STATEMENT OF ENVIRONMENTAL EFFECTS

Establishment of Solar PV Power Generation Plant

Broockmanns Road, Finley NSW 2713

PREPARED FOR PROVIDENCE ASSET GROUP | APRIL 2020

KDC

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1 INTRODUCTION

This Statement of Environmental Effects (SEE) is submitted to Berrigan Shire Council (Council) in support of a Development Application (DA) for a solar photovoltaic (PV) power generation plant at part Lot 61 in DP1053533, Broockmanns Road, Finley NSW 2713 (the site).

Specifically, the proposed development includes:

- Establishment of a grid-connected solar photovoltaic (PV) plant including associated electrical generation, supplying no greater than 5 megawatts (MW);
- New 4m wide gravel access road along the eastern boundary of the site;
- Security fencing 2.2m high; and
- Other associated site improvements as shown on the Plans at Appendix A.

This SEE has been prepared by KDC Pty Ltd (KDC) on behalf of Providence Asset Group (PAG). It describes the site, its environs, the proposed development and provides an assessment of the proposal in terms of the matters for consideration under Section 4.15 (1) of the Environmental Planning and Assessment Act 1979 (EP&A Act 1979). It should be read in conjunction with the supporting information and Plans prepared by RINA Consulting appended to this report (Appendix A).

1.1 PROVIDENCE ASSET GROUP

Providence Asset Group (PAG) is an innovation led investment and asset management firm for sophisticated, wholesale and institutional investors in renewable energy, venture capital and eco-friendly real estate. Through collaborative partnerships, PAG supports and invests in projects aligned to new forms of renewable and clean energy.

PAG have now secured 14 plus sites and have recently partnered with the local Manilla Community Renewable Energy Inc. to develop Australia's first community owned solar farm. Once constructed the 5MW Manilla project will be able to power the community of Manilla during daylight hours. PAG was recently awarded a NSW Government Grant to develop a world first energy storage technology which will enable PAG's solar projects to provide stable energy well into early morning and evening peak electricity consumption periods.

1.2 CONSULTATION WITH COUNCIL

A formal pre-development application meeting was held on 4 March 2020 at Berrigan Shire Council. At this meeting, the proposed development was presented by the proponent. No formal pre-DA minutes were received. Overall, the meeting was positive, and the following matters were requested to be addressed:

- Access – Access to the site will be via an existing vehicle cross over, access is further discussed in the Traffic Impact Assessment at Appendix D.
- Biodiversity – The Biodiversity Conservation Act 2016 (BC Act 2016) aims to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development. An assessment was undertaken by Kleinfelder in accordance with Section 7.3 of the BC Act 2016. No threatened ecological communities or any listed flora or fauna were identified on site with the proposed development unlikely to cause any significant impact to any threatened species, populations or communities listed within the BC Act.

- Stormwater Drainage – A stormwater management system is proposed including an onsite detention basin holding a total volume of 252.25m^3 supported with a low flow outlet. Refer to the Stormwater Management Plans at Appendix B.
- Proximity to the Airport – Due to the site's large distances from nearby airport, it is considered the proposal will have no impact on airport operations. A Reflectivity Report has been prepared by SLR to assess the potential for reflected light induced impacts on aviation, refer to Appendix J.
- Section 7.11 Contribution – It was confirmed that no contributions will be applicable.
- Construction Hours – Proposed construction hours will be standard in line with any future DA condition.

2 THE SITE AND SURROUNDS

2.1 SITE DESCRIPTION

The land is legally known as part Lot 61 in DP1053533 and is located on the southern side of Broockmanns Road, Finley NSW 2713 (refer to Figure 1). The land is currently used for agricultural purposes with a good grass coverage. In terms of topography, the site is relevantly flat with a gradual slope from northeast to southwest.

The lot consists of a large rural lot which contains a dwelling in the north western portion of the site located within a separate lot with the remainder of the site used for agricultural purposes. A low number of scattered trees are present on the site with the site consisting of predominantly low grassland. Access to the existing dwelling is via a crossover from Broockmanns Road located at the north the lot. The dwelling is approximately 500m from the location of the solar PV farm.

The subject site is irregularly shaped comprising approximately 74.7 hectares. The site has frontage to Broockmanns Road to the north with a canal forming the southern boundary of the site. The area of the proposed solar PV farm is approximately 14.97 hectares as identified in Figure 1 and Figure 2.

Figure 1 – Locality Plan (Source: Six Maps)

Figure 2 – Cadastral Plan (Source: Six Maps)

2.2 SITE LOCATION AND CONTEXT

The site is located approximately 2.1km west of Finley town centre, within the Berrigan Local Government Area (LGA). It is approximately 1km west of the junction of Dales Road and Broockmanns Road.

The surrounding area is made up of large rural lots undertaking agricultural activities with some ancillary development such as single dwellings and sheds.

Broockmanns Road is single lane in each direction, unmarked with no kerb or guttering on either side. The Finley electrical substation of which the development proposes to connect to is located approximately 1.4km south east of the site on Tongs Street. Finley Airport is located 1.1km to the south east of the site. Due to the distance to the airport, referral of the DA to CASA may be required and consideration to aviation related potential glare is addressed within the DA.

A large-scale solar development is located approximately 2.3km west of the site, accessed via Broockmanns Road. This solar farm was recently approved as State Significant Development (SSD) with an approved capacity of 170MW.

The closest dwelling to the development is located approximately 500m away, on the south side of Broockmanns Road. Mulwala No 178 Channel runs along the southern boundary and is within 40 metres of the proposal.

3 PROJECT DESCRIPTION

The Finley Solar Farm project is one of PAG's solar initiatives to be rolled out across regional Australia, with multiple benefits for rural and regional communities.

The proposal includes a no larger than 5MW grid-connected solar PV installation. Once established, the solar farm will be connected to the adjacent powerline originating from the Essential Energy Finley Zone Substation. It is proposed to connect into the electrical transmission grid via a new transmission line to the point of connection on Hamilton Street or Dales Road. It is noted that a separate application process will be undertaken with Essential Energy for this connection.

The proposed development aims to erect approximately 14,196 solar PV panels producing 425W. Other electrical generation infrastructure is proposed on the site including a skid-mounted MV Power Station consisting of inverters, transformer and switchgear. Due to the capacity of the inverter system, the proposed development will produce less than 5MW. Most of the infrastructure would be pre-fabricated off-site, delivered and assembled on-site.

The PV arrangement will consist of 182 ground mounted single axis trackers. The PV arrays will have a clearance above the existing ground surface and extend to approximately 2.5m at maximum tilt. The PV mounting structure would comprise steel posts driven to approximately 1.5m below ground using a small pile driver. Additional support structures will be attached to the piles, which would then support the PV panels.

