

Javier Canon
Senior Policy Officer
Department of Planning, Industry & Environment
4 Parramatta Square, 12 Darcy Street
PARRAMATTA NSW 2150

27 March 2020

Reference: 0470861



Dear Javier Canon

Subject: Bonshaw Solar Farm (SSD 9438) Amendment Report

1. INTRODUCTION

GAIA Australia Pty Ltd (GAIA) are seeking approval to develop a large scale photovoltaic (PV) generation facility with a capacity of 200 megawatts (MW) and associated infrastructure, including a Lithium-ion Energy Storage System (ESS/Li-ion). The proposed development of the Bonshaw Solar Farm (the 'Project') is located at Bonshaw, within the Inverell Local Government Area in New South Wales (NSW) (refer to *Figure 1.1*). The Project is located approximately 66 km north of Inverell, with site access fronting Bruxner Highway.

The Project site has been amended through the Response to Submissions process, notably reducing the development footprint from approximately 167 hectares (ha) to approximately 149 ha (the 'Development Footprint'). The Project, as originally described in the Environmental Impact Statement (EIS), comprised exclusively of Lot 2 of Deposited Plan (DP) 1039185. However, the purpose of this Amendment Report (AR) is to address the TransGrid submission, through the addition of the Dumaresq Substation, comprising Lot 201 DP879480, to the 'Project Site'. This will facilitate the connection to the grid of the solar farm to the substation via an overhead transmission line. The AR also provides an environmental assessment of the potential impacts associated with the grid connection component (refer to *Section 5*).

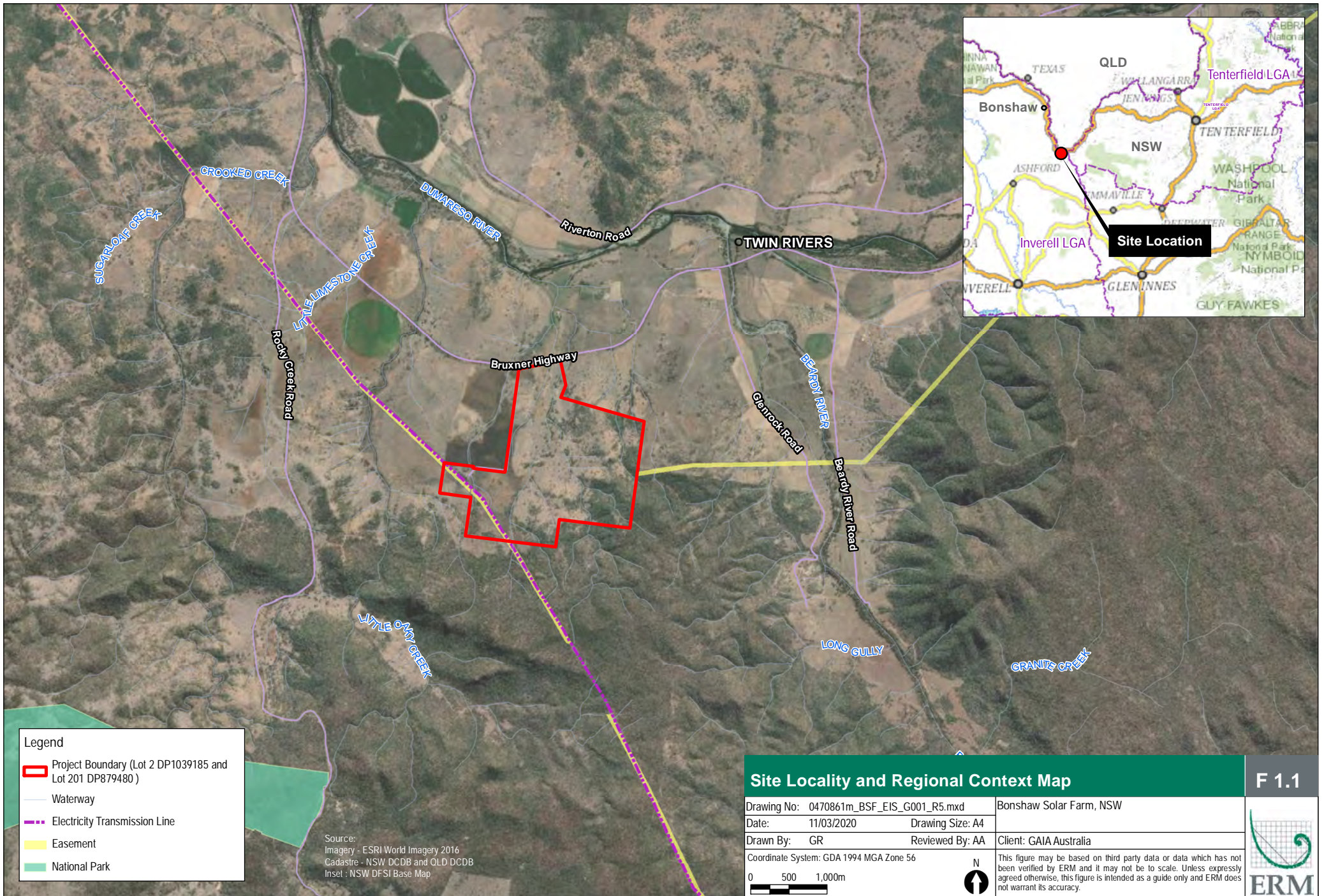
The Project follows the approvals process under Part 4 of the *Environmental Planning and Assessment Act 1979* as it meets the criteria of a State Significant Development (SSD) under clause 20, Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP).

