Zenith
TOWN PLANNING PTY LTD

with Compliments

The General Manager
Mid-Western Regional Council
PO Box 156
Mudgee NSW 2850

27 September 2019

Dear Sir

DEVELOPMENT APPLICATION DA0288/2019 - Electricity Generating Works and Associated Infrastructure, Lot 6 DP 1069441 'Burrundulla' 3B Sydney Road BURRUNDULLA NSW 2850

Please find below and attached a response to each of the matters raised in Council's request for additional information dated 4 July 2019 and relating to the above development application.

Please note also that I, as the author of the Statement of Environmental Effects and this additional information, am a qualified planner, having graduated with a Bachelor of Arts (Honours) degree majoring in geography from the University of New South Wales in 1983 and a Master of Urban and Regional Planning degree from the University of Sydney in 1996.

I am qualified to prepare heritage impact statements, visual impact assessments and social and economic impact assessments, and have prepared many of these assessments over the 27 years that I have been either in private practice or employed as a local government planner. I am a Registered Planner with the Planning Institute of Australia and regularly attend professional conferences in Australia and the United States. For further information about my expertise and capacities please visit my website www.zenithplan.com.au.

- Mid-Western Regional DCP 2013

It is hereby nominated in accordance Section 1.4 Transition Provision of *Mid-Western Regional Development Control Plan 2013* that the applicant seeks the application to be assessed against the provisions of Amendment 3 of the *Mid-Western Regional DCP 2013*, being the DCP in force at the time of lodgement of DA0288/2019.

- Site suitability

Council's Rural Residential Industrial and Residential Strategy cites policy objectives that were adopted by Council to implement through Council's Management Plan. These objectives included a series of general policies to achieve the objectives, including:

to *Discourage developments which will adversely affect the long distance views of Mudgee and Gulgong or are not visually compatible with the rural landscape along the approaches to each town.*

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In the request for additional information, council advises that the policy objective is *supported by a map within the Strategy which identifies the Sydney Road approach to Mudgee to be an "Important Visual Corridor". Furthermore, the community meetings held identified high community priorities of maintaining the "Country Feel" and the "backdrop of treed hills contributes to the character of Mudgee valued by the community".*

It is understood that the Rural Residential, Industrial and Residential Strategy was prepared to inform the new comprehensive Mid-Western LEP 2012. The strategy makes recommendations about the allocation of zones and provisions in the new LEP. The map showing the Sydney Road entry to Mudgee as an 'important visual corridor' is not contained within the strategy that is available on Council's website. Regardless of this, the visually sensitive land map in Mid-Western LEP 2012 does not indicate Sydney Road entry as visually sensitive, noting that a recent planning proposal was exhibited to amend that map to include the Sydney Road entry and the proposed development site.

It is noted in the strategy that *A revised policy framework will be implemented as part of this Strategy.* This general policy is now reflected in an aim of Mid-Western LEP 2012 as follows:

1.2 Aims of Plan

(2)(e) to protect the settings of Mudgee ... by:

(iv) conserving the significant visual elements that contribute to the character of the towns, such as elevated land and the rural character of the main entry corridors into the towns,

This aim is supported and implemented by way of clause *6.10 Visually sensitive land* near Mudgee. The objectives of this clause is to protect the visually and environmentally significant upper slopes on the urban fringe south of the town of Mudgee. It applies to land shown on the Visually Sensitive Land Map. This map does not include the Sydney Road entry to the township, however, a planning proposal has recently been exhibited and adopted by Council to amend that map to include the Sydney Road entry. The planning proposal does not suggest an amendment to the objective associated with this clause but does suggest additional considerations for development assessment which can apply to developments such Burrundulla Mini Sustainable Energy Park.

The visual assessment that is provided in the Statement of Environmental Effects contained the following description of the landscape character of the land in the vicinity of the proposed solar farm:

The character of the landscape at Burrundulla is predominantly an open modified agricultural landscape that has been shaped by farming. It is generally flat land with little remnant vegetation and some undulating slopes to the south-east. Rural land surrounding Mudgee, including Burrundulla, is characterized by a diverse range of uses – agriculture comprising grazing and cropping, extractive industries, viticulture, horticulture, rural living. Some of these uses, such as viticulture and cropping, result in a uniform landscape with large expanses of plants in rows and at similar heights.