The proposed development will not require the removal of vegetation within the development area given the site has previously been cleared of vegetation for agricultural purposes. The proposal will not involve clearing of native vegetation that exceeds the Biodiversity Offset Scheme (BOS) threshold for the site. To reiterate, vegetation located within the rows of solar panels will not be removed as part of the proposed development.

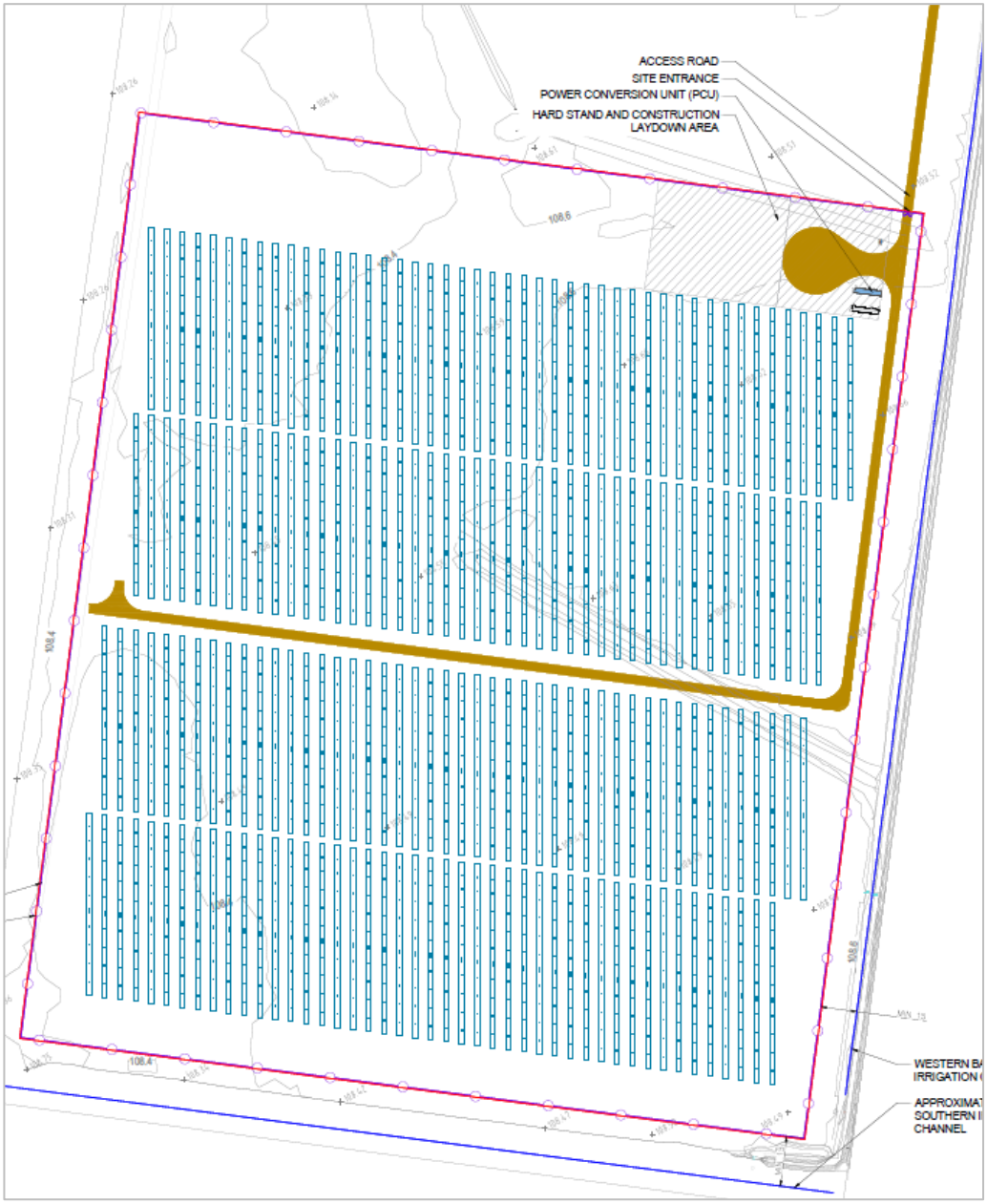
A 4m wide access road is proposed connecting the solar farm to the approved access to Broockmanns Road at the northern area of the lot. The solar farm will be fully fenced with 2.2m security fencing including barbed wire at the top. Gate access is provided in the northeast corner. A car park area, off load area and construction laydown area are indicatively located on the General Arrangement Plan (refer to Figure 3). Motion activated security lighting may be installed at the site.

A stormwater management system is proposed including an onsite detention basin holding a total volume of 252.25m^3 supported with a low flow outlet. Refer to the Stormwater Management Plans at Appendix B. Earthworks for the project are generally limited to the establishment of the access road, drainage swales and batters, laydown area, and detention basin.

The solar PV farm will operate 24 hours a day, 7 days a week, with no permanent staff on site. Maintenance inspections will be undertaken daily or on an as needs basis.

During the construction period there is estimated to be up to 30 personnel on site for up to 6 months.

Figure 3 – Proposed Development Layout



4 RELEVANT LEGISLATION AND PLANNING CONTROLS

The following Environmental Planning Instruments (EPIs) and Development Control Plans (DCPs) are relevant to the proposed development as explored within this Section of the report:

- Environment Protection and Biodiversity Conservation Act 1999;
- Environmental Planning and Assessment Act 1979;
- Water Management Act 2000;
- National Parks and Wildlife Act 1974;
- Biodiversity Conservation Act 2016;
- State Environmental Planning Policy (Koala Habitat Protection) 2019
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (State and Regional Development) 2011;
- State Environmental Planning Policy 55 – Remediation of Land;
- Berrigan Local Environmental Plan 2013 (LEP 2013);
- Berrigan Development Control Plan 2014;
- Riverian Murray Regional Plan 2036; and
- Berrigan Shire Land Use Strategy.

4.1 ENVIRONMENTAL PROTECTION AND BIODIVERSITY CONSERVATION ACT 1990

Consideration of the EPBC Act 1999 revealed that impacts on Matters of National Environmental Significance (MNES) are unlikely to occur. No EPBC listed species, ecological communities, migratory species or important habitat for such entities was identified within the subject site. The assessment determined that impacts to Matters of National Environmental Significance (MNES) are unlikely; therefore, an EPBC referral to the Commonwealth Minister for the Environment is not recommended.

Full details are included in the Ecological Assessment Report at Appendix H.

