeh et al (2019) in their paper *Solar PV Power Potential Is Greatest Over Croplands* published in Nature, found that the microclimate (temperature, wind speed and relative humidity) of the solar panels effect efficiency greatly. Their modelling found that solar panels are most productive with high solar radiation, light winds, moderate temperatures and low humidity which are characteristic of most agricultural lands. Additionally, their modelling suggested that with as little as <1% of global agricultural land diversified with agrivoltaics global energy demand could be offset by solar production. **The Uriarra Solar Farm (now Williamsdale Solar Farm) was relocated to a site with an existing high voltage transmission line** The Oxley Solar Farm is cited within a REZ and has an existing 132kV transmission line on site. The Proposal site also receives high solar radiation. The infrastructure capabilities of more isolated locations of the state is not sufficient to date for the generation of renewable energy that would be fed to the grid. This is a primary justification of locating the REZ in New England and Armidale by proxy. The Uriarra proposed solar farm was relocated after community objection and environmental impacts of the proposed location were assessed as too high to proceed, however it was not moved away from high voltage infrastructure. The Proposal was approved for relocation to Williamsdale 20kms to the south of Canberra. This location offered close access at less than 200m to the existing 132kV transmission line and has been in operation since 2017 (refer to appendix 1 of the Williamsdale Solar Farm EIS exemption report (Elementus Energy Pty Ltd, 2015).

Issue	Number of submissions	Detail of issue	Proponent Response
		Why can't solar be located in less productive areas? Why can't solar be installed on rooftops in cities rather than in regional areas? They could also be located further from high voltage lines.	With reference to the Draft Large Scale Solar Energy Guideline 2021 and NSW policy and local land use context, the Oxley Solar Farm can be considered highly suitable to the areas proposed for development: • No Biophysical Strategic Agricultural Land (BSAL) as defined in Chapter 2 of Resources and Energy SEPP occurs within the boundaries of the Proposal site. No high capability land will be affected (Class 3 or above). • Minimal impact on higher condition biodiversity (noting areas that are less productive agriculturally usually have higher proportions of native vegetation) • This region has been identified as an optimal Renewable Energy Zone (REZ) in which to develop new electricity generation projects, supported by existing transmission strength and capacity (AEMO, 2018). The New England is the second highest solar penetration region in NSW (DPIE, 2017). • Close proximity to and capacity of the electrical transmission network in this area • Availability of an abundant solar resource • Suitable topography and aspect. These are the criteria most relevant to demonstrating the proposal will contribute meaningfully to the transition to cleaner renewable energy sources at a competitive cost.
		The Solar Farm cannot meet the objectives of RU1 zoned land	Section 2.36(1)(b) of the State Environmental Panning Policy (Transport and Infrastructure) 2021 (TISEPP) allows for electricity generating works, including solar farms, in rural (among other) zones. The majority of solar farms developed or approved across the State are located in RU1 zones. Regarding the zone objectives under the Local Environmental Plan, the Proposal would;

Issue	Number of submissions	Detail of issue	Proponent Response
			• Diversify the current land use to include electricity generation; solar energy production is an established sustainable primary production method that mitigates unsustainable energy production methods such as coal fired power. • Access the region's high solar exposure adding solar energy generation to Amidale's primary industry enterprises representing a value addition to the regional economy. • Avoid resource fragmentation by excluding development in within significant creek lines, native habitat and retains some area to remain in use for sheep grazing and cropping. The reversibility of the Proposal and limited ground disturbance would result in the availability of the land for primary production or other alternative permissible rural land use at the end of the life of the Proposal.
		Low local employment during the operation phase, a submission has stated the land could provide at least the same under agricultural use.	Diversifying the local economy and the way in which agricultural land is used is important for local resilience. This is especially the case in times of drought. Development of a new land use such as solar energy production thereby diversifies the local land use within the region, providing a drought resilient revenue stream for the local agricultural and broader economy. It is also worth noting that grazing or agricultural business will still be undertaken from the property maintaining its historical practice and connection to the land and its community. Low operational employment at the solar farm will mean the Proposal will not create additional employment during this stage. It will however contribute in other ways to the community. The VPA which is currently under discussion with Armidale Regional Council will establish a benefit sharing framework for the local community in agreement with council. The benefit sharing will be directed at community issues affecting the Armidale LGA that require additional funding.
		Lack of community benefit out of the use of the land.	The land is freehold, under private ownership, so the comparative benefits to the community of using the land for agriculture versus adding the income stream of

Issue	Number of submissions	Detail of issue	Proponent Response
			the solar farm appear to favour the solar farm. Benefits of the Proposal to the local community, include economic benefits and business opportunities (limited mostly to construction, as above), revegetation potential, and the broader benefits to society of the transition to renewable energy, driving the cost of electricity down for consumers and improving the reliability of the grid.
		The EIS provides insufficient detail about the Proposal's impact on land capability, land conflict, land soil and water.	Regarding land capability, the Proposal would not impact any BSAL or Class 1, 2 or 3 land; lands with high quality soil and water resources capable of sustaining high levels of productivity. The Proposal site is predominantly located on land mapped LSC class 5 (moderate-low capability land), with a few sections mapped as LSC class 6 (low capability land) and class 4 (moderate capability land). The site is therefore considered highly appropriate for solar farm development. To supplement this information, a Soil Impact Assessment (NGH, 2022) and Soil and Water Management Plan (NGH 2022) have been prepared addressing the refined Development footprint. In addition, a Slope Analysis (Jacobs 2022), was undertaken. All three reports are included in Appendix C. As a result of the additional work, which included soil sampling and laboratory analysis of soil samples, the site is considered to have a topsoil and subsoil that varies from low to high erosion potential. However, it is noted that the actual area of soil impacts due to excavation for solar farms is relatively low. Landform reshaping is only required for access tracks and discrete footings. The vast majority of the Development footprint will be impacted only by the screw in piles for the solar panel mounts. Most of the area of impact is actually due to shading and changed run off patterns, not to excavation risks. The majority of the site can be retained as perennial pasture and managed in accordance with a ground cover management plan, to ensure ground cover is maintained in the long term in accordance with specific targets. While some infrastructure will remain in place after decommissioning, the vast majority of the site will be available for resumed agricultural or other land use.

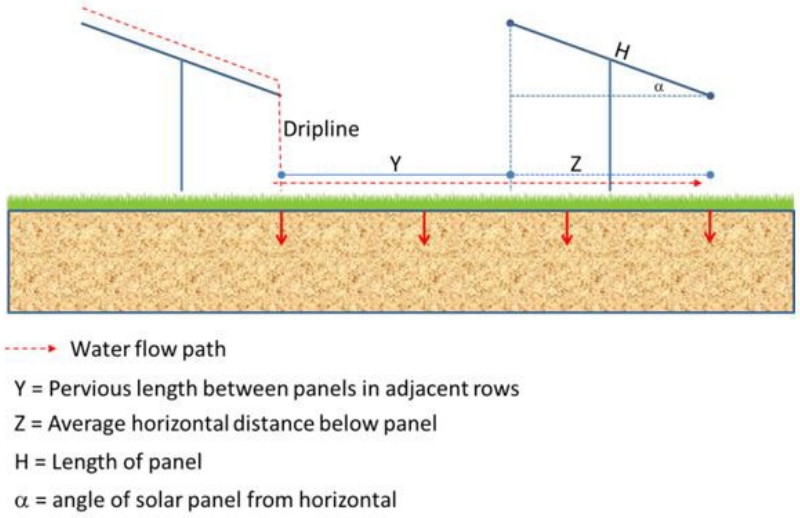
Issue	Number of submissions	Detail of issue	Proponent Response
			Standard soil and water mitigation strategies have proven highly reliably in managing soil erosion and water quality impacts appropriately. With the implementation of standard mitigation measures recommended in Section 4 of the Soil Impact Assessment (NGH, 2022), the potential risk of erosion and sedimentation would be minimised for this Proposal. Other areas of potential land use conflict were assessed in a Land Use Conflict Risk Assessment, within the EIS, and included conflicts with Crown land, traffic flow and local amenity values during all phases of the Proposal. These conflicts identified during construction, operation and decommissioning are expected to be manageable with measures presented within this EIS. Ongoing consultation would be undertaken where required, with affected stakeholders including Transgrid, Crown Lands, adjacent landholders and representatives from nearby major projects.
		Development would conflict with the natural landscape and values of Oxley Wild Rivers National Park.	Oxley Wild Rivers National Park is listed as an area of geological significance in the New England region of NSW and is part of the Gondwana Rainforests of Australia World Heritage Area. It contains historic sites and waterfalls resulting from steep, deep gorges and fast flowing rivers. It is a popular for recreational activities including walking, camping, bike and horse riding and fishing. Blue Hole Picnic Area is located at the entry to Oxley Wild Rivers National Park, south of the Proposal. It is important to recognise that the regarding the heritage values above, the Proposal site is not located within the boundary of the Oxley Wild Rivers National Park, and as such the Proposal does not need to align with the key values and management directions in the Oxley Wild Rivers National Park Plan of Management (NSW National Parks and Wildlife Service, 2005). Likewise existing land use (grazing) at the Proposal site would not align with the key values and management directions in the Oxley Wild Rivers National Park Plan of Management. As such it can be concluded the Oxley Solar Farm if construction would not impact the cultural heritage values of the national park.

Issue	Number of submissions	Detail of issue	Proponent Response
			The southern section of the Proposal would be adjacent to Oxley Wild Rivers National Park. NPWS's *Developments adjacent to National Parks and Wildlife Service lands: Guidelines for consent and planning authorities* were considered to ensure no indirect impacts on the park. Impacts on park values have been assessed as manageable, primarily through the visual impact screening and soil and erosion measures. No loss of the natural landscape or other values of the park are anticipated.
		Doubts over the ability and/or commitment of the developer to return the land to agricultural use (30 years).	Solar farms are considered highly reversable in terms of their impact on agricultural land. After decommissioning al infrastructure would be removed up to a depth of 500mm, the site would then be available for resumed agricultural or other land use. The Proposal, if approved, will include clear commitments to ensure the agricultural values of the site are maintained so that agricultural productivity, after the site is decommissioned, will not be reduced. Base line soil surveys have already been undertaken and will set a benchmark for restoration. A commitment to retain the agricultural capacity and productivity of the land will be expected and is considered highly achievable. To fail to meet a condition of consent would place the Proposal in breach of its consent. For SSD, breaches are investigated by Department of Planning and Environment compliance teams. Fines and other penalties would apply.
		Doubt the viability of agri-solar operations (solar co-located with stock)	During operation, solar farms in NSW often utilise 'solar grazing' to manage biomass under and around panels. This is more likely to be implemented as a groundcover management strategy to ensure vegetation cover is retained beneath the panels, than as a reliable farm income but it can have resilience and productivity benefits (Clean Energy Council, 2021[9]) and it is the most prevalent form of complementary land use for utility-scale solar farms. The first priority however is to retain a stable ground cover within the Proposal site to protect soil and water values, so grazing could be sacrificed in response to any

[9] https://www.cleanenergycouncil.org.au/resources/resources-hub/australian-guide-to-agrisolar-for-large-scale-solar-1

Issue	Number of submissions	Detail of issue	Proponent Response
			decline in ground cover. Operational monitoring of the ground cover is a commitment of the Proposal.
Issue 4: Consultation process	26	Submissions raised concerns about the consultation process of the Proposal. Concerns included: • Cites a lack of consultation regarding the vegetation screening and lack of answers to other questions such access via Silverton Road and whether arrays would be fixed or tracking • Inappropriate extension of the submission period into the easter public holiday and school holiday period • Inconsistencies in the implementation of the community consultation plan (appendix C of the EIS) • Professional jargon used in the EIS cited as a barrier to submissions • Reimbursement for time and money spent researching to compile submissions • Lack of information sharing and transparency with community. • Limited mechanisms for information distribution were employed.	It is a requirement of the SSD planning process for Oxley Solar Development Pty Ltd to notify residences and other interested stakeholders of the exhibition period of the Proposal, which did occur. Oxley Solar Development Pty Ltd has collected an email list of interested parties and sensitive receivers, where update emails are circulated, including an Oxley Solar Farm newsletter. The exhibition of the EIS was within the statutory timeframes, outside of the Christmas and New Year period. Oxley Solar Development Pty Ltd also notified all interested parties who had provided contact details and requested to be kept informed that the Proposal was on public exhibition. Appropriate for large scale Proposals such as this, the assessment timeframe can be lengthy and opportunities for feedback into this Proposal have been provided prior to submission of the Scoping Report, and throughout the ongoing consultation up the exhibition of the EIS. Multiple forums, including email, phone, website, and community open days, have been available.

Issue	Number of submissions	Detail of issue	Proponent Response
		• Perceived lack of proactive engagement and consultation with surrounding landowners by the Proponent. Many submissions raised that they felt their concerns weren't being listened to in a meaningful way, • Lack of transparency and community consultation in site selection. • Lack of trust between parties. Community consultation process was inconsistent with Community engagement and benefit sharing principles and guidelines (Vic guidelines are cited)	
Issue 5: Soils and erosion	21	Submissions raised concerns about the Proposal's soil and erosion impacts. Concerns included:	
		• The sloping topography of the land and poor existing soil environment may provide an environment with a high erosion and run-off potential.	The topography of the Proposal site was considered in the siting of the infrastructure layout of the Development Footprint. Solar infrastructure has been located away from steeper slopes on site, with the average slope throughout the array area being 3.13%. Generally solar farms situated on slopes less than 10% grade are considered manageable with consideration of the safeguards and mitigation measures that will be implemented in relation to soil erosion. Refer to the Slope Analysis now appended in Appendix C. Regarding run off patterns, the solar panels are proposed to be arranged in linear arrays separated by a distance of 8m, runoff from upslope panels will run under immediately downslope panels thereby affording the opportunity for infiltration under each panel (as demonstrated in Figure 4-5), with the exception of those panels which are most upslope (i.e. only the highest row of panels).

Issue	Number of submissions	Detail of issue	Proponent Response
			Therefore, when viewed as a whole, the ground surface area underneath the solar panel arrays available for infiltration is almost identical to that which currently exists and therefore any increase in runoff from the site for the arrays would be negligible. On the above basis the proposed solar arrays would result in a negligible increase in runoff and therefore would not warrant the inclusion of stormwater management devices (such as on-site detention basins) to limit post development peak discharge rates to pre-development levels, which can act to concentrate flows resulting in increased erosion potential. The updated hydrology assessment provided with the Amendment Report makes clear that the Proposal as modelled: • Would not exacerbate soil erosion • Would not impact local hydrology  Figure 4-5 Rainfall infiltration (Kennedy Jenks , 2017)

Issue	Number of submissions	Detail of issue	Proponent Response
		• Shading could impact vegetation cover under panels and result in erosion impacts.	It is noted in the EIS and the BDAR that shading caused by solar panels would have some effect on ground cover, however evidence shows some that plants can thrive under the shade of solar panels as the structure provide shading from rain and extreme heat from the sun (Clean Energy Council, 2021). Derived grasslands (derived from clearing forests and woodlands), as occur at the site, rather than natural grasslands are likely to respond best, being adapted to a canopy. To address uncertainty, a Groundcover Management Plan is a Proposal commitment. A target of 70% live ground cover is included to protect soils, landscape function and water quality. Additional measures would be implemented when live ground cover falls below 70%, through the advice of a local agronomist. Ground cover would be monitored on a monthly basis using an accepted methodology during the initial rehabilitation phase for up to 12 months, and then annually until the required groundcover is achieved.
		Exposed soils during the construction phase, exacerbated by construction traffic, may lead to loss of topsoil.	Solar farms involve relatively limited soil disturbance; the majority of the Development footprint (around 70%) will consist of solar panels. By tightly defining the Development footprint, it will ensure that all physical impacts are contained in this area and the area subject to impacts will be strictly limited. The Development footprint now presented includes a buffer for constructability and ensures that the rest of the Proposal site will be protected from impacts. Risks of these works are minimised by the implementation of construction, operation and decommissioning. Specifically, provisions to manage topsoil in all excavation activities, separate subsoils and topsoils and ensure that they are replaced in their natural configuration to assist revegetation. Stockpile topsoil appropriately so as to minimise weed infestation, maintain soil organic matter, maintain soil structure and microbial activity as well as rehabilitate areas of soil that are disturbed during construction and also following decommissioning. In operation, a groundcover management plan will monitor the areas beneath the panels to ensure they maintain sufficient biomass to resist erosion and weed ingress. Relevant commitments that proposal has made include to the detailed preparation and implementation of a:

Issue	Number of submissions	Detail of issue	Proponent Response
			• Soil and Water Management Plan (SWMP) (with erosion and sediment control plans) would be prepared, implemented and monitored during the Proposal, in accordance with Landcom (2004), to minimise soil (and water) impacts (a draft has been prepared as Attachment C). • Groundcover management plan - Preparation of a vegetation management plan to monitor ground cover beneath the solar array modules and ensure that ground cover is retained beneath panels, to resist erosion and weeds. • A Rehabilitation Plan would be prepared to ensure the array site is returned to at least or better than pre-solar farm land and soil capability. The plan would be developed with reference to the base line soil testing and with input from an agronomist to ensure the site is left stabilised, under a cover crop or other suitable ground cover. The soil survey would be based on: ○ *Australian Soil and Land Survey Handbook* (CSIRO, 2009) ○ *Guidelines for Surveying Soil and Land Resources* (CSIRO, 2008) ○ *The land and soil capability assessment scheme: second approximation (OEH, 2012)*
Issue 6: Water use, quality and catchments (Gara River, Commissioners Waters and Macleay River catchment concerns)	18	Submissions raised concerns abouts the Proposal's impacts on water use, water quality and river catchments. Concerns included: • Concerns about water security and where water will be sourced from including water use required for cleaning panels and associated runoff pollution	Since the submission of the EIS, water requirements for the Proposal have been revised as follows: Water would be supplied during construction by a licenced river offtake and not by use of any onsite bore. The Engineering Procurement and Construction (EPC) contractors, would apply for a Water Access Licence under Section 56 of the Water Management Act 2000 for the river offtake. Between 2019and 2021 the Gara River had two local utility Water access licences WAL (waterregister.waternsw.com.au/water-register-frame). These WALs had a total share component of 6902 ML at 100%. Of that allocation the use was 2077.8 ML (2021/22), 2526.8ML

Issue	Number of submissions	Detail of issue	Proponent Response
		More information is requested in relation to the controls and mitigation measures that will be implemented to address potential erosion impacts to surrounding waterways and their water quality, in particular the Gara River, Commissioners Waters and Macleay River Catchment.	(2019/2020) and 3456.6ML (2018/2019). Between 2019 and 2021 the Gara River had eight unregulated River WALs. These WALs had a total share component of 1065 ML at 1ML per share. Of that allocation the use was 0.0ML. The expected 96 ML required for construction represents about 2% of water allocated but not utilised. This will have negligible impact on water levels and existing users. *Construction* Non-potable water requirements are anticipated to be an upper limit of 200 kilolitres (kL) /day and a total of 96ML for construction of the solar farm. Potable water requirements are anticipated to be approximately 0.4ML during the construction phase. Detailed water requirements would be determined by EPC contractors. Non-potable construction water would likely be sourced from Gara River which runs through the site. Non-potable water would be taken from the river at a rate of 8-10 l/s to fill tanks on site and/or delivered to water carts by an overhead standpipe. Potable water would be sourced from a commercial potable water supplier, such as the Armidale Regional Council. Water sources would be subject to determination by EPC contractors. *Operation* Run off from the Operations and Maintenance (O&M) buildings would be captured in water tanks. This water would be used for firefighting needs and panel cleaning. Cleaning materials and spare parts would be made available on site for use by the maintenance staff. Panel cleaning may be required during drought conditions. As such, additional panel cleaning may also be required on occasion. As a 'maximum' upper limit, it is estimated that up to 500kL of water would be required to clean all of the panels once. Additional clean water for panel cleaning would be sourced commercially.

Issue	Number of submissions	Detail of issue	Proponent Response
			It is estimated that up to 1ML would be required per year under normal operating conditions. If insufficient water is collected on site from rainwater tanks and dams, water would be obtained from commercial water providers. Water quality controls are now further detailed in a draft Soil and Water Management Plan (NGH 2022) that is appended to this document, Appendix C. It is noted that runoff from solar panels is not considered high risk in regard to pollution. The energy producing part of solar panels contain a mix of metal components and silicon. These components are enclosed in glass and are not able to mix with air or water in the atmosphere. Therefore, there is negligible risk of chemical release from a solar panel.
Issue 7: Fire hazard	18	Submissions raised concerns about the fire hazards and bushfire management. Concerns included: • Bushfire hazard associated with close proximity to the Oxley Wild Rivers National Park and the Blue Hole • Development footprint overlaps with RFS mapped Bushfire Prone Land • Potential that fire fighters would become trapped within the solar array as they fight a fire • Potential for the panels, BESS and other components of the Proposal to cause fires • Requesting further information on fire-fighting water resources and questioning the decommission of	The majority of the Development footprint (96.6%) is not mapped as Bushfire Prone Land (Bushfire setbacks have been included as part of the Proposal in response to Rural Fire Service advice; they require a 10m defensible space between vegetation and assets including a 4m gravel track to increase accessibility. They also require a management plan to minimise ignition risks of the Proposal, most likely to occur during construction with during 'hot works' activities. The bushfire assessment has considered appropriate mitigation measures regard to Section 8.3.5 of the Planning for Bush Fire Protection 2019 guideline (NSW RFS, 2019). During design, construction and operation of the solar farm, bushfire strategies include: • Adequate setbacks, access and firefighting facilities maintained onsite • Control of grass fuels including maintenance of groundcover beneath panels • Maintenance of equipment • Application of best practice and technical standards While there is bush fire prone land located within the Proposal site, these areas are not extensive. The detail of the management measures would be developed

Issue	Number of submissions	Detail of issue	Proponent Response
		dams within the Proposal site that would otherwise provide water resources. • Clarification of bushfire response access within Development footprint (e.g. trail widths meet RFS requirements)	in consultation with the RFS to ensure they are adequate. Currently, an outline only is available. It includes the following commitments however: • *Specific management of activities with a risk of fire ignition (hot works, vehicle use, smoking, use of flammable materials, blasting).* • *Incorporation of fire safety and response in staff and contractor induction, training, OHS procedures and Work Method Statements.* • *Designation of a staff safety officer tasked with ensuring implementation of the plan and regular liaison with firefighting agencies.* • *Document all firefighting resources maintained at the site with an inspection and maintenance schedule.* • *Monitoring and management of vegetation fuel loads.* • *A communications strategy incorporating use of mobile phones, radio use (type, channels and call- signs), Fire Danger Warning signs located at the entrance to the site compounds, emergency services agency contacts.* • *In developing the Bush Fire Management Plan, NSW RFS would be consulted on the volume of water supplies, fire- fighting equipment maintained on-site, fire truck connectivity requirements, proposed APZ and access arrangements, communications, vegetation fuel levels and hazard reduction measures.* • *This equipment would include fire extinguishers, a 1000 litre water cart (fitted with suitable hosing, fittings and diesel firefighting pump) retained on site on a precautionary basis, particularly during any blasting and welding operations. Equipment lists would be detailed in Work Method Statements.* • *The perimeter access track would comply with the requirements of property access roads in accordance with Table 5.3b of the PBP. All access and egress tracks on the site would be maintained and kept free of parked vehicles to enable rapid response for firefighting crews and to avoid entrapment of staff in the case of bush fire emergencies.*

Issue	Number of submissions	Detail of issue	Proponent Response
Issue 8: Biodiversity	16	Submissions raised concerns abouts the Proposal's biodiversity impacts. Concerns included:	
		Effects of erosion and run-off on biodiversity within and around nearby waterways, including the potential impact on Platypus habitat	In terms of generating erosion risks during construction, solar farms involve relatively limited soil disturbance; about 30% of the Development footprint will require physical excavation with 70% being affected only by pile driven mounts holding the solar arrays, and shading by the arrays. The rest can be retained as perennial pasture and managed in accordance with a ground cover management plan, to ensure ground cover is maintained in the long term in accordance with specific targets through the operational phase. The panels are arranged in modules with 8m spaces in between, ground cover would be in place during operation to minimise areas of exposed soil and increase soil infiltration. This means that the concentration of the runoff is low and the ability for the ground cover to resist this until the moisture is distributed is high. These factors in combination with the setback distances from waterways, using best practice stream buffers (Abernethy & Rutherfurd, 1999) ensure no adverse water quality impacts will affect local waterways. With the exception of upgrades to the existing Gara Road crossing, solar farm infrastructure would be located greater than 40m from the Gara River waterway in accordance to the NSW government guidelines for riparian corridors on waterfront land (DPIE , 2012). The nearest Development footprint impact area is located about 90m from the Gara River and erosion controls will be in place during construction to ensure the river is protected. In addition, the Proposal has committed to the preparation and implementation of a Wildlife Corridor Connectivity Enhancement Plan to improve vegetation connectivity in specific areas of the site and maintain this improvement for the life of the Proposal. This includes the Gara River riparian corridor. The net effect of the Proposal is therefore considered to be a much-improved water quality outcome, particularly in drought years where grazing pressure may

Issue	Number of submissions	Detail of issue	Proponent Response
			have contributed to reduce ground cover and increased polluted run-off into waterways.
		• Damage to sensitive biodiversity, including biodiversity loss, harm to local wildlife and the and the potential of the Proposal to bring endangered or threatened species towards extinction. • Habitat loss. • Assessment during a time of drought is not representative of the regular vegetation abundance.	The Biodiversity Assessment Method that must be applied for this State Significant Development is highly prescriptive, nominating seasonal windows for species surveys where this is required. It factors in 'risk weightings' based on the existing level of threat to listed entities and sets out an 'avoid, minimise and only then offset' hierarchy that must be demonstrated by the Proposal. As such, if provides a very robust assessment methodology and one over which the proponent and consultants have little influence. The BDAR has determined the updated Development footprint now has: • Reduced impact on higher quality Box Gum Woodland zones (zones 2 and 4) reduced from 6.67ha to 2.6ha. No panels proposed in these zones. • Reduced impact on hollow-bearing trees, from 20 to 7 trees which now require removal. • A commitment to the preparation and implementation of a Wildlife Corridor Connectivity Enhancement Plan, targeting the Gara River and National Park boundary. • Demonstrated feasibility for a local stewardship site to secure ecosystem credits generated by the Proposal. These outcomes demonstrate the overall habitat loss has been avoided where possible and remains low for this utility scale Proposal. Commitments to in perpetuity offsets and to riparian corridor plantings will improve important areas of habitat capable of being improved and provide additional refuge and thereby provide long term resilience to droughts and fire in future.

Issue	Number of submissions	Detail of issue	Proponent Response
		Lack of Koala Management Plan	Targeted surveys (including Spotlight and Call Playback) in accordance with the Biodiversity Assessment Methodology were undertaken and found no koalas or signs of koalas present on the site. The Proposal has appropriately avoided the better and more connected areas of potential habitat. Results from the 'Koala habitat assessment tool' and subsequent assessment of significant impact according to the EPBC Act, concluded significant impact would not be likely as a result of this development and no referral has been recommended. These results therefore do not justify the preparation of a Koala Management Plan.
		Connectivity / biodiversity corridors issues have been raised in relation to the fencing of the site.	Oxley Wild Rivers National Park occurs immediately south of the Proposal site and provides important regional connectivity. The Development footprint itself is already largely cleared of native overstorey and provides little connectivity at a local level. The exception to this is the Gara River corridor which is intended to be avoided where possible by the development and enhanced. Substantial community support exists for revegetation and enhancement of the connectivity of the Gara River corridor. The detail surrounding fencing and specific enhancement measures have not yet been developed but the commitment to the objectives of this plan is clear.
		Bird deaths have been in a phenomenon named the 'lake effect' where birds attempt to land on solar panels believing they are water bodies	Concerns have been raised in relation to the 'lake effect', the result being potential collision of the bird with a structure and its injury or death. Described initially in 2009 by Horvath et al, recent research by Kosciuch et al (2021) could not readily generalise that the 'lake effect' occurred for all water birds and that it is likely species and landscape context specific. They found bird mortality around solar farms varied considerably between areas of grassland, agriculture and desert. It was suggested that if water birds were being attracted to the solar farms being studied, then they would have been observed (in addition to fatalities found at sites) perching, circling or approaching in flocks. Given the complex nature of various landscapes and differences in specific bird types, overall, they found limited evidence of attraction of water birds to solar

Issue	Number of submissions	Detail of issue	Proponent Response
			farms. Further, the phenomenon may be similar to the attraction of water birds to ephemerally inundated areas, rather than a general attractant for all water birds at all times. This effect is not considered likely to lead to adverse impacts for birds at this site.
Issue 9: Socio-economic impact (non-tourism)	12	Submissions raised concerns about the possible socio-economic impacts of the Proposal (excl. specific tourism and wellbeing concerns). Concerns included: • Lack of significant ongoing employment opportunities beyond the construction period. • No evidence for direct improvement in local energy security or costs (linked to a lack of information and commitment to this). • The Proposal has fostered frustration and inter-community divisions, including neighbour to neighbour disputes. • The Proposal would impact markedly on the local landscape character and amenity values of the area. Some submissions emphasised how this would impact on their sense of and connection to place. • Detrimental impacts to the area's residential/rural lifestyles and liveability.	During operation, maintenance staff and associated activities would be consistent but limited. The additional accommodation, traffic and use of services are not likely to be noticeable. Where possible, maintenance staff would be sourced from the local area along with staff requirements from ongoing agricultural activities. The overall socio-economic benefits of the solar farm compared to current agricultural use of this area is expected to favour the solar farm. Regarding energy security, in NSW energy that is generated from all large-scale energy generators (including any new solar farm or wind farm) is fed into the National Electricity Market. The effective sale of the energy is done through purchase agreements or by selling it into the wholesale electricity market. Strong community support and consumer demand for solar or other renewable energy produced may be used locally however, given the way the NEM is structured energy may be traded out of the region. Regarding impacts on community wellbeing and impacts on the landscape, it is anticipated that by addressing amenity impacts for neighbours and providing broader benefits to the wider community through: • The VPA under discussion with Armidale Regional Council will include funding for council projects that will benefit the community. • Diversifying the local economy, important for local resilience. • Economic benefits and business opportunities (limited mostly to construction). • Revegetation potential and riparian corridor enhancement. • Assisting the transition to renewable energy and driving the cost of electricity down for consumers.