1.1 Project Progress

The EIS for the Project originally stated in *Section 2.1* that the proposed grid connection would be by an overhead transmission line from the solar farm's ancillary infrastructure to the Dumaresq Substation. The EIS stated that the grid connection would be obtained separately, in accordance with Part 5 – Infrastructure and Environmental Impact Assessment of the EP&A Act 1979.

Following exhibition of the EIS, TransGrid made comment of the proposed method for obtaining approval separately, noting that all works associated with the Project are to be included in the development approval for the Bonshaw Solar Farm.

Consequently, the AR seeks to provide details of the overhead connection to assist with the Department's assessment and determination of the Project.



Legend

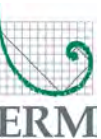
- Project Boundary (Lot 2 DP1039185 and Lot 201 DP879480)
- Waterway
- Electricity Transmission Line
- Easement
- National Park

Source:
 Imagery - ESRI World Imagery 2016
 Cadastre - NSW DCDB and QLD DCDB
 Inset : NSW DFSI Base Map

Site Locality and Regional Context Map

F 1.1

Drawing No: 0470861m_BSF_EIS_G001_R5.mxd	Bonshaw Solar Farm, NSW
Date: 11/03/2020	Drawing Size: A4
Drawn By: GR	Reviewed By: AA
Client: GAIA Australia	
Coordinate System: GDA 1994 MGA Zone 56	
0 500 1,000m	
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.	



2. DESCRIPTION OF AMMENDMENTS

This amendment report provides the inclusion of the Dumaresq Substation for the Project, specifically addressing the environmental impacts associated with the overhead connection from the Bonshaw Solar Farm to the existing Dumaresq Substation. The overhead connection will include a 30 m easement that will require ongoing maintenance as a transmission easement.

The overhead connection will connect from a pylon in the 'Ancillary Infrastructure' area, extending approximately 150 m directly into the Dumaresq Substation. There will be no ground disturbance within the transmission corridor.

The location of the overhead connection and the easement area is shown in *Figure 2-1* below.

2.1 Project Updates

In responding to the submissions raised, the Project has been updated to include the following changes (refer to *Table 2-1*):