4.2 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT

The proposal, as with all development applications, is subject to the provisions of the Environmental Planning and Assessment Act 1979 (EP&A Act). Section 4.15(1) of the EP&A Act, 1979 provides criteria which a consent authority is to take into consideration, where relevant, when considering a DA. An assessment of the subject DA, in accordance with the relevant matters prescribed under Section 4.15(1), is provided within this SEE.

It is noted, pursuant to Section 4.46 of the EP&A Act 1979, the proposed development does trigger integrated development.

Mulwala No 178 Channel runs along the southern boundary. As a result, the development may require an activity approval under the Water Management Act 2000 from the NSW Natural Resources Access Regulator.

It is noted that should the proposal be integrated development, in accordance with the Water Management Act 2000, that the proposal would be 'nominated integrated development' and would be advertised development for a period of 28 days.

4.3 WATER MANAGEMENT ACT 2000

The development application is classified as Integrated Development pursuant to Section 4.46 of the EP&A Act 1979 and therefore requires approval under the Water Management Act 2000.

Mulwala No 178 Channel runs along the southern boundary and is within 40 metres of the proposal. 'Controlled Activity Permit' is required for certain types of development of activities carried out within 40 metres of a river, lake or estuary. The channel forms part of a 'river,' as defined under the Water Management Act 2000. During the referral period, Council will refer this development application to the NSW Natural Resources Access Regulator for further consideration.

4.4 NATIONAL PARKS AND WILDLIFE ACT 1974

The National Parks and Wildlife Act 1974 includes provisions for the protection and recording of Aboriginal objects in NSW. An Aboriginal Due Diligence investigation has been undertaken in accordance with the provisions of the National Parks and Wildlife Regulations 2009 and the accompanying Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (OEH 2010). See Appendix F for a copy of the Due Diligence Report for the proposal prepared by Virtus Heritage.

4.5 BIODIVERSITY CONSERVATION ACT 2016

The Biodiversity Conservation Act 2016 (BC Act 2016) aims to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development. To achieve its goals, the BC Act 2016 governs endangered species and communities and provides a framework for a Biodiversity Offset Scheme.

An assessment was undertaken by Kleinfelder in accordance with Section 7.3 of the BC Act 2016 to determine the significance of potential impacts of the proposed development on any threatened species or communities which are listed within the Act.

No threatened ecological communities or any listed flora or fauna were identified on site with the proposed development unlikely to cause any significant impact to any threatened species, populations or communities listed within the BC Act. Entry into the NSW BOS is not triggered by the proposed development. Further details are provided in Section 5.5 of this Report.

4.6 STATE ENVIRONMENTAL PLANNING POLICY (KOALA HABITAT PROTECTION) 2019

The State Environmental Planning Policy (Koala Habitat Protection) 2019 (Koala Habitat Protection SEPP) aims to encourage the conservation and management of areas of natural vegetation that provide habitat for Koalas to support a permanent free-living population over their present range and reverse the current trend of Koala population decline.

The proposed development will not directly impact an area identified by the Koala Development Application Map (Spatial Viewer) and will not involve the removal of preferred Koala feed tree species, as identified by the SEPP. The proposed development is therefore considered to represent "Tier 1 Development" as per the Koala Habitat Protection SEPP Guideline

(2019); therefore surveys for Koalas and preparation of a Koala Habitat Assessment Report by a suitably qualified person is not required for the project

4.7 STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

Regional development classification applies to both local and designated development applications exceeding certain criteria defined by Schedule 7 of the SEPP State and Regional Development 2011 (SEPP SRD).

5 Private infrastructure and community facilities over $5 million

Development that has a capital investment value of more than $5 million for any of the following purposes:

> *(a) air transport facilities, **electricity generating works**, port facilities, rail infrastructure facilities, road infrastructure facilities, sewerage systems, telecommunications facilities, waste or resource management facilities, water supply systems, or wharf or boating facilities,*
>
> *(b) affordable housing, child care centres, community facilities, correctional centres, educational establishments, group homes, health services facilities or places of public worship.*

The proposed development is considered to be private infrastructure with a CIV greater than $5 million and as a result the development is deemed to be regionally significant development and the application will be referred to the Joint Regional Planning Panel (JRPP) for determination.

4.8 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

Division 4 Electricity generating works or solar energy systems

34 Development permitted with consent

(1) Development for the purpose of electricity generating works may be carried out by any person with consent on the following land—

> *(a) in the case of electricity generating works comprising a building or place used for the purpose of making or generating electricity using waves, tides or aquatic thermal as the relevant fuel source—on any land,*
>
> *(b) in any other case—any land in a prescribed rural, industrial or special use zone.*

Definition:

***prescribed rural, industrial or special use zone** means any of the following land use zones or a land use zone that is equivalent to any of those zones—*

> ***(a) RU1 Primary Production,***
>
> *(b) RU2 Rural Landscape,*
>
> *(c) RU3 Forestry,*
>
> *(d) RU4 Primary Production Small Lots,*
>
> *(e) IN1 General Industrial,*
>
> *(f) IN2 Light Industrial,*
>
> *(g) IN3 Heavy Industrial,*

(h) IN4 Working Waterfront,

(i) SP1 Special Activities,

(j) SP2 Infrastructure.

Clause 34 allows a solar energy system to be carried out with consent within prescribed rural, industrial or special use zones which includes RU1 Primary Production. The solar PV farm is not a permissible use under the Berrigan Local Environmental Plan 2013 in the RU1 zone, therefore this clause will need to be relied upon in terms of land use permissibility.

Clause 45 - Determination of development applications—other development

The proposed development will require works to connect to the overhead electricity power lines and as a result constitutes works within 5m of powerlines. Due to the location and nature of the proposed development referral to the electricity supply authority, Essential Energy will be required during the assessment period.

Clause 104 - Traffic-generating development

The proposed development will not generate greater than 50 vehicle movements per hour and as such does not trigger traffic generating development under the SEPP. Referral under this clause to Transport for NSW (formerly known as RMS) is therefore not required.

4.9 STATE ENVIRONMENTAL PLANNING POLICY NO 55 REMEDIATION OF LAND

This SEPP requires the consent authority to consider the potential contamination status of the land prior to approving a development. Noting that the land has been historically used for agriculture (farming), it is unlikely that contamination requiring remediation exists.

