SUBMISSIONS REPORT

Yarren Hut Solar Farm

November 2020

Project Number: 19-754

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DOCUMENT VERIFICATION

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Revision 2	18/11/2020	B. Poulton	B. Marshall	B. Marshall

TABLE OF CONTENTS

FIGURES

TABLE

ACRONYMS AND ABBREVIATIONS

AHIMS	Aboriginal heritage information management system
ASL	Above sea level
AWS	Automatic weather station
BC Act	*Biodiversity Conservation Act 2016* (NSW)
Biosecurity Act	*Biosecurity Act 2015* (NSW)
BOM	Australian Bureau of Meteorology
BSC	Bogan Shire Council
CEMP	Construction environmental management plan
Cwth	Commonwealth
DAWE	(Cwth) Department of Agriculture Water and Environment
DP&I	(NSW) Department of Planning and Infrastructure (now DPIE)
DPIE	(NSW) Department of Planning, Industry and Environment
EEC	Endangered ecological community – as defined under relevant law applying to the proposal
EIA	Environmental impact assessment
EPBC Act	(Cwth) *Environment Protection and Biodiversity Conservation Act 1999*
EP&A Act	(NSW) *Environmental Planning and Assessment Act 1979*
ESD	Ecologically Sustainable Development
FM Act	(NSW) *Fisheries Management Act 1994*
ha	hectares
Heritage Act	(NSW) *Heritage Act 1977*
ISEPP	(NSW) *State Environmental Planning Policy (Infrastructure) 2007*
KFH	Key Fish Habitat
km	kilometres
LALC	Local Aboriginal Land Council

LEP	Local Environment Plan
m	metres
NES	Matters of National environmental significance under the EPBC Act (*c.f.*)
NPW Act	*National Parks and Wildlife Act 1974* (NSW)
NSW	New South Wales
OEH	(NSW) Office of Environment and Heritage, formerly Department of Environment, Climate Change and Water
REF	Review of Environmental Factors
REP	Regional Environmental Plan
SEPP	(NSW) State Environmental Planning Policy
SIS	Species Impact Statement
sp/spp	Species/multiple species
TSC Act	*Threatened Species Conservation Act 1995* (NSW)

1. INTRODUCTION

1.1. BACKGROUND

A 28 megawatt (MW) alternating current (AC) photovoltaic (PV) solar farm is proposed to be developed approximately 17 km northwest of Nyngan within the Bogan local government area (LGA) (refer Figure 1-1). The Yarren Hut Solar Farm (the proposal) would have a development footprint of around 92 hectares (ha).

The proposal is classified as State Significant Development under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and requires consent from the NSW Minister for Planning. An Environmental Impact Statement (EIS), describing the proposal and assessing its potential environmental impacts was prepared by NGH Environmental and submitted to the NSW Department of Planning, Industry and Environment (DPIE). The EIS was placed on public exhibition between 19 August 2020 and 16 September 2020.

Key environmental issues investigated in the EIS, based on the requirements of the Secretary's Environmental Assessment Requirements (SEARs), included:

- Biodiversity (flora and fauna).
- Aboriginal heritage.
- Visual impacts.
- Land use and resources.
- Noise impacts.
- Traffic impacts.
- Socioeconomic and community.

These issues were investigated via specialist assessments. Lower risk issues were investigated primarily by desktop assessment.

Due to the low level of environmental constraints and an absence of residential dwellings within 5 km of the proposal, no amendments have been made to the proposed design of the solar farm since the EIS was submitted for public and agency comment. Therefore, no further assessments were required for the Aboriginal Cultural Heritage Assessment Report (ACHAR) or Biodiversity Development Assessment Report (BDAR). The maps with the BDAR have been updated to address comments from the Biodiversity Conservation Division (BCD) of DPIE, however, no changes to the proposed design have been required.

1.2. PURPOSE OF THIS REPORT

NGH has prepared this Submissions Report on behalf of BayWa r.e. (the proponent) in response to the DPIE's letter dated 21 September 2020 and to fulfil the requirements of Section 85A of the Environmental Planning and Assessment Regulation 2000. The purpose of the Submissions Report is to:

- Consider and respond to the matters raised in the submissions for the proposal.
- Describe any changes to the proposal, including a revised set of proposed mitigation measures.

1.3. PROPOSAL SUMMARY

1.3.1. Site location

The subject land occupies 1205 ha of freehold land comprising a single lot, Lot 21 DP 704061 (Figure 1-2). Of this, approximately 92 ha make up the development footprint (or area of disturbance). A proposed sub

transmission line would connect to Essential Energy's 66 kV transmission line which runs along the eastern boundary of the development site parallel to Mitchell Highway.

The development site would be accessed from a private access track directly from Mitchell Highway approximately 17 km northwest of the Nyngan townsite. Mitchell Highway is an arterial road managed and maintained by Transport for NSW (TfNSW).

The proposal is expected to operate for 50 years. The construction phase of the proposal is planned to commence in the third quarter 2021 and would last approximately 10 months. During the operating period, infrastructure maintenance would occur as required to ensure the efficient operation of the plant. Upon decommissioning, all above-ground infrastructure would be removed, and the site returned to its existing land capability, in consultation with the landowner.

The development site is currently used for dryland cropping and grazing. Cleared and highly modified agricultural land occupies about 99% of the development site. A small amount of native vegetation occurs within the development site limited to remnant roadside vegetation along Mitchell Highway and isolated paddock trees. There are no watercourses within or near the development site, nor is it located within any floodplains. The closest river is the Bogan River that runs approximately 10 km to the southeast at its closest point to the development site. No farm dams exist within the development site. No farm buildings or dwellings exist within 5 km of the development site boundary.

1.3.1. Revised land and soil capability mapping

The land and soil capability mapping for NSW available through the SEED Portal is periodically updated. The most recent update is dated 28 October 2020. When the Scoping Report and Environmental Impact Assessment for the proposal were prepared, the development site for the proposal was mapped Class 4 land capability, which contributed to the selection of the site, as one with few community and environmental constraints.

The *Land and soil capability scheme* (EOH, 2012) defines Class 4 land as:

Moderate capability land*: Land has moderate to high limitations for high-impact land uses. Will restrict land management options for regular high-impact land uses such as cropping, high-intensity grazing and horticulture. These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology.*

Since the initial constraints analysis of the development site, the land and soil capability for the development site has been upgraded to Class 3 land, defined under the *Land and soil capability scheme* as:

High capability land*: Land has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices. However, careful management of limitations is required for cropping and intensive grazing to avoid land and environmental degradation*.

The large-scale solar energy guideline released by the NSW Government in 2018 dissuades developers from selecting high capability agricultural land (Classed 1 to 3), for large-scale solar developments. Since this land was considered Class 4 on inception, however, a soil assessment was completed for the development site.

The soil quality assessment of the development site, provides as Appendix I of the EIS (Barnson, 2020), notes the following limitations on agricultural productivity:

- Information from the NSW Soil and Land Information System (OEH, 2016) indicates the soil type where the subject site is located as Brown Chromosol and describes it as fragile and medium textured with low organic matter content.
- Under existing bare soil conditions, soil erosion potential is unacceptable, however, with vegetation cover the rate of soil erosion can be reduced to well below tolerable levels.

- The phosphorus values calculated for the subject site are very low and a phosphorous addition rate of 5 to 20 kg/ha is indicated for optimum yield.

Barnson (2020) further noted that: 'the site is currently used for grazing and vegetation over the surface of the site is sparse.'

A considerable additional limitation to agricultural productivity is the medium average rainfall for the area (445.6 mm), including a low average winter rainfall and Nyngan typically experiences its highest rainfall in January (BoM, 2020).

The proposal also represents a small area (92 ha), compared to many other large-scale solar farms proposed in NSW, many of these in more productive agricultural areas with higher rainfall. In conclusion, the proponent does not consider that the proposal would impact the agricultural capability of the Bogan Shire local government area.