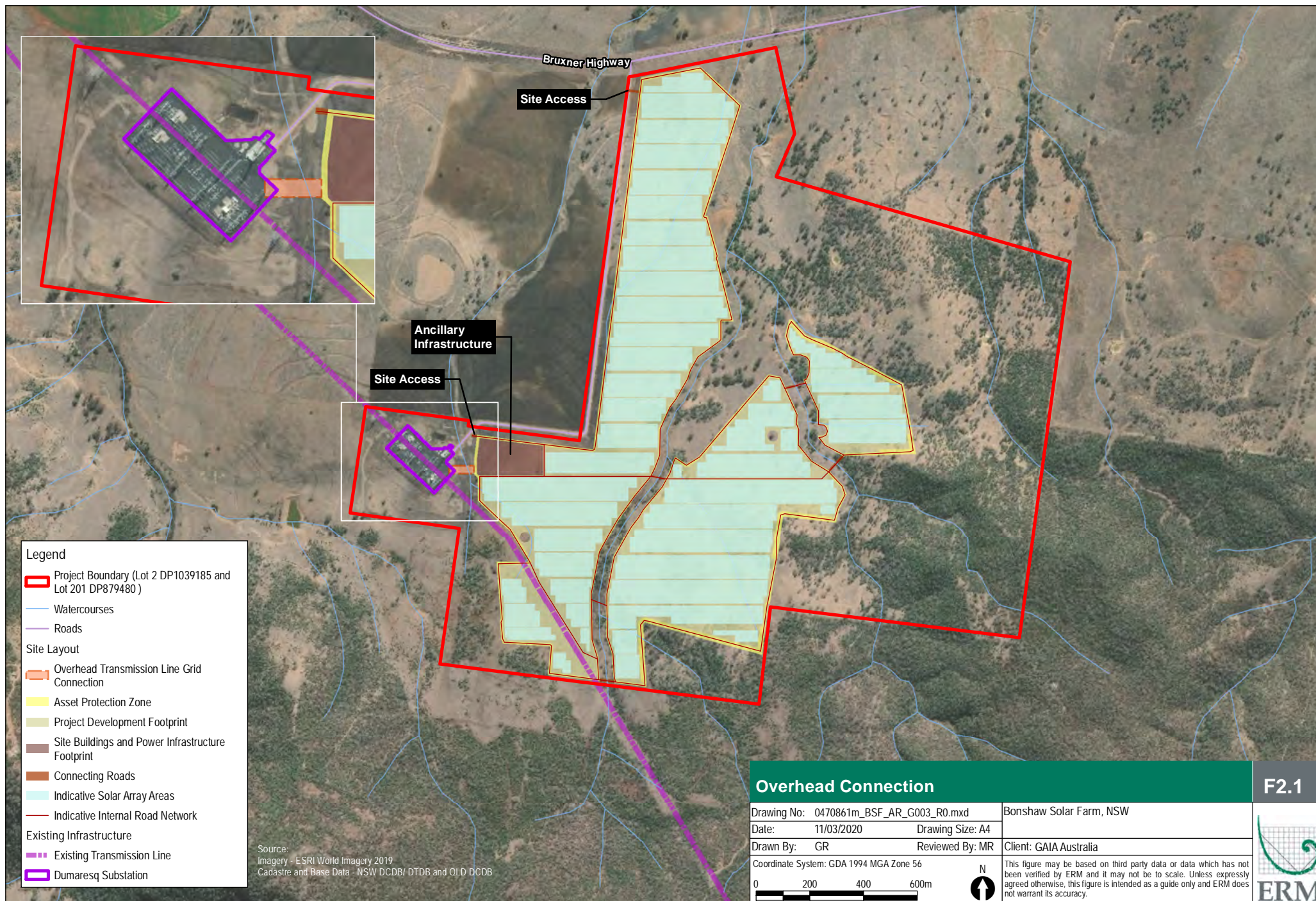
Table 2-1 Summary of Project Updates

Aspect	Project Response
Grid Connection	<p>Grid connection will be obtained through a proposed overhead transmission connection. The overhead connection will connect from a pylon in the 'Ancillary Infrastructure' area, extending approximately 150 m directly into the Dumaresq Substation (refer to <i>Figure 2-1</i>). The overhead connection is considered as an amendment to the original project description in the EIS.</p> <p>This response has triggered the need to develop this Amendment Report that details the description of the proposed project amendment, including an assessment of the relevant environmental impacts.</p> <p>Furthermore, the addition of the Dumaresq Substation requires landowner consent for the inclusion of Lot 201 DP 879480 and the Crown Land corridor. Evidence of landowner consent is provided in <i>Attachment A</i> below.</p>
Water Supply	<p>Water supply for the project will be provided through a licenced water supplier. GAIA have identified three (3) potential suppliers for the project – Trident Water or Wade's Water in Warwick or Vital Water Service in Casino. These will be further reviewed once the project commits to a construction timeframe (post-approval).</p>
Infrastructure	<p>The project is likely to fixed tilt (25°) PV panels. However, flexibility in technology is required to ensure the project remains viable, this includes the potential use of bi-facial panels. Piers for solar panel mounting will be ground screwed, allowing the piers to be removed and the ground restored to its original state.</p> <p>Should the use of alternative technologies result in additional infrastructure or ground treatments (i.e. white sand to increase reflectivity), this will require a modification to the Development Consent and assessment of potential additional impacts.</p>