A search of the NSW EPA's *'List of NSW contaminated sites notified to the EPA'* and *'POEO Public Register'* has been undertaken which revealed no contaminated sites listed on or in the vicinity of the site. A total of 3 licences have been issued under the Protection of the Environment Operations Act in Finley however none are noted within proximity to the site. Environmental protection licences issued within Finley include:

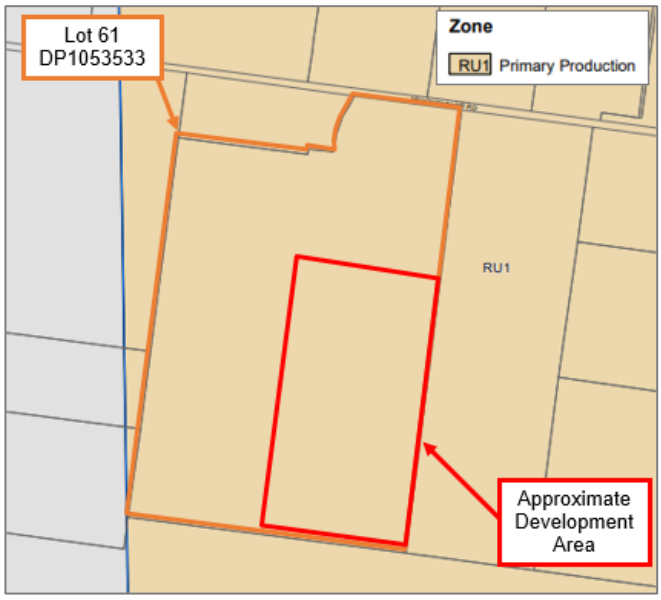
- Licence 2609 – Berrigan Shire Council – Finley Sewage Treatment Plant, Dales Road, Finley – Surrendered;
- Licence 5704 – Australian Grain Storage Pty Ltd – Finley Paddy Storage Facility, Rice Mill Road, Finley – Operational; and
- Licence 12350 – N.J & I.R. Kydd Pty Ltd – Livestock Activities, 3065 Hornemans Road, Finley – Operational.

The proposed development is not considered to be sensitive in nature and as a result is considered to be appropriate for the site in its current site in accordance with SEPP55.

4.10 BERRIGAN SHIRE LOCAL ENVIRONMENTAL PLAN 2013

The site is zoned RU1 Primary Production under the Berrigan Local Environmental Plan 2013 (LEP 2013), see Figure 4.

Figure 4 – Land Zone Extract Berrigan LEP 2013 (LZN_003A)



Zone RU1 Primary Production

1 Objectives of zone

- *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.*
- *To permit development that enhances the agricultural and horticultural production potential of land in the locality.*
- *To permit low-key tourist and visitor accommodation that is compatible with the scenic amenity, and promotes the character, of the area.*
- *To enable function centres to be developed in conjunction with agricultural uses.*

2 Permitted without consent

Environmental protection works; Extensive agriculture; Home-based child care; Home businesses; Home occupations; Intensive plant agriculture; Roads; Water reticulation systems

3 Permitted with consent

Agriculture; Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Boat launching ramps; Boat sheds; Building identification signs; Business identification signs; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Charter and tourism boating facilities; Community facilities; Correctional centres; Depots; Dual occupancies; Dwelling houses; Eco-tourist facilities; Educational establishments; Environmental facilities; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Freight transport facilities; Function centres; Garden centres; Heavy industrial storage establishments; Heavy industries; Helipads; Highway service centres; Home industries; Home occupations (sex services); Industrial retail outlets; Industrial training facilities; Information and education facilities; Intensive livestock agriculture; Jetties; Landscaping material supplies; Markets; Mooring pens; Moorings; Open cut mining; Plant nurseries; Recreation areas; Recreation facilities

(major); Recreation facilities (outdoor); Research stations; Roadside stalls; Rural industries; Rural workers' dwellings; Sewerage systems; Timber yards; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Water recreation structures; Water supply systems

4 Prohibited

Serviced apartments; Any other development not specified in item 2 or 3

Definition:

electricity generating works *means a building or place used for the purpose of making or generating electricity.*

The proposed land use, defined as electricity generating works, is prohibited within the RU1 zone. As a result, permissibility of the project will require an alternative approval pathway, noting the proposal is permissible under Clause 34 of SEPP (Infrastructure) 2007 as discussed in Section 4.7.

The proposed development is consistent with the objectives of the RU1 zone as it will provide a sustainable rural compatible land use which will expand the diversity of land use in the area whilst enhancing the production of the region through the provision of energy.

Clause 5.10 Heritage Conservation

The site is not a listed heritage item nor are any listed heritage items located in proximity to the site. The site is not mapped as a heritage conservation area.

Clause 6.1 Earthworks

The objectives of this clause are:

> *(a) to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.*
>
> *(b) to allow earthworks of a minor nature without separate development consent*

Only minor earthworks are required to establish development footprint for the supporting infrastructure and car park area proposed. The solar panels themselves do not require formal earthworks and retain the natural landform. The earthworks proposed will have minimal impact and will be supported with sediment and erosion controls. See Appendix B for proposed levels.

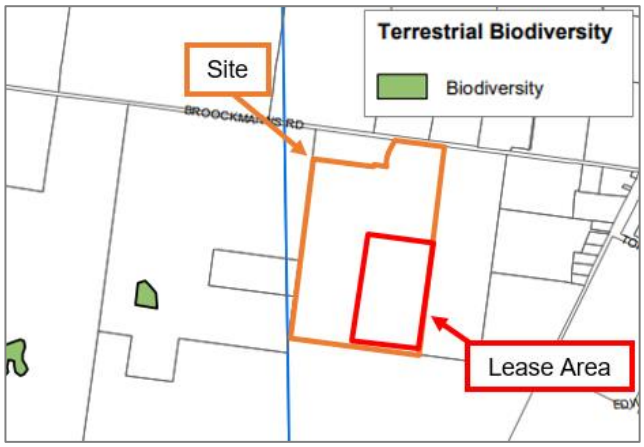
Clause 6.2 Flood Planning

The site is not mapped within a flood prone land area under the LEP 2013. The Planning Certificate for the site states that the land 'is not subject to flood related development controls'.

Clause 6.3 Terrestrial Biodiversity

The site area does not contain any areas mapped as Terrestrial Biodiversity under the LEP 2013, refer to Figure 5. This proposal is therefore not subject to the provisions contained within this clause of the LEP. The development is designed, sited and will be managed to avoid any significant adverse environmental impact.

Figure 5 – Biodiversity Map Extract Berrigan LEP 2013 (BIO_003)



Clause 6.4 Riparian land and watercourses

The site is not mapped as containing riparian land and waterways and is not within 40m of the top the bank of a watercourse identified by the LEP map, therefore this clause does not apply to the proposed development. The site is adjacent to the Mulwala No 178 Channel which runs along the southern boundary and will be considered under the Water Management Act 2000.