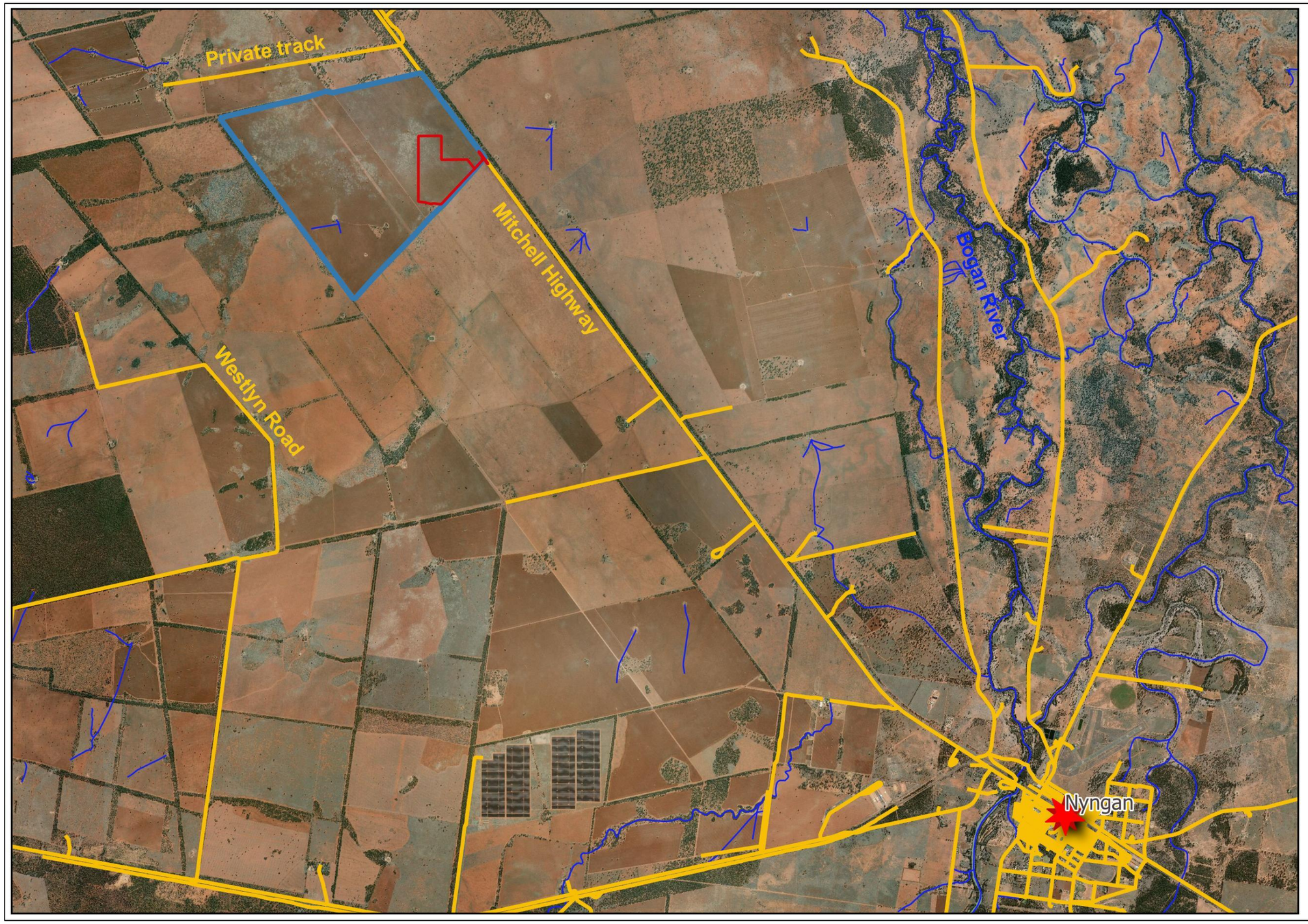
1.3.2. Key components of the proposal

The proposed Yarren Hut Solar Farm would include the following infrastructure components:

- Single-axis fixed, or tracker photovoltaic solar panels mounted on steel frames (approximately 84,000 PV solar panels).
- Underground electrical conduits and cabling to connect the arrays and the inverters and transformers.
- Inverters, transformers, and electrical conduits.
- Onsite substation / switching station.
- 66 kV electrical transmission line to connect the proposal to the existing Essential Energy transmission line.
- Site office, site compound, vehicle parking areas, access tracks and perimeter fencing.
- Screening vegetation along the northern and eastern boundaries of the development site.
- Site access from Mitchell Highway.

The proposed infrastructure layout and constraints maps are included in Figure 1-4 and Figure 1-5.

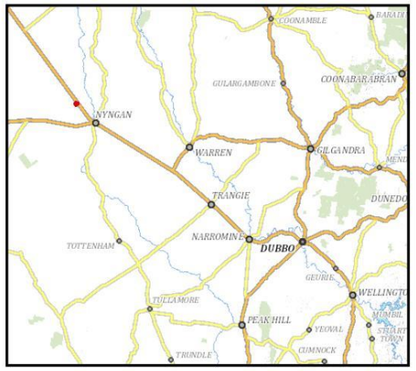
The existing development site access and surrounding roadside vegetation are shown in Figure 1-6 and Figure 1-7.



Yarren Hut Solar Farm Location

Legend

- Town
- Road
- Hydroline
- Development site
- Subject land



Ref: 19-754 Yarren Hut Solar Farm
Author: B. Poulton
Date created: 16 November 2020
Datum: EPSG:28355 GDA94 / MGA zone 55