Issue	Number of submissions	Detail of issue	Proponent Response
		The Proposal was emphasised to be inconsistent with the land use and landscape values of the Armidale region.	
Issue 10: Impacts on property values	12	Submissions raised concerns abouts the Proposal's impacts on property values. Concerns included: • Deprecation in nearby property values due to proximity to and/or views of the solar farm. • Proximity to lifestyle blocks and associated value reductions • Land value losses related to agricultural land	There are many factors that influence the value of a property. At this location, agricultural and 'lifestyle blocks' for residential subdivision potential are the likely drivers. Regarding agricultural value, the Proposal would not impact any BSAL or class 1, 2 or 3 land; lands with high quality soil and water resources capable of sustaining high levels of productivity. The Proposal site is predominantly located on land mapped LSC class 5 (moderate-low capability land), with a few sections mapped as LSC class 6 (low capability land) and class 4 (moderate capability land). The current activities onsite align with class 5; grazing with occasional cultivation for pastures. The class 5 area is not capable of supporting regular cultivation due to the various limitation such as erosion and low fertility. Therefore, providing an alternative income stream from solar development, with the ability to continue to graze adjacent lands, is not expected to affect agricultural land values. Additionally, solar farms are considered highly reversable in terms of their impact on agricultural land. After decommissioning al infrastructure would be removed up to a depth of 500mm, the site would then be available for resumed agricultural or other land use. Landform reshaping is only required for access tracks and discrete footings. The majority of the Development footprint will be impacted only by the screw in piles for the solar panel mounts. A commitment of the Proposal is to retain the agricultural capacity and productivity of the land and this is considered highly achievable. The site is zoned RU1 and with the exception of the National Park to the south, most surrounding land, to about 500m west is also RU1. RU4 with its smaller allowable lot sizes becomes more prevalent about 3km west. In terms of views to the site from rural residences, only one of the 28 non-involved dwellings

Issue	Number of submissions	Detail of issue	Proponent Response
			assessed will be expected to have greater than a low impact (R5; moderate impact). Unfortunately, there is no credible local evidence base available to reference on the impact of solar farms on land value. However, in the current market conditions, the value of land is expected to keep growing.
Issue 11: Cumulative impacts	11	Submissions raised concerns about the cumulative impacts of the Proposal. Concerns include: • Submitter SE-17433275 pointed out the cumulative visual impacts from nearby Olive Grove solar farm and Stringybark solar farm has not been adequately considered in the EIS, specifically the residents of Castledoyle, Milne, Andersons, Blue Hole and Gara Roads would be affected by this cumulative visual impact • Submitter raised the issue the Stringybark, Olive Grove and Metz Solar Farms would share the same owner. Submitter suggests all of these farms should have been assessed together • Error in the text citing the Stringy Bark solar farm construction has not commenced • Cumulative impacts on and loss of productive agriculture land within the	Section 8.10 of the Proposal EIS outlines the potential cumulative impacts of surrounding developments. Listed potential impacts included: • Biodiversity impacts • Visual and landscape character impacts • Noise impacts • Traffic impacts • Pressure on local facilities, goods and services; and • Land compatibility impacts All potential cumulative impacts have been determined as not significant. The large distances between major projects in the region avoid the potential for most cumulative impacts. Considering cumulative visual assessment specifically, impacts from other solar farms either approved or being assessed for approval, two were identified as relevant to the cumulative impacts of the Oxley Solar Farm: **Stringybark Solar Farm (APPROVED)** sited adjacent to the north western boundary of Oxley Solar Farm. A cumulative visual impact is likely to be felt by motorists travelling along Gara Road as they pass both projects, however in consideration of the mitigation measures proposed for each Project, the cumulative impacts are likely to be low. **Olive Grove Solar Farm (APPROVED)** located to the northwest of the Oxley Solar Farm Site, off Grafton Road. Due to the limited visibility of the Oxley Solar

Issue	Number of submissions	Detail of issue	Proponent Response
		region due to number of renewable energy developments.	Farm Project and proposed mitigation measures, opportunities to view both projects from nearby dwellings is likely to be low. It is acknowledged there are two errors within the EIS regarding the Stringybark Solar Farm and Olive Grove Solar Farm. As noted within the public submissions the EIS incorrectly stated that the Stringybark Solar Farm was already constructed. To date construction on the Stringybark Solar Farm has not commenced. The EIS listed the Stringybark and Olive Grove Solar Farms as "Major Projects" as related to State Significant Developments. This was an error. The two solar farms are considered to be regionally significant developments (RSD) not SSD due to having a CIV between $5 million and $30 million. As such these projects have not been assessed by DPE, they have been assessed by the Northern Joint Regional Planning Panel (JRPP) with assessment by Armidale Regional Council. Cumulative loss of agricultural land with REZ zones is likely to be addressed at a strategic level by departmental guidance. In accordance with DPE advice, solar is not considered appropriate on Biophysical Strategic Agricultural Land (BSAL) as defined in Chapter 2 of Resources and Energy SEPP or high capability land will be affected (Class 3 or above). The Development footprint proposed avoids these higher agricultuarl value areas.
Issue 12: Tourism	9	Submissions raised concerns about the Proposal's impacts on tourism. Concerns included: • Proximity of the Solar Farm to two the regions biggest tourist attractions, Oxley Wild Rivers National Park and "The Blue Hole" recreation area will deter potential tourists.	Most people would agree that solar farms do not enhance a wilderness character of the landscape. However, solar farms are becoming increasingly accepted as an important part of Australia's transition to a greener more sustainable future and in this regard, views of such facilities may be of interest to many tourists. Similarly, many wind farms include pull over areas where interested motorists can view the structures. This is likely to be a very subjective issue but is not expected to adversely affect tourism operators in the region. Page 74 of the New England Development Strategy 2010 includes the following biodiversity and natural ecosystems objective:

Issue	Number of submissions	Detail of issue	Proponent Response
		• Submissions have noted that tourists to the area enjoy the feeling of escaping technology when they visit the region and the sight of industrial solar farms will impact this feeling Meeting the objective of the New England Development Strategy 2010 notes biodiversity values have a role in supporting tourism	• *Maintain the ecological values of conservation reserves, and recognise their other economic benefits, including their role in supporting tourism.* The Proposal is not considered inconsistent with this statement. Impacts on park values have been assessed as manageable, primarily through the visual impact screening and soil and erosion measures. No loss of the natural landscape or other values of the park are anticipated. However, after consideration of submissions, significant changes to the Development footprint have now been undertaken. Specifically, no infrastructure is now proposed in land adjoining the Oxley Wild Rivers National Park. The closest infrastructure would now be approximately 480m distant, in the site's south-eastern corner. Refer to Figure 4-4.
Issue 13: Waste (incl. Life Cycle assessment)	8	Submissions raised concerns about the waste and life cycle impacts of the Proposal. Concerns included: • Requesting further information on the lifecycle of solar panels, including end-of life management and panel disposal. • Dumping of solar panels into landfill. • submissions have referenced the council areas past struggles with adequate allocation of disposal site facilities. • Potential for the Abandonment of the site with minimal rehabilitation (e.g. developer bankruptcy). • Disposal conditions, disposal amounts/frequency of replacement	Lifecycle analysis (LCA) assesses and quantifies the energy and material flows associated with a given process to identify the resource impacts of that process and potential for resource recovery. LCA estimates energy and emissions based on the total life cycle of materials used for a project, being the total amount of energy consumed in procuring, processing, working up, transporting and disposing of the respective materials (Schleisner, 2000). The majority of the Proposal components are recyclable and mitigation measures are in place to maximise reuse and recycling in accordance with resource management hierarchy principles and the Waste Management Plan The following materials would either be recycled or reused: • Solar panels and mounting system. • Metals from posts, cabling, fencing. • Buildings and equipment such as the PCUs, transformers and similar components would be removed for resale or reuse, or for recycling as scrap. Currently in Australia, recycling of LIBs is of a hybrid nature. The batteries are manually broken down and the cathode is recovered before being sent to Korea for hydrometallurgical processing to recover the precious metals such as cobalt,

Issue	Number of submissions	Detail of issue	Proponent Response
		and potential of lithium ion batteries to be recycled.	nickel, manganese and lithium. The most value from the battery is being recovered elsewhere. Envirostream Australia Pty Ltd is currently the only onshore company recycling LIBs and is under partial ownership by Lithium Australia (Envriostream , 2022). Forecasting from the Commonwealth Science and Industrial Research Organisation (CSIRO) predicts that the Li-ion battery recycling sector could be valued from $603 million to $3.1billion (CSIRO, 2021). Currently, investment in the industry is low due to the mass needed for economically viable recycling are still in their first life as stationary storage or in the emerging electric vehicles (EV) market. While investment in Li-ion battery recycling is low it is growing in both the areas of research and development and facility building. Due to the nature of the highly emergent industry and low supplies of batteries to recycle, it will be a while before the Li-ion battery recycling stream is in full production. There is, however, a confidence that the capacity of the recycling facilities to handle the volumes of batteries in the future will meet or exceed expectations. A commitment to rehabilitate and decommission the site and remove infrastructure will be expected and is considered highly achievable. To fail to meet a condition of consent would place the project in breach of its consent. For SSD, breaches are investigated by Department of Planning and Environment compliance teams. Fines and other penalties would apply.
Issue 14: NSW and regional planning processes	7	Submissions raised concerns over the NSW and regional planning process in relation to Oxley SF. Developer led assessments – community/developer power imbalances that are unfair and lack transparency. • Rationale and logic behind New England REZ (Esp. regarding site selection, transmission loss, land use conflict)	These comments are largely beyond the scope of this assessment. The Proponent has undertaken consultation with the local community in addition to any requirements of the SEARs in line with DPE's Guidelines for Major Project Community Consultation. The Minister for Planning and Public Spaces is the consent authority for SSD, and SSD applications are assessed by DPE, however as this Proposal has receiver over 50 submissions that object to the Proposal, it will be ultimately be determined by the Independent Planning Commission (IPC). These planning processes are in place by the NSW Government to ensure appropriate planning decisions are made.

Issue	Number of submissions	Detail of issue	Proponent Response
		• Energy projects are proceeding in the New England REZ at pace, yet local gov't are still playing policy/program catch-up. Calls for local gov't led renewable energy preferred development areas. • Criticism directed at Armidale Regional Council, under administration at time of public exhibition, and their lack of real decision-making capacity. • Some object to renewable energy development in the New England Region. • Development approval of the Proposal would establish precedent for future inappropriate renewable energy development. • Jargon in NSW planning guidelines (incl for REZs)	
Issue 15: Foreign Ownership	7	Submissions raised foreign ownership as an issue with the Proposal. Specific concerns are addressed separately below and include:	
		• Submissions have referenced a lack of trust in the company	Oxley Solar Development is an Australian developer of utility-scale solar generation, highly experienced in transmission network connection planning, renewable generation development and operation, and renewable project financing.

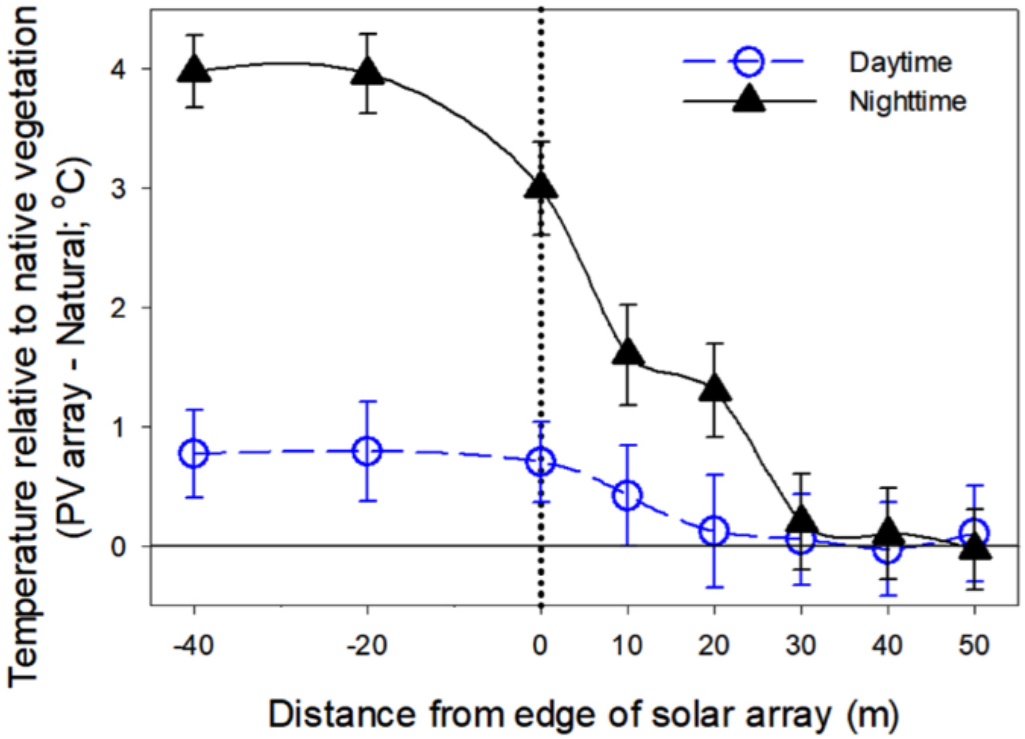
Issue	Number of submissions	Detail of issue	Proponent Response
			This is the second State Significant Solar Farm Proposal that NGH have assessed for this client in NSW; Wollar Solar Farm was approved on 24 February 2020 and is currently being constructed. The client has a good understanding of solar farm development in NSW and has been responsive to the advice provided by the environmental assessment team on this and the previous projects.
		• Submissions highlight the lack of economic benefit re-entering the community	The proponent supports benefiting the local community as far as practicable, with the following key benefits highlighted for the local area: • Direct and indirect employment opportunities during the construction phase (approximately 300 staff during peak construction of approximately 6 – 9 months) and operational phase (around 5 full time equivalent staff). • Local employment would be maximised by consulting with local employment and training organisations, and potentially supporting training and apprenticeships relevant to the Proposal. It is expected approximately 50% of the workforce (approximately 175 workers) would be from the local community. • An accompanying injection of expenditure in the local area is anticipated. Economic stimulus is expected particularly during peak construction for retail services in Armidale and Guyra. • Causeway upgrades across Gara River. This will improve access during flooding events for the Proposal, neighbours of the Proposal and local traffic • A Voluntary Planning Agreement is currently under discussion with Armidale Regional Council. It is also noted that by developing a new and compatible land use option, the Proposal assists to diversifying the local economy and provides a local drought resilient revenue stream for the hosting landholders, which would continue to be

Issue	Number of submissions	Detail of issue	Proponent Response
			used in the local area during adverse periods in agriculture (e.g. drought, commodity price reductions).
		• Suspicion expressed over foreign ownership of and development on agricultural land.	Oxley Solar Development is an Australian developer. The developer, Oxley Solar Development Pty Ltd, has been advised by a reputable Australian law firm on all Foreign Investment Review Board (FIRB) related matters and can confirm that it has been fully compliant with all Australian law and regulations in relation to foreign investments and foreign ownership. Oxley Solar Development Pty Ltd will not breach any law or regulations in this regard when it comes to financial closing or contracting this Proposal. Foreign investment and ownership of land in Australia is common and is regulated for Federal planning law. Oxley Solar Development Pty Ltd is in compliance with: (a) *Foreign Acquisitions and Takeovers Act 1975* (Cth) ("**FATA**"); (b) Foreign Acquisitions and Takeovers Regulation 2015 ("**FATR**"); and (c) *Foreign Acquisitions and Takeovers Fees Imposition Act 2015* (Cth) ("**Fees Imposition Act**") and its associated regulations. Other relevant laws include: (a) *Security of Critical Infrastructure Act 2018* (Cth) ("**SCIA**"); (b) *Foreign Influence Transparency Scheme Act 2018* (Cth); and (c) *National Security Legislation Amendment (Espionage and Foreign Interference) Act 2018* (Cth). The land will be managed appropriately according to the conditions of the development consent granted to the Proponent. This occurs regardless of the ownership status of the land as regulated under Commonwealth Law.
Issue 16: Human Health impacts	5	Submissions raised concerns about the Proposal's impacts on human health from	A study on the potential for leaching of heavy metals and metalloids from crystalline silicon PV systems from the Journal of Natural Resources and

Issue	Number of submissions	Detail of issue	Proponent Response
from: Toxic waste/runoff/fumes		damaged panels may leach toxic chemicals. Concerns included: • Toxic runoff from solar panels • Hail/storm damage • Fumes during bushfire	Development was conducted to determine whether potentially toxic elements could have the potential to leach into the surrounding environment (Robinson & Meindl, 2019). The results of the findings concluded that there were no significant differences in lead or cadmium levels, with only minor concentration differences in other metals between soil samples under PV panels and the control sample. Severe damage to panels may occur, however data on these risks suggests that the probability of storm (hail) damage is quite low. Solar panels are designed for use under extreme conditions and pass tests that that simulate common environmental conditions and events, such as hail. Research based on 50,000 solar energy systems installed between 2009 and 2013 just 0.1% were reported as being affected by damaged or underperforming modules (Jordan & Kurtz, 2014). The scale of impact is considered negligible and would be mitigated through regular inspections of solar panels throughout operation. Considering fumes, the literature (Liao, Yang, Ju, Peng, & Gao, 2020) (AFR, 2021) has reported combustion of solar panels and associated infrastructure including batteries can be a source of toxic fume release, although to date the likelihood of occurrence is low with respect to the high volume of installation and adherence to supporting safeguards and mitigation measures. Overall it is suggested that data on solar PV's and fire is limited because the number of overall incidents is low. A Preliminary Hazards Assessment (PHA) has been undertaken since the submissions of the EIS. The PHA is summarised and included in full in the Amendment Report and appended to the Amendment Report as Appendix D1.9 (NGH, 2022e). The PHA contains an assessment of toxic waste stream potentially caused by the BESS. The PHA contains enhanced control measures that would be taken to mitigate contamination risk events such as coolant leaks. The controls of the PHA are now included as a mitigation measure and commitment of the Proposal (refer to Appendix B)

Issue	Number of submissions	Detail of issue	Proponent Response
Issue 17: Community Wellbeing	5	Submissions raised concerns about the Proposal's potential impacts on community wellbeing, including mental health impacts of the Proposal. Concerns included: • Submissions cited the mental health impact related to sightlines towards the Solar farm for landowners. • Emotional, financial and physical stress of growing industrial use of the region to local residents.	It is acknowledged that any new land development, such as this solar farm Proposal, has the potential to divide and estrange members of the community and generate a level of anxiety, that may be exacerbated by other local stressors such as drought and fires. Taking this into consideration, Oxley Solar Development Pty Ltd has undertaken the following as part of the post exhibition community consultation and submissions reporting process to identify and mitigate community concerns where possible: • Oxley Solar Development Pty Ltd has made contact with residents throughout April 2021 to June 2022. Specific liaison was undertaken with visually sensitive receivers or receivers requestion to remain informed through direct contact • Updates to the Proposal have also been made available on the Project Website and emailed via a stakeholder database The consultation undertaken to date has aimed to address this by demystifying the assessment process, encouraging participation and providing information about how the Proposal is proposed to be constructed and operated and how the benefits can be spread to a broader number in the community.
Issue 18: Heritage concerns	4	Submissions raised concerns about the heritage impacts of the Proposal. Concerns included: • Impacts of land clearing and degradation on Aboriginal heritage values and sites within the Proposal site. • Aboriginal Cultural Significance of Blue hole not adequately considered • Lack of consultation with Aboriginal elders in the community	An Aboriginal Cultural Heritage Assessment (ACHA) Report was undertaken involving Registered Aboriginal Parties in the development of field surveys, implementation of surveys and providing a 28-day period for review of the document. No comments were provided. Additional surveys have been undertaken since the ACHA was provided. Intensive test pitting was undertaken with the RAPs and has been reported in a new assessment document, appended as Appendix D1.5 of the Amendment Report (NGH 2022). This report was also provided to RAPs for a 28-day review period. No comments were provided. A key output of this work is the development of 'no go' zones to protect sites of significance. These would be protected from Proposal impacts.

Issue	Number of submissions	Detail of issue	Proponent Response
			The physical impacts of the Proposal would be limited to the Development footprint and therefore no off-site Aboriginal heritage impacts are anticipated. Furthermore, in the updated Development footprint now proposed, the set back distance of nearest infrastructure to the Blue Hole picnic table has been increased by 810m to 1,285m.
Issue 19: Heat Island	2	Submissions raised concerns over the potential Heat island effect caused by the solar array.	A number of studies have shown that Photovoltaic (PV) panels convert incident solar radiation into heat and this can alter the air-flow and temperature profiles within and adjacent to the panels. This is referred to as the PVHI effect. Whether such changes may affect the thermal environment of near-by populations of humans and other species to any substantive degree has been questioned (Fthenakis & Yu, 2013). A heat island review for a solar facility in Shepparton Victoria was undertaken by the Victorian Planning Panel (Planning Panels Victoria , 2018), the panel accepted that solar arrays will affect air and soil temperatures within the solar array perimeter within 30m, however beyond 30m, the effects are negligible. This assessment was based on a technical assessment of heat island affect by the Barron-Gafford research group, with results presented in (Barron-Gafford Research Group , 2018). The figure shows that while solar arrays will produce a heat island affect, it will only affect land directly surrounding the panels. It would not affect any residences, existing vegetation or recreation areas.

Issue	Number of submissions	Detail of issue	Proponent Response
 Figure 4-6 Measures of air temperature within and outside of the PV array (Barron-Gafford Research Group , 2018)			
Issue 20: Proximity to Armidale	1	Submission raised concerns about the proximity of the Proposal to Armidale. Concerns included: • Some submitters would like to see solar farms located in more remote	The Proposal is located approximately 14 kilometres (km) south-east of Armidale. It is located 9km from the nearest residential zoning. The solar farm site is zoned RU1 Primary Production land zoning under the Armidale LEP and as such is not considered valuable land for residential development. Armidale has been identified as a key region for new renewable projects in NSW. It is within the New England Renewable Energy Zone (REZ). This area of

Issue	Number of submissions	Detail of issue	Proponent Response
		areas, which would have lower community and amenity impacts. • Proximity to Armidale would limit future residential development opportunities.	NSW has been selected as a prime region for renewable energy growth due strong existing transmission strength and capacity as well as having the second highest solar penetration in NSW (AEMO, 2018). While more remote areas may have similar solar penetration, the trade-off comes when considering higher connection costs and transmission losses. Solar farm development however, is considered highly reversible, meaning that following decommission the land could be returned back to its original use. This could also extend to residential development if the landowner following the solar farms decommission wishes to do so. The Oxley solar farm has been designed to ensure that amenity impacts to neighbours are acceptable. Of the non-associated dwellings assessed only one has potential for a higher than low visual impact (R5; moderate). Given the low profile of the infrastructure elements and undulating topography, screening can be highly effective. Refer to the full updated visual assessment is included as Appendix D1.3 of the Amendment Report (NGH 2022) which includes seven detailed dwelling assessments, showing the likely extent of views and influence of topography and other screening.
Issue 21: Noise	1	Submission raised concerns about the noise impacts of the Proposal. The Concern included: SE-17493277 (R5) object to the fact that acoustic barriers are not yet set in place nor appear on any maps/plans supplied and request that at as minimum the distance between the source in panel areas 25 and 28 and us 'the receiver' is doubled ensuring they are removed well away from Silverton Road or preferably moved away altogether.	An updated Noise and Vibration Assessment (Renzo Tonin & Associsates , 2022) was undertaken for the Proposal and is summarised in the Amendment Report. The Noise and Vibration Assessment concludes that during construction the solar farm noise emissions are predicted to comply with noise management levels at all receivers including R5 (546m from the Development footprint).

Issue	Number of submissions	Detail of issue	Proponent Response
Issue 22: Traffic	1	Submission raised concerns about the Proposal's traffic impacts. Concerns included: • Noise and increased dust from increased traffic using Silverton Road; changes to normal traffic flow will impact agricultural productivity, and landowner lifestyle. They would also like the section of Silverton Road near their property fenced, for their livestock. • Have potential flooding issues at Gara road been considered • Dust	Silverton Road would not be a dedicated construction access point for the project (staff would be instructed not to use it) but may occasionally be used by light vehicles visitor access the southern portions of the site. It is therefore not expected that the Oxley Solar Farm would lead to significant changes to normal traffic flow along Silverton Road. As such additional fencing around the landowner property along Silverton Road is not proposed, as traffic loads are not expected to be significantly altered. Potential flooding issues have been addressed through the design of a 1.3m raised crossing over the Gara River along Gara Road. The upgrade would allow for dry crossings of the Gara River during most regular flow levels of the waterway. Construction would of the solar farm would be suspended if the causeway does become flooded. Flood depth markers would also be installed. Regarding dust generated during the construction and decommissioning stages, this would be managed using water carts when required. Dust is not expected to generate a significant land use conflict during operation.
Issue 23: EMFs	1	Submission raised a concern that the solar farm may interfere with internet connectivity and wi-fi due to electrical waves.	During operation, EMF sources would include overhead transmission lines, underground cabling, and the solar array incorporating PCUs. Electric fields can be reduced with distance from operating electrical equipment and by shielding, while magnetic fields are reduced more effectively with distance. Through prudent design and siting of this infrastructure, the exposure to EMFs can be minimised and potential for adverse health impacts minimised also. Given the levels associated with the infrastructure components, and the distance to the site perimeter fence, EMFs from the solar farm are likely to be indistinguishable from background levels at the boundary fence. The underground cabling would not produce external electric fields due to shielding from soil, and its magnetic fields are expected to be well within the public and occupational exposure levels recommended by ARPANSA and ICNIRP.

Issue	Number of submissions	Detail of issue	Proponent Response
			Impacts to wi-fi as a result of the Proposal is not anticipated, EMF's are localised around electrical infrastructure and the construction of the solar farm would not significantly increase existing electrical interferences that already exist in the landscape such as high voltage transmission lines.

4.2 Proponent's response to special interest groups

Table 4-2 Public interest group - Castle Doyle Solar Farm Action Group

Issue	Detail of issue	Proponent response
The Proposal		
Foreign ownership (incl. Developer credentials)	Castle Doyle Solar Farm Action Group (the Action Group) raises concerns over the developer credentials and foreign ownership of Oxley Solar Development Pty Ltd . They recommend: • DPIE needs to establish to the satisfaction of the Community some obvious developer transparency. *Who are OSFD Pty Ltd, who is Megawatt Holdings Pty Ltd, what is their development experience, what is their financial credibility necessary to close, construct and operate the project, who will own the development asset, what is their post development strategy and development and operational capability?* • DPIE needs to establish with appropriate transparency the nature of the transaction between the Host Landowner -Gara River Station and the Developer OSFD Pty Ltd; and • DPIE needs, based on the facts obtained by I. and II. above that any necessary compliance pursuant to Foreign Acquisitions Takeovers Act 1975 has been	The development application has been lodged by Oxley Solar Development Pty Ltd. This is a company registered in New South Wales, Australia which requires them with fiscal obligations on its earnings in Australia. Oxley Solar Development Pty Ltd is an Australian developer of utility-scale solar generation projects. The company is a subsidiary of Solar Megawatt Holding Pty Ltd (a company incorporated in Hong Kong). Solar Megawatt Holding Pty Ltd and its subsidiaries (hereafter refer to as "Solar Megawatt Group", or the "Group") was founded by investors with extensive experience in the renewable energy sector in China mainland and Asia-pacific. The Group has a senior management team highly proficient in transmission network connection planning, renewable generation development and operation, and renewable project financing. This team has extensive experience in developing and operating large scale projects in Australia and internationally. The Group is committed to Australian renewable energy market for the long term. A pipeline of over 1,000MW of renewable is being assessed and developed. Current Australian climate and energy policy are designed among other goals, to attract investment for the renewables sector. Section 5 in the EIS demonstrates the Proposal is well aligned with the policy framework in this regard. The developer, Oxley Solar Development Pty Ltd, has been advised by a reputable Australian law firm on all Foreign Investment Review Board (FIRB) related matters and can confirm that it has been fully compliant with all Australian law and regulations in relation to foreign investments and foreign ownership.