4.11 BERRIGAN DEVELOPMENT CONTROL PLAN 2014

The Berrigan Development Control Plan (DCP) 2014 applies to all land within the Berrigan Local Government Area (LGA), including the subject site. The project has been assessed against Section 3 – Industrial Development of the DCP 2014 representing the most relevant development type for a solar PV project.

A full assessment against the relevant components of the DCP is included in table format at Appendix C.

4.12 RIVERINA MURRAY REGIONAL PLAN 2036

The Riverina Murray Regional Plan (the regional plan) provides an overall strategic plan to manage development in the Berrigan region.

The regional plan distinctly highlights the role of renewable energy in the growth of the Riverina Murray region with Goal 1 – A growing and diverse economy identifying renewable energy as a priority growth sector. It further calls for the promotion of diversification of energy supplies through renewables energy generation under Direction 11.

The proposed development on the subject site will align with the goals of the regional plan as it will provide an appropriately sized renewable energy project in a location with ready access to the electrical network which will support the regional development of Finley and the Berrigan LGA.

4.13 BERRIGAN SHIRE LAND USE STRATEGY 2018

The Berrigan Shire Land Use Strategy (BSLUS) aims to guide future development and land use within the Berrigan Shire for the next 20 years. The preparation of the strategy provides the basis for future planning decisions and provide certainty to the community whilst encouraging favourable development and the protection of the environment.

The town of Finley's potential for renewable power generation is highlighted within the towns context description which highlights the towns location on key regional transmission lines noting the existing 170MW solar farm west of the town.

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5 ASSESSMENT OF PLANNING ISSUES

The following is an assessment of the environmental effects of the proposed development as described in the preceding sections of this SEE. The assessment considers only those matters under Section 4.15(1) of the EP&A Act 1979 that are relevant to the proposal.

5.1 COMPLIANCE WITH PLANNING INSTRUMENTS AND CONTROLS

Unless otherwise stated, the proposed development either complies with or is consistent with all relevant planning instruments and controls set out in Section 4 of this SEE, in that:

- The proposed Solar Farm will have minimal impact on any potential listed flora or fauna under the BC Act 2016;
- The development is classified as Regional Development under SEPP State and Regional Development and will therefore be determined by the JRPP;
- The proposal complies with the requirements of SEPP Infrastructure and referral to the road authority will not be required as the proposal is not classified as traffic generating development;
- The proposed land use, defined as electricity generating works, is prohibited within the RU1 zone. As a result, permissibility of the project will require an alternative approval pathway, noting the proposal is permissible under Clause 34 of SEPP (Infrastructure) 2007; and
- The proposal is generally consistent with the objectives and relevant controls contained within the Berrigan Development Control Plan (DCP) 2014. A detailed assessment of the proposed development against the relevant provisions of the DCP is provided in the table at Appendix C.

5.2 TRAFFIC, ACCESS AND PARKING

Traffic

A Traffic Impact Assessment (TIA) has been undertaken by Intersect Traffic and is attached at Appendix D. The anticipated rates of traffic likely to be generated from the proposed development (both during construction and once operational) are discussed in the TIA.

The majority of traffic movements associated with the development will occur during the construction of the solar farm (approximate 6-month period) with the delivery of panels and prefabricated structural supports. Deliveries during construction works would be expected to be within rigid and articulated vehicles and the access road has been designed to safely accommodate these vehicles.

Traffic movements generated during operation would include a single staff light vehicle movement associated with maintenance inspections and specific maintenance work (on an as needs basis) which would be short term and infrequent.

Peak hour construction traffic has been calculated at 18 vehicle trips per hour consisting of 10 light vehicles, 3 roadwork vehicles, and 2 delivery vehicles. Based on the data collected from traffic surveys the surrounding road network has sufficient capacity to cater to the projected construction traffic with capacity to spare for future development in the area. It is noted that construction traffic is temporary in nature and will be managed through a future Construction Management Plan.

In summary, the additional traffic anticipated from the proposal has been assigned to the road network where it was found that the surrounding road network (both now and in 10 years) is capable of accommodating the expected additional traffic from the proposal.

Access and Internal Circulation

Access to Broockmanns Road for the development is proposed at the north eastern corner of the site with a 4m wide access road connecting to the Solar Farm along the eastern boundary. This access is to be dedicated to the solar project and is considered separate to the existing agricultural land use present on the site. The proposed driveway will provide for the turning movements of cars and service vehicles, in accordance with Council controls and the Australian Standard for Parking Facilities (Part 1: Off-street car parking and Part 2: Off-street commercial vehicle facilities), AS 2890.1:2004 and AS 2890.2 –2002.

Parking

The Berrigan DCP 2014 sets out the relevant on-site car parking rates for land uses within the Berrigan area. No specific car park rate is provided for solar projects. No gross floor area is proposed as part of the development.

Adopting the industrial development rates for this project, the relevant on-site car parking provision during the operation of the Solar Farm is 1 space per 100m^2 GFA.

With no buildings on the site and only 1 employee engaged in the day to day operation of the Solar Farm, the development is only required to provide 1 on-site car parking space to comply with the DCP.

Consideration of construction parking demand has also been considered with potential for up to 30 employees projected. A total of 20 car parks are proposed with additional space afforded for potential onsite overflow if required. The car parking area would comply with the requirements of Australian Standard AS2890.1-2004 Parking Facilities – Part 1 Off-street car parking with parking bay sizes 2.4 m x 5.4 m and aisle widths of 5.8 metres. Therefore, the on-site car parking is considered suitable for the development ensuring all vehicle movements to and from the site off Broockmanns Road will be undertaken in a forward direction.

5.3 STORMWATER, SOIL AND EROSION CONTROL

The proposed stormwater management system has been designed to reduce post-development flows to align with the pre-development conditions on the site. To achieve this, a detention basin is proposed adjoining the laydown area to the west. This basin provides a holding volume of 252.25m^3 and is supported with a low flow pipe and overflow weir. The stormwater management system proposed has been designed in accordance with Council requirements and with the proposed mitigation measures achieves compliance with the pre-development stormwater flows.

The stormwater drainage strategy for the development can be summarised as:

i. All impervious runoff from the proposed Photovoltaic Arrays will discharge to the existing ground surface where the natural flow regime will be maintained.

ii. Runoff from the proposed gravel/hardstand area catchment will be conveyed via sheet flow and grass-lined swales to the proposed above ground onsite stormwater detention basin.

iii. Discharge from the above ground onsite stormwater detention basing will be limited to the pre-development flow rates.

iv. The water quality treatment train will reduce the post-development pollution levels to the pre-development levels, as well as achieving the 'best practice' pollution reduction targets.