0 1 2 3 4 km

NGH

Figure 1-1 location of the proposal

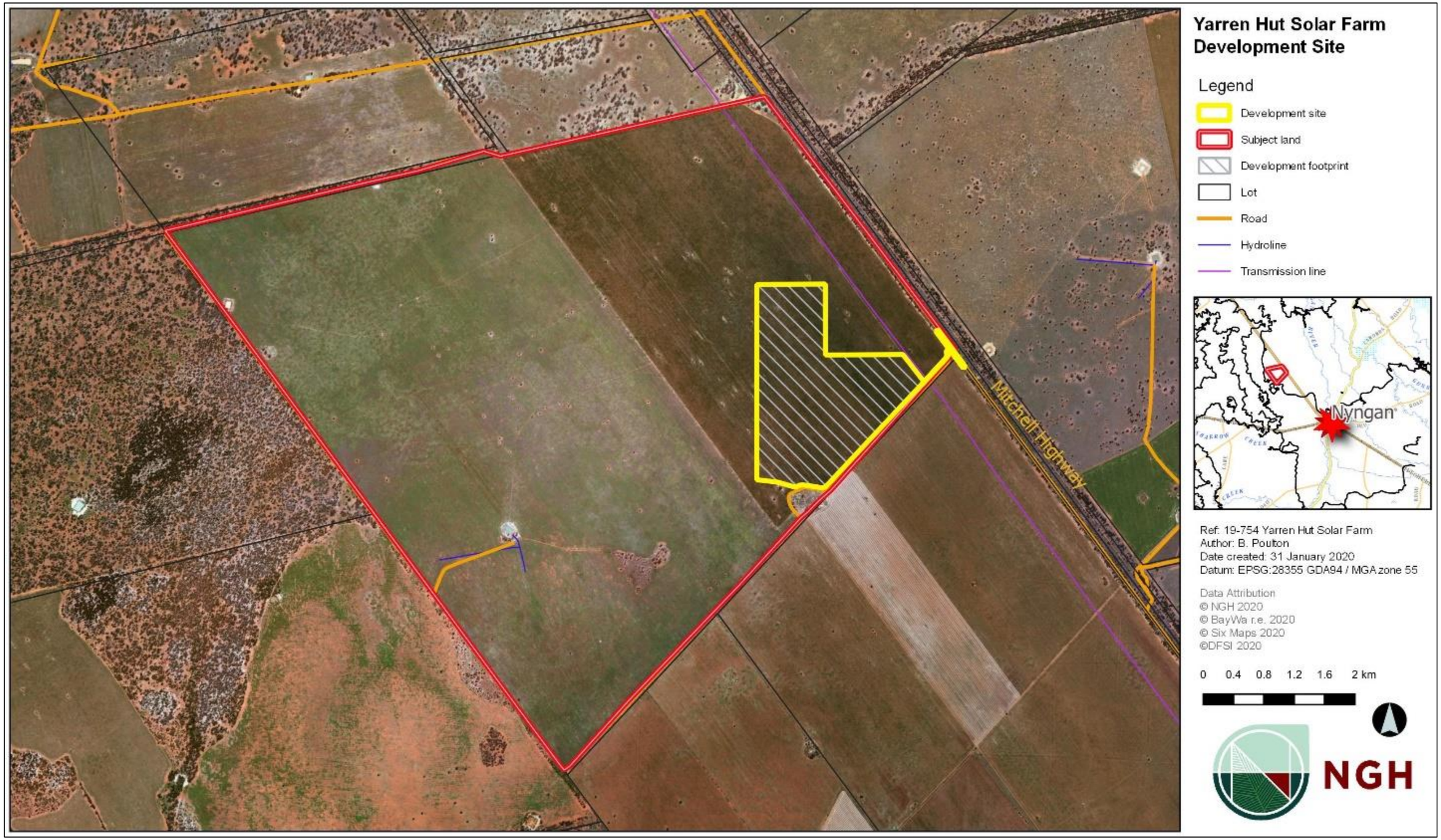


Figure 1-2 Subject land of the proposal

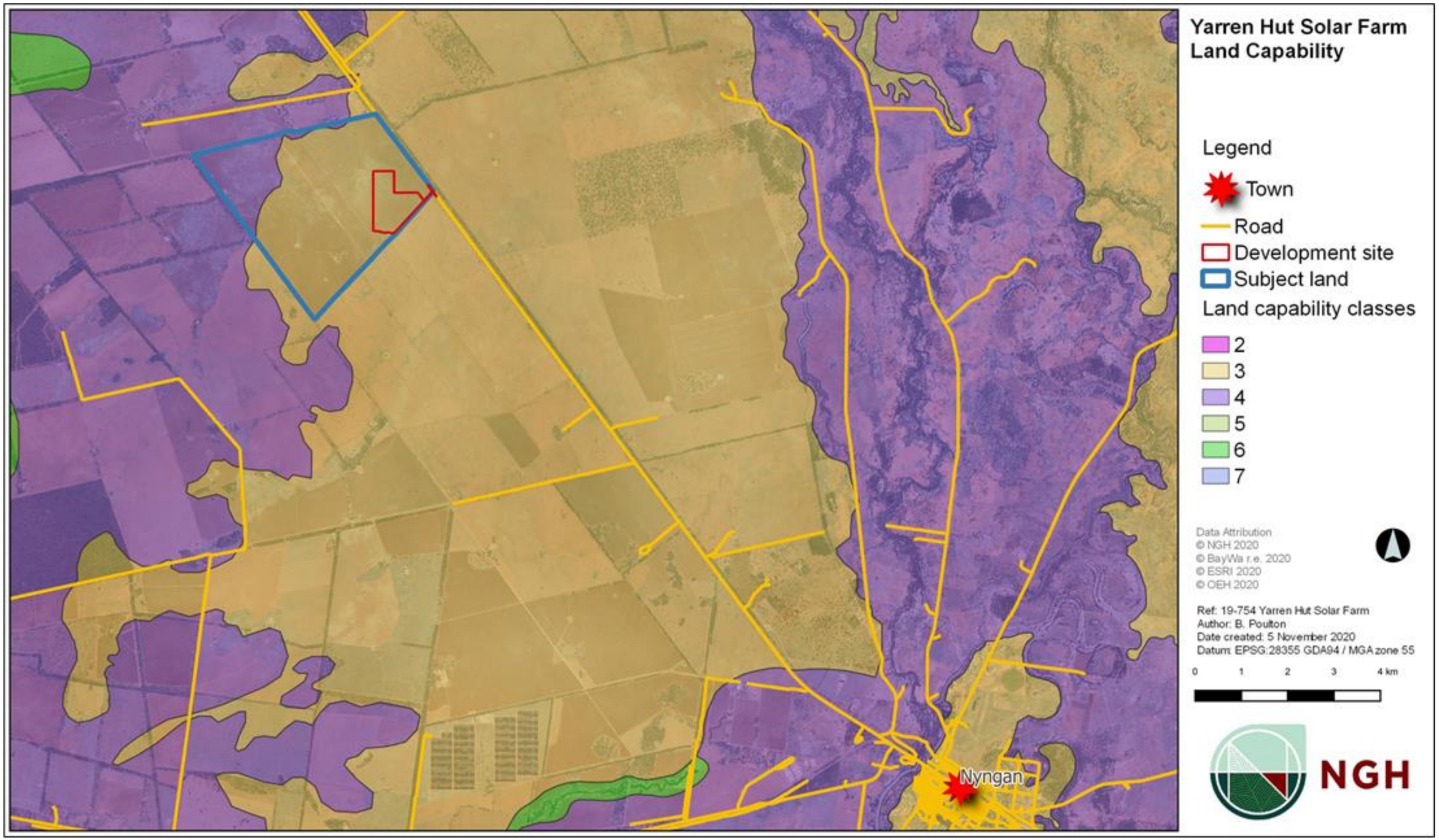


Figure 1-3 Revised land and soil capability scheme

Figure 1-4 Proposed infrastructure layout

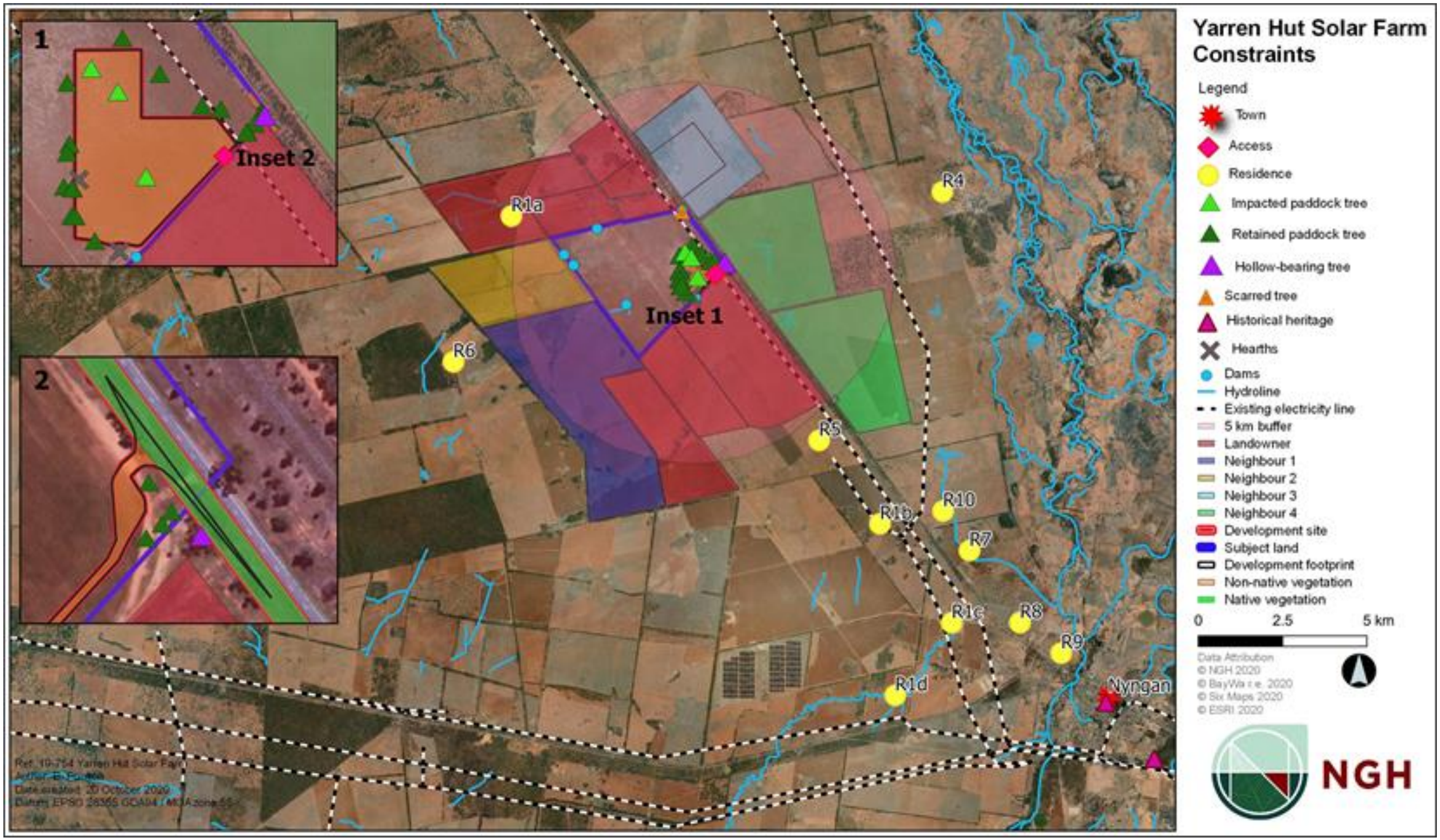


Figure 1-5 Updated constraints map

Figure 1-6 Existing development site access

Figure 1-7 Roadside vegetation

1.3.3. Indicative timeline

An indicative timeline for the proposal is outlined in Table 1-1

Table 1-1 Indicative timeline

Phase	Approximate commencement	Approximate duration
Construction	Q3 2021	5 to 10 months
Operation	Q1 / Q2 2022	50 years
Decommissioning	Q1 / Q2 2072	6 months

1.4. EXHIBITION PERIOD AND LOCATION

The EIS was placed on public exhibition for a period of 4 weeks from 19 August 2020 to 16 September 2020, and was available on-line at: https://www.planningportal.nsw.gov.au/major-projects/project/26561

1.5. LOCAL BENEFITS

In addition to reduced greenhouse gas (GHG) emissions and meeting government energy policies, local social and economic benefits that would be associated with the construction and operation of the proposal include:

- Direct and indirect employment opportunities during construction and operation of the solar farm. This includes up to 40 employees at the peak of construction (five months) and one or two FTE operational staff for the life of the project.
- Diversifying employment opportunities beyond the productive agriculture sector. Limited grazing will be maintained onsite as well as a drought-proof income stream provided by the solar farm lease payments.
- The proposal would provide significant participation opportunities for businesses and workers in and around Nyngan.
- Direct business volume benefits for local services, materials, and contracting (e.g. accommodation, food and other retail).
- Assistance in meeting the future electricity demands of the Bogan LGA.
- An approximate annual operating budget of $1.1 million, which would include employment opportunities and engaging local contractors.
- Council rates and a VPA with the Bogan Shire Council.

The proposal would have an estimated capital investment of $42 million.

To minimise the environmental costs of achieving the above benefits, the proposal would respond appropriately to the environmental constraints of the site. It would be designed to:

- Preserve biodiversity features through minimising tree and vegetation community removal.
- Enhance biodiversity through planting of native vegetation.
- Preserve Aboriginal cultural heritage through maintaining important features.
- Minimise impacts to soil and water, through pile driven panel mounts rather than extensive soil disturbance and excavation.
- Minimise visual impacts to neighbours, incorporating vegetation screens, where required.
- Preserve agricultural production values, being highly reversible at the end of the proposal's life.. Weeds would be controlled under a Weed and Pest Management Plan.

1.6. PROJECT JUSTIFICATION

Yarren Hut Solar Farm would meet the proposal objectives, principally the development of a commercial scale solar electricity power station. Broad benefits that would be associated with the operation of the proposal include:

- Reduced GHG emissions, assisting the transition towards cleaner electricity generation.
- Provision of a renewable energy supply that would assist the Federal and NSW Governments to reach Australia's Large-scale Renewable Energy Target and other energy and carbon mitigation goals.
- Embed electricity generation supply into the Australian grid closer to identified consumption centres.

Specifically, the proposal would:

- Generate approximately 76,000 MWh of renewable electricity per year.

- Supply enough power each year to service approximately 9,000 households.
- Save around 61,000 tonnes of carbon dioxide (CO_2) per year, assuming generation would otherwise use coal with a carbon factor of 0.8 tonnes per MWh (, 2011).
- The proposal would displace 61,000 tonnes of CO_2 per annum is the equivalent of taking about 26,500 cars off the road each year, based on an average car in NSW travelling 14,000 km per year with CO_2 emissions of 162 g/km (or 2.3 tonnes of CO_2 emissions per car per year) (U.S. EPA 2020).
- Contribute to overall cheaper energy prices. As according to Deloitte, Australian households will pay $510 million more for power in 2020 without renewable growth through the RET and up to $1.4 billion more per year beyond 2020. Renewables increase competition in the wholesale energy market – and, as in any market, more competition means lower prices.

2. CONSIDERATION OF SUBMISSIONS

2.1. RESPONSES RECEIVED

During the exhibition period, DPIE received submissions from a total of 15 government agencies, one organisation/special interest group and no submissions from members of the public. 13 of the agency submissions were in the form of neutral comments, two agencies support the proposal including Bogan Shire Council. No agencies objected. The one organisation submission supports the proposal. The submissions are summarised and addressed in section 2.2.