The development site is rural and located east of the township of Mudgee. It is close to the industrialised entrance to the township and is relatively close to coal mining operations to the east. Development within the immediate vicinity of the site comprises viticulture, cropping, a plant nursery (recently closed), a sewer treatment plant, commercial development on the outskirts of town and farm dwellings. Notwithstanding, the rural landscape is attractive particularly due to its position between steep forested country.

Note that the water treatment plant near the industrial area was erroneously referred to as a sewer treatment plant.

The visual assessment included the following assessment of the impact of the proposed development on the landscape:

The landscape of Burrundulla is one that has been modified by human activity associated with the agricultural industry. It is characterised by a mix of agricultural and rural living uses and is attractive due to the forested backdrop of hills to the south-west and north-east and the open grazing/cropping lands. These uses impart a uniform character through removal of most native vegetation and large expanses of plantings in rows and of similar height.

The impact of the proposed Burrundulla Mini Sustainable Energy Park on landscape character has been assessed to be low-moderate ranging to high-moderate based on magnitude of works and the sensitivity to change of surrounding properties. Without screening, the works would be visible to motorists travelling along the Castlereagh Highway, however, given the character of the proximity to the urban area of Mudgee and the commercial and industrial uses visible on the approach to town it is expected that acceptance of and adaptation to change will occur within a relatively short space of time following completion of works.

Screening is proposed comprising the planting of native shrubs endemic to the locality that will grow to approximately 2 to 2.5 metres in height. The shrubs will be planted within a 6 metre setback between the fence and development area boundaries. If necessary shade cloth is to be placed along the security fence to provide temporary screening until the shrubs are mature and have grown to full height. The impacts are considered acceptable given the nature of the proposed development and screening measures, and that it will contribute to clean energy generation.

The above assessment addresses Council's concerns regarding site suitability, likely impacts of development and the public interest (section 4.15(1)(b), (c) and (e) of the *Environmental Planning and Assessment Act 1979*).

- Provision of essential services

The supply of reticulated water and sewerage services is not required for the proposed development. However, portaloos for wastewater disposal (see https://www.kennards.com.au/site-equipment/showers-toilets.html) and water supply by way of a portable tank or cart (see https://www.kennards.com.au/site-equipment/water-tank.html) are proposed to be installed during the construction phase. Electrical services are available to the site. Stormwater management is proposed to be addressed by controls recommended in this Statement with full details to be provided with the application for a construction certificate. Adequate vehicular access is proposed by way of an existing entrance to the site off the Castlereagh Highway.

- Maintenance of landscaping

The planting of acacias and grevilleas endemic to the area along property boundaries will be carried out whilst construction takes place to enable use of the hired portable tank or cart that will provide water supply to the site. Construction will take approximately 3 months so regular watering during that period would ensure the establishment of plants.

The use of native plants endemic to the area means that watering requirements once established would be minimal and would be done once every 2 or 3 months by the landowner. There would be nil impact on Council's infrastructure and no augmentation of services would be required. Bore water would be sourced to maintain the plants.

- Site maintenance – bushfire risk and weed control

Regular inspections, i.e. every 2 or 3 months, of the site will be carried out to ensure that grassland is managed to reduce the risk of bushfire to surrounding land and to control weeds. Mowing or slashing between rows of PV panels and in the area immediately surrounding the arrays would be carried out as required to reduce bushfire hazard. Removal of weeds will be either by hand or through the application of an approved herbicide. The grazing of sheep amongst arrays may also be carried out to ensure weeds and grasses are managed.

- Visual impact assessment

An assessment of the potential impacts on visual and scenic amenity has been prepared by Zenith Town Planning Pty Ltd and is included in the Statement of Environmental Effects. The assessment has been carried out using the RMS guideline *Environmental Impact Assessment Practice Note – Guideline for Landscape Character and Visual Impact Assessment* (EIA-N04 Version 2-0 released on 28 March 2013).