Issue	Detail of issue	Proponent response
	secured.	
Proximity to National Park	The Action group expresses concern over the Proposal's proximity to Oxley Wild Rivers National Park, including: • the proximity to the UNESCO World heritage listed asset is totally unacceptable from a visual amenity, fire risk, biodiversity perspective and recreational enjoyment perspective. • screening will be ineffective in mitigating the loss of visual amenity from the Threlfall track. • the Proposal will be in full view from the recreational area at Blue Hole. • the Proposal conflicts with the heritage value of the Gara river Hydro-Electric station.	The updated visual assessment is included as Appendix D1.3 of the Amendment Report (NGH 2022) and concludes: • The distance of the nearest solar farm infrastructure to the Blue Hole picnic table has increased by 810m and is now 1,285m distant. • The distance of the nearest solar farm infrastructure to the Threlfall walking track has increased by 498m and is now 1,165m distant • The Amended Proposal eliminates the potential to view the Project from Blue Hole Picnic Area) and opportunities to view the proposal from Threlfall Walking Track are limited due to vegetation (refer to Figure 4-1 and Figure 4-2 above). The southern section of the Proposal would be adjacent to Oxley Wild Rivers National Park. NPWS's *Developments adjacent to National Parks and Wildlife Service lands: Guidelines for consent and planning authorities* were considered during preparation of the EIS. In addition, areas of potential land use conflict were assessed in a Land Use Conflict Risk Assessment; this considered specifically threats of fire, visual amenity on adjacent lands. Mitigation measures to enhance screening and manage fire risk are commitments of the Proposal. With the exception of noise during the construction phase, indirect biodiversity impacts on adjacent land are not anticipated. Weed and soil management protocols form commitments of the Proposal. The curtilage of the Gondwana Rainforests of Australia is approximately 480m distant from the nearest infrastructure proposed. This is listed both on the National Heritage List of Australia as well as the world heritage list. No impacts are anticipated. The heritage value of the Gara river Hydro-electric station (Hydro-Electric Scheme SHR no. 00986) was noted in Section 8.5 of the EIS. The Proposal boarders the state heritage listed items curtilage to the south. However, no heritage features are located within proximity of the Development Footprint, and this was confirmed from site inspections. No impacts are considered likely to occur to any Non-Indigenous heritage items as a result of the Proposal.
Proposal	The Action group is concerned over the lack of	The EIS presented a broad Development footprint, in order to allow flexibility as the design

Issue	Detail of issue	Proponent response
Description	requisite Proposal description details in the EIS. They question how the Proposal, can be adequately assessed against indicative infrastructure elements and development footprints.	work progressed, particularly in relation to ancillary areas impacted temporarily during construction. Most assessment in the EIS was undertaken using this broad area and so represented a 'worst case' impact assessment. The exception to this was: • Visual impact; the montages prepared used the indicative panel area to represent a more realistic representation of the look of operational infrastructure. • Biodiversity; the biodiversity offset obligation was calculated on a buffered indicative infrastructure layout, to represent a more realistic obligation. • Aboriginal heritage; the test pitting survey strategy was undertaken on a buffered indicative infrastructure layout, to curtail the cost of this expensive assessment methodology. However, it is acknowledged that this approach created uncertainty for several respondents. In response, the Proponent undertaken additional civil design work that supports a much reduced Development footprint that still provides for sufficient flexibility in the detailed design stage that will occur closer to construction. The refinements reflect the Proponent's desire to develop a Proposal that responds to local values and concerns. Additional exclusion zones / no go zones have been delineated where required to protect heritage and biodiversity features.
Proposal **justification, assessment and evaluation**		
Conflicts with *NSW Environmental Planning and Assessment Act 1979*.	The Action Group assert that the Proposal is inconsistent with the objectives of the *EP&A Act*. Specifically: *Sc.1.3(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources*	As a utility scale energy generation facility proposed within the proposed New England REZ, the Oxley solar farm Proposal aligns with key international, national, state, regional and local government objectives, in relation to renewable energy and climate change policy. The Proposal would: • Support international commitments to reduce greenhouse gas emissions and arrest climate change. • Support national targets to encourage the additional generation of electricity from sustainable and renewable sources. • Support state initiatives to attract renewable energy investment and projects and grow

Issue	Detail of issue	Proponent response
	• Project promotes negative social and economic welfare for the community and an erosion of the conservation of the States natural resources. *Sc1.3(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment.* • In context any net benefit to ESD is outweighed by negative impact – no real sustainable economic gain to the community and against the backdrop of considerable unfairness and lack of due process attached to decision making *Sc.1.3(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,* • As demonstrated hereunder this Project harms rather than protects flora and fauna *Sc.1.3(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage)* • The developer's approach to the requisite consultation shows nothing but disrespect to Aboriginal Cultural Heritage	expertise in renewable energy. • Support local priorities including diversification of energy supplies through renewable energy generation, increasing resilience to climate change, protecting utility infrastructure investment and encourage the growth of renewable energy installations. The New England REZ has an intended network capacity of 8 gigawatts. It is expected to deliver up to $10.7 billion in private sector investment. It is expected to support around 830 operational jobs and 1,250 construction jobs (https://www.energyco.nsw.gov.au/renewable-energy-zones/new-england-renewable-energy-zone). The Proposal would contribute to these benefits as well as diversify the current land use. It would tap into the region's high solar exposure adding solar energy generation to Armidale's primary industry enterprises. Given the number of submissions received for the Proposal, it will be determined by the IPC. This process will add several months to the assessment of the Proposal but will deliver a greater focus on community issues and socio-economic impacts. It is usual that the panel members to meet key objectors to better understand their submissions. Regarding the specific objectives of the *EP&A Act raised:* *Sc.1.3(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources* • the Proposal has been developed to be responsive to environmental constraints particularly soil capability, waterways, biodiversity and heritage. Refer to updated constraints mapping, Figure xx. Further it harnesses the solar resource of the site. *Sc1.3(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment.* • the Proposal addresses the SEARs provided for the Proposal by DPE, which set out the necessary guidelines and form and content of the environmental assessment. This ensures that the Proposal justification reflects the balance between environmental impacts and Proposal benefits. On balance, the Proposal is considered appropriate to the site's constraints, of benefit to NSW broadly and the regional economy locally and is considered justifiable and acceptable

Issue	Detail of issue	Proponent response
	Sc.1.3(j) to provide increased opportunity for community participation in environmental planning and assessment. • The low water mark of this project has been the paucity and tokenism of the Developers approach to community	*Sc.1.3(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,* • the Proposal's biodiversity impacts have been evaluated using the required Biodiversity Assessment Method. Comments by Biodiversity Conservation Service have been addressed in the updated version provided with the Amendment Report (NGH, 2022h). Overall, the Proposal demonstrates it has sufficiently avoided areas of better habitat, minimised residual impacts and will commit to in perpetuity offsets that will protect and enhance onsite areas of habitat in the long term. Refer to the Offset Plan, provided as Appendix D1.2 of the Amendment Report (NGH, 2022b). *Sc.1.3(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage)* • the Proposal's heritage impacts have been evaluated using the required consultation and assessment guidelines (Aboriginal Cultural Heritage Consultation Requirements for Proponents, Code of Practice for Archaeological Investigations of Objects in NSW, Guide to investigating, assessing and reporting on aboriginal cultural heritage in NSW, NSW Heritage Manual (OEH). Extensive test pitting has now been completed and is included in the as Appendix D1.5 of the Amendment Report (NGH, 2022c). This has involved the Registered Aboriginal Parties (RAPs) in the development of the survey program, surveys and review, as was done for the ACHA. A key output of this work is the development of 'no go' zones to protect sites of significance. These would be protected from Proposal impacts and are shown on the updated constraints mapping, Figure 3-5. *Sc.1.3(j) to provide increased opportunity for community participation in environmental planning and assessment.* The EIS was exhibited for 30 days, as required. All submissions received have been addressed in this report. Since April 2021 the Proponent has reached out the residents as detailed in Section 3.2.2. The Oxley Solar Farm website has an email and phone number available for use by the public at any time and this was available prior to the lodgement of the EIS.

Issue	Detail of issue	Proponent response
Principles of ecologically sustainable development (ESD)	The Action group is concerned that the Proposal conflicts with the principles of ESD, specifically: **Precautionary principle** - there are many elements of this Proposal which invite for the application of precautionary science to avoid serious or irreversible damage to the environment these non- exclusively might include; metal leachate from soluble toxins within damaged solar panels, Heat Island effect from solar deployment, industrial fire from BESS deployment. **Intergenerational inequity** - the proximity of the Proposal to World Heritage Listed Wild Rivers National Park confirms an obvious and negative imposition on the enjoyment of future generations. **Conservation of biological diversity and ecological integrity** - The Proposal detracts from both aspects of this important principle.	The EIS and responses to public submissions in Section 4.1 addressed the principles of ESD. For specific responses within this report please refer to the following public submission responses: • Issue 16: Human Health impacts from: Toxic waste/runoff/fumes • Issue 19: Heat Island • Issue 7: Fire hazard • Issue 2: Proximity to sensitive areas (Oxley Wild Rivers National Park and Blue Hole recreation area) • Issue 8: Biodiversity In addition, in the absence of certainty in the biodiversity assessment, species are assumed to occur and mitigated and offset on that basis. For example; shading caused by solar panels would have some effect on ground cover, however evidence shows some that plants can thrive under the shade of solar panels as the structure provide shading from rain and extreme heat from the sun (Clean Energy Council, 2021). Derived grasslands (derived from clearing forests and woodlands), as occur at the site, rather than natural grasslands are likely to respond best, being adapted to a canopy. Regardless, to address this uncertainty 100% vegetation loss is assumed by the biodiversity assessment and generates offset requirements accordingly. Assessment of cumulative impacts and a risk-based approach are further devices that ensure that all impacts have been identified, appropriately assessed and mitigated, commensurate with the risk they pose. Specific impacts with regard to visual impacts, toxins within damaged solar panels, Heat Island effect and fire are addressed in detail in Table 4-1. In combination this assessment approach does consider the long-term outcomes and thereby ensures the enjoyment of future generations. The most pertinent issue in this regard is the key justification for the Proposal; to assist to mitigate the effects of climate change through the transition to renewable energy. This is arguably the greatest threat to intergenerational inequity we currently face.
Inconsistency	The Action group emphasises that the EIS is	The Proposal site meets the preferable site conditions of a solar farm development outlined by

Issue	Detail of issue	Proponent response
with issued SEARs and relevant guidelines	inconsistent with the SEARs issued for Oxley Solar Farm and DPIE guidance on large scale solar energy development in NSW. DPIE's *Large Scale Solar Energy Guideline: For State Significant Development* (2018). Specifically, • The SEAR requested "…In particular you must undertake detailed consultation with affected landowners…" No detailed consultation took place. • The Developer has offered no participation in the development process -pending the EIS. The stock standard response to questions and emails was wait until the EIS. Written communication was by way of only one Proposal Update April 2019. • The Proposal offends the Objectives and Strategic Context of DPIE's *Large Scale Solar Energy Guideline: For State Significant Development* (2018). ○ **Site Selection** ○ **Stakeholder Engagement** -as will be canvassed hereunder OFSD contrary to their Community Communication Plan attached offered a paucity 'tick box' community engagement including the Indigenous Community	the Large Scale Solar Energy Guideline for SSD 2018 (DPIE) including optimal solar resources, suitable land, capacity to rehabilitate, proximity to electrical network and connection capacity. It is also consistent with the Draft Large Scale Solar Energy Guideline for SSD 2021 (DPE 2021). Specific to site selection, the updated constraints map, based on further heritage assessment and refinements to the Development footprint, shows a Proposal that responds well to the environmental values of the site. Refer to Figure 3-5. • No Biophysical Strategic Agricultural Land (BSAL) as defined in Chapter 2 of Resources and Energy SEPP occurs within the boundaries of the Proposal site. No high capability land will be affected (Class 3 or above). • Minimal impact on higher condition biodiversity (noting areas that are less productive agriculturally usually have higher proportions of native vegetation) • This region has been identified as an optimal Renewable Energy Zone (REZ) in which to develop new electricity generation projects, supported by existing transmission strength and capacity (AEMO, 2018). The New England is the second highest solar penetration region in NSW (DPIE, 2017). • Close proximity to and capacity of the electrical transmission network in this area • Availability of an abundant solar resource • Appropriate land zoning • Suitable topography and aspect. • Responds to site constraints: ○ No infrastructure now proposed in the moderate constraint native vegetation between Gara Road and Gara River or the area immediately south of Gara River, on the site's west. ○ Increased setbacks from Gara River on the site's north-eastern boundary have also been implemented. ○ No solar panels would be installed in areas of Box Gum Woodland with a vegetation integrity score of 30 or more. This vegetation community is a Serious and Irreversible Impact (SAII) candidate. Only impacts that cannot be avoided

Issue	Detail of issue	Proponent response
		(limited fencing and access alignments) are now proposed here. ○ Increased setbacks from the Oxley Wild Rivers National Park are now included. ○ Exclusion zones provided for Aboriginal heritage items, where required. ○ No physical impact on any historic heritage item. A response to planning process issues has been provided for issue 14 in Section 4.1. The NSW planning process is rigorous and Oxley Solar Development Pty Ltd has fulfilled their responsibilities to carry out consultation appropriate for a SSD (refer to issue 4 of Section 4.1). Appropriate for large scale Proposals such as this, the assessment timeframe can be lengthy and opportunities for feedback into this Proposal have been provided prior to submission of the Scoping Report, and throughout the ongoing consultation up the exhibition of the EIS. Multiple forums, including email, phone, website, and community open days, have been available.
Procedural concerns		
Consultation process	The Action group expressed considerable disappointment in the community consultation process, and raised concerns that it was insufficient to meet the issued SEARs and was inconsistent with the Proposal's own Community Consultation Plan. **Recommended** that the development should have been subject to Community Consultation Framework which is offered by the Minister to Wind Projects and for unknown reasons not to Large Scale Solar projects?	The Proponent's response to concerns regarding the community consultation and stakeholder engagement process are discussed above and in issue 4 of Section 4.1. The development of a Community Consultation Framework is at the discretion of DPE.
Aboriginal Community Consultation	While due process was conducted the Action group expressed concerns that the consultation process undertaken with RAPs lacked sufficient signoff and feedback from the RAPs due to limited to no	The consultation with Aboriginal stakeholders was undertaken in accordance with clause *80C of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* (NSW). The assessment was guided by the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011) and the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales*

Issue	Detail of issue	Proponent response
	responses from them. **Recommended** that the Aboriginal Consultation approach needs to be reviewed and revised arrangements as to consultation and feedback needs to be set out within a more realistic time frame. RAPs need representation on the Community Consultative Committee (CCC).	(OEH, 2010a). The Aboriginal Cultural Heritage Assessment (ACHA) Report was provided for the required 28 day review period. No comments were provided however it is noted that engagement was continuous during the development of the initial field survey methods, through implementation, development of the testing pitting survey method and implementation of these surveys. The test pitting has been reported in a new assessment document, appended as Appendix D1.5 to the Amendment Report (NGH, 2022c). This report was also provided to RAPs for a 28 day review period. No comments were provided. A key output of this work is the development of 'no go' zones to protect sites of significance. These would be protected from Proposal impacts and are shown on the updated constraints mapping, Figure 3-5. With regard to a CCC, the development of a CCC is at the discretion of DPE.
Environmental, social and economic impacts		
Visual Amenity	The Action group raised concerns over the possible visual amenity impacts of the Proposal, including: • Any objective site assessment will confirm the Proposal will induce significant de-valuation of the landscape characteristics not only from the neighbouring properties but also the broader community. • The EIS in the absence of LVIA guidelines introduces their own subjective assessment of the impact including construction and operation. In support of the Developer's attempt to promote a subjective and favourable reflection they introduce Moir Landscape Architecture Pty Ltd an interpretation of the LVIA	There are no statutory guidelines for the assessment of visual impact of solar farms. The assessment references the *Guidelines for Landscape and Visual Impact Assessment (GLVIA3), Residential Visual Amenity Assessment* (RVAA), considered best practice, and Moir LA's extensive professional experience in undertaking landscape and visual assessments for infrastructure projects, including solar farms. It also considers draft guidelines developed to guide visual assessment of solar farms, now specifically considering key issues such as glare, elevated views and multiple sector views; *Appendix A – Visual Assessment Framework for Large-Scale Solar Energy Development* – of DPE's *Draft Large-Scale Solar Energy Guidelines* (DPE, 2021). The assessment considers public viewpoints to assess impacts on roads and from the National Park, Appendix A of the full updated visual assessment includes seven montages taken from or near to dwellings to show how the infrastructure would look from specific residences. It is acknowledged that visual assessment can be a subjective area. To that end, Moir Landscapes are a reputable specialist in this area and have undertaken numerous solar

Issue	Detail of issue	Proponent response
	• The bottom line is, as DPIE fully appreciate, that LVIA is probably the most malleable assessment in the EIS process. Developers can manipulate interpretations of landscape character assessment to suit development agenda. In this case the Developer has pursued viewpoint analysis which is dramatically different than the reality • It has misrepresented through subjective, facile and superficial interpretation of community feedback the significant visual impact this Development will induce to the character of the landscape. A landscape appreciated by immediate Community and the broader Community. • It has selected viewpoints convenient to is development interests – whereas there many others which paint a more realistic outlook. • It has utilised photographic misrepresentation including zoom images and panoramic images which distort rather reveal the true landscape value and character. • The suggestion that some residences will have fragmented views of the development is a poor attempt to disguise the reality of the outlook. Accordingly, the Group welcomes a DPIE inspection of the true visual impact. On this basis	farm visual assessment as well as provided comment on the new guidance documents. There are no statutory guidelines for the assessment of visual impact of solar farms. The assessment references the *Guidelines for Landscape and Visual Impact Assessment (GLVIA3), Residential Visual Amenity Assessment* (RVAA), considered best practice, and Moir LA's extensive professional experience in undertaking landscape and visual assessments for infrastructure projects, including solar farms. While public viewpoints were used to assess impacts on roads and from the National Park, Appendix A of the full updated visual assessment includes seven montages taken from or near to dwellings to show how the infrastructure would look from these residences. The wireframes are helpful for showing how the terrain affects the views and fragments them. In consideration of the undulating terrain, the existing vegetation screening, set back distances now achieved and the low profile of the infrastructure proposed, we feel confident a peer review of MLA's conclusions will support their conclusions.  Figure 4-7 Example wireframe modelling, superimposed on panoramic image

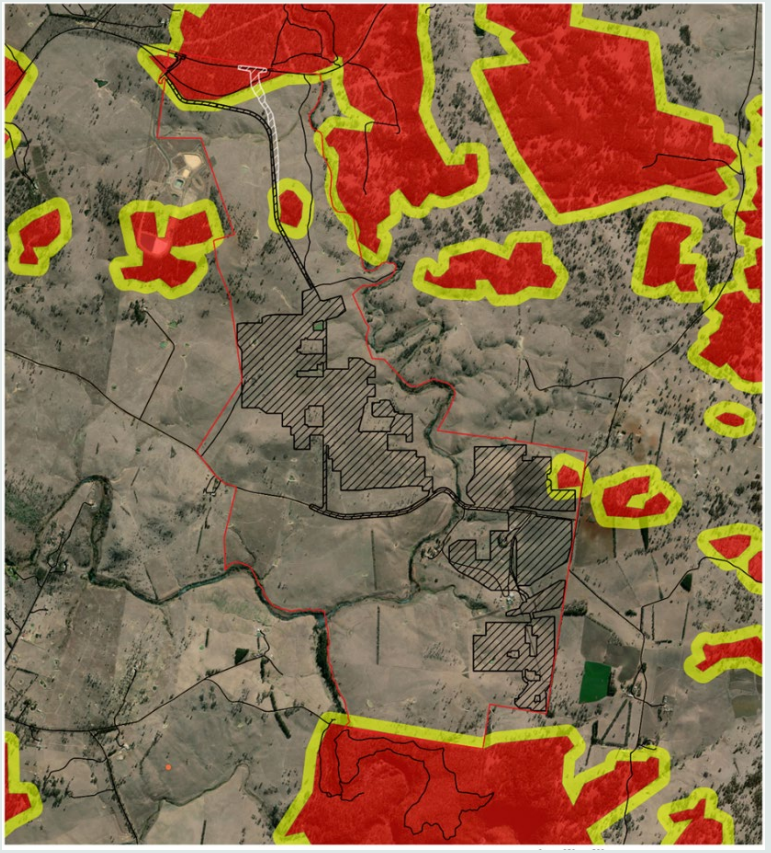
Issue	Detail of issue	Proponent response
	we believe that Key Recommendation A above is in the public interest and is the only fair and just conclusion DPIE can support. The Group doesn't think that any amount of proposed vegetation screening will shield the Proposal from the more prominent viewpoints exposed to loss of amenity.	
Biodiversity	The Action group raised concerns over the possible biodiversity impacts of the Proposal, including: • The EIS downplays the development's impacts on the many threatened species in and around the Development footprint. The site including the water systems of Gara River, The Commissioners Waters and the Blue Hole itself contain many threatened critically endangered fauna and flora species. • The EIS takes the BDAR and BAM no further than the Scoping Report stage. • It is blatantly obvious that even on the key results on offer by the Field Work and Desk Studies that the development will have significant impact on fragile biodiversity. • The proposed offsets pursuant to the NSW Offset Scheme will fall well short of the mitigation required to the obvious significant forecast impact. **Recommended** that the Site be subject to a more professional independent and objective assessment of the impacts this Proposal will have on biodiversity.	The Biodiversity Assessment Method that must be applied for this State Significant Development is highly prescriptive, nominating seasonal windows for species surveys where this is required. It factors in 'risk weightings' based on the existing level of threat to listed entities and sets out an 'avoid, minimise and only then offset' hierarchy that must be demonstrated by the Proposal. As such, if provides a very robust assessment methodology and one over which the proponent and consultants have little influence. Comments by Biodiversity Conservation Service have been addressed in the updated version provided with the Amendment Report (NGH 2022). Overall, the Proposal demonstrates it has sufficiently avoided areas of better habitat, minimised residual impacts and will commit to in-perpetuity offsets that will protect and enhance onsite areas of habitat in the long term. NGH are likely to have prepared more solar farm BDARs than any other consultancy in NSW. The BDAR has been prepared by an accredited assessor under the BC Act addressing all requirements under the BAM. NGH has extensive experience navigating the BAM with input from BCD. Further to demonstrate the ability to offset the vegetation impacted by the Proposal, an Offset Strategy has now been undertaken, evaluating the credits able to be generated within the residual areas of the proposal site. Based on conservative extrapolations of existing data, the result shows surplus ecosystem credits can be secured in this area, demonstrating the feasibility of securing a locally appropriate stewardship site, likely to be the preferred option by the Proponent (Appendix D1.2 of the Amendment Report (NGH, 2022b). Credits for some species assumed to occur or identified onsite are more likely to be paid out directly, if credits are not available on the market.

Issue	Detail of issue	Proponent response
Water and Catchment Management	The Action group raised concerns over the possible water and catchment management impacts of the Proposal, including: • The Proposal would have substantial impacts during construction and operation stages on important water courses and most importantly what would or could be the potential impact pollution on the Macleay River community and their ecological and economic well-being. • The proposed Safeguards and mitigation measures present as 'cut and paste' and completely out of balance to the obvious risk proposed. • The Group maintains that any assessment by DPIE that concluded in favour of consent might well induce significant claims against the Developer and possibly DPIE as the representative of the Consent Authority. • The Group is of the firm view that this issue raises serious alarm – and contributes substantially to the need for more robust scientific assessment of the impacts. An independent scientific assessment is mandatory. This is obviously an issue of heightened public interest.	Given the concern expressed in submissions about Gara River and potential soil and water impacts, to supplement the information provided in the EIS, a Soil Impact Assessment (NGH, 2022) and Soil and Water Management Plan (NGH 2022) have been prepared addressing the refined Development footprint. In addition, a Slope Analysis (Jacobs 2022), was undertaken. All three reports are included in Appendix C. Increased setbacks from Gara River on the site's north-eastern boundary have also been implemented. As a result of the additional work, which included soil sampling and laboratory analysis of soil samples, the site is considered to have a topsoil and subsoil that varies from low to high erosion potential. However, it is noted that the actual area of soil impacts due to excavation for solar farms is relatively low. Landform reshaping is only required for access tracks and discrete footings. The vast majority (about 75%) of the Development footprint will be impacted only by shading of the panels and the screw in piles that hold them off the ground. Most of the area of impact is actually due to shading and changed run off patterns, not to excavation risks. The majority of the site can be retained as perennial pasture and managed in accordance with a ground cover management plan, to ensure ground cover is maintained in the long term in accordance with specific targets. While some infrastructure will remain in place after decommissioning, the vast majority of the site will be available for resumed agricultural or other land use. As such, the impacts on soil and water resources are not as high as might be assumed for a Proposal of this scale. Standard soil and water mitigation strategies have proven highly reliably in managing soil erosion and water quality impacts appropriately and have been included as Proposal commitments. With the implementation of standard mitigation measures recommended in Section 4 of the Soil Impact Assessment (NGH, 2022), the potential risk of erosion and sedimentation would be minimised for this Proposal. .
Soil and erosion	The Action group raised concerns over the possible erosion and hydrology impacts of the Proposal, including:	Addressed by the response above.

Issue	Detail of issue	Proponent response
	• Asserts that soil analysis conducted for the EIS is subjective and in the absence of independent assessment misleading. • The community offer many years of experience in this country, observing it in flood, drought and more favourable climatic conditions. The topography of the site against any reasonable assessment of soil management would suggest significant impacts through construction and operation and probable inability to adequately rehabilitate post-decommissioning. • Professional advice sought by them indicated that the safeguard and mitigation measures proposed will not be able to be effectively managed through Soil and Water Management Plan. Recommended that the Proposal site be subject to a more professional independent and objective assessment as to many of the irreparable soil and erosion impacts this Proposal will have on this site need more thorough and objective independent assessment.	
Contamination (Solar Panel pollution)	The Action group raised concerns over the possible toxicity hazard impacts of the Proposal, including: • Metal leachate and soluble toxins in damaged solar panels • DPIE is fully conversant with the uncertainty of the science around the solubility of toxins including Cadmium from	Refer to Section 4.1 response to Issue 16: Human Health impacts from: Toxic waste/runoff/fumes.

Issue	Detail of issue	Proponent response
	damaged panels. The 'Precautionary Principle 'alone requisites a more robust scientific conclusion be established as to potential soil contamination and pollution to the nominated water systems. • The Group requests that DPIE give urgent consideration to the application of this scientific evaluation.	
Fire Hazard	The Action group raised concerns over the possible fire hazard impacts of the Proposal, including: • Potential BESS combustion • The safeguards and risk mitigation proposed by the EIS presents as basic compliance – this is not acceptable to the Group. • A final EPC configuration needs to be tabled and a fresh independent hazard management expert's opinion to be prepared. Input from first responders into this assessment should be included. • A more robust HAZARDOPS plan should be tabled including requisite detail as to insurance arrangements and liability mapping. Full signoff as to liability is expected.	It is acknowledged that the very broad Development footprint presented in the EIS created uncertainty for the public and complexity in some of the assessment assumptions. Since the EIS exhibition, a concept civil design has been developed. Specific infrastructure components will not be locked in until the Proposal is approved, as part of a competitive tendering process however, the Development footprint now shown is considerably smaller. It is still considered a 'worst case' in that the array may be smaller than that presented, but this provides more clarity around areas of actual impact. Refer to and Figure 3-4, which shows areas added or removed from the Proposal. The PHA has been completed to assess multiple risk factors of the 50MWh BESS, including fire ignition risk. The PHA introduces a suite of stronger controls than already implemented in the EIS that will be used to prevent fires and to respond to fire. Regarding the management of environmental impacts, the mitigation strategies are largely standard, having been applied successfully for many other solar farms in NSW. They are set out in a framework format that allows the detailed design information that will come later in the process, to be included at that time, but the foundations of these plans are already in place in the Proposal mitigation measures in Appendix B, which respond to key legislation and policy such as the PBP for fire planning and the State Environmental Planning Policy (Resilience and Hazards) 2021 in completing the PHA . The frameworks requires the preparation of a project Environmental Management Strategy (EMS). The EMS would comprise a Construction Environmental Management Plan (CEMP), an Operation Environmental Management Plan (OEMP) and a Decommissioning Environmental Management Plan (DEMP). These plans would be prepared sequentially, prior to each stage of works by the contractor (CEMP, DEMP) and proponent (OEMP).

Issue	Detail of issue	Proponent response
		The EMS would include performance indicators, timeframes, implementation and reporting responsibilities, communications protocols, a monitoring program, auditing and review arrangements, emergency responses, induction and training and complaint/dispute resolution procedures. The monitoring and auditing program would clearly identify any residual impacts after mitigation. Adaptive management would be used to ensure that improvements are consolidated in updated EMPs. This is considered a standard and robust management strategy for solar farms in NSW.
Bush fire management	The Action group raised concerns over bushfire management issues with the Proposal, including: • The Proposal sits not only in an area designated as Fire Prone but is also now in a Red Zone. • The Proponent underestimate the bush fire risk and they reference a compliance only to guidelines – that is not sufficient. Given the Proposal's proximity to the National Park requisites a beyond compliance strategy. • The EIS relies on interpretation of existing frameworks. There is no evidence of third-party expertise referencing upgraded planning for fire protection embracing the Red Zone upgrade. • The Group and Community needs the comfort that the Safeguards and Mitigation Measures proposed are adequate and fit for purpose following the disaster of the 2019 Bush Fires. This can only be achieved by robust third-party evaluation and report. This is the Group's strong	Assessment and management of bushfire impacts is with regard to Section 8.3.5 of the *Planning for Bush Fire Protection 2019.* Solar Farms require the following measures to be incorporated into the design and operation of the Proposal: A minimum 10-metre Asset Protection Zone (APZ) for the structures and associated buildings/infrastructure and the APZ to be maintained to the standard of an inner protection area (IPA) for the life of the development (to the specifications identified in Appendix 4 of PBP). PBP also requires a bush fire emergency management and operations plan covering specific elements. The RFS submission provided in Section 4.3 demonstrates the Proposal's bushfire considerations are appropriate. Small changes have been made to ensure RFS input is included. Very small sections of the Proposal site are mapped as bushfire prone. 7.8% of the Proposal site is mapped bushfire prone and only 3.4% of the Development footprint is mapped as bushfire prone. Refer to mapping below in Figure 4-8 which has been updated since the EIS.

Issue	Detail of issue	Proponent response
	recommendation.	 Figure 4-8 Bushfire prone land and buffer

4.3 Proponent's response to agency submissions

This section considers all issues raised by public agency submissions, including Armidale Regional Council. Submissions are addressed by agency, not issue category. For each submission, the issues are summarised in the left-hand columns and the Proponent's response is provided in the right-hand column.

Table 4-3 Agency submissions and Proponent's response

Issue	Detail of issue	Proponent response
DPE – Planning Request for information		
Landowners Consent	Evidence that landowners consent has been provided for all lots (including Crown Land) and roads where development will occur (e.g. road crossings, intersection upgrades on Waterfall Way and Gara Road), for the purposes of satisfying Clause 49(1) and Clause 50(1)(a) of the EP&A Regulation 2000 (now Section 23(1) and 24(1) of the EP&A Regulation 2021).	The Proponent has obtained all relevant landowner consents and will provide this to DPE.
Project description	Confirm: • The nature of all works proposed in Crown Land • The maximum assessed area of disturbance and show on a figure (including in consideration of any changes resulting from the above) • The area considered as 'development footprint'	Figure 3-4 illustrates the Development footprint provided in the EIS and the much reduced Development footprint now proposed. Figure 3-3 shows all areas of Crown Land affected by the revised Proposal. Proposed access track will intersect existing travelling stock reserve, however this has been previously disturbed for a sealed access to a council landfill. Oxley Solar Farm would utilise this access with no further impacts to TSR required. Figure 3-3 shows the crown roadway that intersects the centre of the Development footprint and the Gara River Crown waterway curtilage. The crown roadway would be used partially for the internal access with a 7m wide unsealed road as discussed above. No new infrastructure would be built on the Gara River with the exception of a causeway crossing upgrade. The causeway upgrade of the Gara River crossing will include now include– install approximately 3 x 1200mm culverts (subject to hydraulic and detail design), raising the causeway level by approximately 1.3m, and widening Gara Road suitable for two-way heavy vehicle traffic.

Issue	Detail of issue	Proponent response
Visual	• Provide a table indicating the visual impact for each associated and non-associated dwelling within 2km from the site • Provide a glint and glare impact assessment • Include any relevant assumptions for the glare impact assessment. • Provide an updated infrastructure layout and constraints map	In consideration of the level of community concern regarding visual impacts, significant changes to the Development footprint have now been undertaken, and additional assessment (including two additional public viewpoints from the Oxley Wild Rivers National Park and glare assessment) have been carried out. The full updated visual assessment is included as Appendix D1.3 of the Amendment Report (NGH 2022) and demonstrates: • For dwellings, 14 of the 28 non-involved dwellings assessed will have no views to the Project due to topography and / or vegetation. Of the remaining 14 non-involved dwellings: ○ 1 has been assessed as having a moderate visual impact rating (Dwelling R4, based on a desktop assessment alone, located on Blue Hole Road). ○ 13 have been assessed as having a low to nil visual impact rating. Regarding glare, the assessment concludes that three sections of road and five residences may experience yellow glare. No red glare is predicted. The updated assessment identifies: • Sections of Silverton Road, Gara Road, Blue Hole Road. These warrant screen planting as mitigation and are included in the Landscaping plan. • R3, R4, R7, R10, R14. Mitigation warranted, additional screening now proposed in the Landscaping plan. • R5, R11, R15, R200. No mitigation warranted due to existing screening. Regarding the glare assessment, this covers all roads and dwellings within 2km. The Solar Glare Hazard Analysis Tool (SGHAT) developed by Sandia National Laboratories has been used to evaluate glare. This tool is recognised by the Australian Government Civil Aviation Safety Authority (CASA). The glint and glare analysis is based on a worst case scenario and does not take into account factors that would reduce the potential to experience glint and glare such as weather conditions (i.e., cloud coverage), intervening elements (such as vegetation / buildings etc) that reduce the potential to view the project and therefore eliminate opportunities to experience glint and glare. The updated constraints mapping is provided as Figure 3-5.