2.2. PROPONENT'S RESPONSE TO SUBMISSIONS

2.2.1. Agency submissions

Agency submissions are presented in alphabetical order. They have been paraphrased and addressed in the following sections.

Bogan Shire Council

Issue	Response
Bogan Shire Council (BSC) encourages sustainable development that provides positive community benefits and as such supports the proposed YHSF project as described in the Environmental Impact Statement (EIS) and supporting documents which form part of the State Significant Development (SSD) Application. This support is based on appropriate conditions of consent and the consideration of the following comments into any Development Consent that maybe issued.	Noted. The proponent thanks Bogan Shire Council for their support.
1. At its Ordinary meeting of 27 August 2020 BSC resolved "Council encourages the proponent of the State Significant Development – Solar Farm No 2 to support local businesses". A commitment to source workers locally is noted within the Executive summary of the EIS and will be encouraged and monitored by BSC.	Noted. Yarren Hut Solar Farm would engage local workers and contractors where practicable.
2. That the YHSF development (SSD 10415) if approved, contains appropriate conditions in line with the NSW Government document titled "Indicative Standard Conditions for SSD." – Solar projects 2018.	Noted. The proponent identified the development site as an ideal location for a solar farm due to its lack of environmental constraints including minimal heritage and biodiversity impacts and no uninvolved residences within 5 km.

Issue	Response
3. The principal terms of the final draft of the Voluntary Planning Agreement (VPA) dated 20 August 2020 between the proponent and BSC are supported and these terms of the VPA form part of any Development Consent that may be issued.	Noted.
4. Details are not provided of wastewater disposal system to be included as part of the development. Whist the EIS indicates there will be staff amenities provided it is generally silent of the method to be used to treat and dispose of wastewater generated by the staff amenities building. BSC would suggest details are provided as part of an application under s68 of the *Local Government Act 1993* which is to be made to BSC.	Following development consent and prior to construction, the proponent would apply to BSC for a septic tank system for worker amenities under section 68 of the *Local Government Act 1993*. Alternatively, wastewater would be only stored onsite and periodically removed offsite for disposal in accordance with relevant regulations and guidelines.
5. Paragraph 8.3.5 of the Planning for Bushfire Protection Guidelines 2019 (PBP) acknowledges the risk of bushfires to wind and solar farms and has specific requirements for these types of development which should be included as part of the assessment including (but not limited to) the preparation of a Bushfire Emergency Management and Operations Plan.	The requirements of the PBP Guidelines have been addressed in section 7.4 of the EIS and the proponent has proactively engaged the local Rural Fire Service branch to ensure bushfire preparedness measures are implemented to their satisfaction.
6. The EIS acknowledges the potential bushfire risk and proposes the use of a 10 m Asset Protection Zone (APZ) and 20,000L water tank. It is recommended that the static firefighting water supply facility should comply with the provisions of Table 7.4A of PBP.	Noted.
7. The EIS indicates that the development has a life expectancy of 50 years and provides some commentary on the Rehabilitation and Decommissioning Management Plan (RDMP) however does not indicate when this will be produced. BSC is aware that in other industries the RDMP is prepared at an early stage in case the RDMP must be implemented sooner than planned. BSC would suggest as a condition of Development	The proponent recognises that an RDMP is often produced early in the project life of certain types of developments. This is because some industries (such as mining) have complicated closure and rehabilitation requirements, for example: reshaping landforms, mitigating groundwater impacts, managing contamination issues etc. The decommissioning requirements of solar farms however are straightforward and limited to the removal of above ground infrastructure and belowground cables,

Issue	Response
Consent that the RDMP is developed within the first 5 years of the commencement of operations at the facility and is reviewed on a 5 year cycle.	without long term impacts on the surrounding environment. As such, the proponent considers that the early development of a RDMP (within the 5 years of operation) would not be beneficial.
8. It is anticipated that if the RDMP is prepared and implemented in accordance with the above recommendation, potential matters such as benchmarks, milestones and monitoring of the rehabilitation programme will be addressed.	The proponent anticipates that this action would not be required.
9. The EIS is proposing that a Waste Management Plan (WMP) is developed, however there is no detail around the timeframe for the development of the WMP. As the local waste management facility operator BSC would request a stakeholder position in the review of the WMP in order to determine the estimated waste generated both in the construction and operational phases. This will allow the volume of waste to be calculated and to nominate the location of the approved waste facility that the waste is to be disposed of.	Following development consent and prior to construction, the proponent would develop a WMP, which details the removal of construction waste to either a commercial waste management facility or a BSC waste management facility. In the event that a BSC facility is used, BSC would be consulted in the development of the WMP. The WMP would quantify waste volumes generated during the construction and operational phases of the proposal.

Crown Lands

Crown Lands has no comments for this proposal.

DPI Agriculture

Issue	Response
The proposal has described a range of impacts on land zones primary production and the assessment does adequately deal with the issues associated with agricultural land and land use impacts. The following are areas where the information will assist with confirming the agricultural issues are fully addressed:	Noted.

Issue	Response
• The soil survey for the site provides a sound basis to the land condition for construction and for a baseline to information requirements for both the operating and closure outcomes.	A Soil Quality Assessment was undertaken for the proposal by Barnson Pty Ltd and is provided as Appendix 1 of the EIS. The Soil Quality Assessment provides a chemical analysis of soil across the development site which identified several high constraints to agricultural capability including low organic matter content, low moisture holding capability and very low phosphorous. On the positive side, the soils are non-saline and pH occurs within the productive range of 5.5 to 7.8. The cation exchange capacity is moderate. Overall, the chemical analysis is consistent with the definition of Class 4 soil under Land and Soil Capability Scheme (OEH 2012): *Land has moderate to high limitations for high-impact land uses.* This soil requires regular inputs in the form of fertiliser and soil conditioners. Existing solar farms have generally seen an increase in groundcover and organic matter content under the panels during operation, which is believed to improve the soil for post-closure agricultural practices.
• Sheep grazing to manage vegetation growth is being undertaken during the solar farm's operation is noted. A 70% groundcover is being maintained (page 191, SO2) as part of the Groundcover Management Plan that will ensure optimal conditions to ensure infiltration and less erosion and surface water movement or structural damage.	A Groundcover Management Plan would be developed post-approval and prior to construction. This would see groundcover increasing from approximately 0% to 70%. Maintaining groundcover over operation would also reduce dust generation and reduce the need to regularly clean the panels.
• A Pest and Weed Management Plan (PWMP) is identified as part of the construction and operation phases of the development. This would ideally also have a link to the groundcover management of the site. It would be useful to consult with the Central West Local Land Services and the landholders in the immediate area to work in with this plan and the adjacent lands.	A PWMP for the proposal would be developed post-approval and prior to construction. The proponent would be happy to engage with Local Land Services and adjoining landholders regarding animal pest and weed management activities. The proponent considers that maintaining low weed cover targets would automatically link to a Groundcover Management Plan.
• A Rehabilitation and Decommissioning Management Plan will be developed that includes details of the return to agriculture on final closure. This is where the baseline soil assessment as noted above will assist in	The proponent considers that relinquishing the development site at a similar production capability to the pre-construction land capability would not be a good outcome for the landholder considering the lack of groundcover and low organic matter of the soil. The

Issue	Response
returning land to a similar capability and production capacity. It provides measurable outcomes to help achieve pre-development soil and landscape conditions.	proponent anticipates that a 50-year period of fallow would improve the health of soil under the panels and increase cropping capability of the soil for several years after closure. A Rehabilitation and Decommissioning Management Plan would be developed prior to decommissioning in consultation with the landholder.
• The development sites that underground cabling would range between 0.3 m to 1.5 m deep. On closure, all above and below ground infrastructure will be removed, which is advantageous especially if this area is to be potentially cropped.	All above and below ground infrastructure would be removed during decommissioning, except for limited aboveground infrastructure which the landholder wishes to retain.

DPIE – Biodiversity Conservation Division

Issue	Response
1.1 Provide the following: a) a clear map at an appropriate scale which confirms the proposed location and extent of the footprint associated with the access treatment, correctly aligned with an aerial image. The polygon showing the footprint should be outlined only, with no shading. b) multiple photographs across the access treatment footprint to confirm the nature of the vegetation and structural elements in that area.	The mapping in the BDAR has been updated as requested to present the development footprint as an outline without shading. The GPS coordinates of all habitat features, and native vegetation polygons are ground-truthed, correctly georeferenced and appear on the maps in their proper location in relation to the development site boundary and the development footprint. The proponent considers that at the scale of the access treatment and the accuracy of recording GPS coordinates on the ground would create some alignment deviation with aerial photography. The proponent also notes that the georeferencing accuracy of aerial imagery reduces away from population centres. In any case, the proponent has committed to limit the impacts on native vegetation to the 0.08 ha of roadside vegetation and would avoid the removal of the one hollow-bearing tree recorded just outside the development footprint as shown in Figure 4-1 of the BDAR. Additional photographs of roadside vegetation are provided in section 1.3.2 of this Submissions Report above show sparse groundcover and a lack of mature trees.