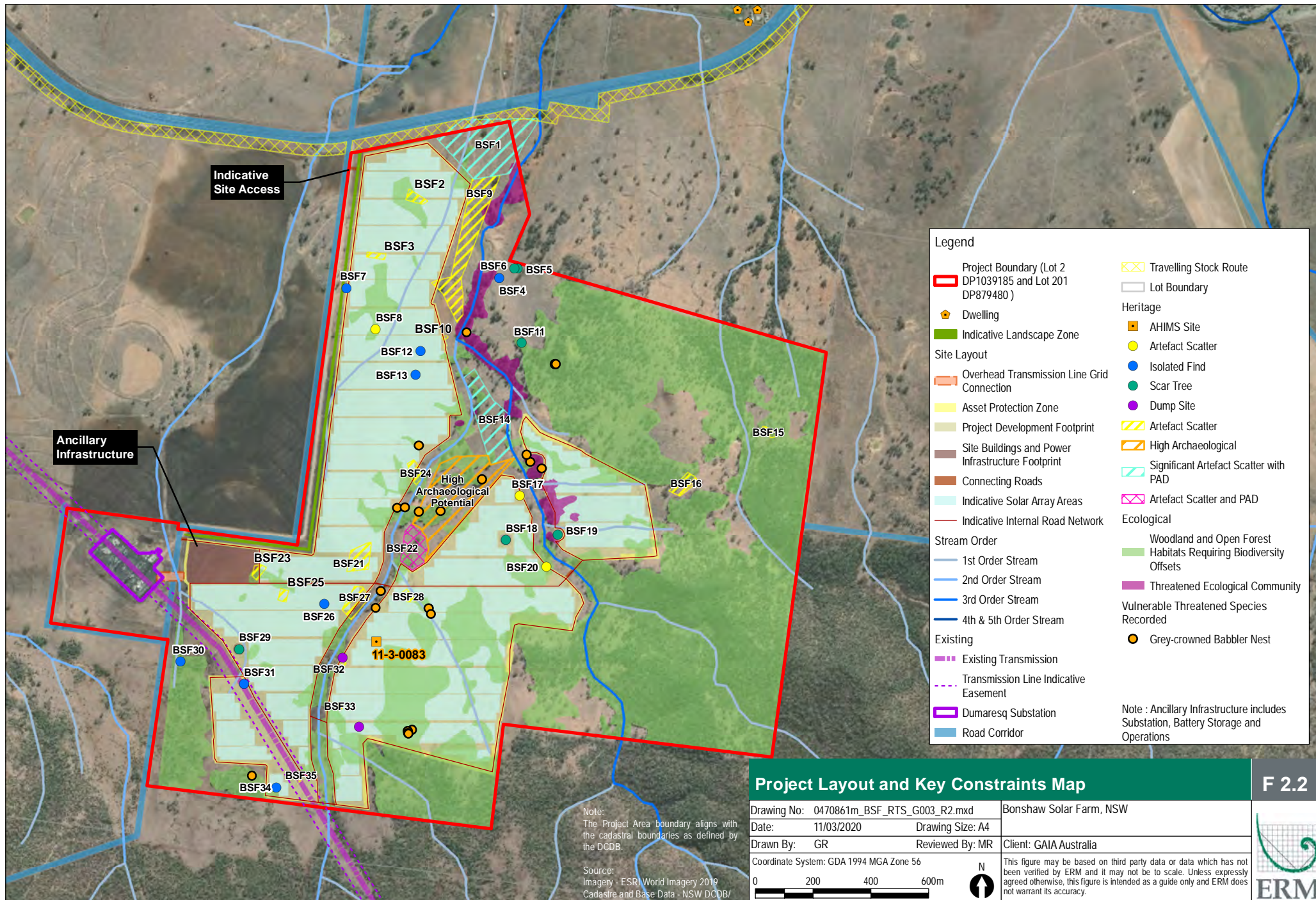
Aspect	Project Response
Biodiversity	<p>The BDAR has been updated to address comments raised by BCD (as detailed in the RTS).</p> <p>The BDAR has included an assessment of the grid connection component, including Dumaresq Substation. This change to the Project Area has resulted in the need to update the calculations recorded in the BDAR and the final BAM calculation.</p>
Cultural Heritage	<p>All amended sections refer to the Cultural Heritage Assessment Report.</p> <ul style="list-style-type: none"> ■ Inclusion of Section 5.3.2.1 of the CHA to describe the AHIMS Site #11-3-0083; ■ Inclusion of Figure 5.2 – Reference Map to location of AHIMS #11-3-0083; ■ Inclusion of discussion of AHIMS #11-3-0083 in the survey results (Section 7.2.3); ■ Inclusion of AHIMS #11-3-0083 in Aboriginal Heritage Statement of Significance; ■ Minor amendment to entry for AHIMS #11-3-0083 in Table 8.1; ■ Addition of AHIMS #11-3-0083 to Impact Assessment (Section 9); ■ Section 9 – clarification of impact metric utilised and reasoning for use; ■ Amendments to Table 9.1 to remove usage of 'Possible Impact'; ■ Revision of Aboriginal Heritage recommendations and unexpected finds procedure, in line with comments received from DPIE; and ■ Addition of Section 10.2.1.4 'Cultural Heritage Management Plan' to outline requirements for preparation of a CHMP.
Traffic	<p>The Traffic Impact Assessment has been updated to include an assessment of all transport routes and key intersections associated with the project. The site access has been consolidated with the existing access to the Dumaresq Substation access road, with site access to be provided off this road rather than directly onto the Bruxner Highway.</p>
Bushfire	<p>The Bushfire Hazard Assessment has been updated to reflect the revised Asset Protection Zones (APZ) which has also been reflected in the updated Project Layout provided in <i>Figure 2-2</i>.</p>
Hazards	<p>Preparation of a Preliminary Hazard Assessment (PHA) which details the Project's potential risks and hazards and suitable controls.</p> <p>In response to <i>State Environmental Planning Policy No.33 – Hazardous and Offensive Development (SEPP33)</i>.</p> <p>This is primarily related to the lithium-ion batteries being new technology that may not have been taken into account during the initial process determined for SEPP33.</p> <p>The outcome of the PHA concludes that It has been recognised that the Project is to include small quantities of hazardous materials which do not trigger the threshold. With consideration of the insignificant quantity of materials stored on site, along with the significant distance to neighbouring properties, it can be concluded that the risks associated with storage and transportation of hazardous materials are unlikely to be significant or pose a risk to public safety.</p>