Issue	Detail of issue	Proponent response
Traffic and Transport	• Confirm access route / intersection upgrade design will be acceptable from a traffic safety perspective (including minimum sight distance) or confirm alternative design (and associated impact assessment) • Confirm access route, access points, intersection upgrades and associated impact assessment for other access points to the site (Gara Road / Silverton Road) • Transport routes – clarify the type, size and frequency of vehicle movements and whether local routes are also proposed to be utilised	New England Surveying & Engineering has completed an updated Traffic Impact Assessment (TIA) based on comments received on the EIS and the updated Development footprint. The TIA is included as Appendix D1.8 of the Amendment Report (New England Surveying & Engineering , 2022). Access options were only considered from Waterfall Way (Grafton Road). Silverton Road would not be an access point for the project (staff would be instructed not to use it) but may occasionally be used by light vehicles visitor access the southern portions of the site. **Access options from Waterfall Way (Grafton Road)** The Proponent is seeking approval for proposed access option from Waterfall Way (Grafton Road). The new option is shown in Figure 3-3. This route has been included to provide a viable access route via an existing access road. Turning off Waterfall Way (Grafton Road), via the existing Council landfill access road, and running east to join the Proposal site via a new access track. This option would not require any upgrade at Waterfall Way (Grafton Road) as the existing BAL / CHR-S intersection treatment would be sufficient for Oxley Solar Farm construction traffic. This option has the following constraints and potential impacts: • The internal access road only has width suited for two-way traffic for a length of 100m from the Waterfall Way (Grafton Road) intersection. Widening of the access would be required through a section of TSR within Lot 7003 DP1060201, and for a short distance within Armidale Regional Council's land at Lot 1 DP1206469 • Security fencing and landfill access systems require modification to ensure no unauthorised landfill access • A longer internal access road would require construction within Lot 2 DP1206469 • Culturally significant areas were identified near the route during environmental assessment which would be excluded no go zones during design and construction to avoid impacts. The TIA shows that sight distances are considered safe for proposed access in regards to stopping sight distance, approach sight distance, safe intersection sight distance and minimum gap sight distance.

Issue	Detail of issue	Proponent response
		Transport route and frequency of vehicle movements The estimated peak number of one way trips by vehicles to the Oxley Solar Farm is 96 vehicles per day. This remains consistent with the traffic generation presented in the EIS. The primary transport route would be along Waterfall Way (Grafton Road) from Armidale with construction traffic entering the site directly from Waterfall Way (Grafton Road). The access route is further detailed in the TIA and the Amendment Report, however in summary the local roads expected to be utilised for primary access to site are: • Uralla Road • Kentucky Street • Lambs Avenue • Dangar Street • Barney Street • Waterfall Way (Grafton Road) • Gara Road Solar panels and specialist electrical equipment including inverters and the substation are expected to arrive from overseas manufacture in either Newcastle or Sydney ports, and be freighted to the site by road transport. A small length of Gara Road, which is managed by Armidale Regional Council, would be used to transport materials to the southern and eastern parts of the site.
Soil and Erosion	• Details of surface water management controls for the development, given the high potential for runoff from disturbed areas to natural watercourses flowing into World Heritage Area / National Park immediately downstream. • For example, is additional surface disturbance required for erosion and sediment controls, and if so has this been accounted for in	The refined Development footprint includes all impacts, temporary and permanent, including access and a buffer to account for 'constructability' i.e., installation of environmental controls. The Development footprint for the Proposal is now 268 ha. To supplement the information provided in the EIS, a Soil Impact Assessment (NGH, 2022) and Soil and Water Management Plan (NGH 2022) have been prepared addressing the refined Development footprint. In addition, a Slope Analysis (Jacobs 2022), was undertaken. All three reports are included in Appendix C). A Ground Cover Management Plan will further manage and minimise potential impacts during operation and remains a commitment of the Proposal. As a result of the additional work, which included soil sampling and laboratory analysis of soil

Issue	Detail of issue	Proponent response
	disturbance calculations.	samples, the site is considered to have a topsoil and subsoil that varies from low to high erosion potential. However, it is noted that the actual area of soil impacts due to excavation for solar farms is relatively low and considered highly manageable with standard mitigation strategies.
Biodiversity	• Consideration of BCS comments on BDAR and update of BDAR and credit liability accordingly. • Consideration of further avoidance of Critically Endangered Ecological Community.	The BCS comments are addressed in full below and included in the updated BDAR, attached as Appendix D1.1 to the Amendment Report (NGH , 2022a). Further reductions in impacts to better quality zones for the Critically Endangered Ecological Community Box Gum Woodland (zones 2 and 4 whose Vegetation integrity scores are both over 30 out of 100) has been undertaken, from 6.67ha to 2.6ha; a 6.45ha reduction. In addition, a reduction in hollow bearing tree impacts has been achieved, from 20 to 7.
Non-Aboriginal heritage	Consideration of indirect impacts to State listed and World heritage areas (including relevant considerations under the EPBC Act).	The Gondwana Rainforest of Australia is listed on the National Heritage List and World Heritage List. The Oxley Wild Rivers National Park forms part of the Hastings-Macleay group of the Gondwana Rainforests of Australia. The revised Development footprint has been pushed further from the Oxley Wild Rivers boundary than proposed in the EIS. The closest infrastructure would be approximately 480m from the national park boundary. Considering the Matters of National Environmental Significance under the EPBC Act, indirect impacts on the state, national and world heritage listed national park, the key risk is if erosion and sedimentation are transported into the park from the solar farm via the Gara River. With the exception of upgrades to the Gara River crossing consisting of widening and culvert installation, the nearest infrastructure to the Gara River is 90m from the riverbank. This is well beyond the 40m riparian buffer recommended by the NSW government guidelines for riparian corridors on waterfront land (DPIE , 2012). In addition, the all solar array infrastructure would be constructed on land that has an average slope of 3.13% (refer Slope Analysis now appended in Appendix C). Standard solar farm construction mitigation measures are generally seen as sufficient on slopes 10% or lower. In consideration of the level of community concern regarding risks, significant changes to the Development footprint now include increased setbacks from Blue Hole within Oxley Wild Rivers National Park, as above, in addition to Gara River. These setbacks will significantly reduce any potential visual impacts from the Proposal. The closest infrastructure would now

Issue	Detail of issue	Proponent response
		be approximately 480m distant, in the site's south-eastern corner in additional to reducing potential soil and water impacts on the heritage areas.
Aboriginal heritage	• Confirm requirement for further survey, assessment, updated ACHA and RAP consultation.	Additional surveys have been undertaken since the ACHA was exhibited with the EIS. Intensive test pitting was undertaken with the RAPs and has been reported in a new assessment document, appended as Appendix D1.5 of the Amendment Report (NGH, 2022c). This report was also provided to RAPs for a 28-day review period. No comments were provided. A key output of this work is the development of 'no go' zones to protect sites of significance. These would be protected from Proposals impacts and are shown on the updated constraints mapping, Figure 3-5.
Water supply	• Confirm the volume of water required for the development. The volume noted in the EIS is considered high compared to developments of similar size. • Confirm on-site bore can be operated in accordance with Water Sharing Plan rules. • Modelling of impact of groundwater use from on-site bore.	Since the submission of the EIS, water requirements for the Proposal have been revised as follows: Water would be supplied during construction by a licenced river offtake and not by use of any onsite bore. The Engineering Procurement and Construction (EPC) contractors, would apply for a Water Access Licence under Section 56 of the Water Management Act 2000 for the river offtake. Between 2019 and 2021 the Gara River had two local utility Water access licences WAL (waterregister.waternsw.com.au/water-register-frame). These WALs had a total share component of 6902 ML at 100%. Of that allocation the use was 2077.8 ML (2021/22), 2526.8ML (2019/2020) and 3456.6ML (2018/2019). Between 2019 and 2021 the Gara River had eight unregulated River WALs. These WALs had a total share component of 1065 ML at 1ML per share. Of that allocation the use was 0.0ML. The expected 96 ML required for construction represents about 2% of water allocated but not utilised. This will have negligible impact on water levels and existing users. *Construction* Non-potable water requirements are anticipated to be an upper limit of 200 kilolitres (kL) /day and a total of 96ML for construction of the solar farm. Potable water requirements are anticipated to be approximately 0.4ML during the construction phase. Detailed water requirements would be determined by EPC contractors.

Issue	Detail of issue	Proponent response
		Non-potable construction water would likely be sourced from Gara River which runs through the site. Non-potable water would be taken from the river at a rate of 8-10 l/s to fill tanks on site and/or delivered to water carts by an overhead standpipe. Potable water would be sourced from a commercial potable water supplier, such as the Armidale Regional Council. Water sources would be subject to determination by EPC contractors. *Operation* Run off from the Operations and Maintenance (O&M) buildings would be captured in water tanks. This water would be used for firefighting needs and panel cleaning. Cleaning materials and spare parts would be made available on site for use by the maintenance staff. Panel cleaning may be required during drought conditions. As such, additional panel cleaning may also be required on occasion. As a 'maximum' upper limit, it is estimated that up to 500kL of water would be required to clean all of the panels once. Additional clean water for panel cleaning would be sourced commercially. It is estimated that up to 1ML would be required per year under normal operating conditions. If insufficient water is collected on site from rainwater tanks and dams, water would be obtained from commercial water providers. This has been added to the updated Project description, Appendix A of the Amendment Report. There is no proposal to use a bore located onsite.
Bushfire and Hazards	• PHA required for proposed Battery Energy Storage System. Additional assessment of impacts relating to bushfire, given the development is located within a designated bushfire prone area	A PHA has been undertaken since the submissions of the EIS. The PHA is summarised and included in full in the Amendment Report and appended to the Amendment Report as Appendix D1.9 (NGH, 2022e). The PHA identifies control measure that will be taken to contain fires that have potential to be generated by the BESS. Based on the identified controls, the highest likelihood for these events were rated as very unlikely (i.e., heard of in the industry, but not expected to occur). It should be noted that the Development footprint is predominantly located outside of mapped bushfire prone area. Only 3.4% of the Development footprint is mapped as bushfire prone. The PHA contains an assessment of toxic waste stream potentially caused by the BESS. The

Issue	Detail of issue	Proponent response
		PHA contains enhanced control measures that would be taken to mitigate contamination risk events such as coolant leaks. The controls of the PHA are now included as a mitigation measure and commitment of the Proposal (refer to Appendix B).
Cumulative impacts	• Assess full range of cumulative impacts with adjoining and nearby solar farms (both SSDs and JRPP approved projects), including but not limited to cumulated traffic, visual and noise impacts: - Stringybark - Olive Grove - Metz - New England - Salisbury - Tilbuster Constraints map to be updated to include the adjoining solar farms.	A revised cumulative impact assessment considering this submission has been included in the accompanying Amendment Report. The Amendment Report considers the Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2021). The assessment has noted that moderate cumulative impacts related predominantly to biodiversity, land use, visual amenity, socio-economic factors (e.g. service pressure in Armidale) and traffic would be experienced due to five projects (Armidale BESS, Olive Grove Solar Farm, Stringybark Solar Farm, New England Solar Farm, and Tilbuster Solar Farm). The Proposal commits to consulting with relevant nearby projects to coordinate construction timelines, this will also be assisted through the proposed VPA with Armidale Regional Council. All relevant SSDs and JRPP approved projects are now shown in relation to the Development footprint and updated constraints mapping, Figure 3-5.
Planning Agreement with Council	Confirm any intention to enter into a Planning Agreement with Council	OSD intend to enter a VPA with Armidale Regional Council. These discussions are currently ongoing.
Connection agreement	• Evidence of capacity and connection agreement with Transgrid required Confirm sufficient size for substation (and associated impact assessment if substation station footprint is required to increase)	Negotiations have been ongoing with Transgrid since 2019 and continue to date. This includes the formal connection enquiry process which has confirmed the grid would have the capacity for the energy produced by Oxley Solar Farm. Feedback from Transgrid has been considered in the project design, including the sizing of the substation.
DPE – Crown Lands		

Issue	Detail of issue	Proponent response
Crown Land Reserve Travelling Stock Reserves (TSR's)	The EIS states Lot 7003 and Lot 7004 DP 1060201 would be purchased or leased by Oxley Solar Development Pty Ltd, however these lots are Crown Reserves for the purpose of Travelling Stock and managed by Local Lands Services (LLS). Neither Crown Lands or LLS are in a position to 'lease or sell' Crown land gazetted as TSR. The *Local Lands Services Act 2013* enable landowners/managers to cross TSR to access properties. If powerlines (over or under) are proposed to cross the TSR, arrangements will need to be made with Crown Lands for an easement and/or licence. No infrastructure outside of vehicle access and powerlines can be permitted at this stage on the TSR due to Native Title and Aboriginal Land Claims over this TSR.	The access proposed in EIS is now replaced with a new access road via Waterfall Way (Grafton Road) via the existing Council landfill access road and running east to join the Proposal site via a new access track. Lot 7003 / DP1060201 and Lot 7004 / DP1060201 would not be utilized as vehicle site access as per new proposed access route. The Proponent will not purchase or lease this land. Licences would be sought from DPE-Crown Lands where and if required. This has been added to the updated Project description, Appendix A of the Amendment Report.
Crown Roads	The EIS correctly states that development on Crown roads (infrastructure or access roads) should not occur until Crown roads are closed and purchased by landholders or under licence (stated as lease in EIS) from Crown Lands. The Crown roads within the Proposal area appear to be proposed for the solar farm access road, and infrastructure is proposed on Crown roads within Lot 6 DP 625427 and Lot 5 DP 253346. Crown Lands would prefer the remaining landholders to apply to close and purchase the Crown roads and the solar farm proponent to	Refer response above.

Issue	Detail of issue	Proponent response
	contact Crown Lands to arrange licences as required.	
DPI – Fisheries		
Water Way Crossings	Waterway crossings The construction or upgrade of permanent or temporary access tracks, cabling, transmission line construction, roads and services upgrades across Key Fish Habitat such as the Gara River should be in accordance with DPI - Fisheries Guideline document: Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013). This is to ensure that the works are designed and constructed in accordance with best management practice to ensure fish passage and with minimal impact on the aquatic environment. Riparian buffer zones The EIS recommends that creek lines and retained dams should be planted with native riparian vegetation and transformed into wetlands for wildlife. DPI Fisheries policy advocates the use of native riparian buffer zones as per the Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013) in order to maintain a riparian buffer zone and limit disturbance and susceptibility to bed or bank erosion that may be associated with the proposed solar development. The policy & guideline document recommends the width of riparian buffer zones based on the sensitivity of Key Fish Habitat and the classification	The EIS considers the DPI Fisheries Guideline document: Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013) under Section 6.1.2 'relevant guidelines' and assesses the Proposal against this guideline in Sections 7.3 and Section 8.1. The recommendation to refer to the *DPI Fisheries Policy & Guideline document: Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013)* is now a commitment of the Proposal. The following mitigation measure has been updated to explicitly refer to the Policy and Guideline document (underlined): • Mitigation measure W5 *Any road crossings on watercourses within the Proposal Area would be of the type defined in Table 2 of the Hydrological and Hydraulic Analysis Report was prepared by Footprint NSW Pty Ltd in Appendix F.* *Any proposed crossings (vehicular or service) of existing watercourses on the subject site should be designed in accordance with the following guidelines, and in the case of vehicle crossing should preferably consist of bed level crossings constructed flush with the bed of the watercourse on first and second order watercourses to minimise any hydraulic impact:* • *Guidelines for Watercourse Crossings on Waterfront Land (DPI, 2012)* • *Guidelines for Laying pipes and Cables in Watercourses on Waterfront Land (Office of Water, 2010)* • *Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge, 2003).* • *Policy and Guidelines for Fish Friendly Waterway Crossings (NSW DPI, 2003).* • *DPI Fisheries Guideline document: Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013)*

Issue	Detail of issue	Proponent response
	of the Key Fish Habitat. Note: The "degradation of native riparian vegetation" has been listed as a Key Threatening Process under the provisions of the Fisheries Management Act 1994.	It is noted that the refined Development footprint has now been amended to incorporate greater setbacks from the Gara River to reduce impacts on native vegetation in the riparian zone. This setback distance is at least 90m which is greater than the 40m riparian zone buffers recommended in the NSW government guidelines for riparian corridors on waterfront land (DPIE , 2012) . This setback distance align aligns with the recommended riparian buffer distances outlined in page 4 of DPI – Fisheries' *Policy and Guidelines for Fish Habitat Conservation and Management.* In addition, the Proposal has included an additional commitment: *preparation and implementation of a Wildlife Corridor Connectivity Enhancement Plan*. The aim of the plan would be to improve connectivity in specific areas of the site and to maintain this improvement for the life of the Proposal. The new commitment is included in the updated mitigation measures in Appendix B, as follows: *Preparation and implementation of a Wildlife Corridor Connectivity Enhancement Plan to improve vegetation connectivity in specific areas of the site and maintain this improvement for the life of the Proposal. The plan must… Target areas including:… The Gara River riparian corridor.*
DPI – Agriculture		
Decommissioning: updated site rehabilitation standards	It is noted that full rehabilitation of the site is not proposed in the EIS as any cabling more than 500mm underground may be left in place. It is preferrable that full rehabilitation of the land, including removal of buried infrastructure be undertaken on decommissioning of the development so as not to impede future agricultural practices. Some solar developments have committed to removing all below ground cabling irrespective of depth ensuring that the cost for rehabilitation to remove buried infrastructure is not passed onto future landowners. DPI Agriculture	The Proposal already commits in the EIS that *"Any cabling more than 500mm underground may also be left in place as it would not impact future agricultural activities following rehabilitation of the site".* It is proposed to update this as per below. **This recommendation now forms a commitment of the Proposal. Mitigation measure LU5 will be adjusted as follows (new text <u>underlined</u>):** *A Rehabilitation Plan would be prepared to ensure the array site is returned to at least or better than pre-solar farm land and soil capability. <u>Should full rehabilitation not be possible at the decommissioning stage, any cabling (and buried infrastructure) greater than 500mm underground would be installed in accordance with DPI-Agriculture's 'Primefact: Infrastructure proposals on</u>*

Issue	Detail of issue	Proponent response
	supports this approach. Where full rehabilitation is not possible due to the risk of environmental degradation or there are no innovative installation solutions, buried infrastructure that is planned to remain should be installed with consideration of DPI Agriculture's 'Primefact: Infrastructure proposals on rural land' and in consultation with the land holder.	*rural land'. The Rehabilitation Plan would be developed with reference to the base line soil testing and with input from an agronomist to ensure the site is left stabilised, under a cover crop or other suitable ground cover. The soil survey would be based on:* • *Australian Soil and Land Survey Handbook (CSIRO, 2009)* • *Guidelines for Surveying Soil and Land Resources (CSIRO, 2008)* • *The land and soil capability assessment scheme: second approximation (OEH, 2012)*
NSW EPA		
Resource Use	Based on the information provided, the Proposal does not appear to require an environment protection licence under the *Protection of the Environment Operations Act 1997*. Furthermore, the EPA understands that the Proposal is not being undertaken by or on behalf of an NSW Public Authority nor are the proposed activities other activities for which the EPA is the appropriate regulatory authority. The EPA notes that the Proposal will require up to 75,000 m3 of gravel and 8,500 m3 of sand. If extraction of these materials is to be sourced on site and exceeds 30,000 tonnes per year, this may be considered a scheduled activity under the *Protection of the Environment Operations Act 1997* and an Environment Protection Licence (EPL) may be required. The EPA recommends that if external quarry(s) are providing materials for the Proposal that a condition be included that any quarry	The proponent has calculated the quantity of gravel required for the Proposal to be approximately 25,000m^3 based on the revised layout (Figure 3-3). The calculations assume 1.4 tonnes/m^3 of gravel required equating to approximately 35,000 tonnes. This calculation assumes roads to be 7m wide and an average thickness of 0.25m, with internal roads to each inverter station to be 5m wide and 0.2m thickness. This has been added to the updated Project description, Appendix A of the Amendment Report..

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	supplying greater than 30,000 tonnes of extractive materials per year will be required to hold an EPL.	
TfNSW		
Access Road Upgrade and TIA updates	The proposed solar farm will generate movements on the surrounding road network during construction, operation and decommissioning phases of the development. The primary access route to the site is identified in the EIS as being direct from Waterfall Way. This access will require upgrading prior to construction commencement. The supporting Traffic Impact Assessment (TIA) needs to further demonstrate that access can be located to meet the requirements of Austroads, Australian Standards and TfNSW Supplements. Waterfall Way in this location has a posted speed limit of 100km/h, as such TfNSW is concerned that the minimum safe intersection sight distance (SISD) is unable to be met. Evidence of the SISD being meet in both directions will need to be accepted by TfNSW, alternatively a higher order intersection treatment may be warranted.	New England Surveying & Engineering has completed an updated Traffic Impact Assessment (TIA) based on comments received on the EIS and the updated Development footprint. The TIA is included as Appendix D1.8 of the Amendment Report (New England Surveying & Engineering , 2022). Access options were only considered from Waterfall Way (Grafton Road). Silverton Road would not be an access point for the project (staff would be instructed not to use it) but may occasionally be used by light vehicles visitor access the southern portions of the site. **Access options from Waterfall Way (Grafton Road)** The Proponent is seeking approval for a revised access option from Waterfall Way (Grafton Road). The proposed access is shown in Figure 3-3. Turning off Waterfall Way (Grafton Road), via the existing Council landfill access road, and running east to join the Proposal site via a new access track. This option would not require any upgrade at Waterfall Way (Grafton Road) as the existing BAL / CHR-S intersection treatment would be sufficient for Oxley Solar Farm construction traffic. This option has the following constraints and potential impacts: • The internal access road only has width suited for two-way traffic for a length of 100m from the Waterfall Way (Grafton Road) intersection. Widening of the access would be required through a section of TSR within Lot 7003 DP1060201, and for a short distance within Armidale Regional Council's land at Lot 1 DP1206469 • Security fencing and landfill access systems require modification to ensure no unauthorised landfill access • A longer internal access road would require construction within Lot 2 DP1206469 • Culturally significant areas were identified near the route during environmental assessment which would be excluded no go zones during design and construction to

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		avoid impacts. The TIA shows that sight distances are considered safe for proposed access option in regards to stopping sight distance, approach sight distance, safe intersection sight distance and minimum gap sight distance.
Requirements of Construction traffic Management Plan (CTMP)	A Construction Traffic Management Plan (CTMP) to address traffic and road safety impacts on the road network is required. The CTMP could be prepared in stages addressing the construction, operational and decommissioning phases of the Proposal. The CTMP should be prepared by a suitably qualified person in accordance with relevant guidelines and standards and approved by TfNSW and/or Council prior to construction commencing. A Driver Code of Conduct should be included.	Acknowledged. **A** Traffic Management Plan and Driver Code of Conduct are existing commitments of the Proposal.
Developer Requirements	Any roadwork on classified (State) road/s is to be designed and constructed in accordance with the current Austroads Guidelines, Australian Standards and TfNSW Supplements.	As per Section 4.6.4 of the EIS, *Proposed intersection upgrades were developed in consultation with Transport for NSW and based on criteria within the Austroads Guide to Road Design.* Mitigation measure T6 in the EIS states: *The design and construction of four (4) new heavy vehicle property accesses between Gara Road and the development site, in a manner consistent with Armidale Regional Council Engineering Code and Austroads guidelines.* The Traffic Impact Assessment undertaken for the EIS by New England Surveying & Engineering (New England Surveying & Engineering, 2021) for the proposed construction, operation and decommissioning of Oxley Solar Farm, in accordance with the guidelines contained within the following publications: • Austroads Guide to Traffic Management Part 12 and TfNSW supplement. • Austroads Guide to Road Design and TfNSW supplements. • TfNSW (RTA) Guide to Traffic Generating Developments.

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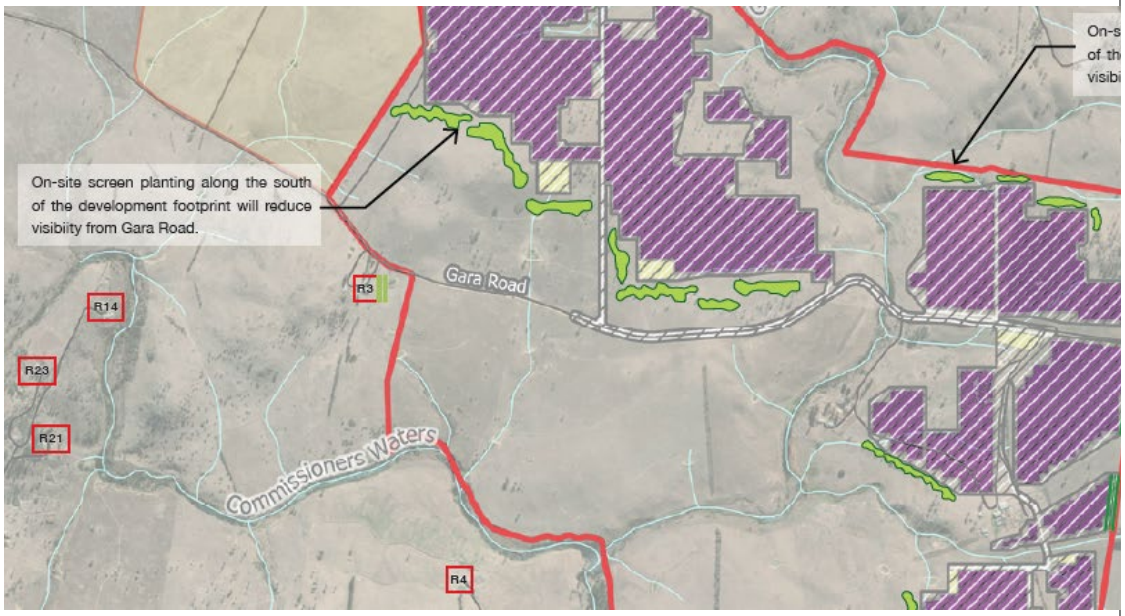
	The Developer is responsible for mitigating the impact of glare on public roads over the life of the Proposal. Where the impact of glare is identified as a hazard to road users then the Developer will be responsible for installation of suitable mitigation to address the impact on the public road.	Generally, reflectivity of solar farm infrastructure is considered lower than surrounding rural infrastructure. The primary function of PV panels is to absorb sunlight rather than reflect it. The technical process in manufacturing PV panels includes an anti-reflection, hydrophobic layers that minimises potential for sunlight reflection. The updated visual assessment considered glare further concludes that three sections of public road may experience yellow glare and that sections of Silverton Road, Gara Road, Blue Hole Road warrant screen planting as mitigation, now included in the Landscaping plan, in the central section of the site. Extract provided below. The full assessment is included as Appendix D1.3 of the Amendment Report (NGH 2022)  Figure 4-9 Proposed planting in the central part of the project site to mitigate impacts on Silverton and Gara Roads.
	The developer will be required to enter into a Works Authorisation Deed (WAD) with TfNSW for	As per the 'Land use information – Notes for private developers' (RTA, 2007): *A works authorisation deed is a formally executed common law agreement between the RTA*

Issue	Detail of issue	Proponent response
	any roadwork deemed necessary on the classified (State) road. The developer will be responsible for all costs associated with the roadwork and administration for the WAD. It is recommended that developers familiarise themselves with the requirements of the WAD process.	*and the developer. It is entered into after the DA has been approved and prior to approval of design drawings. The deed authorises the developer to implement road works or other works for which the RTA has a statutory interest, subject to the following prescribed requirements and conditions, among others:* • *Geometric road design and pavement design approval.* • *Construction specifications.* • *Project management plans.* • *Insurances.* • *OH&S and quality.* • *Environmental impact assessment and management.* • *Security bond (unconditional bank guarantee) equal to the value of works proposed.* • *RTA fees and charges for design reviews, project management, administration and construction surveillance.* • *Road occupancy licence.* The proponent would enter into a WAD with TfNSW once development approval has been received and intersection designs are provided to TfNSW as required under Section 138 of the Roads Act. No changes to the Proposal are required.
Heritage NSW – Aboriginal Cultural Heritage		
Further Discussion	During the consultation process RAPs have noted the presence of a "*number of significant cultural sites*" in the local region and within the Proposal site (NGH 2020: 44). There is no further discussion of these sites and it is unclear if the management and mitigation measures proposed consider harm to these sites as a result of the Proposal.	The significant cultural sites referred to by RAPs are located near the confluence of the Gara River and Commissioner's Waters and the Blue Water Hole site, which is located within the Oxley Wild Rivers National Park to the immediate south of the Proposal. These cultural sites are significant and form part of local song lines. In response to this cultural information and changes in the Proposal footprint design a programme of archaeological subsurface testing was conducted in those parts of the Proposal area nearest the areas of cultural concern (NGH 2022c). In response to the subsurface testing report one comment was received from RAPs within the 28-day review

Issue	Detail of issue	Proponent response
		period, stating the land is culturally significant and they wish for as much cultural heritage as possible to be preserved and recovered. The respondent also stated that upon receipt of the report, they were happy with the work that was completed, satisfied with the participation and approved of the report with no further comments to add. The original Proposal development footprint bordered but did not impose on the culturally identified song line areas. Subsequent to the subsurface testing programme and report (NGH 2022c), the updated development footprint for the Proposal (Figure 3 4) removed infrastructure an additional 500m to 1000m away from the areas of concern. Additionally, within the boundary of the Proposal, areas identified as having potential archaeological interest have been defined as “no go zones” to ensure no development may cause harm to cultural heritage potentially connected or related to the song line areas (Figure 3 5). The updated development footprint for the Proposal therefore is removed considerably from the areas of cultural heritage concern and puts in place specific buffers to ensure against encroachment on these areas. No further assessment was required in the report on these areas due to the footprint changes but this should have been conveyed in the report discussion.
Recommended updates	Further assessment of the cultural heritage values of the Proposal site and an updated impact assessment to these values is required to inform Additional management and mitigation measures to manage harm to Aboriginal cultural heritage. Heritage NSW provides the following recommendations in addition to the management and mitigation measures included in the ACHAR and the EIS: • Further analysis and description of the “significant cultural sites” referenced in the ACHAR is required. A cultural values assessment by a suitably experienced and qualified anthropologist is recommended.	The Aboriginal Cultural Heritage Assessment (ACHA) Report provided with the EIS was provided for the required 28-day review period. No comments were provided however it is noted that engagement was continuous during the development of the initial field survey methods, through implementation, development of the testing pitting survey method and implementation of these surveys. Additional surveys have been undertaken since the ACHA was provided. Intensive test pitting was undertaken with the RAPs and has been reported in a new assessment document, appended as Appendix D1.5 to the Amendment Report (NGH 2022). This report was also provided to RAPs for a 28-day review period. One RAP group provided comments during this time and the assessment has now been finalised. A key output of this work is the development of ‘no go’ zones to protect sites of significance. These would be protected from Proposal impacts and are shown on the updated constraints mapping, Figure 3-5. • The significant cultural sites identified by RAPs have been considered and investigated through the archaeological subsurface testing programs and subsequent

Issue	Detail of issue	Proponent response
	• An updated cultural significance assessment is required that addresses the potential intangible heritage values within the Proposal area. This should be developed in reference to the Burra Charter and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (2011). • An updated impact assessment of harm to any of the identified cultural heritage values as a result of the above is required. This will inform any additional management or mitigation measures that are identified as a result of this assessment. • The recommended archaeological test excavation must be completed prior to approval so the results may inform appropriate conservation and mitigation conditions. • The recommended community collection must be completed prior to the commencement of construction and/or ground surface impacts within the Proposal area. • A methodology for archaeological test excavation and community collection is required prior to both activities occurring. This should include a methodology for the long term management of any objects collected during these activities. The methodology should be developed in	amendment to the Proposal area development footprint to ensure there can be no impact upon them. Through the consultation process RAPs have expressed their satisfaction with these findings as reported in NGH 2022c and the amendments to Proposal development footprint to protect the culturally significant sites they identified. • The potential for intangible heritage values that relate to song lines beyond the Proposal area have been addressed to the satisfaction of RAPs through the archaeological subsurface testing programme and report described above. • The outcomes of the archaeological subsurface testing programme and the agreement of RAPs with the subsequent actions in moving development activities further from the Proposal boundary and also creating “no go” buffer zones between development and the Proposal boundary effectively obviate the need for updated impact assessment of harm. • The archaeological subsurface testing programme was conducted and outcomes approved by RAPs • Following the completion of the subsurface testing and upcoming surface salvage collection programs, the collected and analysed artefact assemblage will be placed in an appropriately labelled box to then be reburied at a location agreed upon by archaeologists, RAPs, Oxley Solar and the landowners. The reburial site will be recorded and photographed, and this information will be submitted by NGH in a new site card to AHIMS. Artefacts determined by RAPs to be culturally significant, such as axes for example, will be stored at the Armidale Aboriginal Cultural Centre And Keeping Place (128 Kentucky St, Armidale New South Wales 2350) under an approved Care Agreement. • The subsurface testing program was undertaken in accordance with the Code of Practice for Archaeological Investigations and included an excavation methodology detailed in NGH 2022c pages 61 to 63. • New site cards have been submitted to AHIMS for newly recorded surface and subsurface sites within the OSF Proposal Site. Details of site cards submitted to AHIMS are described in the Archaeological subsurface testing report (NGH 2022c).