Issue	Response
1.2 Describe the habitat assessment undertaken and present the results of that assessment.	Italicised BCD comments are addressed below: *The BDAR (pages 50 and 59) states that whilst the BAM plot contained native shrubs and trees, the portion of footprint within the road reserve (0.08ha) contains only grass, grass-like and forb growth forms. Based on this, the future integrity score was calculated assuming that no shrubs or trees would be impacted.* The single BAM plot undertaken was 10 m x 100 m along the roadside, which is significantly longer than the access treatment, thus additional habitat features were included in the plot that do not occur within the access treatment area. The proponent notes BCD comments: *Furthermore, it appears that the BAM plot established was located adjacent to, but outside of the development footprint. No plot data is provided from within the area of impact associated with the access treatment.* As above. Due to the small area of native vegetation impacted, and its location in relation to the sealed road and the fence line, it was not possible to perfectly align the plot with the proposed access treatment area.
1.3 Confirm the number of paddock trees that will be removed by the project.	Three paddock trees would be removed by the proposal. Two of these trees do not generate biodiversity credits. One tree generates one ecosystem credit. Refer to section 10.1.2 of the BDAR and Figure 1-5 of this Submissions Report. A single hollow-bearing tree near the access treatment lies outside the development footprint and would not be impacted.
2.1 Ensure all plot data associated with the project is presented in the BDAR.	The constraints summary on page 45 of the BDAR is correct. Only one BAM plot for roadside vegetation for the access treatment was undertaken. The remainder of the development footprint is highly disturbed Category 1 land with little to no groundcover at the time of the assessment, such as shown in Figure 1-6 and Figure 1-7.

Issue	Response
	All plot data has been provided in Appendix B of the BDAR which comprises one plot of roadside vegetation, approximately 0.08 ha of which would be impacted for the access treatment off Mitchell Highway.
2.2 Ensure all statements regarding the information used to avoid and minimise impacts on biodiversity are correct.	The BDAR has been updated to remove references to disturbance of stags and fallen timber.
3.1 Adequately justify the exclusion of the squatter pigeon, bush stone curlew, Major Mitchell's cockatoo, barking owl, masked owl and little eagle from further assessment via effective use of the following: c) a map of the final verified location, extent of the footprint and adequate site photographs (see Recommendation 2.1). d) the habitat assessment results (see Recommendation 2.2). e) peer-reviewed or other published information (referenced) relating to the microhabitats used by the subject species to demonstrate the absence or degradation of habitat constraints or known microhabitats such that the subject species would no longer be present. Alternatively, the BDAR should present an expert report(s) prepared in accordance with subsection 6.5.2 of the BAM, advising on the likelihood of the subject species being present on the subject land or specific vegetation zone.	Table 4.2 of the BDAR has been updated to address the habitat constraints and geographical location for exclusion of Squatter Pigeon, Bush Stone-curlew, Barking Owl, Masked Owl and Little Eagle. In accordance with the BAM, these species have been excluded for one of the following reasons: a) Geographical range in sub IBRA region b) Habitat constraints are absent such as logs, trees with hollows over a particular size, tree height, proximity to waterways. c) The proposed development footprint does not have the habitat requirements for these species Major Mitchell has been included and assumed present. This has been updated in the BAM-C and BDAR.
4.1 Unless justification can be provided that survey conditions were optimal, the Shrub Sida should be assumed present or an expert report obtained to assess the presence or absence of this species.	The revised BDAR assumes presence for Shrub Sida within roadside vegetation. See section 4.3 of the BDAR.
5.1 Certify the BDAR, for instance by signing the first page. The date of submission of the BDAR must be within 14 days of the date shown on the finalised credit report generated using the BAM Calculator for the BDAR to be considered valid.	A certification page has been added to the revised BDAR. The submission date of the revised BDAR is within 14 days of the date shown on the finalised credit report generated using the BAM Calculator (Appendix F of the revised BDAR).

Issue	Response
5.2 Map the location of the flora survey transects and specify their length.	The survey transect for flora and fauna is clearly shown in Figure 4-1 of the BDAR and runs approximately 301 m along the development site component of roadside vegetation and includes the access treatment footprint. Figure 4-1 has been updated to clarify that the survey transect undertaken incorporates flora and fauna.
5.3 Ensure descriptions of direct and indirect impacts and proposed mitigation measures are consistent in the EIS and BDAR.	The descriptions of direct and indirect impacts in the revised BDAR are correct. The EIS will not be resubmitted and is superseded by this Submissions Report (and supporting revised BDAR) where conflicts arise between the EIS and Submissions Report.
5.4 Ensure all proposed mitigation measures are adequately described. For the restoration and enhancement actions noted in the BDAR, inclusion of an indicative map of the proposed location and extent of these measures is recommended.	Mitigation measured for biodiversity including direct and indirect impacts are addressed in section 8 of the revised BDAR. The enhancement benefits of proposed vegetation screening were added to Table 8.1 of the BDAR.

DPIE – Mining, Exploration and Geoscience

Issue	Response
MEG has reviewed the Environmental Impact Statement for the Yarren Hut Solar Farm and note on page 164, a total of 2 ecosystem credits are required to offset the residual impacts of the project. We request to be consulted in relation to the proposed location of any biodiversity offset areas (both on and off site) or any supplementary biodiversity measures to ensure there is no consequent reduction in access to prospective land for mineral exploration, or potential for sterilisation of mineral or extractive resources.	The proponent would retire biodiversity credits through the Biodiversity Offset Scheme rather than establish their own stewardship site.

DPIE – Natural Resources Access Regulator (NRAR)

Issue	Response
Prior to Project Determination The water demands for the construction and operational phase have been defined and are relatively minor volumes, however no confirmed agreements from third party providers to access the water have been identified. Clarification should be provided of the ability to obtain the necessary water volumes from the site or confirm that a viable supply is available, via an indication of an agreement from a water supplier. Where the water is to be sourced from a currently unauthorised source, an impact assessment and confirmation that the necessary entitlement can be obtained will be required.	Bogan Shire Council have provided confirmation that the required volume of water is available from a Council standpipe, purchased per kL (Appendix A).
Post Project Determination 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) or for any works which have the potential to alter the flow of floodwaters. The proponent should prepare a Construction and Operational Environmental Management Plan (incorporating an Erosion and Sediment Control Plan) prior to commencement of activities.	As detailed in section 6.8 of the EIS, no surface water bodies would be impacted by the development and no groundwater extraction is proposed. The proposed solar infrastructure is unlikely to affect floodwater movement outside the development site. A Construction Environmental Management Plan would be prepared by the proponent post-approval and prior to construction. A subsequent Operation Environmental Management Plan would be developed during construction and prior to commissioning. Both Environmental Management Plans would include erosion and sediment controls to mitigate any impacts in accordance with *Managing Urban Stormwater: Soils & Construction* (Landcom 2004).

Department of Transport

Issue	Response
It should be noted that TfNSW is currently undertaking investigations into road shoulder widening treatments across the Mitchell Highway at various locations to adequately accommodate a proposed future freight vehicle change for this route to include a PBS Level	Noted.

Issue	Response
4A heavy vehicle configuration up to 53.5 metres in length.	
TfNSW has reviewed the supporting documentation for this proposal and does not object subject to the following conditions being included in any consent issued in relation to this SSD application by the consent authority:	Noted.
• Vehicular access from the Mitchell Highway to all lots, including for the solar farm, is to be obtained from the one single point. Suitable easements for access are to be provided to facilitate legal access for all lots via this one access point from the Mitchell Highway.	As per section 3.6.6 of the EIS, access to the development site (and Essential Energy switching station) would be via a single private access track off Mitchell Highway.
• All vehicles are to enter and exit the site in a forward direction.	A Traffic Management Plan (TMP) would be developed post-approval and prior to construction. This TMP would be developed in consultation with TfNSW and BSC. The proponent agrees to include a clause within the TMP that a*ll vehicles are to enter and exit the site in a forward direction*.
• Prior to the commencement of construction work for the solar farm or prior to the issue of a Subdivision Certificate (whichever occurs first), the proponent is required to upgrade the intersection of the site access with the Mitchell Highway to the satisfaction of TfNSW and is to include: o A Basic Right (BAR) turn treatment as shown in Figure A 28 in accordance with Austroads Guide to Road Design Part 4, 2017 (copy enclosed) and relevant TfNSW supplements to Austroads. The intersection works are to be designed and constructed for a 110 km/h speed environment and be able to accommodate the largest vehicle accessing the site. Noting this may be subject to change from a Type 1 road train 42 metres to accommodate are larger configuration of heavy vehicle. o A Basic Left (BAL) turn treatment as shown in Figure 8.2 in accordance with	Noted. The proponent does not consider that a BAR treatment is required. Construction vehicles would only use the section of Mitchell Highway between Nyngan and the development site and not the section of Mitchell Highway between the development site and Bourke. Further, the access treatment off Mitchell Highway is onto a private access track to the proposal and would not be used by additional traffic not associated with the proposal.

Issue	Response
Austroads Guide to Road Design Part 4, 2017 (copy enclosed) and relevant TfNSW supplements to Austroads. The intersection works are to be designed and constructed for a 110 km/h speed environment and be able to accommodate the largest vehicle accessing the site. Noting this may be subject to change from a Type 1 road train 42 metres to accommodate are larger configuration of heavy vehicle.	
• Depending on the time construction is proposed to commence and factoring the proposed changes to heavy vehicle configurations along the network, the scope of shoulder widening required to be undertaken by the applicant will be subject to a detailed design approval via the Works Authorisation Deed process.	Noted.
• Safe Intersection Sight Distance (SISD) requirements as per Austroads Guide to Road Design Part 4A and relevant TfNSW Supplements to Austroads is to be provided and maintained in both directions at the intersection. For a 110 km/h operating speed a minimum SISD of 300 metres should be provided.	Noted.
• The applicant will be responsible for any ancillary works, such as relocation of services, vegetation removal, and transitions for drainage, batter slopes and arrangements being made for any required road reserve widening acquisition.	Noted.
• The site access internal road is to be sealed to a standard acceptable to both TfNSW and Council for a distance of equivalent to at least two lengths of the largest vehicle required to access the site. This is to mitigate dust and drag onto the State classified road network.	Noted.