The RMS methodology has been validated by the Land and Environment Court in the case of Houghton V Shoalhaven City Council [2016] NSWLEC 1195. A visual assessment was prepared using this methodology during assessment of a development application and cited during court proceedings. The commissioner upheld an appeal by the applicant and agreed with the findings of the visual assessment in terms of its application to assessing views to a development site from surrounding properties.

The RMS methodology which is based on an determining the sensitivity of the landscape to physical change and the magnitude, or relative size and scale, of the proposed works has also been accepted by the Western Regional Planning Panel when determining applications for development of solar farms at Hay and Griffith.

In the visual assessment given in the SEE, the visual catchment, the context of the site of the proposed works and viewpoints are identified. Land uses and characteristics of the environment such as topography, vegetation, architecture of neighbouring buildings and any heritage values of any significant sites in the vicinity of the proposed solar farm are noted and the capacity of the area to absorb physical change is assessed. Development plans for the solar farm are reviewed and the likely impacts on landscape character identified. The visual significance of the site to viewpoints and receivers within the visual catchment is described in terms of proximity to the site, landscape character, the composition of views and the sensitivity to change that will affect scenic values. The visual impacts that will be experienced by each receiver are identified and evaluated in terms of the sensitivity of each receiver to change and the magnitude of that change in terms of the proposed works.

The impacts are ranked according to negligible, low, moderate or high impact. The visual catchment of the development site is defined by an area within 500 metres of the boundaries of the development site from which the works may be clearly visible. This 500 metres radius area coincides with the new development control in Mid-Western DCP 2013 Amendment No 4 (which does not apply to DA0288/2019) that restricts the development of solar farms to a distance of greater than 500 metres from a dwelling.

The ability to distinguish the type of land use and the actual composition of materials diminishes with distance. The potential visual impact on view points within the public domain and within the visual catchment are assessed and include both eastern and western approaches along the Castlereagh Highway.

Visual elements of the proposed development once operational comprise the arrays of PV panels, inverters and internal roads. The development area (the solar farm facility) is to be surrounded by security fencing that is 1.8 metres high and topped with three rows of barbed wire to bring the total height to a maximum of 2.1 metres. It is unfortunate that security fencing is required, however, this is preferable to the potential ongoing and unlimited costs associated with vandalism and theft of private and valuable property that is associated with the solar farm equipment. It is advised that security lighting is not proposed and that there would be no impact due to lighting on night sky visibility or on residences in the vicinity of the site.

Landscaping is proposed around all perimeters of the development area to be planted during the first month of the construction period. This will provide a visual screen for the occupants of nearby rural dwellings as well as motorists travelling along the Castlereagh Highway. It is proposed to plant native shrubs endemic to the Mudgee locality that will grow to a maximum height of 2 to 2.5 metres and to provide 5 metres separation between each plant. Typical plants would be evergreen natives such as acacia and grevilleas.

The arrays are to be setback variable distances to a security fence surrounding the arrays. Minimum setbacks are 6.9 metres at the eastern boundary for System B, 11.8 metres to the southern security fence and 6.9 metres to the western fence of System A, and 10 metres to the northern security fence for both systems. The security fence and elsewhere a stock fence is to be setback 15.6 metres from the Castlereagh Highway road reserve and 6 metres from the development area perimeter on other sides. The arrays are proposed to be a total of 109.4 metres from the highway road reserve allowing for the 6 metres of landscaping, separation of 99.4 metres between stock fencing and security fencing, and a 10 metre setback from the arrays to the security fence.