Aspect	Project Response
	<p>The PHA has also revised a level 1 hazard analysis on the Project Battery and Energy Storage System (BESS) within the PHA. The following condensed assessment was concluded as a result of the assessment:</p> <ul style="list-style-type: none"> ■ That the BESS is located in the most appropriate location regarding the surrounding bushfire hazards and bushfire prone land. ■ That the Energy Storage System (ESS) supplier will maintain the most up to date global standards that commit to negating the possibility of fire propagation to additional units in the event of a thermal runaway. ■ That the preferred ESS supplier only supplies BESS units that contain a fire extinguishing system. ■ That the ESS and installation comply with the relevant Australian Standards on Energy Storage Systems (outlined in the PHA)
Statement of Commitments	<p>The following Statement of Commitments are provided in addition to the commitments made in the EIS and are a direct response to the submissions:</p> <ul style="list-style-type: none"> ■ Prepare a comprehensive fire safety study (FSS) for the Battery Energy Storage Systems (BESS) component of the development. The FSS should be developed in accordance with the requirements of Hazardous Industry Planning Advisory Paper No.2 (HIPAP No.2), and in consultation with and to the satisfaction of FRNSW; ■ Preparation of a Fire Management Plan (FMP) in consultation with NSW RFS Northern Tablelands Fire Control Centre; ■ Preparation of a Decommissioning and Rehabilitation Plan prior to decommissioning the Project which will detail how the site will be rehabilitated to the pre-development state; and ■ Undertake a pre and post construction road dilapidation report for the local transport route and restore any road damage resulting from construction of the project.

The implications of these updates to the project on the layout is provided in *Figure 2-2* below.



F2.1



Note:
The Project Area boundary aligns with the cadastral boundaries as defined by the DCDB.

Source:
Imagery - ESR/World Imagery 2019
Cadastral and Base Data - NSW DCDB/

3. STRATEGIC AND STATUTORY CONTEXT

3.1 Strategic Context

The Project will support the Commonwealth and NSW Governments in achieving their respective renewable energy and greenhouse gas emission reduction targets. The aim of the Commonwealth Government's Renewable Energy Target (RET) is to create a market for renewable energy to deliver around 23.5% of electricity from renewable sources by 2020, including the target of providing 33 terawatt hours (TWh) through large-scale renewables by 2020. Likewise, the NSW Renewable Energy Action Plan (REAP) supports the RET, by outlining 24 actions under 3 goals that detail the NSW Government's commitment to work closely with NSW communities and the renewable energy industry to increase renewable energy production in NSW to reach 20% of all energy generated by 2020.

According to the Clean Energy Australia Report 2019 (Clean Energy Council, 2019), in 2018 in NSW, the state generated 69,085 gigawatt hours (GWh) of energy, with the total renewable energy generation comprising 10,355 GWh, or 15.0%.