Issue	Response
• Prior to construction, detailed designs for works within the classified road reserves will need to be submitted and approved by TfNSW for concurrence pursuant to Section 138(2) of the *Roads Act 1993*. This includes road intersection work within the Mitchell Highway (HW7).	Noted.
• Prior to the commencement of construction work for the solar farm, 'Advance truck warning signs' (W5-22 Size B) with distance plates (W8-5 Size B) underneath, located 250 m from the intersection on both approaches along the highway are to be installed. These are to be removed once construction has been completed.	Noted.
• The access intersection upgrade is located on a state road and the developer will be required to undertake private financing and construction of works on a road in which TfNSW has a statutory interest. A formal agreement in the form of a Works Authorisation Deed (WAD) is required between the developer and TfNSW prior to work commencing.	Noted.
• Prior to the commencement of construction work, the proponent is to contact TfNSW's Field Traffic Manager on 1300 656 371 to determine if a Road Occupancy Licence (ROL) is required. In the event that a ROL is required, the proponent is to obtain the ROL prior to the works commencing within three (3) metres of the travel lanes in the Mitchell Highway.	Noted.
• Relevant approval from the National Heavy Vehicle Regulator and TfNSW is to be sought by the proponent in regard to the transportation via approximately one (1) Over Size Over Mass heavy vehicles required to transport new transformers to site.	Noted.

Issue	Response
• Prior to the commencement of construction works a Traffic Management Plan (TMP) including Driver Code of Conduct is to be submitted to and concurrence obtained from TfNSW. The preparation of the TMP will require consultation with TfNSW, Bogan Shire Council, the principal contractor(s) and relevant stakeholders. The requirements of the TMP and Driver Code of Conduct are to cover the matters referred to within the TMP Annexure (attached).	Noted.
• The TMP is to be reviewed and updated in response to any changes in operating conditions. A copy of the TMP and Driver Code of Conduct is to be provided to contractors and employees as a part of the site induction and a copy is to be made available to TfNSW with each major update.	Noted.
• Any proposed aboveground structures in roads [reserve] including transmission line poles or towers are to be located as per *TfNSW Requirements for Overhead Power Lines* (see copy attached), and: o Are to be located as far as practicable from the road, and outside the clear zone as set out in Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers. If any structures are required to be located within the road reserve and the road reserve is not wide enough to locate poles outside the clear zone, it may be necessary to design the poles to be frangible or otherwise locate poles within private property. o Minimum heights (clearances) above the road surface are to be no less than those set out in the attachment or the energy providers requirements (whichever is greater), plus an additional 1 m to allow for future pavement overlays.	Noted.
• The proponent is to engage a suitability experienced surveyor and / or solicitor to	Noted.

Issue	Response
review the physical location of the proposed transmission line relative any road and or any rail corridors and existing cadastral boundaries.	
• Any creation of easements in favour of the private transmission line operator is generally not supported by TfNSW including any lease which would burden the public domain for a private purpose. Should this be considered as part of any transmission line works, there is to be no inhibition of the powers of Council or TfNSW in ensuring the safety, efficiency or integrity of the classified road network and the travelling public.	Noted.

Essential Energy

Issue	Response
The connection assessment for Yarren Hut SF is in its initial stages and a Connection Application has not yet been submitted. Network Impact studies aimed at identifying network congestion or any other constraints which would need to be remediated to facilitate the connection have not yet been received by Essential Energy. Therefore, it the presence of capacity, or other constraints, are yet to be established.	Noted. The proponent continues to liaise with Essential Energy regarding grid capacity and connection.

Fire & Rescue NSW

Issue	Response
In the event of a fire or hazardous material incident, it is important that first responders have ready access to information which enables effective hazard control measures to be quickly implemented. Without limiting the scope of the emergency response plan (ERP) requirements of Clause 43 of the Work Health and Safety Regulation 2011 (the Regulation), the following matters are recommended to be addressed:	Noted.

Issue	Response
1. That a comprehensive ERP is developed for the site.	A comprehensive Fire Management and Emergency Response Plan (FMERP) would be developed post-approval and prior to construction in consultation with Fire and Rescue NSW and Rural Fire Services.
2. That the ERP specifically addresses foreseeable on-site and off-site fire events and other emergency incidents (such as fires involving solar panel arrays, battery energy storage systems, bushfires in the immediate vicinity) or potential hazmat incidents.	The FMERP would specifically address foreseeable onsite and offsite fire and other emergency events including fires involving solar farm infrastructure, bushfires in the immediate vicinity and potential hazmat incidents. Battery energy storage systems are not part of the proposed development.
3. That the ERP details the appropriate risk control measures that would need to be implemented to safely mitigate potential risks to the health and safety of firefighters and other first responders (including electrical hazards). Such measures will include the level of personal protective clothing required to be worn, the minimum level of respiratory protection required, decontamination procedures to be instigated, minimum evacuation zone distances and a safe method of shutting down and isolating the photovoltaic system (either in its entirety or partially, as determined by risk assessment).	Noted.
4. Other risk control measures that may need to be implemented in a fire emergency (due to any unique hazards specific to the site) should also be included in the ERP.	Noted.
5. That two copies of the ERP (detailed in recommendation 1 above) be stored in a prominent 'Emergency Information Cabinet' located in a position directly adjacent to the site's main entry point/s.	Noted.
6. Once constructed and prior to operation, that the operator of the facility contacts the relevant local emergency management committee (LEMC). The LEMC is a committee established by section 28 of the	Noted.

Issue	Response
State Emergency and Rescue Management Act 1989. LEMCs are required to be established so that emergency services organisations and other government and non-government agencies can proactively develop comprehensive inter agency local emergency procedures for significant hazardous sites within their local government area. The contact details of members of the LEMC can be obtained from the relevant local council.	

Heritage NSW – Aboriginal Cultural Heritage

Issue	Response
Heritage NSW is satisfied with the ACH assessment undertaken including the Aboriginal consultation. The Secretary's Environmental Assessment Requirements (SEARs) issued for the project have been adequately addressed.	Noted.

Heritage NSW – Heritage Council of NSW

Issue	Response
The subject site is not listed on the State Heritage Register (SHR), nor is it in the immediate vicinity of any SHR items. Further, the site does not contain any known historical archaeological deposits. Therefore, no further comments from the Heritage Council of NSW are required. The Department does not need to refer subsequent stages of this proposal to the Heritage Council of NSW.	Noted.

NSW Environment Protection Authority

Issue	Response
Based on the information provided, the proposal does not appear to require an environment protection	Noted.

licence under the Protection of the Environment Operations Act 1997. Furthermore, the proposal is not being undertaken by or on behalf of an NSW Public Authority nor does the proposal include other activities for which the EPA is the Appropriate Regulatory Authority. In view of these factors, the EPA has no further comment on the proposal and no further consultation is required at this stage	

NSW Resources Regulator

NSW Resources Regulator has not comment on this application.

Transport for NSW

The TFNSW submission is a duplicate of the Department of Transport comments detailed above.

WaterNSW

Issue	Response
The proposal is not located near any WaterNSW land, assets or infrastructure; therefore, we have no particular comments or requirements regarding the proposal.	Noted.

2.2.2. Organisation submissions

One organisation submission was received in support of the proposal and has been paraphrased below

Workfast Marketplace, North Strathfield, NSW

Issue	Response
I encourage the development of Renewable energy systems for remote communities.	BayWa r.e. thanks Workfast Marketplace for their support.

2.2.3. Public submissions

No public submissions were received for the proposal.

3. UPDATED MITIGATION MEASURES

In response to submission received, this report proposes a number of changes to the safeguards and mitigation measures detailed in the EIS. Table 3-1 provides the full list of safeguards and mitigation measures with those amended highlighted in grey. New text is shown underlined and removed text shown with ~~strikethrough~~.

*C = Construction Phase, O = Operational Phase and D = Decommission Phase

Table 3-1 Revised safeguards and mitigation measures

No.	Safeguards and mitigation measures	C	O	D
Visual				
VA1	Screening vegetation would be planted along the eastern border of the development site facing Mitchell Highway in accordance with a Landscape Plan (LP)	**C**	**O**	**D**
VA2	Prior to the commencement of construction, a detailed LP will be prepared including: • Screening location. • Species type. • Planting density and spacing. • Method for planting. • Management measures that would be implemented to ensure vegetative screening is successful (i.e. irrigation or other watering method, replacing dead plants). • A program to manage, monitor and report on the effectiveness of implemented measures.	**Pre-construction**		
VA3	The materials and colour of onsite infrastructure would, where practical, be non-reflective and in keeping with the materials and colouring of existing infrastructure or of a colour that would blend with the landscape.	**Design**		
VA4	During construction, dust would be controlled in response to visual cues. Areas of soil disturbed by the project would be rehabilitated progressively or immediately post-construction, reducing views of bare soil.	**C**		
VA5	Construction night lighting would be minimised to the maximum extent possible (i.e. manually operated safety lighting at main component locations).	**C**	**O**	**D**
Land use				
LU1	Consultation with adjacent landholders would be ongoing to manage interactions between the solar farm and other properties.	**C**	**O**	**D**
LU2	Consultation would be undertaken with Essential Energy regarding connection to the existing overhead powerline.	**C**		