Issue	Detail of issue	Proponent response
	consultation with the RAPs with appropriate review timeframes. • The finalised version of the ACHAR submitted with the EIS must be provided to the RAPs for review and any comments are to be included in the final document. • All sites should be registered with AHIMS. Aboriginal Site Impact Recording Forms must be submitted to AHIMS following the test excavation, community collection, any future salvage excavation and after construction of the proposed works. • An Aboriginal Cultural Heritage Management Plan must be developed for the proposed works to be included with the overall Construction Management Plan. This plan must be completed in consultation with the RAPs. • An Aboriginal Cultural Heritage Induction should be provided to all staff, contractors and sub-contractors involved with the Proposal during construction and operation of the Proposal site.	• NGH has formally advised the Proponent to prepare a CHMP to address the potential for finding additional Aboriginal artefacts during the construction of the OSF and for the management of known sites, artefacts, PADs, and designated “no go zones” within the Proposal Site. The Plan should include an unexpected finds procedure to deal with construction activity. Preparation of the CHMP should be undertaken in consultation with the RAPs. A draft unexpended finds procedure was further provided to the Proponent in Appendix D of the Archaeological Subsurface Testing report (NGH 2022c). • NGH has formally advised the Proponent that all employees, contractors and visitors to the OSF area should participate in a Cultural Heritage Induction that outlines the location of sites, obligations regarding no go zones and access outlined in the recommendations of the report (NGH 2022c) and any other information the RAPs agree to share about the sites located in the OSF Proposal Site.
Water NSW		
No Comment	Water NSW provided no comments on the EIS. The Proposal is not located near any WaterNSW land, assets or infrastructure.	Noted.

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DPE Water and Natural Resources Access Regulator (NRAR)		
Pre-approval Water security requirements	As a standpipe/pump is proposed on the Gara River/Commissioners Waters an impact assessment on the local hydrology and ecology is required of the works construction and take of water from the extraction point. This impact assessment is also needed to address the relevant trading and access rules in the *Water Sharing Plan for the Macleay Unregulated and Alluvial Water Sources*. It is also required to enable relevant exclusions to apply for the requirement to obtain a water supply work approval under the *Water Management Act 2000*. Assessing against the total volume of entitlement in the water source as provided in the EIS is not adequate to confirm water availability or to assess local impacts.	Since the submission of the EIS, water requirements for the Proposal have been revised as follows: Water would be supplied during construction by a licenced river offtake and not by use of any onsite bore. The Engineering Procurement and Construction (EPC) contractors, would apply for a Water Access Licence under Section 56 of the Water Management Act 2000 for the river offtake. Between 2019and 2021 the Gara River had two local utility Water access licences WAL (waterregister.waternsw.com.au/water-register-frame). These WALs had a total share component of 6902 ML at 100%. Of that allocation the use was 2077.8ML (2021/22), 2526.8ML (2019/2020) and 3456.6ML (2018/2019). Between 2019 and 2021 the Gara River had eight unregulated River WALs. These WALs had a total share component of 1065ML at 1ML per share. Of that allocation the use was 0.0ML. The expected 96 ML required for construction represents about 2% of water allocated but not utilised. This will have negligible impact on water levels and existing users. *Construction* Non-potable water requirements are anticipated to be an upper limit of 200 kilolitres (kL) /day and a total of 96ML for construction of the solar farm. Potable water requirements are anticipated to be approximately 0.4ML during the construction phase. Detailed water requirements would be determined by EPC contractors. Non-potable construction water would likely be sourced from Gara River which runs through the site. Non-potable water would be taken from the river at a rate of 8-10 l/s to fill tanks on site and/or delivered to water carts by an overhead standpipe. Potable water would be sourced from a commercial potable water supplier, such as the Armidale Regional Council. Water sources would be subject to determination by EPC contractors. *Operation* Run off from the Operations and Maintenance (O&M) buildings would be captured in water tanks. This water would be used for firefighting needs and panel cleaning. Cleaning materials and spare parts would be made available on site for use by the

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		maintenance staff. Panel cleaning may be required during drought conditions. As such, additional panel cleaning may also be required on occasion. As a 'maximum' upper limit, it is estimated that up to 500kL of water would be required to clean all of the panels once. Additional clean water for panel cleaning would be sourced commercially. It is estimated that up to 1ML would be required per year under normal operating conditions. If insufficient water is collected on site from rainwater tanks and dams, water would be obtained from commercial water providers. This has been added to the updated Project description, Appendix A of the Amendment Report
	The Proponent needs to demonstrate the ability to access sufficient entitlement by identifying potential willing sellers or available entitlement to trade with. The proponent is yet to demonstrate the ability to acquire a water entitlement to account for potential water take from the unregulated Gara River or Commissioners Waters water source. Whilst there is sufficient entitlement available in these water sources there are limited licences available and limited evidence of active trading hence this needs to be addressed to mitigate a potential risk to the Proposal.	A water use approval (Section 89 of the *Water Management Act 2000)*, a water management work approval (Section 90 of the *Water Management Act 2000)* or an activity approval (Section 91 of the *Water Management Act 2000)* is not required for SSD projects under Section 4.41 (g) of the EP&A Act. The Proposal would source water from the Gara River during periods of sufficient flow. Gara River is located within and adjacent to the Proposal site and it is also referred to as the Gara River Water Source with WALs described as above. As the river is located within the proposal site there is an opportunity to establish head works and draw water from the river when flows are sufficient. To establish headworks at the Gara River Engineering, Procurement and Construction (EPC) contractors would apply for and obtain a water access licence under Section 56 of the *Water Management Act 2000,* this would occur pre-construction. The impact of drawing the 96ML over the 12–18 month construction period is considered acceptable because ample remaining water is available in the system based on previous year's figures. The Proposal would source water from the Gara River during periods of sufficient flow. Commissioners Waters are not located within the Proposal site and are not proposed to be accessed for the Proposal. Rainwater tanks (40,000L) would be installed throughout the site, they could also be filled from the Gara River during periods of high flow to safeguard water availability. Remaining water requirements would be sourced from local water suppliers and trucked onto site. These

Issue	Detail of issue	Proponent response
		agreements would be organised by EPC contractors prior to construction. No groundwater bores would be established to provide water for the Proposal, and as such the requirement for a water extraction licence is not required. Water access is not considered a high risk at this stage. Water sourcing would be undertaken by the project EPC contractors. This will form part of the competitive tendering arrangements for the Proposal.
	The Proponent needs to confirm the availability and access to viable water supplies where this is to be provided from a water supplier, or existing authorised sources including farm dams. Insufficient information has been provided to confirm access to a secure water supply for the 130ML of construction water and 22ML of ongoing operation water for this Proposal. Options have been proposed such as a standpipe on a river, the use of dams which are subject to rainfall/evaporation, rainwater tanks and tankering to the site. However, the ability to obtain the necessary water from these sources and the associated agreements and impact assessments has not been provided. This represents a commercial risk to the Proposal.	Response addressed above. Note that construction water usage has been revised to 96ML over the 12–18month period and up to 1ML per year through Operation.
Post -approval mitigation requirements	Following the land subdivision, the size of farm dams needs to be reviewed to ensure the dam size does not exceed the Maximum Harvestable right Dam Capacity (MHRDC) for each landholding. If the MHRDC is exceeded the dams will need to be resized or relevant approvals and licences sought under the *Water Management Act 2000*.	Some farm dams may be removed for the construction of the solar farm. This decision will be made when the final layout plans are prepared. Water would be supplied during construction by a licenced Engineering, Procurement and Construction (EPC) contractors as described above.

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	Works within waterfront land are in accordance with the Guidelines for Controlled Activities on Waterfront Land (NRAR 2018).	The EIS identifies the relevant guidelines for activities on waterfront land for the proposed activities within the Proposal site as below: • *Guidelines for Watercourse Crossings on Waterfront Land* (access tracks). • *Guidelines for Riparian Corridors on Waterfront Land* (Proposal layout). • *Guidelines for Laying pipes and Cables in Watercourses on Waterfront Land* (underground infrastructure).
	The proponent must comply with the rules of the relevant water sharing plans.	The EIS identifies that the Proposal site is subject to the *Water Sharing Plan for the Macleay Unregulated and Alluvial Water Sources*. Oxley Solar Development Pty Ltd would comply with these plans.
	The proponent must ensure that relevant nomination of work dealing applications for Water Access Licences proposed to account for water take by the Proposal have been completed prior to the water take occurring.	Water sourcing would be undertaken by licenced EPC contractors. This will form part of the competitive tendering arrangements for the Proposal.
	The proponent must obtain relevant approvals and licences under the *Water Management Act 2000* before commencing any works which intercept or extract groundwater or surface water (including from on-site dams where necessary).	Acknowledged, see above. To establish headworks at the Gara River, EPC contractors would apply for and obtain a water access licence under Section 56 of the *Water Management Act 2000,* this would occur pre-construction. A water use approval (Section 89 of the *Water Management Act 2000)*, a water management work approval (Section 90 of the *Water Management Act 2000)* or an activity approval (Section 91 of the *Water Management Act 2000)* is not required for SSD projects under Section 4.41 (g) of the EP&A Act.
	The proponent should prepare a Construction and Operational Environmental Management Plan (incorporating an Erosion and Sediment Control Plan) prior to commencement of activities.	The EIS includes this provision to: *All commitments and mitigation measures would be managed through the implementation of a Project Environmental Management Strategy (EMS). The EMS would comprise a Construction Environmental Management Plan (CEMP), an Operation Environmental*

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		Management Plan (OEMP) and a Decommissioning Environmental Management Plan (DEMP). These plans would be prepared sequentially, prior to each stage of works by the contractor (CEMP, DEMP) and proponent (OEMP). *As part of the CEMP, a Soil and Water Management Plan (SWMP) (with erosion and sediment control plans) would be prepared* (mitigation measure S1).
	Access roads within floodplains should be constructed to less than 150 millimetres above the natural ground to align with the exemption for flood work approvals in Clause 50 of the Water Management (General) Regulation 2018.	Acknowledged. Mitigation measure W6 has been updated as follows (new text underlined): *Access roads within the floodplain should be constructed as close to natural ground levels (less then 150mm) as possible so as not to form an obstruction to floodwaters.*
NSW RFS		
Fire Management Plan (FMP)	The NSW RFS recommends the preparation of A Fire Management Plan (FMP) shall be prepared in consultation with NSW RFS New England Fire Control Centre.	The EIS already commits to developing a Bush Fire Management Plan (mitigation measure BF3) that would include but not be limited to: • *Specific management of activities with a risk of fire ignition (hot works, vehicle use, smoking, use of flammable materials, blasting).* • *Incorporation of fire safety and response in staff and contractor induction, training, OHS procedures and Work Method Statements.* • *Designation of a staff safety officer tasked with ensuring implementation of the plan and regular liaison with firefighting agencies.* • *Document all firefighting resources maintained at the site with an inspection and maintenance schedule.* • *Monitoring and management of vegetation fuel loads.* • *A communications strategy incorporating use of mobile phones, radio use (type, channels and call-signs), Fire Danger Warning signs located at the entrance to the site compounds, emergency services agency contacts.* *In developing the Bush Fire Management Plan, NSW RFS would be consulted on the volume of water supplies, fire-fighting equipment maintained on-site, fire truck connectivity*

Issue	Detail of issue	Proponent response
		requirements, proposed APZ and access arrangements, communications, vegetation fuel levels and hazard reduction measures.
Asset Protection Zones (APZs)	The entire solar array Development footprint to be managed as an Asset Protection Zone as outlined within Appendix 4 of 'Planning for Bush Fire Protection 2019' and the NSW Rural Fire Service's document 'Standards for Asset Protection Zones'.	Acknowledged. The recommendation is now a commitment of the Proposal. Mitigation measure BF4 in the EIS shall be updated as follows (underlined): *An APZ of minimum 10m would be maintained between all vegetation and solar farm infrastructure within the Development Footprint. The APZ around the perimeter of the site would incorporate a 4m wide gravel access track.* *Average grass height within the APZ would be maintained at or below 5 centimetres on average throughout the August-March fire season. Average grass height outside the APZ, including beneath the solar array, would be maintained at or below 10 centimetres throughout the fire season.* *The preparation and management of the APZ shall be conducted in accordance with the*: • Appendix 4 of *'Planning for Bush Fire Protection 2019'*, and • NSW RFS's *'Standards for Asset Protection Zones'*
	A 20,000-litre water supply (tank) fitted with a 65mm storz fitting shall be located adjoining the internal property access road within the required APZ.	Table 4-4 in the EIS states that a 20,000-litre water tanker would be utilised during construction, however this was not specified as a commitment in the EIS. The recommendation is now a commitment of the Proposal. Mitigation measure BF6 in the EIS shall be updated as follows (underlined): *Appropriate fire-fighting equipment would be held on site to respond to any fires that may occur at the site during construction. This equipment would include fire extinguishers, a 1000 litre water cart (fitted with suitable hosing, fittings and diesel firefighting pump) retained on site on a precautionary basis, particularly during any blasting and welding operations.* *Additionally the Development footprint will house a 20,000-litre water supply (tank) fitted with a 65mm storz fitting shall be located adjoining the internal property access road within the required APZ.*

Issue	Detail of issue	Proponent response
		Equipment lists would be detailed in Work Method Statements.
	To allow for emergency service personnel to undertake property protection activities, a 10-metre defendable space (APZ) that permits unobstructed vehicle access is to be provided around the perimeter of the solar array development site(s) including associated infrastructure.	Mitigation measure BF4 in the EIS already states: *An APZ of minimum 10m would be maintained between all vegetation and solar farm infrastructure within the Development Footprint.* This APZ is of sufficient width to permit unobstructed vehicle access around the perimeter of the Development footprint.
Transgrid		
Environment: Data and communication requests	Transgrid request that the proponent provide shape files of the Proposal to confirm that Transgrids easement is being avoided and appropriate setbacks are in place; liaise with Transgrid when finalising the design of proposed 132kV Substation, to ensure the substation is constructed as per Transgrid's standards; and provide shape files of proposed connection between the substation and Transgrid's transmission line. The proponent is to continue liaising with Transgrid to satisfy clause 5.3.4 of the National Electricity Rules and determine the terms of ownership, maintenance and operation of new 132kV substation.	The Connection Agreement process with Transgrid has progressed to the completion of the "Connection Enquiry" stage. The next "Application to Connect" stage will be progressed with Transgrid once the Environmental Assessment process has provided some certainty in outcome. Shape files have been sent to Transgrid reflecting the latest project Development Footprint.
Business growth: Client engagement	The proponent will need to engage with Transgrid via the a Connection Process Agreement in order to finalise the connection to Transgrid's network.	Noted.

Issue	Detail of issue	Proponent response
Property Land Economist: Substation footprint revision	The Proposal does not appear to have allocated adequate land for the substation site. The proposed site is only 50m x 100m. The minimum allotment should consist of the footprint of the substation defined by the security palisade fence, any ancillary buildings and 20 metres of freehold buffer land surrounding all buildings and the substation. The proponent should reappraise the proposed footprint for the substation site and scale up the size of the substation site as required.	The Proponent has noted Transgrid advice regarding land areas required and has amended the details of the solar farm layout to adhere to these requirements. Further detailed liaison with Transgrid will be ongoing during the subsequent "Application to Connect" stage.
Heritage NSW – Heritage Council of NSW		
Historic Heritage	The assessment of historic heritage items and the potential impact on these from the Oxley Solar Farm Proposal as outlined in the above report does not meet the requirements of the SEARs and does not follow the guidelines in the NSW Heritage Manual 2001. Heritage NSW is not satisfied with the assessment of potential impacts on heritage items outlined in *8.5.3. Potential Impacts* of the *Environmental Impact Statement, Oxley Solar Farm* as it does not mention the State Register Items Gondwana Rainforests of Australia SHR no. 01002 and the Gara River Hydro-Electric Scheme SHR no. 00986 in the assessment, despite these items being immediately adjacent to the Proposal.	The curtilage of the Gondwana Rainforests of Australia is approximately 480m distant from the nearest infrastructure proposed. This is listed both on the National Heritage List of Australia as well as the world heritage list. No impacts are anticipated. The heritage value of the Gara river Hydro-electric station (Hydro-Electric Scheme SHR no. 00986) was noted in Section 8.5 of the EIS. The Proposal borders the state heritage listed items curtilage to the south. However, no heritage features are located within proximity of the Development Footprint, and this was confirmed from site inspections. No impacts are considered likely to occur to any Non-Indigenous heritage items as a result of the Proposal.
Historical	It is noted that the EIS does not contain an	The *Updated Historic Heritage Assessment*, provided in full with the Amendment Report,

Issue	Detail of issue	Proponent response
Archaeology	Historical archaeological assessment despite the requirement for it to be addressed in the SEARs. Accordingly, the above NGH report does not meet the requirements of the SEARs. It is recommended the archaeological assessment is completed as soon as possible to ensure this potential archaeological resource is appropriately managed. The archaeological assessment should be in accordance with HNSW guidelines and be completed by a suitably qualified historical archaeologist. This assessment should identify whether relics of local or state significance may be harmed by this activity and whether appropriate mitigation measures or alteration of the design should occur based on the significance of the relics which may be present.	has been updated to include a section on the broader archaeological potential of the site. The archaeological potential of the Proposal site relates to the historical practices described in the previous sections, namely settlement, pastoral and agricultural, and goldmining. Pastoral and agricultural activities date from the 1830s, when squatters began expanding west through NSW after initial exploration expeditions were conducted by John Oxley in 1818. These pastoral and agricultural industries continue to the present-day. By 1852, the Proposal site and region was mostly cleared of vegetation to provide grazing country to cattle and sheep as the pastoral industry became more and more widespread across the region. In addition to the expanding pastoral industries, the surrounding Hillgrove and Metz regions developed into goldmining precincts from 1877. Archaeological materials within the area could relate to any one of these industries including, early accommodation and personal belongings, as well as infrastructure, machinery, and equipment. As much of the area remains used for pastoral and agriculture purposes, existing properties may contain residences and associated agricultural structures that may have survived from these initial days of industrial expansion. Based on this regional history, the archaeological potential of the Development footprint could include remains of: • fences and gates, nails, and structural fittings • animal stock runs • sheds, and pens/stock yards • dams • shearing sheds and accommodation • work and storage sheds • stockyards • communications infrastructure • local sealed and unsealed roads and tracks • farming equipment, such as ploughs and tractors

Issue	Detail of issue	Proponent response
		• saddlery; and • personal belongings of stockmen, such as clay pipes, smoking accessories, leather and potentially other fabric remains, such as buttons; and glass bottles Assessment of potential impacts to these features has concluded the Cottage site (CS) 1 – was identified as an archaeological site of former rural house but no impacts were assessed as the area will be avoided during the works. The report concluded that there was no assessed impact to archaeology at the site.
DPE – BCD		
Native Vegetation Cover: BDAR	The native vegetation cover assessment must include the subject land in accordance with the Biodiversity Assessment Method operational manual.	The definition has been updated in Section 1 and throughout the assessment. It includes all areas that may be subject to the activity and to which the BAM is applied and is synonymous with the Development footprint for this Proposal.
Category 1 exempt land assessment: BDAR	The BDAR must be updated to assess the area between Gara Road and the Gara River as Category 2 regulated land.	This has been updated in the BDAR. No impacts are now proposed in this area.
Threatened species habitat: BDAR	The BDAR must be updated to include reference to the important habitat maps for the swift parrot and the regent honeyeater	These maps are now included as Figure xx, Section xx of the Amendment Report (NGH 2022).
Indirect impacts: BDAR	Further consideration must be given in the BDAR to identifying indirect impacts immediately adjacent to the Development footprint and determining whether biodiversity credits are required to offset these impacts.	Consideration has occurred in three ways: In terms of how the impacts areas have been calculated, instead of buffering an indicative layout, a more refined Development footprint based on further civil design has been developed, to provide greater certainty regarding the extent of the final infrastructure layout. This includes 'constructability' buffers, to ensure the areas presented are inclusive of all environmental controls and activities required to construct and operation the Proposal. No soil or vegetation disturbance would occur outside of this area.

Issue	Detail of issue	Proponent response
		In consideration of indirect impacts, for a solar farm these are primarily during the construction period and include noise and vibration for 12 – 18 months. The peak construction period would be a shorter period of about 6 to 9 months. They would be more intense than existing farm operations but are not considered to require offsetting. During operation, routine maintenance traffic and noise from inverters is anticipated to be not greatly higher than existing noise impacts generated by agricultural use. Fences, and the barrier they may cause to wildlife movement is the more significant impact. This has been considered further in Section 7.2. Thirdly, while considered a low risk for solar farm construction, in consideration of concerns regarding soil and water contamination impacts, the Proposal has undertaken to commit to greater set backs from Gara River and the National Park. To supplement the information provided in the EIS, a Soil Impact Assessment (NGH, 2022) and Soil and Water Management Plan (NGH 2022) have also been prepared addressing the refined Development footprint.
Serious and Irreversible impacts: BDAR	Further avoidance of the Critically endangered Ecological Community White Box Yellow Box Blakely's Red Gum Woodland vegetation zones 2 and 4 needs to be included into the Proposal and the BDAR updated accordingly	Further avoidance of zones 2 and 4 has been undertaken. BDAR v2.2 Zone 2 = 5.4ha ; now reduced to 1.47ha. BDAR v2.2 Zone 4 = 3.9ha; now reduced to 1.16ha. The Proposal now commits that no solar panels would be installed in areas of Box Gum Woodland with a vegetation integrity score of 30 or more. Only impacts that cannot be avoided (limited fencing and access alignments) are now proposed within this vegetation.
Management Plans: BDAR	Further detail should be provided on the scope of the proposed management plans and actions identified in the BDAR to clarify the areas to which they apply and the rehabilitation targets for these areas.	The management plans now committed to include: • Biodiversity Management Plan to regulate activity in vegetation and habitat adjacent to the proposed development and guide rehabilitation • Wildlife corridor connectivity enhancement plan to improve connectivity in specific areas of the site and to maintain this improvement for the life of the Proposal. • Groundcover management plan to monitor and retain ground cover beneath the solar array modules. Further detail on their scope and relevant targets is included in Section 8.2.

Issue	Detail of issue	Proponent response
		Other plans to be developed that will assist biodiversity outcomes include the Construction environmental management plan – the framework document to hold all construction subplans – and an erosion and sediment control plan and a Rehabilitation plan to ensure the array site is returned to at least or better than pre-solar farm land and soil capability, with reference to base line soil testing and with input from an agronomist.
Impacts to National Parks Estate: EIS	Further information is required in the EIS to address the NPWS Estate issues relating to acknowledgment of existing NPWS Estate values, and potential direct and indirect impacts on NPWS Estate and its values including but not limited to, sedimentation, erosion, stormwater runoff, fire management, visual amenity at Blue Hole Road, Blue Hole Picnic Area and the Waterfall Walking Track, and cumulative impacts from state significant developments in the locality.	The EIS addressed these matters which have been further reduced by the commitment to additional set backs from both Gara River and Oxley Wild River National Park. The updated assessment against key matters is as follows: • Erosion and sedimentation: Removal of vegetation and disturbance of groundcover from construction activities will expose the soil and increase the risk of erosion. A Soil and Water Management Plan (SWMP) with erosion and sediment control plans has been prepared and included in the Amendment Report (NGH, 2022g). Safeguards and best practice works in an near waterways ensure this risk is manageable. • Stormwater runoff: The discharge of stormwater to this land poses a threat to the values of land and downstream environments. Management as per Erosion and sedimentation. • Bushfire: fire is a natural and recurring factor which shapes the environment. However, altered fire regimes may pose a significant threat to life, property and other values including biodiversity, cultural heritage and tourism, and the onset of climate change may exacerbate these risks. Bushfire management commitments apply to both construction and operation to manage potential fire ignition and fighting of fires. The Proposal has considered bush fire guidelines and set backs and committed to the preparation of an Emergency Response Plan. • Visual amenity as updated in Appendix D1.3 of the Amendment Report : o The distance of the nearest solar farm infrastructure to the Blue Hole picnic table has increased by 810m and is now 1,285m distant. o The distance of the nearest solar farm infrastructure to the Threlfall walking track has increased by 498m and is now 1,165m distant o The Amended Proposal eliminates the potential to view the Project from Blue

Issue	Detail of issue	Proponent response
		Hole Picnic Area. ○ Opportunities to view the proposal from Threlfall Walking Track are limited due to vegetation. ○ Refer to Figure 4-1 and Figure 4-2. • Cumulative visual impacts from other solar farms either approved or being assessed for approval, two were identified as relevant to the cumulative impacts of the Oxley Solar Farm: **Stringybark Solar Farm (APPROVED)** sited adjacent to the north western boundary of Oxley Solar Farm. A cumulative visual impact is likely to be felt by motorists travelling along Gara Road as they pass both projects, however in consideration of the mitigation measures proposed for each Project, the cumulative impacts are likely to be low. **Olive Grove Solar Farm (APPROVED)** located to the northwest of the Oxley Solar Farm Site, off Grafton Road. Due to the limited visibility of the Oxley Solar Farm Project and proposed mitigation measures, opportunities to view both projects from nearby dwellings is likely to be low
DPE Hazards		
BESS PHA	It is understood from EIS Section 4.4.7 that the SSD includes a battery energy storage system (BESS) capable of delivering 50MW, comprising of 25 x 40 ft battery containers, centralised close to the substation as indicated in EIS Figure 1-9. Such a BESS is significantly large (exceeding 30 MW) to require a preliminary hazard analysis (PHA) to be submitted, inline with the approach for prior SSDs. Although we note some consideration for the BESS in EIS Section 8.7.2, further noting EIS Table 8-18,	A PHA has been undertaken since the submissions of the EIS. The PHA is summarised and included in full in the Amendment Report and appended to the Amendment Report as Appendix D1.9 (NGH, 2022e). The PHA identifies control measure that will be taken to contain fires that have potential to be generated by the BESS. Based on the identified controls, the highest likelihood for these events were rated as very unlikely (i.e., heard of in the industry, but not expected to occur).

Issue	Detail of issue	Proponent response
	ID BF13 stating “designing appropriate separation and isolation between battery containers and between batteries and other infrastructure”, it remains uncertain if these separation distances will consider recent developments into research and standards for BESS. As such, we request the PHA in consideration of the guidance below, be submitted with the RTS.	
Armidale Regional Council (Submission from the Mayor)		
Visual impact	The report notes (p.229) that approximately 84% of the proposed Development footprint has a slope of between 10% and 33%. One of the highest impact viewing points is less than a kilometre from the Armidale Region's iconic "Blue Hole" visiting site. This has been a cherished recreation zone for generations of locals. It is located on the southern end of the proposed Oxley development and forms part of the Oxley Rivers National Park and UNESCO World Heritage Rainforest network. EIS p.252 notes that *"the Gara River Hydro-Electric Scheme curtilage is directly adjacent to the southern border of the Project Area. This item is listed on the NSW State Heritage Register (00986), Armidale Regional Council Local Heritage Register and s.170 NSW State agency heritage register."* In addition to its significant Indigenous cultural and ecological features, the Blue Hole area provides	**Slope analysis** A slope analysis appended as Appendix C.1 demonstrates the average slope of areas to be developed is 3.13%. **Blue Hole recreation area and access road** The updated visual assessment for the reduced Development footprint now proposed is included as Appendix D1.3 of the Amendment Report (NGH 2022) and demonstrates: • The distance of the nearest solar farm infrastructure to the Blue Hole picnic table has increased by 810m and is now 1,285m distant. • The distance of the nearest solar farm infrastructure to the Threlfall walking track has increased by 498m and is now 1,165m distant. • The Amended Proposal eliminates the potential to view the Project from Blue Hole Picnic Area, Figure 4-1. • Opportunities to view the proposal from Threlfall Walking Track are limited due to vegetation, Figure 4-2. An updated Landscape plan has been prepared and has screen planting proposed on the southern project boundary, adjacent the to the National Park (Figure 4-3). Impacts on park usage and tourism value are therefore expected to be minimal.