Provided the above stormwater drainage philosophy is adopted for the site, the proposed Finley Solar Farm will limit the Post-Development peak flows to Pre-Development flow rates for the 1 EY, 10% AEP and 1% AEP events.

5.4 FLORA AND FAUNA

Kleinfelder have undertaken a Flora and Fauna Assessment of the proposed development (refer Appendix H). This assessment has been undertaken with reference to the EP&A Act 1979 as well as the BC Act 2016 and the EPBC Act 1999.

As noted within the Flora and Fauna Report, the site is comprised of exotic grassland and will not require the removal of native vegetation. Impacts on biodiversity values have been addressed through an iterative design process to avoid areas of higher biodiversity value within the site.

Field surveys undertaken by qualified ecologist(s) recorded no threatened flora or fauna species on the site with the proposed development unlikely to cause a significant impact to any threatened species, populations or ecological communities listed under the NSW BC Act. Entry into the NSW BOS is not triggered by the proposed development.

No EPBC listed species, ecological communities, migratory species or important habitat for such entities was identified within the subject site. The Flora and Fauna Assessment determined that impacts to Matters of National Environmental Significance are unlikely; therefore, an EPBC referral to the Commonwealth Minister for the Environment is not recommended.

Inclusion of the avoidance and mitigation measures made within the Flora and Fauna Report in relation to erosion and dust control, chemical spills, tree removal, and management of displaced fauna will be followed to reduce potential impacts to biodiversity values within the subject site and the environment.

5.5 NOISE

A Noise Assessment (NA) undertaken by Muller Acoustic Consultants measured and modelled the potential noise generation for the operation (both during construction and once operational) including sleep disturbance noise emissions (refer to Appendix G).

Operational Noise

The results of the NA demonstrate that emissions from the project would satisfy the relevant Project Noise Trigger Levels (PNTL) at all assessed receivers for all assessment periods once the noise controls outlined in the NA are implemented. Furthermore, sleep disturbance is not anticipated, as emissions from impact noise are predicted to remain below the EPA screening criterion for sleep disturbance and awakenings.

Based on the NA results, there are no noise related issues which would prevent the approval of the project. The results of the assessment shows compliance with the relevant operational and road noise criteria. Accordingly, no additional ameliorative measures will be required.

Construction Noise

Modelled noise emissions from project construction activities identify that relevant noise management levels may be exceeded at one receiver location. Hence, noise management measures as provided in the enclosed Noise Assessment (refer to Appendix G) are to be implemented to reduce potential impacts on surrounding receivers during construction activities.

Construction noise mitigation measures to be implemented include:

+ A construction noise management protocol to minimise noise emissions, manage out of hours (minor) works to be inaudible, and to respond to potential concerns from the community;

- Where possible use localised mobile screens or construction hoarding around plant to act as barriers between construction works and receivers, particularly where equipment is near the site boundary and/or a residential receiver including areas in constant or regular use (eg unloading and laydown areas);
- Operating plant in a conservative manner (no over-revving), shutdown when not in use, and be parked/started at farthest point from relevant assessment locations;
- Selection of the quietest suitable machinery available for each activity;
- Minimise noisy plant/machinery working simultaneously where practicable;
- Minimise impact noise wherever possible;
- Utilise a broadband reverse alarm in lieu of the traditional high frequency type reverse alarm;
- Provide toolbox meetings, training and education to drivers and contractors visiting the site during construction so they are aware of the location of noise sensitive receivers and to be cognisant of any noise generating activities;
- Signage is to be placed at the front entrance advising truck drivers of their requirement to minimise noise both on and off-site; and
- Utilise project related community consultation forums to notify residences within close proximity of the site with project progress, proposed/upcoming potentially noise generating works, its duration and nature and complaint procedure.

5.6 VISUAL IMPACT

It is relevant to consider the visual impact of the proposal given the existing rural landscape character of the area and location of a number of neighbouring properties within 1km of the site. Mara Consulting have undertaken a Visual Impact Assessment (VIA) to assess the potential visual amenity changes which may occur as a result of the proposed development, see Appendix E.

The proposed development is likely to have a low to moderate visual impact from the residences immediately to the north (three properties) and east (two properties) of the proposed development. The visual impact is primarily due to the close proximity and the open agricultural landscape with few trees. Additionally, the rectilinear forms and rigid linear arrangement of the solar panels contrasts with the surrounding natural forms.

The development is barely discernible from 1.5km – 3km and no regional views were found to be impacted.

To manage visual impacts a range of mitigation measures are proposed. Landscaping is to be established to provide a visual buffer and is to consist of a number of mature trees and shrubs planted along the northern and eastern development site boundaries. If possible, structures are to be coloured a neutral pallet consistent with the surrounding area with bright and contrasting colours avoided. All the proposed panels utilise an anti-reflective coating to minimise potential for glare caused by the solar panels.

Implementation of the mitigation measures as detailed within the VIA will provide an effective visual buffer compatible with the rural landscape of the Finley areas enhancing the visual amenity for local residents and visitors to the area.

5.7 GLARE ANALYSIS

A Reflective Glare Assessment (RGA) has been undertaken by SLR Consulting to assess the potential for reflected light induced impacts on aviation, road operations, rail operations, industrial and heavy machinery operations, and residential amenity.

The proposed solar PV panels include solar trackers which results in minimal potential for horizontal reflectivity to occur as light is generally reflected upwards. As a result, impacts on residents, roadway operation, and on any surrounding mechanical operations is considered to be negligible at all times of the year.

Due to the site's distances from nearby airports, it is considered the proposal will have no impact on airport operations however aerial spraying has been considered. A generic flight scenario has been quantitatively analysed using SGHAT model and found potential for aviation glare was negligible all year round due to the low incidence angle of reflected rays resulting from the tilting action of the tracking system.

Glare resulting from onsite lighting will be mitigated in accordance with AS4282-1997 *Control of the Obtrusive Effect of Outdoor Lighting* effectively controlling potential for light spill and glare generated by the proposed development.

Due to the use of high quality solar tracking systems and site buffer distances to surrounding receivers and transport networks, potential for glare impacts on the surrounding area is considered to be negligible. For further detail and discussion see Appendix J.

5.8 HERITAGE

5.8.1 INDIGENOUS CULTURAL HERITAGE

Virtus Heritage undertook an Aboriginal Archaeological Due Diligence Assessment for the proposed development area in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (2010) and where applicable, the requirements of the Code of Practice for Archaeological Investigation of Aboriginal Objects, NSW (2010). See Appendix F for further discussion.