The Bonshaw Solar Farm will deliver 200 MW of renewable energy to the National Electricity Market (NEM), equating to 420 GWh per annum. The Project will assist the Commonwealth and NSW Governments in reaching the respective renewable energy targets.

3.2 Statutory Context

The statutory context has not changed from the original application, as documented in the Environmental Impact Statement.

3.2.1 Local Legislation

The Dumaresq Substation is situated within the Inverell Shire and the *Inverell Local Environmental Plan 2012* (Inverell LEP) applies. Both the Bonshaw Solar Farm and the Dumaresq Substation are zoned RU1 Primary Production under the Inverell LEP (*Figure 3-1*). The objectives of the zone are:

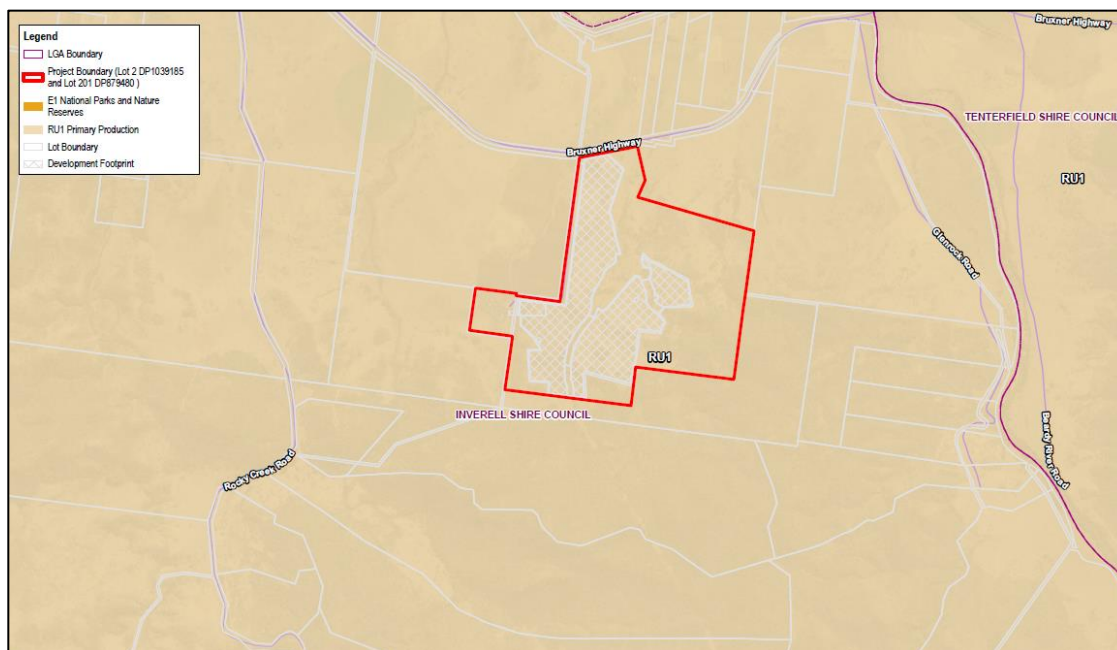
- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

Development for the purpose of electricity generation is not specified in item 2 or 3 of the Inverell LEP for the specified zone, and is therefore 'Prohibited'. As stated in *Section 4.2.3* of the EIS, permissibility of the solar energy development is provided by way of Clause 34 (7) of the Infrastructure SEPP.

Table 3-1 summarises the planning controls relevant to the Project under the Inverell LEP.

Table 3-1 Inverell LEP 2012 Mapping

Inverell LEP Mapping Attribute	Relevance to Project Site
Land Zoning	Zoned RU1 Primary Production
Minimum Lot Size	200 ha
Heritage	The Project is not mapped as containing a heritage item.
Designated Buffer Area	The Project is not mapped as being a designated buffer area.

Figure 3-1 Inverell Land Zoning

4. ENGAGEMENT

Engagement with the Electricity Transmission Ministerial Holding Corporation, as landowner of the Dumaresq Substation, and Crown Lands, as owner of the local access road to the Project site was undertaken as part of this AR process. A copy of the owners consent from both parties is provided as **Attachment A**.

5. ASSESSMENT OF ENVIRONMENTAL IMPACTS

This section of the AR addresses the environmental impacts specifically associated with the overhead grid connection, including the maintenance of a 30 m easement. It has been assessed that the impacts will be minimal. Key environmental impacts associated with the amendment are provided below (refer to *Table 5-1*).