No.	Safeguards and mitigation measures	C	O	D
LU3	A Rehabilitation and Decommissioning Management Plan is to be prepared in consultation with DPIE and the landowner prior to decommissioning. The Rehabilitation and Decommissioning Management Plan is to include: • Removal of all above and below ground infrastructure. • Removal of gravel from internal access tracks where required in consultation with landowners. • Reverse any compaction by mechanical ripping. • Targets and standards to indicate successful rehabilitation of disturbed areas. These targets and standards should be applied to rehabilitation activities once the proposal is decommissioned.			**Pre-decommissioning**
LU4	A Pest and Weed Management Plan would be prepared to manage the occurrence of noxious weeds and pest species across the site during construction and operation. The Pest and Weed Management Plan must be prepared in accordance with Bogan Shire and DPIE requirements. Where possible integrate weed and pest management as a part of district-wide control measures.	**Pre-construction**	**O**	
LU5	The proponent would consult with GSNSW and tenement holders in relation to mineral exploration, or potential for sterilisation of mineral resources.	**C**		
LU6	Construction and operations personnel would drive carefully and below the designated speed limit according to the Traffic Management Plan to minimise dust generation and disturbance to livestock.	**C**	**O**	**D**
LU7	Underground cabling and all above ground infrastructure will be removed on decommissioning.	**C**		
LU8	Grazing, if possible, would be one ~~used as a preferred~~ option considered to control weeds and grass growth, and to maintain agricultural production at the site.		**O**	
LU9	A Groundcover Management Plan would be developed post-approval and prior to construction. This would see groundcover increasing from approximately 0% to 70%.		**O**	
Socio-economic				
SE1	A Community and Stakeholder Engagement Plan (CSEP) would be implemented during construction to manage impacts to community stakeholders, including but not limited to: • Protocols to keep the community updated about the progress of the project and project benefits. • Protocols to inform relevant stakeholders of potential impacts (haulage, noise etc.). • Protocols to respond to any complaints received.	**C**	**O**	
SE2	Liaise with local industry representatives to maximise the use of local contractors, manufacturing facilities, materials.	**C**	**O**	

No.	Safeguards and mitigation measures	C	O	D
SE3	Liaise with local representatives regarding accommodation options for staff, to minimise adverse impacts on local services.	**Pre-construction**		**D**
~~**SE4**~~	~~Liaise with local tourism industry and council representatives to manage potential timing conflicts or cooperation opportunities with local events.~~	~~**C**~~		~~**D**~~
Noise and vibrations				
NS1	Regular inspection and maintenance of equipment to ensure that plant is in good condition.	**C**	**O**	**D**
Traffic				
TT1	A Haulage Plan would be developed and implemented during construction and decommissioning, including but not limited to: • Assessment of road routes to minimise impacts on transport infrastructure and residential dwellings. • Scheduling of deliveries of major components to minimise safety risks (on other local traffic). • Traffic controls (signage and speed restrictions etc.).	**C**		**D**

No.	Safeguards and mitigation measures	C	O	D
TT2	A Traffic Management Plan would be developed in consultation with TfNSW and BSC and implemented during construction and decommissioning. The Traffic Management Plan would include but not be limited to: • Prior to construction, a pre-conditioning survey of the relevant sections of the existing road network, to be undertaken in consultation with TfNSW. • Assessment of road condition prior to construction on all local roads that would be utilised. • A program for monitoring road condition, to repair damage exacerbated by the construction and decommissioning traffic. • The designated routes of construction traffic to the site. • Carpooling/shuttle bus arrangements to minimise vehicle numbers during construction. • Scheduling of deliveries. • Specify that all vehicles are to enter and exit the site in a forward direction. • Consideration of cumulative impacts. • Traffic controls (speed limits, signage, etc.). • Procedure to monitor traffic impacts and adapt controls (where required) to reduce the impacts. • 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 (including internal roads) to minimise dust generation through increased traffic use. • Driver Code of Conduct (consistent with TMP Annexure (Appendix B) Following construction, a post-construction condition survey of the relevant sections of the existing road network would be undertaken to ensure it is of similar condition as prior to construction.	**Pre-construction**		**D**
TT3	The TMP will be reviewed and updated in response to any changes in operating conditions. A copy of the TMP and Driver Code of Conduct will be provided to contractors and employees as a part of the site induction. A copy is to be made available to TfNSW with each major update.	**C**	**O**	**D**
TT4	Obtain a section 138 consent from the relevant council/agency to perform works within the road reserve.	**C**		
TT5	Any upgrades would be subject to detailed design and would be designed and constructed to the relevant Australian road design standards.	**Design**		
TT6	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**
TT7	Access to the development site (and Essential Energy switching station) would be via a single private access track off Mitchell Highway.	**C**	**O**	

No.	Safeguards and mitigation measures	C	O	D
Hydrology and flooding				

F1	To mitigate the risk of flood sensitive components of the development being subject to flood damage, the following mitigation measures are proposed:
	• Inverter stations:
	  ○ Floor level of the inverter stations are to be elevated a minimum of 0.5 m above the surrounding ground surface level.
	  ○ Inverter stations are to be aligned such that their longer side is positioned in the north-south direction to minimise the potential for them to obstruct flow.
	• Substation and site office:
	  ○ The floor level of any flood sensitive facility buildings is to be elevated a minimum of 0.5 m above the surrounding ground surface level.
	• Solar array fields:
	  ○ The solar panels should be designed such that the whole of the panels are able to be elevated a minimum of 0.5 m above the ground surface level below (i.e. minimum height difference between the ground surface and the lowest part of the solar panel).
		Design		

F2	An Emergency Response Plan incorporating a Flood Response Plan would be prepared prior to construction covering all phases of the Proposal. The plan would: • 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.	**Pre-construction**	**O**	**D**
F3	A Business Floodsafe Plan would be prepared prior to construction in general accordance with the NSW SES Business Floodsafe Toolkit and Plan.	**C**	**O**	**D**
Water use, quality (surface and groundwater) and hydrology				
WA1	All staff would be appropriately trained through toolbox talks for the minimisation and management of accidental chemical (e.g. fuel) spills.	**C**	**O**	**D**
WA2	All fuels, chemicals, and liquids would be stored at least 50 m away from any waterways or drainage lines and would be stored in an impervious bunded area.	**C**	**O**	**D**

No.	Safeguards and mitigation measures	C	O	D
WA3	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 POEO Act).	**C**	**O**	**D**
WA4	The refuelling of plant and maintenance of machinery would be undertaken in impervious bunded areas.	**C**	**O**	**D**
WA5	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**		**D**
WA6	Erosion and sediment control measures will be included in environmental management plans of each stage of the proposal and implemented to mitigate any impacts in accordance with Managing Urban Stormwater: Soils & Construction (Landcom 2004).	**C**	**O**	**D**
WA7	Ensure appropriate drainage controls are incorporated into the design.	**Design**		
Biodiversity				
BD1	Instigating clearing protocols including pre-clearing surveys, daily surveys and staged clearing. A trained ecologist or licensed wildlife handler would be present during clearing events and complete: • Pre-clearing checklist. • Tree clearing procedure.	**C**		
BD2	Plain wire instead of barbed used on top of the perimeter fence.	**C**	**O**	
BD3	Clearing protocols that identify vegetation to be retained, prevent inadvertent damage, and reduce soil disturbance where partial clearing is proposed: • Approved clearing limits clearly delineated with temporary fencing prior to construction commencing. • No stockpiling or storage within dripline of retained trees. • In areas to clear adjacent to areas to be retained, chainsaws would be used rather than heavy machinery to minimise risk of unauthorised disturbance. • Remove native vegetation by chainsaw rather than heavy machinery.	**C**		
BD4	Construction Environmental Management Plan (CEMP) will include measures to avoid noise encroachment on adjacent habitats such as avoiding night works as much as possible.	**C**	**O**	
BD5	Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill: • Avoid night works.	**C**	**O**	**D**

No.	Safeguards and mitigation measures	C	O	D
	• Direct lights away from vegetation.			
BD6	Adaptive dust monitoring programs to control air quality: • Daily monitoring of dust generated by construction and operation activities. • Construction will cease if dust observed blown from site until control measures are implemented. • All activities relating to the proposal will be undertaken with the objective of preventing visible dust emissions from the development site.	**C**		
BD7	Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas incorporated into the Pest and Weed Management Plan.	**C**	**O**	
BD8	All staff induction and regular communications to cover environmental features retained and protection measures to be implemented (including but not limited to): • Site speed limits to be enforced to minimise fauna strike. • Vehicle hygiene and biosecurity.	**C**	**O**	
BD9	Preparation of a Biodiversity Management Plan to implement biodiversity protection measures (including but not limited to): • Unexpected threatened species finds. • Rehabilitation and enhancement of disturbed areas.	**Pre-construction**		
BD10	Screening and landscaping plantings to be comprised of local indigenous species representative of the vegetation in the development site.	**C**		
BD11	A PWMP for the proposal will be developed post-approval and prior to construction in consultation with Local Land Services and adjoining landholders.	**Pre-construction**	**O**	
Aboriginal heritage				
AH1	The proponent should prepare a Cultural Heritage Management Plan (CHMP) to address the potential for finding additional Aboriginal artefacts during the construction of the Solar Farm and management of known sites and artefacts. The CHMP 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.	**Pre-construction**		
AH2	In the unlikely event that human remains are discovered during the construction, all work must cease in the immediate vicinity. BCD, the local police and the registered Aboriginal parties should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.	**C**		

No.	Safeguards and mitigation measures	C	O	D
AH3	The location of NGH Yarren Hut Hth1 should be protected by the placement of barrier mesh fencing or similar delineating a 10 m buffer around the location of the recorded site.	**C**	**O**	**D**
AH4	The development must avoid NGH Yarren Hut Hth2. A minimum 5 m buffer around the site is required to protect it.	**C**	**O**	**D**
AH5	Further archaeological assessment will be required if the proposal activity extends beyond the area assessed as detailed in this report. This includes consultation with the registered Aboriginal parties and may include further field survey.	**C**		
Air quality				
AQ1	Construction transport route to the development site to maximise use of sealed roads.	**C**		
AQ2	Primary construction access point located in north eastern corner of the development site away from residential buildings.	**C**		
AQ3	Development of a complaints procedure to promptly identify and respond to issues generating complaints.	**C**	**O**	**D**
AQ4	Protocols to guide vehicle and construction equipment use, to minimise emissions will be included in construction and operational environmental management plans. This includes but is not limited to Australian Standards and POEO Act requirements.	**C**	**O**	**D**
AQ5	During construction, operation and decommissioning, dust would be monitored and managed to prevent dust leaving the development site. This includes dust from stockpiled materials.	**C**	**O**	**D**
AQ6	Monitor local weather conditions and manage the site if any conditions will exacerbate air quality (e.g. wind).	**C**		
AQ7	Fires and material burning are prohibited on the development site.	**C**	**O**	**D**
Historic heritage				
HH1	In the unlikely event that an item of historic heritage is identified, the Heritage Division (DPIE) will be contacted prior to further work being carried out in the vicinity.	**C**	**O**	**D**
Soil				