A site inspection was undertaken on the 16 March 2020 within lands in the Cummeragunja LALC area. The inspection was carried out by the archaeologist, Vanessa Hardy in collaboration with Brett Hamilton (Sites Officer) and Roland Atkinson of the Cummeragunja LALC. A draft copy of the Aboriginal Archaeological Due Diligence Assessment was provided to the Cummeragunja LALC for comment and review. Comments were received via phone on 29 April 2020. A full summary of the comments is included in Appendix A of the Due Diligence Assessment. In general, the Cummeragunja LALC, its board and members have no objective to the proposed development on Aboriginal heritage grounds.

There are no previously recorded sites in the project area based on heritage searches and background research of previous archaeological investigations to date. No Aboriginal objects or sites were observed in the project area and no areas of potential deposit were identified. The area has been entirely cleared of natural vegetation.

Due to the distance from water, previous land use history and high level of disturbance observed during the site inspection, the project area has low potential for in-situ Aboriginal objects or intact cultural deposits to occur.

To ensure the protection of any found Aboriginal artefacts during construction, all site workers and personnel involved in works are to be inducted and briefed on the possible identification of Aboriginal sites and objects during construction and their responsibilities according to the provisions of the NPW Act, 1974, in case any additional unknown objects or items are uncovered during excavation. Further procedures and protocols are to be established as part of any future Construction Management Plan.

5.8.2 EUROPEAN HERITAGE

The site does not contain any listed heritage items under Schedule 5 of LEP 2010, nor is it located within a heritage conservation area. No other heritage items are located in proximity to the site.

5.9 SOCIAL AND ECONOMIC IMPACTS

An analysis of the social and economic impacts associated with the development of the site is detailed in this section to ensure that, where relevant, social and economic considerations are an integral part of the development assessment process. A Social Impact Statement (SIS) has been prepared by Mara Consulting and included at Appendix I.

The proposed establishment of a solar farm on the site is anticipated to have an ongoing positive social and economic impact on the local Finley area and the broader community.

A review utilising existing renewable projects along with NSW State Government research reveals support of renewable energy projects is generally favourable with the South East Region which includes the broader Finley region revealing:

- 90 per cent of respondents supported using renewables to generate electricity in NSW
- 82 per cent believed NSW should increase the use of renewables over the next five years
- 88 per cent supported the use of solar farms in NSW, 85 per cent in their local region, and 74 per cent within 1–2 kilometres of where they lived.

The most common perceived advantages of renewables included environmental benefits and lower cost of electricity. The most common perceived disadvantages included higher cost and concerns about efficiency and reliability. In the South East, 70 per cent were prepared to use renewables 'provided I don't have to pay more for my electricity' and 26 per cent were prepared to pay more to support them.

The SIS found that the project will improve intergenerational equity through its beneficial contribution to Australia's Climate Change and greenhouse gas minimisation efforts, specifically:

- Directly contribute to helping Australia in meeting the Renewable Energy Target;
- Reduce greenhouse gas emissions required to meet Australia's international climate conditions; and
- Assist in the transition towards cleaner electricity generation.

This is achieved by the solar farms potential to generate up to 5MW of electricity potentially powering 2,000 homes during daylight hours whilst reducing CO_2 emissions by around 200,000 tonnes over the lifespan of the project.

Ongoing communication with the community has been highlighted as an imperative to maximise social benefits of the proposed development. Further recommendations include the following:

- Liaison with local industry representatives to maximise the use of local contractors, manufacturing facilities, materials;
- Establish visual screening early to minimise the visual impact on the solar farm. Visual screening should be done in consultation with closest property holders in accordance with Visual Impact Assessment and Landscaping Plan;
- Establish good relations with people living in the vicinity of the proposal site at the beginning of the proposal and maintain; and
- Implement a community consultation plan to manage impacts to community stakeholders, including but not limited to:
    - mitigation measures to reduce potential construction impacts
    - protocols to keep the community updated about the progress of the Proposal and proposal benefits

- protocols to inform relevant stakeholders of potential impacts (haulage, noise, air quality etc.)
- protocols to respond to any complaints received
- information on how potential customers can access the renewable energy source
- a process to monitor the predicted social impacts and amend mitigation and management measures as required.

In summary, the proposed establishment of a Solar PV Farm on the site is anticipated to have an ongoing positive social and economic impact on the local Westdale area and the broader Finley community. Overall, it is considered that the development:

+ Is consistent with the regulatory and business development framework, including state government legislation and the Berrigan Shire Council strategic plans;
+ Will have positive impacts intergenerational equity, with the provision of cleaner energy in the future;
+ Supports Commonwealth and NSW climate change commitments;
+ Will generate enough clean, renewable energy for about 2,000 homes;
+ Is an appropriate development in relation to the projected changes to population and demographics in the region;
+ Is unlikely to have significant negative social impacts to the locality and region; and
+ Would be a benefit contributing to the overall community sustainability of the Finley community.

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6 CONCLUSION

The proposed solar PV electrical generation operation located at part Lot 61 in DP1053533, Broockmanns Road, Finley will provide electrical power to support the needs of Finley and the surrounding agricultural operations along with rural towns and villages. With the growth of the Finley area, the new electrical generator proposed under this DA will greatly assist in meeting the growing electrical demands required to support that growth.

The site has been chosen for its suitability in terms of land use zoning, relatively flat topography, limited trees and vegetation, distance to surrounding residents, and access to high capacity transmission lines.

The proposed solar PV electrical generation plant is permissible with consent within the RU1 Primary Production zone under the SEPP (Infrastructure) 2007. The proposed development is consistent with the objectives of the RU1 zone as it will provide a sustainable rural compatible land use which will expand the diversity of land use in the area whilst enhancing the production of the region through the provision of energy. The development is compliant with the relevant LEP clauses, presenting no variations to any development standard. The proposal is generally compliant with the requirements of Berrigan DCP 2014.

The design of the development incorporates appropriate stormwater management, respects the natural environment, and minimises potential amenity impacts on neighbouring properties.

Due to the use of high-quality solar tracking systems and site buffer distances to surrounding receivers and transport networks, potential for glare impacts on the surrounding area is considered to be negligible.

This SEE has addressed the potential impacts arising from the proposal on surrounding properties including traffic, access and parking, noise, visual amenity, ecological, and waste and water management. Where necessary, mitigation measures are proposed to minimise these potential impacts and reduce potential risk associated with the development.

Given the merit of the design and the absence of any significant adverse environmental impacts or planning issues, the DA is considered to be in the public's interest and worthy of Council's support.