Table 5-1 Environmental Assessment

Environmental Matter	Overhead Connection Environmental Impacts
Biodiversity	<p>The vegetation within the overhead connection corridor has been mapped as heavily disturbed grassland with vegetation integrity score <17. In accordance with the BAM, an offset is not required for impacts on native vegetation where the vegetation integrity score is below those set out in Paragraph 10.3.1.1. These thresholds are as follows:</p> <ul style="list-style-type: none"> ■ A vegetation zone that has a vegetation integrity score <15 where the PCT is representative of an endangered or critically endangered ecological community, or ■ A vegetation zone that has a vegetation integrity score <17 where the PCT is associated with threatened species habitat (as represented by ecosystem credits), or is representative of a vulnerable ecological community, or ■ A vegetation zone that has a vegetation integrity score <20 where the PCT is not representative of a TEC or associated with threatened species habitat. <p>Regular ground maintenance is required beneath the overhead connection, which will be managed through the Construction and Operational Environmental Management Plans (CEMP/OEMP) for the Project. This ongoing maintenance within an already highly disturbed grassland will not present any additional impact to those already addressed within the EIS and based on the revised BDAR and BAM calculations, does not increase the credit requirements for the proposed solar farm.</p>
Heritage	<p>European Heritage: There are no registered European heritage matters associated with the Dumaresq substation land.</p> <p>Aboriginal Heritage: An aboriginal heritage survey and assessment of the Bonshaw Solar Farm was undertaken and the results recorded in the EIS. The assessment included a search of registered in the vicinity of the Bonshaw Solar Farm (encompassing the Dumaresq Substation). The search results revealed there are no previously recorded aboriginal heritage items identified in the Dumaresq Substation.</p>

Environmental Matter	Overhead Connection Environmental Impacts
	<p>During the field survey 35 previously unidentified Aboriginal heritage sites were recorded on the Bonshaw Solar Farm. The sites were often located along small creek lines. BSF23 represents the closest newly recorded aboriginal site to the location of the proposed overhead connection. Given the proximity from any creek; distance from the cluster of newly recorded sites; and consideration of the previously disturbed Dumaresq Substation, it is considered unlikely that the overhead connection presents a risk to impact upon any Aboriginal heritage items. Furthermore, the nature of the overhead connection will not require any ground disturbance within the transmission easement.</p> <p>Irrespective of the known presence of artefacts, the Unexpected Finds Protocol will be applicable to the entire project site, as amended (refer to <i>Figure 1-1</i>) to ensure any heritage object and/or relic is appropriately assessed and managed.</p>
Transport	<p>Consideration of the height limit for any possible vehicle movements in the vicinity of the overhead connection (whether that be during construction of the Solar Farm or during its operation) will be adequately captured through the CEMP/OEMP. This will likely involve signage of the height limit to notify any vehicle movements underneath.</p>
Visual	<p>Given the proximity of the overhead line to existing transmission lines from the Dumaresq substation, and the significant distance to any nearby receptors, there will be no additional visual impacts associated with the overhead connection.</p>
Noise	<p>Installation of the overhead line will generate noise. However, in the context of the overall development, this will be minimal.</p> <p>The distance between the overhead connection and any nearby receptors is significant to make the noise impacts nil.</p>

6. EVALUATION OF MERITS

This AR has been prepared to address the inclusion of the Dumaresq Substation, comprising Lot 201 DP879480, to the Project site for the overhead grid connection. The AR also provides an environmental assessment of the potential impacts of the proposed amendment.

Grid connection is a key component of the Bonshaw Solar Farm project, a necessity for the success of the Project. As detailed in *Section 5* above, the overhead connection proposed represents the grid connection option that offers the least disturbance and minimal environmental impact.

Further merit for the amendment is found in the overall Project benefits, through the annual generation of 420 GWh of electricity contributing to the NEM. The Project will assist the Commonwealth and NSW Government in reaching the reduction targets of the RET and REAP respectively.

With these considerations in mind, it is inferred that the proposed amendment has sufficient merit for inclusion in the overall Project, for assessment by the Department of Planning, Industry and Environment.

Yours sincerely,



Lachlan Giles
Environmental Planner



Michael Rookwood
Senior Planner

ATTACHMENT A LANDOWNER CONSENT

ERM Australia Pty Ltd
C/- Michael Rookwood
Level 1, 45 Watt Street
NEWCASTLE NSW 2300

19 September 2019

Dear Sir/Madam

Landowner's Consent for Lodgement of Application – SSD-9438 – Bonshaw Solar Farm

Consent is granted by the Minister for Lands to the lodging a development application under the *Environmental Planning and Assessment Act 1979* with Department of Planning, Industry & Environment for the development proposal described above.