No.	Safeguards and mitigation measures	C	O	D
SO1	A Soil and Water Management Plan (SWMP) and Erosion and Sediment Control Plan (ESCP) will be prepared prior to construction, then implemented and monitored during the construction and decommissioning of the proposal, in accordance with Landcom (2004), to minimise soil (and water) impacts. The SWMP and ESCP will include provisions such as: • Prior to the works, and progressively during construction, install erosion controls. • Maintain a register of inspection and maintenance of erosion control. • Ensure that machinery arrives on site in a clean condition, free of fluid leaks. • Ensure that machinery leaves the site in a clean condition to avoid tracking sediment onto public roads. • In all excavation activities, separate subsoils and topsoils and ensure that they are replaced in their natural configuration to assist revegetation. • Stockpile topsoil appropriately to minimise weed infestation, maintain soil organic matter, and maintain soil structure and microbial activity. • Areas of disturbed soil will be rehabilitated promptly and progressively during construction, operation and decommissioning.	**Pre-construction**		**D**

SO2	A Groundcover Management Plan developed in consultation with a soil scientist and an agronomist will take into account soil survey results to ensure perennial grasscover is established across the site as soon as practicable and maintained throughout the operation phase. The Groundcover Management Plan will cover:
	• Soil restoration and preparation requirements.
	• Species election.
	• Soil preparation.
	• Establishment techniques.
	• Maintenance requirements.
	• Perennial groundcover targets, indicators, condition monitoring, reporting and evaluation arrangements:
	  ○ Live grasscover will be maintained at or above 70% to protect soils, landscape function and water quality.
	  ○ ~~Any grazing stock will be removed from the site when cover falls below this level.~~
	  ○ Grasscover will be monitored using an accepted methodology.
	• Contingency measures to respond to declining soil or groundcover condition.
	• Identification of baseline conditions for rehabilitation following decommissioning.
		Pre-construction	**O**	

No.	Safeguards and mitigation measures	C	O	D
SO3	A Decommissioning and Rehabilitation Plan developed in consultation with a soil scientist, an agronomist and the landowner will consider soil survey results to ensure soil and groundcover is established in preparation for the development site's future land use. The Decommissioning and Rehabilitation Plan will cover: • Determine future land use in consultation with the landowner. • Soil restoration and preparation requirements. • Species selection. • Soil preparation. • Establishment techniques. • Maintenance requirements. • Land capability criteria. • A period of monitoring to determine that land capability requirements are met prior to relinquishment.			**Pre-decommissioning**
SO4	The solar array will be designed to allow sufficient space between panels to establish and maintain groundcover beneath the panels and facilitate weed control.	**Design**		
SO5	All chemicals and fuels used on-site must be stored and handled in accordance with: • The requirements of all relevant Australian Standards. • The NSW EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Handbook* if the chemicals are liquids. • In the event of an inconsistency, the most stringent requirement must prevail to the extent of the inconsistency.	**C**	**O**	**D**
Hazards (EMFs, fire)				
HA1	Dangerous or hazardous materials will be transported, stored and handled in accordance with AS1940-2004: *The storage and handling of flammable and combustible liquids,* and the ADG Code where relevant. All potential pollutants kept on-site will be stored in accordance with relevant HAZMAT requirements and bunded.	**C**	**O**	**D**
HA2	All design and engineering will be undertaken by qualified competent persons with the support of specialists as required.	**C**		
HA3	All electrical equipment will be designed in accordance with relevant codes and industry best practice standards in Australia.	**C**		
HA4	Design of electrical infrastructure to minimise EMFs through the solar array.	**C**		
HA5	A comprehensive Fire Management and Emergency Response Plan (FMERP) will be developed post-approval and prior to construction in consultation with Fire and Rescue NSW and Rural Fire Services.	**Pre-construction**		

No.	Safeguards and mitigation measures	C	O	D
HA6	The FMERP will specifically address foreseeable onsite and offsite fire and other emergency events including fires involving solar farm infrastructure, bushfires in the immediate vicinity and potential hazmat incidents.	**Pre-construction**		
HA7	Two copies of the FMERP will be stored in a prominent 'Emergency Information Cabinet' located in a position directly adjacent to the site's main entry point.	**C**	**O**	**D**
Waste management				
WM1	A Waste Management Plan (WMP) will be developed and implemented prior to construction, operation and decommissioning to minimise wastes. The WMP will 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 how sewage will be disposed of. • 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).	**Pre-construction**	**O**	**D**
WM2	The WMP will describe the removal of construction waste to either a commercial waste management facility or a BSC waste management facility. If a BSC facility is used, BSC will be consulted in the development of the WMP.	**Pre-construction**		

4. REFERENCES

Barnson. 2020. Soil quality assessment: Yarren Hut Solar Farm, Mitchell Highway Nyngan NSW

Bureau of Meteorology (BoM) (2020b) 'Monthly climate statistics: Nyngan Airport.' http://www.bom.gov.au/climate/averages/tables/cw_051039.shtml

NGH. 2020. *Environmental Impact Assessment: Yarren Hut Solar Farm*.

NSW Government. 2018. 'Large-scale solar energy guideline.' https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/large-scale-solar-energy-guideline-2018-12-11.pdf?la=en

Office of Environment and Heritage (OEH). 2012. *The land and soil capability assessment scheme: second approximation*. https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Land-and-soil/land-soil-capability-assessment-scheme-120394.pdf

APPENDIX A AGENCY CORRESPONDENCE

A.1 BOGAN SHIRE COUNCIL – WATER SUPPLY

FW: Yarren Hut Solar Farm - Construction Water Supply

JB

James Boyce <james.boyce@bogan.nsw.gov.au>
To Bridgette Poulton
Cc Jackson Williams-Hedges

Reply | Reply All | Forward | ...
Fri 9/10/2020 9:12 AM

Good Morning Bridgette,
We have spoken to Council's Water Services Section regarding your request and they have confirmed that the proposed Construction Water allocation (3500kL) is currently available for purchase.
If the proposed development reaches construction phase Council's contact to access the construction water is Mr Trevor Waterhouse whose details are indicated below:
trevor.waterhouse@bogan.nsw.gov.au
(T) 68359000
Should you require further information please contact me by return email or on 68359013.
Regards
Jim Boyce
Acting Director Development and Environmental Services

APPENDIX B TMP ANNEXURE – DRIVER CODE OF CONDUCT

TMP Annexure: Traffic Management Plan and Driver Code of Conduct

The Traffic Management Plan (TMP) and Driver Code of Conduct is to outline measures to manage traffic related issues associated with all phases of the development (e.g. deliveries, construction, operation, maintenance, decommissioning), any construction or excavated materials, machinery and personnel involved. The TMP is to detail the potential impacts associated with the development, the measures to be implemented, and the procedures to monitor and ensure compliance. The TMP is to address (but not be limited to):

a) Specific commitments for the provision and use of buses and car-pooling during construction to limit peak hourly traffic in accordance with the approved Environmental Impact Statement (EIS) and conditions of consent. Plans and measures to manage the impacts of personal vehicle parking at pickup points (e.g. in towns) are to be detailed.
b) An enforceable policy for staff and contractors to use the designated commuter route in preference to back roads, where the journey is not unreasonably lengthened, as detailed in the approved EIS.
c) Details of origin, destination, quantity, size and frequency of vehicle movements associated with the development including those accessing and egressing the site.
d) Timings and staging of construction and operation of the development.
e) Existing and projected background traffic, peak hour volumes and types and their interaction with projected development related traffic.
f) Loads, weights, lengths and number of movements of haulage and construction related vehicles including Over Size Over Mass (OSOM) loads.
g) The management and coordination of construction and staff vehicle movements to the site and measures to limit disruption to other motorists, including special OSOM management measures.
h) Scheduling of haulage vehicle movements to occur outside of daily commuter peak periods, local special event times, school bus (both in rural and town areas) and school zone operating hours.
i) Active communication procedures for traffic such as school buses or haulage vehicles from other quarries, or near potential safety hazards.
j) Scheduling of heavy vehicle movements to minimise convoy or platoon lengths.
k) Consideration to minimise the route length for road transport, particularly for OSOM loads.
l) Any OSOM will be the subject of separate permits through the National Heavy Vehicle Regulator.
m) Mitigation of local climate conditions that may affect road safety for vehicles used during construction, operation and decommissioning of the facility (e.g. scheduling during daylight hours, or outside of fog, wet weather, ice or snow).
n) Transport of hazardous materials in accordance with the relevant transport codes.
o) Specific mitigation measures along the approved transport routes. Road and intersection improvement works are to be completed prior to the commencement of on-site construction unless specifically approved otherwise in the conditions of consent.
p) Consultation and engagement with affected stakeholders, including regulatory authorities, landowners, businesses, bus operators and so forth.
q) Policies and procedures for addressing concerns raised by the community on project related matters.
r) Dust suppression and mitigation measures on public roads and within the site boundaries.
s) Toolbox meetings to facilitate continuous improvement initiatives and incident awareness.
t) Truckloads are to be covered at all times when being transported, to minimise dust and loss of material onto roads which may form a traffic hazard.

u) Measures to ensure responsible fatigue management and discourage driving under the influence of alcohol and/or drugs, dangers of mobile phone use and driving to the conditions, and adherence to posted speed limits.

(End of TMP Annexure)