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Appendix A – Architectural Plans

RINA Consulting

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Appendix B – Stormwater Management Plan

DRB Consulting Engineers Pty Ltd

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Appendix C – Compliance Tables

KDC Pty Ltd

Table 1 – Berrigan DCP 2014 Compliance

Control	Requirement	Comment	Compliant
3. Industrial Development			
3.1 Appearance	General • Buildings are to have their main building facade and entries addressing the primary street frontage. • High quality materials and finishes should be used for building exteriors as well as any fences. • Office components shall be located at the street frontage of the structure to enable the placement of windows and doors to 'break up' the façade. • Industrial developments which are not located in industrial zones must be compatible with and minimize impacts on adjoining land uses.	 N/A, the development is located well setback from the roadway. All proposed structures are of high quality. N/A, no office component proposed. The proposed solar PV farm will have minimal impact on the surrounding rural land uses.	 N/A Y N/A Y
3.2 Landscaping	General • All industrial sites are to be landscaped. • Landscaping areas are to be identified on development application plans submitted to Council with a comprehensive landscape plan required to show all areas of vegetation, pathways and vehicles access areas. • A range of plant species of various heights are to be used in the landscaping to create interest, improve visual amenity and help screen storage and car parking areas. • Landscaping areas are to be protected from vehicle movement areas to prevent the damage to these vegetated areas. • Landscaping must be designed to ensure low maintenance. • Existing mature trees should be incorporated in the development where possible. • Where ever possible native plant species are to be utilised in landscaping with preference given to drought tolerant species. • See Figure 3.1 Site Landscaping for Industrial Sites (over)	 Appropriate landscaping is to be provided where possible. The DCP has little applicability of energy generating development. Landscaping, if required, can be dealt with as a condition of consent. It was confirmed at the Pre-DA that a landscape plan was not required for the proposed development. It was confirmed at the Pre-DA that a landscape plan was not required for the proposed development. Appropriate separation and protection are to be implemented to prevent vehicle damage. It was confirmed at the Pre-DA that a landscape plan was not required for the proposed development. N/A, no existing mature trees located in area.	 N/A N/A N/A N/A N/A N/A N/A N/A

Control	Requirement	Comment	Compliant
3. Industrial Development			
		It was confirmed at the Pre-DA that a landscape plan was not required for the proposed development. Noted.	
3.3 Building setbacks	General • A minimum 10 metres from the front (primary) property boundary. • A minimum 3 metres from the side (secondary) property boundary. • Side and rear setbacks from adjoining properties should comply with the standards detailed in the Building Code of Australia.	Development area is located well away from the front boundary. The side setback is greater than 3m. Appropriate setbacks are proposed.	Y Y Y
3.4 Parking & access	General • Parking is to be provided on-site at the following minimum rates: • Industry component: 1 space per 100m2 of gross floor area or part thereof. • Warehouse/storage component: 1 space per 100m2 of gross floor area or part thereof. • Office/showroom components: 1 space per 50m2 of gross floor area or part thereof. • Disabled: Minimum of 1 space in accordance with the Building Code of Australia. The total minimum number of parking spaces to be provided on-site is the sum total of the components. • Council may consider a reduction in these controls if it can be demonstrated the proposed use of the premises does not warrant such provision. However, applicants must demonstrate there is sufficient room on the site to provide parking in accordance with the controls should the use of the premises change. • Council may require on-site parking at a rate in excess of the above if the proposed use of the premises warrants such an outcome. • Parking spaces must be physically separated from access ways, loading and unloading areas, and manoeuvring areas. • All parking areas are to be constructed so as to allow for the catchment and	No relevant parking rates are applied to the development. The laydown area has sufficient space to provide off street parking for the projected construction and operational traffic.	Y

Control	Requirement	Comment	Compliant
3. Industrial Development			
	disposal of stormwater to a point of discharge agreed to by Council. • All parking, loading or unloading of vehicles is to be carried out on the development site. • All vehicles (including trucks) must be capable of entering and exiting the site in a forward direction. • Developments must be designed with sufficient turning areas for the vehicles expected to require access to the site. If the development is likely to be accessed by larger vehicles, the appropriate access and manoeuvring areas are to be shown on plans provided with the development application.		
3.5 Outdoor areas	General • Outdoor storage and work areas are to be substantially screened from public roads and adjoining lots by landscaping, fencing etc. • Outdoor storage and work areas must be suitably surfaced to prevent dust rising from vehicle movements or wind, should this be a potential impact dust suppression measures are to be employed.	The proposed laydown area is substantially setback from the roadway and generally obscured from view due to distance. The laydown area is to be managed to prevent dust impacts.	Y Y
3.6 Amenity	General • All development is required to comply with the requirements of the Protection of the Environment Operations Act 1997 (as amended) and it's Regulation. • Applications for potentially hazardous or offensive development are to submit information demonstrating compliance with SEPP 33- Hazardous and Offensive Development. • Outdoor areas must be treated and maintained to minimize the impacts of dust. • All stormwater is to be appropriately managed. • A trade waste agreement is to be entered into with Council for disposal of liquid waste to Councils sewerage system for certain activities. • Land uses or development considered by Council to potentially have a detrimental impact on adjoining properties through	The proposed development does not exceed any threshold under Schedule 1 of the POEO Act. The development is not considered to be potentially hazardous or offensive. Appropriate management of dust impacts is to be implemented on the site. A stormwater management plan is proposed in Appendix B. N/A. Appropriate specialist assessments have been undertaken and provided appended to this SEE.	Y Y Y Y N/A Y

Control	Requirement	Comment	Compliant
3. Industrial Development			
	noise or air emissions (e.g. dust or odour) are to provide information in respect to the likely impacts and proposed mitigation measures of these impacts. • Land uses or development considered by Council to potentially have a detrimental impact on existing or future residential areas through noise or air emissions (e.g. dust or odour) will be discouraged without the submission of a relevant Impact Statement by the applicant demonstrating otherwise. Compliance with the Impact Statements will then become a condition of consent.	N/A, the surrounding land uses are not residential in nature.	N/A

Appendix D – Traffic Impact Assessment

Intersect Traffic

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Appendix E – Visual Impact Assessment

Mara Consulting

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Appendix F – Aboriginal Cultural Heritage

Virtus Heritage

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Appendix G – Acoustic Assessment

Muller Consulting

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Appendix H – Ecology Assessment

Kleinfelder

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Appendix I – Social Impact Assessment

Mara Consulting

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Appendix J – Reflectivity Report

SLR

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Appendix K – Waste Management Plan

KDC

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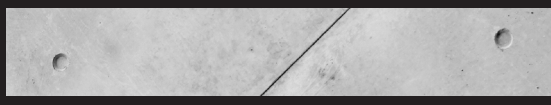
Appendix L – Capital Investment Value Report

RPS Group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