Issue	Detail of issue	Proponent response
	visual evidence of this bygone era, and an easy bushwalk for all ages which offers stunning views of the gorge country, while following the former water-race of one of Australia's earliest hydro-electric schemes. The site is visited by more than 70,000 tourists and locals every year, and provides the closest points of access to the Oxley Rivers National Park network from Armidale. Under the proposed design, visitors travelling the last kilometre of road to "Blue Hole" will have direct line of sight with a wall of solar PV arrays stretching into the distance. Under current design proposals, these visual impacts will be experienced from parts of the walk and from the main public picnic area. The EIS Report notes (p.312) that *"Due to the locality of the Metz Solar Farm, Stringybark Solar Farm and Olive Grove Solar Farm adjacent to the Oxley Solar Farm, there is potential for cumulative visual impact for associated receivers surrounding these projects. Generally, adverse cumulative visual impacts are anticipated to be manageable due to the existing and retained vegetative screening and undulating nature of the site that blocks out the majority of views. Specifically, a landscape plan and screening has been proposed for Oxley Solar Farm to soften the views for the affected landowners and public places."* Armidale LGA constituents have noted however that with slopes of 10-30% for 100% of the proposed footprint (p.229), even the best vegetative screening and other line of site	**Heritage and National Park impacts** The curtilage of the Gondwana Rainforests of Australia is approximately 480m distant from the nearest infrastructure proposed. This is listed both on the National Heritage List of Australia as well as the world heritage list. No impacts are anticipated. The heritage value of the Gara river Hydro-electric station (Hydro-Electric Scheme SHR no. 00986) was noted in the EIS. The Proposal borders the state heritage listed items curtilage to the south. However, no heritage features are located within proximity of the Development Footprint, and this was confirmed from site inspections. No impacts are considered likely to occur to any Non-Indigenous heritage items as a result of the Proposal. **Cumulative visual impacts** Considering cumulative impacts from other solar farms either approved or being assessed for approval, two were identified as relevant to the cumulative impacts of the Oxley Solar Farm: • **Stringybark Solar Farm (APPROVED)** sited adjacent to the north western boundary of Oxley Solar Farm. A cumulative visual impact is likely to be felt by motorists travelling along Gara Road as they pass both projects, however in consideration of the mitigation measures proposed for each Project, the cumulative impacts are likely to be low. • **Olive Grove Solar Farm (APPROVED)** located to the northwest of the Oxley Solar Farm Site, off Grafton Road. Due to the limited visibility of the Oxley Solar Farm Project and proposed mitigation measures, opportunities to view both projects from nearby dwellings is likely to be low. **Effectiveness of screening** The visual impact assessment includes prescriptions that have been carried over into the mitigation commitments of the project, to maximise the success and effectiveness of screen planting. This includes height, width and row spacing of the planting and the requirement for a Landscaping Plan. This plan will include more detail on planting and monitoring methods and will be required to be endorsed by DPE prior to implementation. The visual assessment modelling takes into account topography but not existing vegetation screening and is therefore considered conservative.

Issue	Detail of issue	Proponent response
	mitigations are unlikely to be effective. They propose that due to the steep topography of the site, it is likely that large tracts of solar PV arrays will be visible to tourists who visit the area, as well as many of the inhabitants of thirty or so dwellings situated in, and within two-kilometre's radius of the development. The Environmental Impact Statement (EIS) was prepared by NGH Consulting and submitted in March 2021. Concerned members of the public note that the current Proposal has an estimated capacity of 320MW. They also note that Oxley Solar publicized during the recent EIS viewing period that it had reduced the proposed footprint by 25%, in response to local concerns about the Proposal 's detrimental visual impacts on the landscape. However these claims are questioned by locals, who note that the original size of the development Proposal was 300MW, as described in the Secretary's Environmental Assessment Requirements (SEAR), lodged on 2 August 2019. In this context they assert that the recent claims of the Company are untrue, and that the footprint has in fact increased since publication of the SEARs.	**Understanding the changes since the EIS** To demonstrate the changes to the project capacity, disturbance footprint, indicative infrastructure layout and sets backs from key locations, Section 3 includes a summary table and comparative figures to ensure that the amended project is fully appreciated. Refer to: Table 3-1 Proposal changes summary Figure 3-4 Updated development footprint compared to the EIS development footprint Figure 3-5 Environmental constraints
2. Soil Erosion	The EIS notes (p.229) that approximately all of the proposed footprint (100%) will be built on slopes of 10% or more. These slopes comprise soils which, according to OEH Land and Soil Class Definitions (2012, p.229) require "specialized land-management practices with a high level of	The EIS overstated the slope within the Development footprint, noting structures would be built on slopes of 10% or more. In the EIS this area covered a much larger footprint than would practically be used by the Oxley Solar Farm. The statement is now revised as all solar array infrastructure would be constructed on land that has an average slope of 3.13% assessed by Jacobs Engineering Group (refer to Slope Analysis, Appendix C). Its noted the LSC classes references while helpful, do not provide a ground truthed assessment of slope

Issue	Detail of issue	Proponent response
	knowledge, expertise, inputs, investment and technology." The report notes in particular that 84% (or 660 ha) of the proposed footprint needs to be "carefully managed to prevent long-term degradation", and that approximately 10% of the total footprint (90 ha) will require "careful management of soil limitations to prevent severe land and environmental degradation". Expert opinion has been sought by locals which similarly indicates that, while vegetative cover on the site is currently healthy following drought-breaking rains over the past year, the granite and trap soils which predominate the site are fragile and prone to erosion - a fact compounded by topography and slope within the proposed footprint. Erosion concerns are accentuated by the possibility of increased silt depositions into the sensitive riparian zones of two river tributaries (Gara and Commissioner's Waters) which converge on the site before falling into the adjoining gorge country on the southern boundary. These rivers are noted for their thriving platypus and riparian habitats, and are likely to be threatened by the proposed development. Notably, these rivers also flow into the Oxley Wild Rivers National Park and Macleay River catchments. The EIS Report correctly observes (p25.) that Oxley Wild Rivers National Park is listed as an area of geological significance in the New England region of NSW and is part of the Gondwana Rainforests of Australia World Heritage	on site. Slopes of this nature are not considered to exhibit erosion risks that require specialised mitigation measures. Given the concern expressed in submissions about Gara River and potential soil and water impacts, to supplement the information provided in the EIS, a Soil Impact Assessment (NGH, 2022) and Soil and Water Management Plan (NGH 2022) have been prepared addressing the refined Development footprint (Appendix C). As a result of the additional work, which included soil sampling and laboratory analysis of soil samples, the site is considered to have a topsoil and subsoil that varies from low to high erosion potential. However, it is noted that the actual area of soil impacts due to excavation for solar farms is relatively low. Landform reshaping is only required for access tracks and discrete footings. The vast majority of the Development footprint will be impacted only by the screw in piles for the solar panel mounts. Most of the area of impact is actually due to shading and changed run off patterns, not to excavation risks. The majority of the site can be retained as perennial pasture and managed in accordance with a ground cover management plan, to ensure ground cover is maintained in the long term in accordance with specific targets. While some infrastructure will remain in place after decommissioning, the vast majority of the site will be available for resumed agricultural or other land use. As such, the impacts on soil and water resources are not as high as might be assumed for a Proposal of this scale. Standard soil and water mitigation strategies have proven highly reliably in managing soil erosion and water quality impacts appropriately and have been included as Proposal commitments. With the implementation of standard mitigation measures recommended in Section 4 of the Soil Impact Assessment (NGH, 2022), the potential risk of erosion and sedimentation would be minimised for this Proposal. With the exception of upgrades to the Gara River crossing consisting of widening and culvert installation, the nearest infrastructure to the Gara River is 90m from the riverbank. This is well beyond the 40m riparian buffer recommended by the NSW government guidelines for riparian corridors on waterfront land (DPIE , 2012). Infrastructure has been pushed back from the Commissioners Waters, which the nearest infrastructure being over 875m from the waterway. It is not expected that the Proposal would impact this waterway. In addition, the Proposal has included an additional commitment: *preparation and*

Issue	Detail of issue	Proponent response
	Area.	*implementation of a Wildlife Corridor Connectivity Enhancement Plan*. The new commitment is included in the updated mitigation measures in Appendix B, as follows: *Preparation and implementation of a Wildlife Corridor Connectivity Enhancement Plan to improve vegetation connectivity in specific areas of the site and maintain this improvement for the life of the Proposal. The plan must… Target areas including:… The Gara River riparian corridor.* This will add another layer of defence to protect local waterways. The platypus is does not generate a survey or assessment requirement under the BAM. However, riparian vegetation and impacts to waterways will be very low.
3. Fire and Hazmat	The EIS notes that the proposed Oxley Solar site borders two large "Red-Zone" fire areas (Vegetation Category 1) on the Southern and North-East boundaries of the proposed site. EIS notes (p.290) that these areas are "considered to be the highest risk for bush fire, has the highest combustibility and likelihood of forming fully developed fires {NSW RFS, 2015a}." These features, combined with the site's high elevation, high fuel loads and high evaporation levels increases the potential for spot-fires - particularly in association with wildfire scenarios. The EIS report notes (p.290) that the New England Bushfire Committee Management Area (NEBFMC) currently experiences an average of 12 major fires per annum. Reports in other literature indicate that the incidence of wildfire across all regions is likely to increase over coming decades, as the effects of climate change take hold. The site's location up-hill from areas of national park with high natural vegetation loads increases	The issues raised here were also raised in community submissions. To avoid duplication, those sections are referenced below: • Concerns about bushfire prone land have been addressed in the public submissions: Section 4.1 Issue 7 fire hazard. The majority of the Development footprint (96.6%) is not mapped as Bushfire Prone Land • Concerns about possible fire risks of the battery have been addressed through the inclusion of a PHA, which is included Appendix D1.9 of the Amendment Report • Concerns about possible hail and fire damage of solar arrays have been addressed in the public submissions: Section 4.1 Human Health impacts from: Toxic waste/runoff/fumes. This topic is also considered in the PHA. • Local reports that during the during the 2019-20 fire season are out of scope of this Proposal, however the provision of a Bush Fire Management Plan for the site would involve enhanced management of bush fire risk and response on the site. This would not have been the case in 2019-20, so the plan would lead to positive awareness around bush fire on the site.

Issue	Detail of issue	Proponent response
	its vulnerability to wildfire, which are known to spread quickly when approaching from lower areas, and are often fanned by locally generated strong convection winds - particularly in gorge-country such as the neighbouring Oxley River National Park. Locals report that during the recent wildfire season (2019-20), they were left to dowse local spot-fires and fend for themselves on the proposed Oxley Solar land, without assistance from RFS or government resources which were otherwise deployed or too thin on the ground to assist. The EIS notes that a bank of twenty-five lithium batteries will be located on the northern end of the development close to the Trans-Grid network, providing up to 50MW of battery storage on site. The report notes (p.295) that "Fire risks Lithium-ion cells contain highly flammable electrolytes within a metal prismatic can or metalized pouch that have seals designed for a 10 to 20-year service life. The ambient operating temperature range for Lithium-ion systems can span -10 to 50 degrees Celsius but the cells inside the containers are kept within a smaller range, 10 to 30 degrees Celsius, through the enclosure's thermal management system that is sized to keep the cells within the recommended operating temperature range under normal conditions. Excessive overcharging leads to heating within cells that can initiate 'thermal runaway' triggering new chemical reactions through breakdown of the electrolyte, additional heat generation and ultimately the venting of gases	

Issue	Detail of issue	Proponent response
	containing carbon monoxide, carbon dioxide and hydrogen." The EIS further notes that "Lithium-ion fires require specific training, planning, storage, and extinguishing interventions, catering for both progressive burn-off or explosive events (Butler, 2013)." However no specific mention is made of mitigation measures in relation to these risks the report (particularly within BF8 and BF13 on p.298) Further concerns have been raised by locals in relation to possible hail and fire damage of solar arrays which I understand can contain cadmium telluride (CdTe).	
4. Socio-Economic	The EIS (p.252) comments that "the Gara River Hydro-Electric Scheme curtilage is directly adjacent to the southern border of the Project Area. This item is listed on the NSW State Heritage Register (00986}, Armidale Regional Council Local Heritage Register and s.170 NSW State Agency Heritage Register." As previously mentioned, the "Blue Hole" area attracts approximately 70,000 visitors per annum and provides one of the most accessible nature and heritage-tourism sites within a short drive (ride/walk) from Armidale. The Armidale Region has for many years prided itself as a preferred destination for outdoor activities, sporting events, cultural heritage and nature tourism. Associated Regional branding and marketing activities over the past decade or more have aimed to attract new residents the Region who share in these ideals and	The issues raised here were also raised in community submissions. To avoid duplication, those sections are referenced below: • Concerns about historic heritage have been addressed in the public submissions: Section 4.2 Proximity to National Park. • Concerns about changing the natural and historic character and impacts on tourism have been addressed in the public submissions: Section 4.1 Tourism. • Concerns about retaining benefits of the renewable energy sector within the Armidale Regional economy have been addressed in the public submissions: Section 4.1 Foreign Ownership; the lack of economic benefit re-entering the community. The updated visual assessment is included as Appendix D1.3 of the Amendment Report (NGH 2022) and demonstrates: • The distance of the nearest solar farm infrastructure to the Blue Hole picnic table has increased by 810m and is now 1,285m distant. • The Amended Proposal eliminates the potential to view the Project from Blue Hole Picnic Area (Viewpoint OSF16, Figure 4-1). An updated Landscape plan has been prepared and has screen planting proposed on the

Issue	Detail of issue	Proponent response
	commitments to maintenance of the 'pristine' New England High Country environment. While the New England Renewable Energy Zone (NE-REZ) aligns with these values, the visual impact of an industrial-scale solar-PV array situated beside a site listed under both the NSW State, and Armidale Council's Heritage Registers is somewhat inconsistent, and arguably works against these long-held strategic objectives for the Region. It is noted that to date, desk-top research undertaken for the EIS indicates that "there are no known historic items or places occur on the site." (p. 251) apart from two European places of potential heritage significance (p.284).It is further noted (pp.292-5) that while desk top studies have not revealed sites of Indigenous cultural significance, more work will be required to identify these areas and artifacts, and that the placement of PV arrays will require modification (at least) in accordance with the findings of ground and sub-surface surveys to be completed in collaboration with local Indigenous representatives. Local stakeholders have also flagged the need (more generally) for economically integrated and more locally derived investments into renewable energy generation, with a view to producing and retaining benefits of the renewable energy sector within the Armidale Regional economy.	southern project boundary, adjacent the to the National Park (Figure 4-3). Impacts on park usage and tourism value are therefore expected to be minimal.
5. Waste and End of Life Considerations	The EIS notes that the Oxley Solar Proposal will require, among other materials, 716,000 solar panels, cabling and up to 50MW of lithium-ion	Lithium-ion batteries are an emerging waste stream in Australia and worldwide, however due to their long usage life, a large scale recycling industry has not emerged. The 50MWh battery is expected to last for 15 years of operation. Given the rapid rise of Li-ion battery use in

Issue	Detail of issue	Proponent response
	battery storage. The report notes that solar panels are likely to have a productive life of thirty years (the life of the investment), while lithium batteries will need to be replaced within fifteen years. The EIS notes (p. 302) that "Waste lithium-ion batteries are not currently regulated as a hazardous waste by state governments and hence transport within the state is not required to be tracked in hazardous waste tracking systems (Randell Consulting, 2016). The report also refers to The Australian Battery Recycling Initiative (ABRI) website which indicates four companies which provide a collection and recycling service for used lithium-ion batteries. The EIS however does not provide specific information about the manner in which batteries will be decommissioned and/or recycled, and the financial conditions which will enable these asset renewals. Locals have drawn attention to the seemingly 'hidden' nature of investors behind Oxley Solar, and note that the business case, along with the Proposal's capital investment value (CIV) is not included for public viewing within the EIS Report. As such, the capacity of the Company to warrant or otherwise publicly assure whole-of-life recycling costs, as well as the safe operation and maintenance of plant and responsible decommissioning of the site at Project Completion is not guaranteed. These issues are a cause for particular concern amongst locals in view of the environmental sensitivity of the proposed location and potential high clean-up costs of the site, in the	Australia, such as in renewable energy projects and electric cars, cost-effective local recycling will likely be available at the time of battery replacement or decommissioning. CSIRO predicts that the Li-ion battery recycling sector could be valued from $603 million to $3.1billion (CSIRO, 2021). The capital investment value was made public in various sections of the EIS. Section 1.2.3, Section 4.1 and Section 4.10 listed the CIV of the Proposal as being $370 million.

Issue	Detail of issue	Proponent response
	event that the Company is wound up or otherwise sold to a less-responsible proponent over the next thirty years. It is noted (p.280) that a "Waste Management Plan would include a requirement for separate waste receptors to be located on site during construction to receive recyclable and non-recyclable waste", and that "recyclable waste is likely to be generated from packaging (cardboard, plastic, wood).". The Report lists Armidale Regional Council waste-management sites as possible receptors of waste and recycled materials. However, as with the Lithium-ion batteries, there is little detail in the report about proposed volumes and types of waste; methods of sorting; transport and types of recycling methods proposed by Oxley Solar. While the EIS in Section 8.4.3 (p.281) discusses decommissioning of assets, the particulars of how this will achieved; legal redress (if required), and the financial capacity of Oxley Solar (its subsidiaries or successors) to fund these expenses at the end of Proposal life remain unclear.	
6 Environmental Planning	The EIS (p.283) notes that "The Gondwana Rainforest of Australia is listed on the National Heritage List and World Heritage List. The Oxley Wild Rivers National Park forms part of the Hastings-Macleay group of the Gondwana Rainforests of Australia. Part of the Oxley Wild Rivers National Park begins at the southern boundary of the Proposal site." Locals have similarly identified the proposed site's	The issues raised here were also raised in community submissions. To avoid duplication, those sections are referenced below: • Concerns about impacts on world heritage areas have been addressed in the public submissions: Section 4.2 Proximity to National Park. • Concerns about slopes and fragile soils have been addressed in the public submissions: Section 4.1 Land Use; *The EIS provides insufficient detail about the Proposal's impact on land capability, land conflict, land soil and water.* • Concerns about the planning regulations that apply to this Proposal have been

Issue	Detail of issue	Proponent response
	ecological fragility which is a function of its: • slope of land (>10%); • fragile soils; • topography and fire-proneness; • proximity to UNESCO World Heritage areas and Oxley Wild Rivers National Park; • line-of-site with popular tourism attractions; • confluence of two river tributaries before plunging into the adjoining Gorge Country; • endemic flora and fauna; and • still to be determined Indigenous cultural attributes. These and other concerns have been drawn to my attention over the past week or so and in my view behove utmost scrutiny and application of Environmental Planning regulations, before (and if) the Oxley development is to proceed. It is noted in relation to environmental planning (p. 284) that "all commitments and mitigation measures would be managed through the implementation of a Project Environmental Management Strategy (EMS}. The EMS would comprise a Construction Environmental Management Plan (CEMP}, an Operation Environmental Management Plan (OEMP} and a Decommissioning Environmental Management Plan (DEMP}. These plans would be prepared sequentially, prior to each stage of works by the contractor (CEMP, DEMP} and proponent	addressed in the public submissions: Section 4.2 Conflicts with *NSW Environmental Planning and Assessment Act 1979*. • Concerns about the environmental management framework have been addressed in the public submissions: Section 4.2 Fire Hazard. • Concerns about the financial capacity and capability of Oxley Solar to plan, implement, and continuously improve environmental management plans have been addressed in the public submissions: Section 4.1 Foreign Ownership.

Issue	Detail of issue	Proponent response
	(OEMP}." It has been further noted that the financial capacity of Oxley Solar, as well as the Company's previous experience and proven capability to plan, implement, and continuously improve environmental management plans is not referenced or made clear within the EIS. These credentials are similarly not provided within Oxley Solar websites and marketing collateral.	
7.Cumulative effects	LGA constituents have raised the need for independent and expert professional advice in relation to issues raised by the Oxley EIS and their cumulative impacts with similar investments in the Region. Other solar investments in the Region include Hillgrove, Stringybark, Metz, Tilbuster, Olive Grove and Salisbury Plains. In aggregate these have been estimated to cover more than 7000ha area, providing 6,000MW of renewable energy. Table 8-24 (p.309) usefully summarizes SSDs in the Region and makes reference to potential compounding and detrimental effects, impacting: • Biodiversity • Visual and landscape character • Noise • Traffic • Local facilities • Demand for goods and services; and	A revised cumulative impact assessment considering this submission has been included in the accompanying Amendment Report. The Amendment Report considers the Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2021). The assessment has noted that moderate cumulative impacts related predominantly to biodiversity, land use, visual amenity, socio-economic factors (e.g. service pressure in Armidale) and traffic would be experienced due to five projects (Armidale BESS, Olive Grove Solar Farm, Stringybark Solar Farm, New England Solar Farm, and Tilbuster Solar Farm). The Proposal commits to consulting with relevant nearby projects to coordinate construction timelines, this will also be assisted through the proposed VPA with Armidale Regional Council.

Issue	Detail of issue	Proponent response
	• Land use/compatibility Local coordination and timing of both construction and operational phases of Regional Renewable Energy Projects is likely to mitigate some of these cumulative effects - particularly in relation to the resource-intensive construction phases. It is proposed that in over the next three months, Armidale Regional Council will be considering voluntary planning agreements (VPAs) and other policy settings in addition to Section 94A Developer Contribution Plans, as part of its future commitments toward mitigating detrimental cumulative effects particularly during the construction phase of these developments. It is noted that Planning Agreement(s) will require approval via standard legislative procedures (i.e.. draft adopted by Council, public exhibition, report back to Council adopting the Planning Agreement) before taking effect.	
Armidale Regional Council (Submission from council officers)		
Cumulative impacts	Following on from Council's response to the SEARs for the Oxley Solar Farm, dated 26 July 2019, it is considered that the proponent has not taken into consideration a number of SSD projects within the Armidale LGA, in regards to cumulative impacts on the region. Whilst the EIS has now considered projects within the vicinity of the site, it is considered that given the number and scale of some of the SSD projects	See response above.

Issue	Detail of issue	Proponent response
	currently proposed within the LGA, that if they were to proceed simultaneously there could be a number of cumulative impacts, which should be considered by the Department. In this regard, Council is aware of at least three other large scale renewable projects, Rangoon Wind Farm, Doughboy Wind Farm and Oven Mountain Pumped Hydro, which have all received their SEARs for their proposals and a smaller scale project, Petersons Solar Farm which has been granted consent by the NRPP. Whilst it is acknowledged that these projects are located some distance from the proposed site for the Oxley Solar Farm, at least two of these, Doughboy and Oven Mountain, will more than likely be utilising Grafton Road (Waterfall Way) for heavy vehicle access. These matters should be considered as part of the strategic justification of the development in regards to site selection and cumulative impacts on the greater locality.	
Visual impact	The Landscape and Visual Impact Assessment (LVIA) undertaken for the project is not considered to be adequate for the size and scale of the development. No photomontages have been provided clearly showing the anticipated changes to the existing landscape following the development. Given this, it is difficult to be able to fully appreciate or accurately assess the full extent of impacts within the view shed from both public and private viewpoints. Furthermore, given that the Northern Regional	The updated visual assessment is included in Appendix D1.3 of the Amendment Report (NGH 2022) and demonstrates: • There is now a reduction in the overall extent of visibility from areas of land to the south and west of the Project. • The views from nearby dwellings to the west have been significantly reduced. • For public viewpoints specifically, there is reduced visual impact for five of the public viewpoint locations assessed; two viewpoints retain a high visual impact rating where the Proposal site boundary is located on Silverton Road. Proposed on-site screen boundary planting along this road is anticipated to significantly reduce the visual impact from the low use road once established. Moderate impacts are predicted for

Issue	Detail of issue	Proponent response
	Planning Panel has granted consent to the Stringybark Solar farm, which immediately adjoins the subject Oxley Solar Farm site to the west, that the LVIA should also provide the cumulative impacts of both these developments from these viewpoints.	Milne Road (unchanged from previous assessment). All other viewpoints are rated nil to low (including Blue Hole Road and Gara Road). • For dwellings, 14 of the 28 non-involved dwellings assessed will have no views to the Project due to topography and / or vegetation. Of the remaining 14 non-involved dwellings: ○ 1 has been assessed as having a moderate visual impact rating (Dwelling R4, based on a desktop assessment alone), located on Blue Hole Road. ○ 13 have been assessed as having a low to nil visual impact rating. Appendix A of the report includes seven montages taken from or near to dwellings to show how the infrastructure would look from these residences. The wireframes are helpful for showing how the terrain affects the views and fragments them. Considering cumulative impacts from other solar farms either approved or being assessed for approval, two were identified as relevant to the cumulative impacts of the Oxley Solar Farm: **Stringybark Solar Farm (APPROVED)** sited adjacent to the north western boundary of Oxley Solar Farm. A cumulative visual impact is likely to be felt by motorists travelling along Gara Road as they pass both projects, however in consideration of the mitigation measures proposed for each Project, the cumulative impacts are likely to be low. **Olive Grove Solar Farm (APPROVED)** located to the northwest of the Oxley Solar Farm Site, off Grafton Road. Due to the limited visibility of the Oxley Solar Farm Project and proposed mitigation measures, opportunities to view both projects from nearby dwellings is likely to be low.
Koala SEPP and Species credits	It does not appear that a full and satisfactory assessment of the relevant provisions of *State Environmental Planning Policy (Koala Habitat Protection) 2020* has been undertaken for this development. The subject land is zoned RUI Primary Production under *ADLEP 2012* and as such this SEPP is applicable to the Proposal. There is only a very	The issues raised here were also raised in community submissions. To avoid duplication, refer to public submissions: Section 4.1 Biodiversity; Lack of Koala Management Plan. The updated BAM responds to all issues raised by BCD and is therefore considered robust. Specific to species credits, the updated BDAR correctly states that *species credit*s are generated for: • Tusked Frog *Adelotus brevis* (Endangered population in the Nandewar and New England Tableland Bioregions) • Glandular Frog *Litoria subglandulosa*

Issue	Detail of issue	Proponent response
	brief and cursory comment in the BDAR, which states: *'No koalas or signs of koalas were seen over the 16 survey days on site. It is considered that an adequate coverage or the development site in addition to the number of survey days on site without koala evidence suggests they unlikely to occur'.* As per Clause 8 of the SEPP, no comment has been provided as to whether an assessment has been undertaken to establish firstly, if the land is potential koala habitat nor under Clause 9, as to whether it could represent core koala habitat. What assessment was undertaken to determine that koalas were not present on the site, i.e any inspection of trees for any scratch marks or scats on the ground? There is no indication that they have undertaken any detailed surveys on the ground to determine existing vegetation composition or connectivity nor is it in accordance with best practice guidelines - *EPBC Act referral guidelines for the vulnerable koala*. The EIS (page 83) and BDAR states that offset species credits are required for – Glossy Black Cockatoo *Calyptorhynchus lathami*; Little Eagle *Hieraaetus morphnoides* and the Square Tailed Kite *Lophoictinia isura,* but these do not appear to have been included in the BAM calculator credit report within the BDAR.	• Southern Myotis *Macropus* • Hawkweed *Picris evae* • Austral toadflax *Thesium austral* Three ecosystem credit species were detected within the Development footprint during field surveys. Offsets for these species are included in the ***ecosystem credit*** requirement for the project only: • Glossy Black Cockatoo *Calyptorhynchus lathami*; • Little Eagle *Hieraaetus morphnoides* • Square Tailed Kite *Lophoictinia isura*.
Crown Lands	Has all required tree removal within the road reserve and TSR been appropriately considered	All vegetation clearing and modification required by the Proposal is included in the refined Development footprint and assessed in the BDAR. Areas not subject to the full Biodiversity

<table>
<tr><th>Issue</th><th>Detail of issue</th><th>Proponent response</th></tr>
<tr><td></td><td>within the BDAR?
- Two of the lots, being Lot 7003 & 7004 DP 1060201, are described in the EIS as being affected. Both these lots appear to be owned by the Crown.</td><td>Assessment Method (BAM) assessment are clarified in the BDAR (Category 1 land / exotic vegetation). All other areas are fully assessed and generate an offset requirement where relevant under the Biodiversity Offset Scheme.</td></tr>
<tr><td>Proximity to National Park</td><td>The subject site immediately adjoins the Oxley Wild Rivers National Park to the south and as such there are some concerns that the development could potentially impact on this significant wilderness area.</td><td>Noted, these impacts have been discussed broadly in this Submissions Report, and are assessed in greater detail in the Amendment Report.</td></tr>
<tr><td>Traffic Study</td><td>The traffic impact report is considered to be a detailed and thorough examination of the traffic impacts of the development. The report makes a series of recommendation in relation to the development and we provide the following comment to those recommendations.
Recommendation 1 - the proposed recommendation is agreed but should be strengthened to reflect the authority of council as the road owner.
Recommendation 2 – Council agrees with the proposed alternate access to be constructed connecting to the New England Highway. Council require that it be clearly stated that the access road to the site via this entry is a private access and shall be the responsibility of the property owner to maintain not the road authority, with the exception of the interaction on the</td><td>This submission has been addressed specifically in the TIA which is included as Appendix D1.8 of the Amendment Report (New England Surveying & Engineering , 2022). The responses to each recommendation as they are answered in the TIA is included below:<table><tr><th>Armidale Regional Council Recommendation</th><th>Response</th></tr><tr><td>Recommendation 1 - the proposed recommendation is agreed but should be strengthened to reflect the authority of council as the road owner.</td><td>The recommendation notes that agreement is required from the relevant road authorities for the dilapidation surveys, and so covers TfNSW as the roads authority for state roads and Armidale Regional Council as the roads authority for local roads.</td></tr><tr><td>Recommendation 2 – Council agrees with the proposed alternate access to be constructed connecting to the New England Highway. Council require that it be clearly stated that the access road to the site via this entry is a private access and shall be the</td><td>The recommendation has been revised and includes a requirement to both construct and maintain the primary site access.
Note that the recommendation provided by council referrers to the New England Highway when the access is from Waterfall</td></tr></table></td></tr>
</table>

<table>
<tr><th>Issue</th><th>Detail of issue</th><th colspan="2">Proponent response</th></tr>
<tr><td></td><td>New England Highway.
• Recommendation 4 – agreed with the provision that the section of road between 7.7km and 9.7km be upgraded to a sealed road 6m wide with 0.5m shoulders to a suitable pavement design to suit the long term use of the road by the development. If it is deemed that the interruption of use of the access points due to flooding of the causeway, that upgrading to reduce interruption be considered. i.e. Are alternate evacuation routes available from site.
• Recommendation 5 – the Proposal is agreed
• Recommendation 6 - the Proposal is agreed
• Recommendation 7 – this recommendation is agreed but should state all weather sealed access roads and parking areas to prevent discharge of sediment form the site.
• Recommendation 8 – this recommendation is agreed but should also include consultation with RailCorp on the structural status of the bridge on Dangar Street crossing the railway line as the Bridge owner and the bridge being known to have defects.</td><td>responsibility of the property owner to maintain not the road authority, with the exception of the interaction on the New England Highway.</td><td>Way (Grafton Road). The response provided assumes the road referenced should be Waterfall Way (Grafton Road).</td></tr>
<tr><td></td><td></td><td>Recommendation 4[10] – agreed with the provision that the section of road between 7.7km and 9.7km be upgraded to a sealed road 6m wide with 0.5m shoulders to a suitable pavement design to suit the long term use of the road by the development. If it is deemed that the interruption of use of the access points due to flooding of the causeway, that upgrading to reduce interruption be considered. i.e. Are alternate evacuation routes available from site.</td><td>The recommendation has been revised to reflect the new access locations from Gara Road, and include the requirement for upgrading to include a sealed road 6.0m wide with 0.5m shoulders. The recommendation also includes an upgrade to the Gara River causeway as subsequently discussed with representatives of Armidale Regional Council.</td></tr>
<tr><td></td><td></td><td>Recommendation 5 – the proposal is agreed</td><td>The recommendation has changed slightly to reflect assessment of the revised access locations.</td></tr>
<tr><td></td><td></td><td>Recommendation 6 - the proposal is agreed</td><td>Noted – no change to this recommendation.</td></tr>
<tr><td></td><td></td><td>Recommendation 7 – this recommendation is agreed but should state all weather sealed access roads and parking areas to prevent discharge of sediment form the site.</td><td>The recommendation has been amended to include the sealing of any internal access, parking and manoeuvring areas having a gradient in excess of 16% consistent with the Armidale Regional Council Engineering</td></tr>
</table>

[10] Note: a recommendation 3 was not provided in the submission. Numbers have not been revised so that consistency between documents can be maintained.