This consent is subject to the following:

- (1) This consent is given without prejudice so that consideration of the proposed development may proceed under the *Environmental Planning and Assessment Act 1979* and any other relevant legislation.
- (2) This consent does not imply the concurrence of the Minister for Water, Property & Housing for the proposed development, or the issue of any necessary lease, licence or other required approval under the *Crown Land Management Act 2016*; and does not prevent the Department of Planning, Industry & Environment - Crown Lands (Department of Planning, Industry & Environment - Crown Lands) from making any submission commenting on.
- (3) This consent will expire after a period of 12 months from the date of this letter if not acted on within that time. Extensions of this consent can be sought.
- (4) The Minister reserves the right to issue landowner's consent for the lodgement of applications for any other development proposals on the subject land concurrent with this landowner's consent.
- (5) Irrespective of any development consent or any approval given by other public authorities, any work or occupation of Crown land cannot commence without a current tenure from the Department of Planning, Industry & Environment - Crown Lands authorising such work or occupation.
- (6) The land may be subject to restrictions on use under the *Native Title Act 1993*.
- (7) As the application is being lodged over land managed by the Northern Tablelands Local Land Services (NTLLS), the Applicant will need to seek concurrence from NTLLS to the proposal. For works on Travelling Stock Routes, conditions are generally placed on any proposed works that may interrupt the reserve's purpose.

Regarding the proposed turning circle at the junction of New England Highway and Sunnyside Platform Road, it is the Department's preferred option that the required Crown land be acquired by Tenterfield Shire Council as a public road. Council is the best placed authority for the management of transport activities in this instance. The construction and ongoing operation of such a facility cannot be guaranteed under a Crown land tenure.

Incomplete Aboriginal Land Claim

The Crown reserve 82418 (Lot A DP 389562) affected by your proposed development is subject to an Aboriginal land claim under the *Aboriginal Land Rights Act 1983*, as outlined below.

Claim number	Claimant	Lodgement date
31709	New South Wales Aboriginal Land Council on behalf of Moombahlene Local Aboriginal Land Council	13 October 2010

If the investigation of the above claim determines that the land at the date of claim lodgement was claimable Crown land, the Minister for Lands is required to transfer the land to the claimant Land Council under the *NSW Aboriginal Land Rights Act 1983* regardless of any improvements.

The Department cannot guarantee your occupation of the land should the claim be granted. If the claim was successful, the Land Council would become freehold owners of the land and they may not permit the proposed activity/activities.

Prior to undertaking any development on the land under claim negotiation with the claimant Land Council should be undertaken to ensure that one of the following outcomes have been achieved

1. The claimant Land Council has withdrawn the above land claim; or
2. The claimant Land Council amends their claim to exclude the land affected by this proposal; or
3. The claimant Land Council has provided concurrence to the proposal.

Please note that you are responsible for pursuing any negotiations. The department's Aboriginal Land Claims Investigation Unit may be able to provide some assistance with the best practice for discussions. They can be contacted on (02) 6883 3396 or alc@crowland.nsw.gov.au.

For further information, please contact Jennifer Lee via the details given in the letter head.

Yours faithfully



Jennifer Lee

Department of Planning, Industry & Environment - Crown Lands



The
Treasury

Jim Betts
The Secretary
NSW Department of Planning, Industry & Environment
GPO Box 39
SYDNEY NSW 2001


Dear Mr Betts,

**Owner's consent to lodge Development and Environmental Impact Statement
Application – Lot 201 DP 879480
GAIA Australia Pty Ltd - Bonshaw Solar Farm Project (SSD – 9438)**

The Electricity Transmission Ministerial Holding Corporation is owner of land located at Bonshaw, being Lot 201 in DP 879480 (**the Land**). I understand GAIA Australia Pty Ltd (**Proponent**) has proposed a development known as Bonshaw Solar Farm Project (SSD – 9438) which is proposed to connect into the Dumaesq 330kV Substation and therefore cross and impact the Land.

Please accept this letter as consent (for the purposes of clause 49 of the *Environmental Planning and Assessment Regulation 2000*) of the owner of the Land for the Proponent to lodge a development and environmental impact statement application in relation to the Bonshaw Solar Farm.

Yours sincerely



25/3/2020

Angelo Kriketos
As agent for Michael Pratt, NSW Treasury Secretary
(Treasurer's delegate under delegation dated 24 November 2015)
on behalf of the Electricity Transmission Ministerial Holding Corporation