Issue	Detail of issue	Proponent response
		Code.
		Recommendation 8 – this recommendation is agreed but should also include consultation with RailCorp on the structural status of the bridge on Dangar Street crossing the railway line as the Bridge owner and the bridge being known to have defects. → The recommendation has been amended to include consultation with the owner of the railway bridge to ensure any temporary load restrictions are appropriately considered when formulating the CTMP.
Regional NSW – MEG		
No comment	MEG provided no comments on the EIS	Noted.

5. Proposal justification and evaluation

5.1 Overall justification for the Proposal

The justification of the Oxley Solar Farm development remains consistent with the EIS. The Proposal was justified as follows in the EIS:

- It would contribute to meeting Australia's renewable energy targets and greenhouse gas commitments. The Proposal would generate enough clean, renewable energy for about 78,000 average NSW homes, displacing approximately 382,000 metric tonnes of carbon dioxide, currently generated by non-renewable sources.
- The Proposal aligns with international, commonwealth and state goals and polices for mitigating climate change and renewable energy projects.
- Being a renewable energy project, it would assist in improving electricity reliability and security benefits within Australia as the energy supply from coal-fired power stations are reduced.
- It would assist in increasing competition in the wholesale energy marked and therefore assist in reducing electricity prices within Australia.
- It would provide direct and indirect employment opportunities during the construction and operating phases of the Proposal.
- It would provide a significant injection of expenditure in the local area during the 12–18 month construction period.
- The Proposal would be a new land use thereby diversifying the local land use within the region, providing a drought resilient revenue stream for the local agricultural economy.
- The Proposal site meets the preferable site conditions of a solar farm development outlined by the Large Scale Solar Energy Guideline for SSD 2018 (DPIE) and Draft Large Scale Solar Energy Guideline 2021, including optimal solar resources, suitable land, capacity to rehabilitate, proximity to electrical network and connection capacity.
- The Proposal is appropriately located within the New England REZ which is the second highest solar penetration region in NSW, supported by existing transmission strength and capacity (AEMO, 2018) .
- The Proposal remains of a viable scale while responding to site constraints and minimising environmental impacts to the site and surrounding locations.
- Two existing 132kV transmission lines traverses the site which means the that the connection to the high voltage network can be made onsite without the need to construct any transmission lines. It also reduces the distribution loss factor risk.
- Once the solar farm reaches the end of its operational life, the site can be remediated to its existing land capability so that grazing and occasional cropping can be resumed.
- There is substantial community support in the region for renewable projects.

While the array area of the Proposal has been reduced (by 74.5 ha) in response to community submissions and further investigations, this justification remains entirely consistent with the updated Proposal presented in the Amendment Report (NGH 2022) for each of these points. The reduction in the Proposal's capacity would be only 13%.

In addition, due to the responses documented in this report to the public and agency submissions, the refinements:

- Provide increased certainty in relation to areas that will be impacted and areas that will be protected from impacts
- Provide increased certainty in relation to the management of environmental impacts.
- Include additional enhancement actions to improve on assets valued by the local community.
- Improve traffic safety and flood access for proposal and also for local road users.
- Share the benefits of the Proposal to the broader community by entering a Voluntary Planning Agreement (VPA) with Armidale Regional Council:
    - Over a significant period of time Oxley Solar has been actively working with both previous and current Armidale Regional Council personnel to develop a VPA to benefit the Armidale Regional community. Oxley Solar is keen to finalise such an agreement with Armidale Regional Council in the near future.
- Better address potential cumulative impacts, important to the site's location within the New England Renewable Energy Zone.

5.2 Evaluation, subsequent to Proposal changes

In response to the public and agency submissions, the Oxley Solar Farm has made substantive changes to the Proposal. This has taken some time, given the number issues raised in submissions. Further civil design work was undertaken to reduce the Proposal extent in key areas. This necessitated updated specialist assessments. The result is an updated Proposal description and accompanying environmental commitments which demonstrate the Proposal's desire to develop a Proposal that responds to local values and concerns.

The refinements have been undertaken in consideration of cumulative impacts which may occur in the future, given the site's location within the New England Renewable Energy Zone; a location well placed to be a driving force to deliver affordable energy to the grid. The updated evaluation of the Proposal, considering the refinements as assessed in the Amendment Report (NGH 2022), are summarised below.

Table 5-1 Updated evaluation of Proposal, extracted from Amendment Report (NGH 2022)

Impact areas	Conclusion of assessments	Outcomes achieved
Visual impacts, to dwellings and the National Park.	Public roads visual impacts and glare – two sections of Silverton Road assessed as high visual impact where they are adjacent the site. Silverton Road, Gara Road, Blue Hole Road warrant supplementary screen planting for potential glare. Dwellings visual impacts and glare – one moderate visual impact R4, 13 low or negligible, 14 nil. Five warrant supplementary screen planting for potential glare; R3, R4, R7, R10, R14. National Park (Threlfall Walking Track and Blue Hole Picnic area) visual impacts and glare - now nil to negligible. Limited cumulative impacts with other proposed or approved solar farms in the locality (two assessed as low with mitigation).	• Distance of nearest infrastructure to dwelling R3, increased by 181m to 778m. • Distance of nearest infrastructure to dwelling R4, increased by 822m to 1,392m. • Distance of nearest infrastructure to dwelling R7, increased by 845m to 1,584m. • Distance of nearest infrastructure to the Blue Hole picnic table, increased by 810m to 1,285m. • Distance of nearest infrastructure to the Threlfall walking track, increased by 498m to 1,165m.
Hydrological impacts.	No significant impacts expected, in line with the conclusions of the EIS. Gara River causeway design would result in improved crossing conditions along Gara Road.	• No infrastructure now proposed in the moderate constraint native vegetation between Gara Road and Gara River or the area immediately south of Gara River, on the site's west. • Increased setbacks from Gara River on the site's north-eastern boundary have also been implemented.
Combined physical impacts, including land capability, soil and water.	No adverse impacts to Gara River water quality. High certainty around preservation of land capability throughout the life of the project, demonstrated through the provision of a further Soil Impact Assessment and Soil and Water Management Plan, Appendix C.	• Development footprint area reduced by 627ha to 268ha. • High certainty around preservation of land capability throughout the life of the project, demonstrated through a Soil Impact Assessment and Soil and Water Management Plan.

Impact areas	Conclusion of assessments	Outcomes achieved
Biodiversity	No anticipated significant impacts to Commonwealth listed entities (no referral under the EPBC Act). Offsets proposed in accordance with the NSW Biodiversity Offset Scheme for vegetation and three species 'assumed to occur'.	• Impact on higher quality Box Gum Woodland zones (zones 2 and 4) reduced from 6.67ha to 2.6ha. No panels proposed in these zones • Reduced impact on hollow-bearing trees, from 20 to 7 trees now require removal. • Commitment to the preparation and implementation of a Wildlife Corridor Connectivity Enhancement Plan, targeting the Gara River and National Park boundary. • Offset strategy demonstrates that residual areas of the Proposal site have potential to secure all ecosystem credits generated by the Proposal.
Aboriginal heritage impacts	Test pitting surveys have provided greater certainty around impacts of the Proposal. Impacts to 13 sites and potential indirect impacts to 4 sites are considered acceptable. Mitigation including salvage and buffering of specific sites for avoidance agreed with the Registered Aboriginal Parties participating in this assessment.	• 48 sites identified can be avoided and protected from Proposal impacts.
Historic heritage impacts	No physical impacts on any historic heritage item. Minor visual impact on one unlisted item; GH1 the old Gara Homestead and shed.	• The solar farm will not be visible from with the curtilage of the Gondwana Rainforest; set back increased to 522m. • The set back to Gara Homestead workers accommodation and sheds increased from 20m to 60m.
Noise and vibration impacts	Compliance with all applicable noise criteria.	
Traffic and transport impacts	Compliance with all traffic safety guidelines. Upgrades have been agreed to by all road's authorities.	• Safe sight distances achieved at the proposed intersection off Waterfall Way (Grafton Road) • Gara Road Upgrades will improve river crossing conditions for the public.
Hazards and risks	PHA has been included in the Amendment Report (NGH, 2022e) that introduced enhanced controls	• Compliance with all safety guidelines. • All risks considered manageable with updated controls applied from the PHA.

Impact areas	Conclusion of assessments	Outcomes achieved
Cumulative impacts	Updated cumulative impact assessment has been included in the Amendment Report (NGH, 2022g) The Proponent will liaise with council and representatives of nearby major developments to ensure cumulative impacts are managed.	• Updated cumulative impact assessment has been included in the Amendment Report (NGH, 2022h). • Potential for low cumulative visual impacts with two local solar farms. • Potential cumulative traffic impacts if construction programs coincide with other large developments • The Proponent will liaise with council and representatives of nearby major developments to ensure cumulative impacts are managed. • All risks manageable.

The Oxley Solar Farm would result in numerous benefits, local and regional at a time of crisis in the energy network. As of June 2022, the combined effects of the war in Ukraine and flooding in Queensland and New South Wales have seen the price of fuel, gas and electricity increase exponentially. Short term electricity price caps have been imposed by the Australian Energy Market Operator (AEMO). The impact on electricity prices is contributing to a cost-of-living crisis for NSW residents. Increased renewable energy generation supported by transmission capability and storage are required to provide downward pressure on electricity prices and support long-term energy security, economic growth and prosperity

The Proposal's objectives centre on the development of a viable renewable energy generation facility that will provide a meaningful contribution to the state's transition to renewable energy technologies. It aims to reflect the local values and concerns. The Oxley Solar Farm would:

- Generate electricity from a low-cost renewable source.
- Provide storage in order to deliver electricity at high demand times, when roof top solar is unavailable.
- It would contribute to meeting Australia's renewable energy targets and greenhouse gas commitments, as quantified above.
- Provide employment, economic stimulus and diversification of the local agricultural economy.
- Contribute to the 'powerhouse' proposed for the New England REZ, the second highest solar penetration region in NSW.
- Seek an ongoing positive relationship with the local community by its commitment to incorporate local values into the Proposal's design.
- Minimise environmental impact during construction and operation and ensure the site, when decommissioned, has the same or better land capability and land use options.

These objectives align closely with Environmentally Sustainable Development (ESD), in their focus on the protection of natural resources and a better future of all Australians in the long-term. The assessment and mitigations underpinning the Proposal are highly conservative where uncertainty is present.

On balance the Proposal can be seen to be well justified, meet all relevant planning provisions and guidelines and is considered justifiable, acceptable and approvable.

6. References

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Appendix A Submissions register

Group	Reference Number	Name	Section where issues are addressed in Submissions Report
Public authorities	S-16177738	DPI Fisheries	Section 4.3
	S-16511705	NSW EPA	Section 4.3
	S-16515095	DPI Agriculture	Section 4.3
	S-16700475	TfNSW	Section 4.3
	S-17035473	Water NSW	Section 4.3
	S-17037070	Transgrid	Section 4.3
	S-17039706	NSW RFS	Section 4.3
	S-17216242	Crown Lands	Section 4.3
	S-17242559	TfNSW	Section 4.3
	S-17433707	Heritage NSW (Aboriginal Heritage)	Section 4.3
	S-17341990	Heritage NSW (Historic Heritage)	Section 4.3
	S-17437706	DPIE Water	Section 4.3
	S-17544184	DPIE Hazards	Section 4.3
	S-17750216	Geological Survey of NSW	Section 4.3
Council/s	S-17639972	Armidale Regional Council (Council Officers)	Section 4.3
	S-17640013	Armidale Regional Council (Mayor)	
Stakeholder groups	S-17535067	Castle Doyle Solar Farm Action Group	Section 4.2

Group	Reference Number	Name	Section where issues are addressed in Submissions Report
Individuals	S-16993637	Kevin Northey	Section 4.1
	S-16994725	Name withheld	
	S-16995748	John Baker	
	S-17161224	Anthony Gardner	
	S-17209562	Jordan Hardaker	
	S-17257762	Name withheld	
	S-17303737	Name withheld	
	S-17342994	Amanda Van Taak	
	S-17354980	Tammie Booth	
	S-17372405	Graham Waters	
	S-17372427	Bev Waters	
	S-17391786	Jenna Walsh	
	S-17391800	David Walsh	
	S-17433274	Drewe Ferguson	
	S-17436755	Karen Ferguson	
	S-17445556	Name withheld	
	S-17449783	Name withheld	
	S-17455901	Kim Swan	
	S-17456351	Name withheld	
	S-17462008	Beth White	
	S-17462709	Name withheld	
	S-17462719	Name withheld	
	S-17462988	Name withheld	
	S-17481074	Nola Bennett	
	S-17481945	Jenny Walsh	
	S-17485758	Kay Swadling	
	S-17486505	Ray Bennett	
	S-17488021	Fiona Simmons	
	S-17491641	Caitlin Wilson	
	S-17493276	Stuart Waters	
	S-17493287	Name withheld	
	S-17494468	Name withheld	
	S-17495208	Matt Onslow	

Group	Reference Number	Name	Section where issues are addressed in Submissions Report
	S-17497469	Mitchell Hardaker	
	S-17497517	Tanya Walsh	
	S-17506891	Richard Croft	
	S-17506899	Justin McTaggart	
	S-17510477	Jonathan Galletly	
	S-17510479	Mandi Galletly	
	S-17510546	Name withheld	
	S-17510796	Name withheld	
	S-17510995	Jane McTaggart	
	S-17512461	Andrew Swan	
	S-17512482	Christine Duncan	
	S-17512493	Name withheld	
	S-17512522	Name withheld	
	S-17514215	Name withheld	
	S-17524114	Michael Murray	
	S-17527712	Joan Walsh	
	S-17529238	Lachlan Mcphie	
	S-17529711	Angus Roberts	
	S-17529736	Nanette Peatfield	
	S-17530617	Name withheld	
	S-17530831	Gregory Cameron	
	S-17542805	Warren Waters	
	S-17542841	Samuel Waters	
	S-17542907	Chelsea Waters	
	S-17543510	Heidi Waters	
	S-17544224	Name withheld	
	S-17544482	Peter Hall	
	S-17545743	Bobby Booth	
	S-17545806	John Gibson	
	S-17546960	Sabine Schmoelzl	
	S-17547609	Gordon Smith	
	S-17547675	Name withheld	
	S-17549919	Louise Streeting	

Group	Reference Number	Name	Section where issues are addressed in Submissions Report
	S-17550069	Corinne Annetts	
	S-17550123	John Powell	
	S-17550877	Cheryl Cooper	
	S-17551211	Lou Forsythe	
	S-17551722	Name withheld	
	S-17551766	Steven Eastwood	
	S-17552632	Daniel Rhode	
	S-17553538	Jane Eastwood	
	S-17553569	Name withheld	
	S-17604625	Name withheld	
	S-17643487	Name withheld	
	S-17509742	Name withheld	

Appendix B Updated table of mitigation measures

Note:

Underline indicates new mitigation text

~~Strikethrough~~ indicates mitigation text removed since the EIS

Factor	Mitigation measure	C	O	*D*
Biodiversity				
B1	Time works to avoid critical life cycle events. Hollow-bearing trees would not be removed during breeding season (spring to summer) for threatened hollow dependant fauna. If clearing outside of this period cannot be achieved, pre-clearing surveys would be undertaken to ensure no impacts to fauna would occur.	C		
B2	Implement clearing protocols during tree clearing works, including pre-clearing surveys, daily surveys and staged clearing, the presence of a trained ecological or wildlife handler. A tree clearing procedure would be implemented to minimise harm to resident fauna.	C		
B3	Relocate habitat features (fallen timber, hollow logs) from within the development site. A procedure for relocation of habitat features to adjacent area for habitat enhancement would be implemented.	C		
B4	Clearing protocols that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance; for example, removal of native vegetation by chainsaw, rather than heavy machinery, is preferable in situations where partial clearing is proposed. Additionally: • Approved clearing limits to be clearly delineated with temporary fencing or similar prior to construction commencing. • No stockpiling or storage within dripline of any mature trees. • Access and laydown in areas of White Box Yellow Box Blakely's Red Gum	C		

Factor	Mitigation measure	C	O	D
	Woodland TEC will be minimised to reduce impacts. Exclusion fencing and signage or similar would be installed around habitat to be retained			
B5	Noise barriers or daily/seasonal timing of construction and operational activities to reduce impacts of noise. Construction Environmental Management Plan will include measures to avoid noise encroachment on adjacent habitats such as avoiding night works as much as possible.	C		
B6	Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill: • Avoid night works where possible. Direct lights away from vegetation.	C	O	
B7	Adaptive dust monitoring programs to control air quality. • Daily monitoring of dust generated by construction activities. • Construction would cease if dust observed being blown from site until control measures were implemented. All activities relating to the Proposal would be undertaken with the objective of preventing visible dust emissions from the development site.	C		
B8	Temporary fencing to protect significant environmental features such as riparian zones. Prior to construction commencing, exclusion fencing, and signage would be installed around habitat to be retained.	C		
B9	Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas. • A Weed Management procedure would be developed for the Proposal to prevent and minimise the spread of weeds. This would include:		O	

Factor	Mitigation measure	C	O	*D*
	• Management protocol for declared priority weeds under the Biosecurity Act 2015 during and after construction • Weed hygiene protocol in relation to plant, machinery, and fill. • Any occurrences of pathogens such as Myrtle Rust and Phytophthora would be monitored, treated, and reported. The weed management procedure would be incorporated into the Biodiversity Management Plan	C		
B10	Staff training and site briefing to communicate environmental features to be protected and measures to be implemented. • Site induction and toolbox talks for ecologically sensitive areas would be undertaken. • Staff training and site briefing to communicate impacts of traffic strikes on native fauna. • Awareness training during site inductions regarding enforcing site speed limits. Site speed limits to be enforced to minimise fauna strike.	C	O	
B11	Preparation of a management plan to regulate activity in vegetation and habitat adjacent to the proposed development. Preparation of a Biodiversity management plan that would include protocols for: • Protection of native vegetation to be retained. • Best practice removal and disposal of vegetation. • Staged removal of hollow-bearing trees and other habitat features such as fallen logs with attendance by an ecologist. • Weed management. • Unexpected threatened species finds. • Exclusion of vehicles through sensitive areas. • Rehabilitation of disturbed areas.	C		

Factor	Mitigation measure	C	O	*D*
B12	Preparation of a vegetation management plan to monitor ground cover beneath the solar array modules. A Ground cover management plan would be developed to: • Ensure that ground cover is retained beneath panels, to resist erosion and weeds. Preserve the native composition as much as possible.		O	
~~B13~~ (see S7)	~~Erosion and sediment controls. An erosion and sediment control plan would be prepared in conjunction with the final design and implemented.~~	~~C~~		
B14	Creek lines and retained dams would be planted with native riparian vegetation and transformed into small created wetlands for wildlife. Riparian plantings would comprise local native sedges, rushes, grasses and small shrubs.	C		
B15	Screening and landscaping plantings to be comprised of local indigenous species representative of the vegetation in the development site. Screening and landscaping plantings (up to 50m where practicable) to be comprised of local indigenous species representative of the vegetation in the development site.		O	
B16	Involve a local landcare group or educational institution in ongoing biodiversity monitoring and enhancement. Involve a third party organisation to monitoring and maintain biodiversity enhancement activities. Communicate outcomes with third parties to contribute knowledge of how biodiversity can be preserved on solar farms.		O	
B17	Plain wire instead of barbed used on top of the perimeter fence and stock fencing to reduce impacts on birds and Squirrel Glider. Security fencing would be comprised of approximately 2m high cyclone fencing. Use plain wire perimeter fencing where this intersects woodland to avoid potential entrapment of fauna on fence.	C		
B18	Perimeter fence would be located to avoid, where possible, segmenting patches of native vegetation to facilitate native fauna movements. The final 'for construction' design would	C		

Factor	Mitigation measure	C	O	*D*
	include the perimeter fencing avoiding rather than intersecting patches or retained woodland.			
B19	Install approximately 120 nesting boxes for birds and mammals across the development site. Nesting boxes would be designed to meet the requirements of target species including Squirrel Gliders, bats, parrots and owls. Nesting boxes would be monitored periodically for use and/or replacement.	C		
B20	Wildlife corridor connectivity enhancement plan to improve connectivity in specific areas of the site and to maintain this improvement for the life of the project.	C	O	
Visual amenity and landscape character				
V1	The following design considerations will be applied to the Proposal: • Consideration of potential visual impacts should be considered when siting the PCU's and storage shed within the proposed Development footprint. They should be situated at a suitable distance from residences. Excess material should be used to berm the southern section to assist in fragmenting views. • The design should retain the existing roadside planting along the eastern boundary of the site. This would reduce the overall visual impact of proposed development. • Consideration should be given to the material and colours of the PCU's, the battery, and storage shed to ensure minimal contrast and to help blend into the surrounding landscape. In general materials should be nonreflective and should be painted in neutral colours that are sensitive to the surrounding landscape. • Consideration should be given to controlling the type and height of PCU's, the battery, and storage shed to ensure the development does not contrast significantly with surrounding landscape. • Security fencing and frames will be non-reflective.	Design		

Factor	Mitigation measure	C	O	*D*
V2	Existing vegetation should be retained and protected, where possible, during the works to maintain the existing level of screening.	C		
V3	A landscaping plan will be prepared and implement. The plan will include a variety of landscape mitigation strategies to assist in the integration of the Proposal into the existing landscape character, specifically: • A wide band of native plantings of trees up to 5-10m in height for the southern boundary of the Proposal site to address potential visual impacts from the Oxley Wild Rivers National Park. These can be positioned in three (3) rows (or approximately 6-9m wide) between the property boundary and security fence. The tree canopy should not intrude into the zone that exists between the edge of the security fence and the solar panels (refer to figure 7-10 of the EIS). • Screen planting along Silverton Road to assist in screening views from R5 and reducing the visual impact from Silverton Road. • Screen planting on the western boundary of the site to reduce the potential visual impact from R3. • Consultation with landowners identified in table 7-8 of the EIS within 1.5km of the Proposal site to undertake screen planting near dwelling as required. Screen planting is to be undertaken in consultation with landowners to ensure desirable views are not diminished.	C	O	
V4	Night lighting would be minimised to the maximum extent possible (i.e. manually operated safety lighting at main component locations).		O	
Watercourses and hydrology				

Factor	Mitigation measure	C	O	*D*
W1	The design of buildings, equipment foundations and footings for electrical componentry and panel mounts would be designed to avoid the 1% AEP flood level to minimise impacts from potential flooding including: • The solar array mounting piers would be designed to withstand the forces of floodwater (including any potential debris loading) up to the 1% AEP flood event plus 500mm freeboard, giving regard to the depth and velocity of floodwaters. • The tracking axis for solar tracking modules would be located above 1% AEP flood event plus 500mm freeboard. • The mounting height of the solar module frames would be designed such that the lower edge of the module is clear of the predicted 1% AEP flood level. • All electrical infrastructure, including inverters, would be located above the 1% AEP flood level plus 500mm freeboard. • Where electrical cabling is required to be constructed below the 1% AEP flood level it would be capable of continuous submergence in water. • The proposed perimeter security fencing would be constructed in a manner which does not adversely affect the flow of floodwater and should be designed to withstand the forces of floodwater, or collapse in a controlled manner to prevent impediment to floodwater. • Any fencing across Gara River or Commissioners Waters should be avoided in preference to creating separate fenced compounds on either side of the creeks	Design		
W2	At the substation site, slight raising of the adjacent roadway (or similar type bunding) is recommended in order to divert upslope runoff around this critical piece of infrastructure.	Design		
W3	All buildings and structures (including solar arrays) associated with the Proposal should be located outside high hazard areas (H5 and above) where they may be vulnerable to structural damage and have significant impact on flood behaviour.	Design		
W4	If the proposed crossing structures over Gara River will be rendered impassable during	C	O	D

Factor	Mitigation measure	C	O	D
	significant flood events, the following would occur: • Flood warning signs and flood level indicators would be placed on each approach to the proposed crossings. A Business Floodsafe Plan be prepared for the development to ensure the safety of employees during flood events in general accordance with the NSW SES "Business Floodsafe Toolkit and Plan".			
W5	Any road crossings on watercourses within the Proposal Area would be of the type defined in Table 2 of the Hydrological and Hydraulic Analysis Report was prepared by Footprint NSW Pty Ltd in Appendix F. Any proposed crossings (vehicular or service) of existing watercourses on the subject site should be designed in accordance with the following guidelines, and in the case of vehicle crossing should preferably consist of bed level crossings constructed flush with the bed of the watercourse on first and second order watercourses to minimise any hydraulic impact: • Guidelines for Watercourse Crossings on Waterfront Land **Invalid source specified.** • Guidelines for Laying pipes and Cables in Watercourses on Waterfront Land **Invalid source specified.** • *Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings* (Fairfull and Witheridge, 2003). *Policy and Guidelines for Fish Friendly Waterway Crossings* (NSW DPI, 2003).	Design		
W6	Within the floodplain access roads should be constructed as close to natural ground levels as possible so as not to form an obstruction to floodwaters. The surface treatment of roads should be designed giving regard to the velocity of floodwaters to minimise potential for scouring during flood events.	C		
W7	An Emergency Response Plan incorporating a Flood Response Plan would be prepared prior to construction covering all phases of the Proposal. The plan would:	C	O	D

Factor	Mitigation measure	C	O	D
	• Detail who would be responsible for monitoring the flood threat and how this is to be done. • Detail specific response measures to ensure site safety and environmental protection. • Outline a process for removing any necessary equipment and materials offsite and out of flood risk areas (i.e. rotate array modules to provide maximum clearance of the predicted flood level). • Consider site access in the event that some tracks become flooded. • Establish an evacuation point. • Define communication protocols with emergency services agencies.			
Aboriginal Heritage				
AH1	The proposed layout of the solar farm must be amended to avoid CT1 plus a 20m buffer surrounding the site.	PC		
AH2	A small heavily vegetated area to north of the Proposal site near Waterfall Way (Grafton Road) has not been subject to archaeological survey. Further archaeological assessment would be required in this area. This would include consultation with the registered Aboriginal parties and further field survey.	PC		
AH3	Archaeological test excavation of those sections of PAD that intersect with the proposed design is required in order to establish the nature and extent of the deposits and therefore inform, significance, impact and proposed mitigation measures. This subsurface excavation will be undertaken following the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2011). An addendum ACHA report must be prepared to address the findings of the test excavation, significance assessment, impact assessment and proposed management of these PAD areas and any additional sites identified during the subsurface testing programme of works.	PC		

Factor	Mitigation measure	C	O	*D*
AH4	The subsurface testing of the PADs (3, 5, 6, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21) which will be impacted by the development must be undertaken prior to any works and/or the issuing of any approvals for the Oxley Solar Farm.	PC		
AH5	During construction works, high visibility fencing must be erected around CT6 and CT7 to ensure indirect impacts through use of Silverton Road as a transport corridor do not occur and the designated “no go zones” surrounding these areas must be included in the CHMP for the project. The development avoids the scarred tree (Oxley Solar Farm ST1) as well as the five cultural trees (Oxley Solar Farm CT1-5 and CT8) within the Proposal site. A minimum of a 20-m buffer should be established around each of these sites by placing high visibility bunting (or similar) to avoid any inadvertent impacts to the root system and canopy during construction, preconstruction and decommission works.	C	O	D
AH6	If complete avoidance to any of the isolated finds and/or artefact scatters recorded within the Proposal site is not possible the surface stone artefacts within the Development footprint must be salvaged. The surface collection salvage of these stone artefacts must occur prior to the proposed construction works commencing for the Oxley Solar Farm. Until surface collection salvage has occurred a minimum 5m buffer must be observed around all stone artefact sites.	PC		
AH7	The collection and relocation of the surface artefacts should be undertaken by an archaeologist with representatives of the registered Aboriginal parties, as selected by the Proponent, and be consistent with Requirement 26 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.* The salvage of Aboriginal objects can only occur following development consent that is issued for State Significant Developments and must occur prior to any construction works commencing.	PC		
AH8	Any artefacts salvaged may be temporarily stored at an NGH office for further analysis if it is unable to be undertaken at the time of salvage onsite. The with permanent storage of the artefacts will be at Armidale and Region Aboriginal Cultural Centre & Keeping Place with	PC		

Factor	Mitigation measure	C	O	*D*
	any formal tools likely to be stored/displayed at the Cultural Centre. Where the storage of artefacts cannot occur at the Armidale and Region Aboriginal Cultural Centre & Keeping Place they will be buried on-site, outside of the Development footprint. The burial of salvaged artefacts onsite is proposed to be within the "no go zones" outside the extent of the sites recorded which are not to be impacted.			
AH9	All objects salvaged and buried within the Proposal site must have their burial location submitted to the AHIMS database.	PC		
AH10	A care agreement with Heritage NSW must be undertaken for the artefacts to be stored at Armidale and Region Aboriginal Cultural Centre & Keeping Place	PC		
AH11	An Aboriginal Site Impact Recording Form must be completed and submitted to AHIMS following harm for each site collected or destroyed from salvage and/or construction works as approved for impacts in line the development consent for this State Significant Development.	PC		
AH12	A minimum 5m buffer should be observed around all stone artefact sites that are being avoided by the proposed development. The implantation of heritage "no go zones" within the Proposal site should be implemented to ensure that sites which are being avoided by the proposed development are not inadvertently impacted.	PC,C	O	D
AH13	For any impacts to additional sites and PADs currently being avoided by this Proposal or areas outside those assessed as part of the survey for the Oxley Solar Farm, as assessed in this report, further assessment and consideration of impacts on Aboriginal Heritage as determined by an archaeologist should occur. Additional Aboriginal consultation and further assessment which may include survey and/or subsurface testing may be required.	C	O	D
AH14	The Proponent should prepare a Cultural Heritage Management Plan (CHMP) to address the potential for finding additional Aboriginal artefacts during the construction of the Oxley	PC		

Factor	Mitigation measure	C	O	*D*
	Solar Farm and for the management of known sites, artefacts and PADs within the Proposal area. The Plan should include the unexpected finds procedure to deal with construction activity. Preparation of the CHMP should be undertaken in consultation with the registered Aboriginal parties. A draft unexpended finds procedure is provided in Appendix G.			
AH15	In the unlikely event that human remains are discovered during the construction of the Oxley Solar Farm, all work must cease in the immediate vicinity. Heritage NSW and the local police should be notified. Further assessment would be undertaken to determine if the remains are Aboriginal or non-Aboriginal. If the remains are deemed to be Aboriginal in origin the Registered Aboriginal Parties should be advised of the find as directed by Heritage NSW.	C	O	D
AH16	A further archaeological assessment would be required if the Proposal activity extends beyond the area assessed in this report. This would include consultation with the registered Aboriginal parties and may involve further field survey.	C	O	D
Noise and vibration				
NV1	A Noise Management Plan would be developed as part of the CEMP. The plan would include, but not be limited to: • ~~Consultation with receivers R3, R4 and R5.~~ • ~~Time restrictions and/or providing periods of repose for receivers R3, R4 and R5 for when construction works are within approximately 700m of their dwellings.~~ • Use less noisy plant and equipment where feasible and reasonable. • Plant and equipment to be properly maintained. • Provide special attention to the use and maintenance of 'noise control' or 'silencing' kits fitted to machines to ensure they perform as intended. • Strategically position plant on site to reduce the emission of noise to the surrounding neighbourhood and to site personnel.	C		

Factor	Mitigation measure	C	O	D
	• Avoid any unnecessary noise when carrying out manual operations and when operating plant. • Any equipment not in use for extended periods during construction work should be switched off. • Complaints procedure deal with noise complaints that may arise from construction activities. Each complaint would need to be investigated and appropriate noise amelioration measures put in place to mitigate future occurrences, where the noise in question is in excess of allowable limits. • Establish good relations with people living in the vicinity of the site at the beginning of Proposal and maintain. Keep people informed, deal with complaints seriously and expeditiously. The community liaison member of staff should be adequately experienced.			
Social and economic				
SE1	Liaison with local industry representatives to maximise the use of local contractors, manufacturing facilities, materials.	C		
SE2	Liaison with local representatives regarding accommodation options for staff, to minimise adverse impacts on local services.	C		D
SE3	Liaison with local tourism industry representatives to manage potential timing conflicts with local events.	C		D
SE4	The Community Consultation Plan would be implemented to manage impacts to community stakeholders, including but not limited to: • Protocols to keep the community updated about the progress of the Proposal and Proposal benefits. • Protocols to inform relevant stakeholders of potential impacts (haulage, noise, air	C		D

Factor	Mitigation measure	C	O	*D*
	quality etc.). Protocols to respond to any complaints received.			
SE5	The Proponent will consult with local employment agencies and training organisations and where practicable, will consider supporting training and apprenticeships.	C	O	D
Compatibility with existing land uses				
LU1	Undertake a soil survey prior to construction to inform the CEMP and sub-plans, rehabilitation and operational aspects.	PC		
LU2	Consultation would be undertaken with Transgrid regarding connection to the substation and design of electricity transmission infrastructure.	C	O	D
LU3	Consultation with DPIE-Crown Lands would be ongoing and the following would be undertaken: Prior to construction, a lease will be applied for to allow construction to commence within Crown roads on the Proposal site.	PC		
LU4	A pest and weed management plan would be prepared to manage the occurrence of priority weeds and pest species across the site during construction and operation. The plans must be prepared in accordance with Armidale Regional Council and NSW DPI requirements.	C	O	
LU5	A Rehabilitation Plan would be prepared to ensure the array site is returned to at least or better than pre-solar farm land and soil capability. The plan would be developed with reference to the base line soil testing and with input from an agronomist to ensure the site is left stabilised, under a cover crop or other suitable ground cover. The soil survey would be based on: • *Australian Soil and Land Survey Handbook* (CSIRO, 2009)			D

Factor	Mitigation measure	C	O	*D*
	• *Guidelines for Surveying Soil and Land Resources* (CSIRO, 2008) • *The land and soil capability assessment scheme: second approximation (OEH, 2012)*			
Water use and water quality				
WQ1	All fuels, chemicals, and liquids would be stored at least 40m from any waterways or drainage lines, not on sloping land and would be stored in an impervious bunded area.	C	O	D
WQ2	Machinery would be checked daily to ensure there is no oil, fuel or other liquids leaking from the machinery. All staff would be appropriately trained through toolbox talks for the minimisation and management of accidental spills.	C	O	D
WQ4	All potential pollutants stored on-site would be stored in accordance with HAZMAT requirements and bunded.	C	O	D
WQ5	Adequate incident management procedures would be incorporated into the Construction and Operation Environmental Management Plans, including requirement to notify EPA for incidents that cause material harm to the environment (refer s147-153 Protection of the Environment Operations Act).	C	O	D
WQ6	Ensure appropriate drainage controls are incorporated into the design to minimise the area of disturbance, runoff and pollutant generation.	Design		
WQ7	Alterations to ground water are to be avoided to prevent mobilisation of any salt stores, however low, in the soil. If groundwater is to be intercepted at any stage of the development the proponent must obtain the relevant entitlement and approval where required prior to any extraction.	C	O	D

Factor	Mitigation measure	C	O	*D*
WQ8	Re-use of stormwater should be considered wherever possible.		O	
WQ9	Inspect stormwater control measures at least quarterly, and before (when forecasts indicate a >50% chance of rain) and after rainfall of more than 10mm in 24 hours.	C	O	
Soils				
S1	As part of the CEMP, a Soil and Water Management Plan (SWMP) (with erosion and sediment control plans) would be prepared, implemented and monitored during the Proposal, in accordance with Landcom (2004), to minimise soil (and water) impacts. These plans would include provisions to: • Install, monitor and maintain erosion controls. Ensure that machinery leaves the site in a clean condition to avoid tracking of sediment onto public roads which may cause risks to other road users through reduced road stability. • Manage topsoil in all excavation activities, separate subsoils and topsoils and ensure that they are replaced in their natural configuration to assist revegetation. Stockpile topsoil appropriately so as to minimise weed infestation, maintain soil organic matter, maintain soil structure and microbial activity. • Handling of topsoil should be undertaken when the topsoil is moist (not wet or dry) to avoid structural decline. • Avoid stockpiles greater than 2m in height to prevent structural decline. It should be stripped and stockpiled separately. Stockpiles should be stabilised with a groundcover (i.e. geo-textile or similar) if stockpiling is required for more that 6 weeks. • Minimise the area of disturbance from excavation and compaction; rationalise vehicle movements and restrict the location of activities that compact and erode the soils as much as practical. Any compaction caused during construction would be treated such that revegetation would not be impaired. • Manage works in consideration of heavy rainfall events; if a heavy rainfall event is	C		

Factor	Mitigation measure	C	O	*D*
	predicted, the site should be stabilised, and work ceased until the wet period had passed. • Areas of soil disturbed by the Proposal would be rehabilitated progressively or immediately post- construction, reducing views of bare soil.			
S2	A Groundcover Management Plan would be developed in consultation with an agronomist and to ensure final land use includes perennial ground cover establishment across the site as soon as practicable after construction and maintained throughout the operation phase. The plan would cover: • Soil handling, restoration and preparation requirements. • Plant Species election. • Soil preparation. • Establishment techniques. • Maintenance and monitoring requirements. • Perennial groundcover targets, indicators, condition monitoring, reporting and evaluation arrangements – i.e. A target of 70% live vegetation cover would apply to protect soils, landscape function and water quality. Additional measures would be implemented where practical when live ground cover falls below 70%. Ground cover would be monitored on a monthly basis using an accepted methodology during the initial rehabilitation phase for up to 12 months, and then annually until the required groundcover is achieved. • Contingency measures to respond to declining soil or groundcover condition, i.e., any grazing stock would be removed from the site when cover falls below the target of 70% live ground cover. • Identification of baseline conditions for rehabilitation following decommissioning. • Preserve the native composition as much as possible.	C	O	D

Factor	Mitigation measure	C	O	*D*
S3	The array would be designed to allow sufficient space between panels to establish and promote groundcover beneath the panels and allow for implementation of weed controls.	Design		
S4	A Spill and Contamination Response Plan would be developed as part of the overall Emergency Response Plan to prevent contaminants affecting adjacent surrounding environments. The plan would include measures to: • Respond to the discovery of existing contaminants at the site (e.g. pesticide containers or asbestos), including stop work protocols and remediation and disposal requirements. • Requirement to notify the EPA for incidents that cause material harm to the environment (refer s147-153 of the POEO Act). • Manage the storage of any potential contaminants onsite. • Mitigate the effects of soil contamination by fuels or other chemicals (including emergency response and the EPA notification procedures and remediation. • Ensure that machinery arrives on site in a clean, washed condition, free of fluid leaks. • Prevent contaminants affecting adjacent pastures, dams, water courses and native vegetation. • Monitor and maintain spill equipment • Induct and train all site staff.	C	O	D
S5	The transformers will be filled with oil, and waterproof bunds built around them to manage oil spills.	Design		
S6	A protocol would be developed in relation to discovering buried contaminants within the Proposal site (e.g. pesticide containers). It would include stop work, remediation and disposal requirements.	C	O	D

Factor	Mitigation measure	C	O	*D*
S7 (previously committed under B13)	A construction Erosion and Sediment Control Plan (ESCP) should be prepared for the Proposal in accordance with Landcom Soils and Construction: Managing Urban Stormwater (2004).	C	O	D
S8	The design, construction and decommissioning of the Proposal should minimise the extent and duration of ground disturbance and avoid disturbing steep slopes and waterways.	C		D
S9	A revegetation plan (operation) should be prepared and include stabilisation and topsoil amelioration (e.g. incorporation of organic matter to improve soil structure or gypsum to improve structure, reduce hard-setting surfaces and reduce soil dispersion).		O	
S10	Subsoils disturbed during construction and with an exchangeable sodium percentage above 6% should be treated with gypsum to increase the levels of calcium and magnesium, and thus lowering the exchangeable sodium percentage and the dispersiveness of the soil.	C		D
S11	Reference the soil survey results (NGH , 2022f), *Australian Soil and Land Survey Handbook* (CSIRO 2009), *Guidelines for Surveying Soil and Land Resources* (CSIRO 2008) and the *Land and Soil Capability Assessment Scheme: second approximation* (OEH 2012) when remediating the soils onsite during decommissioning.			D
Traffic, transport and safety				
T1	A Haulage Plan would be developed and implemented during construction and decommissioning, including but not limited to: • Direction of traffic flow (both heavy and light). • Loads, weights and length of haulage and construction related vehicles and the number of movements of such vehicles. • Scheduling of deliveries of major components to minimise safety risks (on other local traffic).	C	O	D

Factor	Mitigation measure	C	O	*D*
	• Traffic controls (signage and speed restrictions etc.). • All heavy vehicle movements to/from the access point are to be managed to ensure that only one inbound or outbound vehicle is travelling along the access route in the vicinity of the site at a time. Heavy vehicle movements into and out of the Proposal Site will be controlled via traffic management means, including a traffic controller, temporary lowered speed limit and additional road signage alerting vehicles of truck movements in the area.			
T2	The proponent would engage an appropriately qualified person to prepare a Road Dilapidation Report for all road routes between the New England Highway and the site, and on Gara Road between chainages 7.7km and 9.7km, to be used during the construction (and decommissioning) activities, in consultation with the relevant road authority. This report is to address all road related infrastructure. Reports must be prepared prior to commencement and after completion of construction (and decommissioning).	PC		D
T3	The proponent would repair any damage resulting from project traffic (except that resulting from normal wear and tear) as required at the proponent's cost.	C		D
T4	~~The design and construction of a new vehicular access from Waterfall Way (Grafton Road) to Lot 2 DP1206469, complying with the rural style BAL / BAR treatments specified in the Austroads Guide to Road Design, as amended by Transport for NSW in their supplementary road design guidelines, and designed to accommodate the swept path of the maximum dimension vehicles which will service the site.~~ The construction and maintenance of a new primary site access from Waterfall Way to Lot 2 DP1206469. Such access will require use of the existing Armidale Regional Landfill access at 1238 Grafton Road. The internal landfill access road is to be upgraded through the Travelling Stock Reserve and Lot 1 DP1206469 to a two-way pavement having minimum sealed width of 6.0m and 0.5m grave shoulders, complying with the Armidale Regional Council Engineering Code. Upgrades will be required to security fencing and the access	C		

Factor	Mitigation measure	C	O	D
	control system to prevent unauthorised landfill access. For works on the State road network the developer is required to enter a Works Authorisation Deed (WAD) with TfNSW before finalising the design or undertaking any construction work within or connecting to the road reserve. The WAD documentation is to be submitted for each specific change to the state road network for assessment and approval by TfNSW prior to commencement of any works within the road reserve.			
T5	Closure of the existing rural property access from Waterfall Way (Grafton Road) to Lot 2 DP1206469, including alteration of boundary fencing, after the construction of the replacement access.	PC,C		
T6	The design and construction of four (4) new heavy vehicle property accesses between Gara Road and the development site, in a manner consistent with Armidale Regional Council Engineering Code and Austroads guidelines. Each access is to be located so that Austroads sight distance requirements can be achieved, be designed to achieve a maximum intersection angle between 70° and 110° with Gara Road, and contain the swept path of the maximum dimension design access vehicles. Unless other alternate positioning and/or higher order intersection treatments at the Gara Road site access points listed below can demonstrate the achievement of Austroads sight distances and is acceptable to Armidale Regional Council as the roads authority, then: a) the site access point at approximate chainage 9,500m as measured from Waterfall Way is to be relocated eastwards to approximate chainage 9,425m; and b) the site access point at approximate chainage 8,770m is to be used for left-turn egress only to Gara Road only due to limited sight distances to the east.	PC,C		
T7	~~Gara Road should be upgraded suitable to achieve minimum Austroads sight distances and be sufficiently widened to enable two-way heavy vehicle traffic in that section between the proposed new solar farm access locations at approximate chainages 7.7km and 9.7km, except as approved otherwise by Armidale Regional Council (for example, traffic control~~	PC,C	O	D

<table>
<tr><th>Factor</th><th>Mitigation measure</th><th>C</th><th>O</th><th>D</th></tr>
<tr><td></td><td>~~measures may be implemented during construction on either side of the Gara River crossing to ensure the passage of only one heavy vehicle at a time).~~

Gara Road to be upgraded between the proposed new solar farm site access points at approximate chainages 7.78km and 9.70km to achieve:

a) a pavement comprising a minimum 6.0m wide bitumen sealed surface and including 0.5m wide shoulders on each side; and

b) the existing causeway crossing of the Gara River is to be upgraded consistent with the concept drawing at Appendix G of the TIA.

Any upgrades should be consistent with the Armidale Regional Council Engineering Code and referenced standards, except where expressly varied by Armidale Regional Council.</td><td></td><td></td><td></td></tr>
<tr><td>T8</td><td>The design and installation of warning signage at those locations on Gara Road and Silverton Road where the road suddenly narrows as identified in the table below, to provide advance warning to motorists who may be unfamiliar with road conditions. All signage is to comply with the requirements of Australian Standard 1742.1 Manual of Uniform Traffic Control Devices and the Armidale Regional Council Engineering Code.

<table><tr><th>Chainage</th><th>Constraint to two-way traffic</th></tr><tr><td colspan="2">Gara Road</td></tr><tr><td>3,255m</td><td>Single lane causeway across Burying Ground Creek</td></tr><tr><td>4,285m</td><td>Single lane causeway across an unnamed non-perennial waterway</td></tr><tr><td>5,350m</td><td>Single lane causeway across an unnamed non-perennial waterway</td></tr><tr><td>9,050m</td><td>Single lane causeway across Gara River</td></tr><tr><td colspan="2">Silverton Road</td></tr><tr><td>1,450m</td><td>Single lane causeway over unnamed non-perennial waterway</td></tr><tr><td>2,075m</td><td>Public gate including single-lane stock grid</td></tr><tr><td>5,270m</td><td>Public gate including single-lane stock grid</td></tr></table>
Engineering plans for all roadworks are to be prepared by a suitably qualified person and submitted to Armidale Regional Council for approval prior to the issue of Section 138 Roads Act approval for the work.</td><td>PC</td><td></td><td></td></tr>
</table>

Factor	Mitigation measure	C	O	*D*
T9	A Traffic Management Plan would be developed and implemented during construction and decommissioning. The plan will be prepared in consultation with the relevant road authority and the appointed transport contractor. The plan would include, but not be limited to: • The designated routes and vehicular access of construction traffic (both light and heavy) to the site. This will include the management and coordination of movement of vehicles for construction and worker related access to limit disruptions to other motorists, emergency vehicles, school buses and other public transport. Note, construction and operational staff will be advised not to use Silverton Road as a site access. • Procedure for informing the public where any road access will be restricted as a result of the project. • The designated routes of construction traffic to the site. • Carpooling/shuttle bus arrangements to minimise vehicle numbers during construction. • Scheduling of deliveries. • Community consultation regarding traffic impacts for nearby residents. • Consideration of cumulative impacts. • Traffic controls (speed limits, signage, etc.), and any proposed precautionary measures to warn road users such as motorists about the construction activities for the project, especially at the access site along Waterfall Way (Grafton Road). • Procedure to monitor traffic impacts and adapt controls (where required) to reduce the impacts. • Details of measures to be employed to ensure safety of road users and minimise potential conflict. • A driver Code of Conduct to address such items as appropriate driver behaviour including adherence to all traffic regulations and speed limits, driver fatigue, safe overtaking and maintaining appropriate distances between vehicles, etc. and appropriate penalties for infringements of the Code. • Details of procedures for receiving and addressing complaints from the community	C		D

Factor	Mitigation measure	C	O	*D*
	concerning traffic issues associated with truck movements to and from the site. • Providing a contact phone number to enable any issues or concerns to be rapidly identified and addressed through appropriate procedures. • Water to be used on unsealed roads to minimise dust generation through increased traffic use. Following construction, a post condition survey of the relevant sections of the existing road network to be undertaken to ensure it is of similar condition to that prior to construction.			
T10	All internal circulation roads, parking and manoeuvring areas are to be designed and constructed in accordance with the planned number, dimension and mass of construction service vehicles, and in compliance with the previsions of the Armidale Regional Councils Engineering code, and AS/NZS 2890.1 Off Street Parking. Any internal roads which are not designed for two-way travel should have regular hard-standing provision for heavy vehicles travelling in opposite directions to pass. Internal access, parking and manoeuvring areas are to be sealed wherever the gradient exceeds 16% to minimise erosion of the pavement.	PC,C		
T11	Obtain a Section 138 Consent from the relevant council/agency to perform works within the road reserve.	C		
T12	Prior to the commencement of construction on-site, the Proponent would undertake all works to upgrade relevant state roads, their associated road reserve and any public infrastructure in that road reserve to a standard suitable for use by heavy vehicles to meet any reasonable requirements that may be specified by TfNSW. The design, specifications and construction of these works must be completed and certified by an appropriately qualified person to a standard to accommodate the traffic generating requirements of the project. On Classified Roads the geometric road design and pavement design must be to the satisfaction of the TfNSW.	PC		D
Resource use and waste generation				

Factor	Mitigation measure	C	O	*D*
WR1	A Waste Management Plan (WMP) would be developed to minimise wastes. It would include but not be limited to: • Identification of opportunities to avoid, reuse and recycle, in accordance with the waste hierarchy. • Quantification and classification of all waste streams. • Provision for recycling management onsite. • Provision of toilet facilities for onsite workers and identify that sullage would be disposed of (i.e., pump out to local sewage treatment plant). • Tracking of all waste leaving the site. • Disposal of waste at facilities permitted to accept the waste. Requirements for hauling waste (such as covered loads).	C	O	D
WR2	Septic system is installed and operated according to the Armidale Regional Council regulations.	C	O	
Non-indigenous Heritage				
HH1	Should an item of historic heritage be identified, the Heritage Division (EES) would be contacted prior to further work being carried out in the vicinity.	C	O	D
HH2	The recommendations of the historic heritage assessment are to be incorporated in the CEMP as follows: The Gara River Hydro-electric scheme (1895-1907) is adjacent to the southern boundary of the Proposal Site. The current Proposal will not impact this site, however if alterations to the Development footprint are required, these must be further assessed to determine whether impacts to physical remains of the site may be impacted. The Gondwana Rainforests of Australia immediately adjacent to the Proposal Site, and at least 522m south west of the Development footprint at its nearest point. While the	C		

Factor	Mitigation measure	C	O	D
	curtilage of the Gondwana Rainforests as listed is screened by an additional layer of trees on private property. As such, the solar farm will not be visible from with the curtilage of the item, and the item is not visible from the development. Proposed works will not impact on the identified archaeological site CS1 as currently proposed. In the event that the footprint changes and impacts to this location are required, an archaeological investigation would be required. This would require detailed research into the potential origins of the cottage and preparation of a research design and methodology for excavation. The Gara Homestead has been identified to be of potential local heritage significance. No physical impacts are proposed to the extant structures or surrounds within 60m of the homestead and within 60m of the workers accommodation and sheds. Visual impacts must be limited to the eastern side of the house. Where the Development footprint is amended and includes impacts to the physical structures or to the vista westwards from the homestead, further assessment is required.			
Electric and Magnetic Fields				
E1	All electrical equipment would be designed in accordance with relevant codes and industry best practice standards in Australia.	C		
E2	All design and engineering would be undertaken by qualified and competent person/s with the support of specialists as required.	C		
E3	Design of electrical infrastructure would minimise EMFs.	C		
Bush fire				
BF1	Copper conductors would be used where necessary to electrically bond the metal structures to earth to protect personnel and equipment in the event of lightning strikes and electrical	Design		

Factor	Mitigation measure	C	O	*D*
	faults.			
BF2	Dangerous or hazardous materials would be stored and handled in accordance with AS1940-2004: *The storage and handling of flammable and combustible liquids*.	C	O	D
BF3	Develop a Bush Fire Management Plan to include but not be limited to: • Specific management of activities with a risk of fire ignition (hot works, vehicle use, smoking, use of flammable materials, blasting). • Incorporation of fire safety and response in staff and contractor induction, training, OHS procedures and Work Method Statements. • Designation of a staff safety officer tasked with ensuring implementation of the plan and regular liaison with firefighting agencies. • Document all firefighting resources maintained at the site with an inspection and maintenance schedule. • Monitoring and management of vegetation fuel loads. • A communications strategy incorporating use of mobile phones, radio use (type, channels and call-signs), Fire Danger Warning signs located at the entrance to the site compounds, emergency services agency contacts. In developing the Bush Fire Management Plan, NSW RFS would be consulted on the volume of water supplies, fire-fighting equipment maintained on-site, fire truck connectivity requirements, proposed APZ and access arrangements, communications, vegetation fuel levels and hazard reduction measures.	C	O	D
BF4	An APZ of minimum 10m would be maintained between all vegetation and solar farm infrastructure within the Development footprint. The APZ around the perimeter of the site would incorporate a 4m wide gravel access track. Average grass height within the APZ would be maintained at or below 5 centimetres on average throughout the August-March fire season. Average grass height outside the APZ,	C	O	

Factor	Mitigation measure	C	O	*D*
	including beneath the solar array, would be maintained at or below 10 centimetres throughout the fire season.			
BF5	The overhead powerlines at the site would be managed by maintaining appropriate vegetation clearance limits to minimise potential ignition risks, in accordance with the *ISSC 3 Guideline for Managing Vegetation Near Power Lines*.		O	
BF6	Appropriate fire-fighting equipment would be held on site to respond to any fires that may occur at the site during construction. This equipment would include fire extinguishers, a 1000 litre water cart (fitted with suitable hosing, fittings and diesel firefighting pump) retained on site on a precautionary basis, particularly during any blasting and welding operations. Additionally the Development footprint will house a 20,000-litre water supply (tank) fitted with a 65mm storz fitting shall be located adjoining the internal property access road within the required APZ. Equipment lists would be detailed in Work Method Statements.	C		
BF7	The NSW RFS and Fire and Rescue would be provided with a contact point for the solar farm, during construction and operation.	C	O	
BF8	Following commissioning of the solar farm, the local RFS and Fire and Rescue brigades would be invited to an information and orientation day covering access, infrastructure, firefighting resources on-site, fire control strategies and risks/hazards at the site.		O	
BF9	The perimeter access track would comply with the requirements of property access roads in accordance with Table 5.3b of the PBP. All access and egress tracks on the site would be maintained and kept free of parked vehicles to enable rapid response for firefighting crews and to avoid entrapment of staff in the case of bush fire emergencies. Access tracks would be constructed as through roads as far as practicable. Dead end tracks would be	C	O	D

Factor	Mitigation measure	C	O	*D*
	signposted and include provision for turning firefighting vehicles.			
BF10	A Hot Works Permit system would be applied to ensure that adequate safety measures are in place. Fire extinguishers would be present during all hot works. Where practicable hot works would be carried out in specific safe areas (such as the Construction Compound temporary workshop areas).	C	O	D
BF11	Machinery capable of causing an ignition would not be used during bushfire danger weather, including Total Fire Ban days.	C	O	D
BF12	Prior to operation of the solar farm, an Emergency Response Plan (ERP) would be prepared in consultation with the RFS and Fire and Rescue NSW. This plan must include but not be limited to: • Specifically addresses foreseeable on site and off site fire events and other emergency incidents. • Risk control measures would include the level of personal protective clothing required to be worn, the minimum level of respiratory protection required, decontamination procedures, minimum evacuation zone distances and a safe method of shutting down and isolating the PV system (either in its entirety or partially, as determined by risk assessment). • Outline other risk control measures that may need to be implemented in a fire emergency due to any unique hazards specific to the site. • Two copies of the ERP are stored in a prominent 'Emergency Information Cabinet' which is located in a position directly adjacent to the site's main entry point/s. Once constructed and prior to operation, the operator of the facility would contact the relevant local emergency management committee (LEMC).		O	
BF13	Fire risks associated with the lithium-ion energy storage facility would include: • Locating the Energy Storage Facility as far as practicable from any sensitive		O	

Factor	Mitigation measure	C	O	*D*
	receptors or large stands of vegetation. • Installing reliable automated monitoring (voltage and temperature), alarm and shutdown response systems. • Installing reliable integrated fire detection and fire suppression systems (inert gas). • Ensuring the battery containers are not vulnerable to external heat effects in the event of a bushfire. • Designing appropriate separation and isolation between battery containers and between batteries and other infrastructure, including gravel surfacing around the facility for a minimum 10m in accordance with asset protection zone standards. • Compliance with all relevant guidelines and standards. • Preparation of a specific Battery Fire Response Plan, under the general Bushfire Management Plan, in consultation with fire authorities, fire suppression experts and in reference to relevant standards and guidelines. Facilitation of first responder training in the management of Lithium-ion battery fires at the site for local brigades.			
Hazardous materials and development				
H1	Dangerous or hazardous materials would be stored and handled in accordance with AS1940-2004: *The storage and handling of flammable and combustible liquids*.	C	O	D
H2	Protocols would be developed for lithium-ion battery storage, maintenance, and incident response to mitigate Li-ion fire risks.	C	O	D
H3	The transportation of new and waste lithium-ion batteries would comply with the requirements of the Dangerous Goods Code, including specific ‘special provisions’ and ‘packing instructions’ applying to the transportation of Li-ion batteries.	C	O	D

Factor	Mitigation measure	C	O	D
H4	Controls listed in the hazard register within the PHA will be included in the following project specific plans: • Fire Management Plan • Fire Safety Plan • Emergency Response Plan	C	O	D
Air quality and climate				
A1	Track width of internal tracks would be minimised during detailed design.	Design		
A2	Dust generation by vehicles accessing the site and earthworks at the site would be suppressed using water applications or other means as required.	C		D
A3	Vehicle loads of material which may create dust would be covered while using the public road system.	C		D
A4	All vehicles and machinery used at the site would be in good condition, fitted with appropriate emission controls and comply with the requirements of the POEO Act, relevant Australian standards and manufacturer's operating recommendations. Plant would be operated efficiently and turned off when not in use.	C	O	D
A5	Fires and material burning is prohibited on the Proposal site.	C	O	D
Cumulative impacts				
C1	The proponent would liaise with representatives for the Tilbuster Solar Farm, Salisbury Solar Farm, Metz Solar Farm and New England Solar Farm to manage impacts on local	C		

Factor	Mitigation measure	C	O	*D*
	services, accommodation and businesses.			
C2	Prior to the commencement of construction, the Proponent would prepare an Accommodation and Employment Strategy for the development in consultation with Armidale Regional Council. The strategy must: • Propose a strategy to facilitate the accommodation of the workforce associated with the development • Investigate options for prioritising the employment of local workers for the construction and operation of the development where feasible • Include a program to monitor and review the effectiveness of the strategy over the life of the development.	C	O	D

Appendix C Supporting information

C.1 Slope analysis

C.2 Soil Impact Assessment

C.3 Soil and water management plan