The visual assessment in the SEE contains a description of landscape character near Mudgee as well as structures and land uses in the vicinity of the development site. The character of the landscape at Burrundulla is predominantly an open modified agricultural landscape that has been shaped by farming. It is generally flat land with little remnant vegetation and some undulating slopes to the south-east. Rural land surrounding Mudgee, including Burrundulla, is characterized by a diverse range of uses – agriculture comprising grazing and cropping, extractive industries, viticulture, horticulture, rural living. Some of these uses, such as viticulture and cropping, result in a uniform landscape with large expanses of plants in rows and at similar heights. The development site is described in the visual assessment as being close to the industrialised entrance to the township. Development within the immediate vicinity of the site comprises viticulture, cropping, a plant nursery (recently closed), a water treatment plant, commercial development on the outskirts of town and farm dwellings. It is also described as being relatively close to coal mining operations and extractive industry to the east. The Ulan coal mine is approximately 45 kilometres north-east of Mudgee and the Wilpinjong coal mine is about 55 kilometres from Mudgee. An extractive industry operates about 7 kilometres to the north-east. These extractive industries and coal mines are not within the visual catchment but are described to give context to the types of land uses that exist within the close environs of Mudgee.

The visual assessment also addresses the considerations of Planning Proposal General Amendment 2019. A response to each of the five considerations is given on pages 40 to 42 of the Statement of Environmental Effects.

Additional photomontages have been prepared to demonstrate the visibility of the solar farm during the various stages of growth of the vegetation screening. These photomontages are provided below. Views from the public domain of the Castlereagh Highway are shown over the stages of growth of vegetation – from initial planting to partial growth to maturity.

A photomontage has not been prepared to indicate the impact of shade screen placed on the security fence as this not proposed as part of the development. It has been suggested in the Statement of Environmental Effects that Council may consider this as an effective screening mechanism and impose a condition of consent requiring that shade screening be placed on the fence until such time as plants reach maturity.

As noted in the SEE, the proponent is prepared to place shade cloth on the security fence to screen the facility until such time as the plants reach a height of 2 metres or maturity. The use of shadescreen is not preferred but is suggested as an option to require by way of a condition of consent should Council deem that the vegetation provides insufficient screening in the near term.

In summary, all development is visible. Visual impacts are unavoidable and are the reality of growth and development of any land use. In this case the visibility of the facility will decrease over time as vegetation grows and as solar farms become a necessary part of the rural landscape in the same way as fences, stock yards and farm buildings are now.The impacts of the proposed solar farm on character and scenic values are assessed to be acceptable given that it is in the wider regional, national and global public interest to contribute to renewable energy generation. The visual impacts of alternative sources of energy are far greater and less desirable in terms of rehabilitation of the land after limited resources have been fully consumed.

Plate 1: The solar farm and security fencing before screen planting

Plate 2: The solar farm and security fencing after initial screen planting

Plate 3: The solar farm and security fencing with screen planting approaching fence height

Plate 4: The solar farm and security fencing with mature screen planting

- Decommissioning

It is confirmed that all infrastructure, that is PV panels, mounting frames including footings, inverters, piles, cabling and any other sub-surface materials would be disassembled and removed from the site to enable the site to be again used for grazing purposes. All gravel surfacing of accessways would be removed unless required for a future use by the landowner.

A decision has not been made to use the site for agricultural purposes whilst the solar farm is in operation. This would be a decision of the landowner based on security considerations and for business reasons. However, the grazing of sheep is to be trialled at a site in Griffith at which a solar farm proposed by IT Power has recently been approved and sheep are currently used to graze amongst panels at a 104MW solar farm near Nyngan.

- Social and Economic Impact Assessment

A Social and Economic Impact Assessment that addresses accommodation needs of construction workers and the impact on the community and local economy generally is attached.

- Emergency access

The General Arrangement plan (Drawing No. MUD3C-G-210) has been amended and is submitted with this document to address emergency access arrangements.

In addition to the additional information requested by Council, two other matters are addressed below. These are consideration of *State Environmental Planning Policy (Primary Production and Rural Development) 2019* and the site survey carried out by Mudgee Local Aboriginal Lands Council that was received after lodgement of the DA.

- SEPP (Primary Production and Rural Development) 2019

This policy replaces four other SEPPs that apply to rural land including SEPP (Rural Lands) 2008. The purpose of providing this section is to update the Statement of Environmental Effects in relation to the legislative and policy framework applying to the development site and the proposed development.

The aims of *SEPP (Primary Production and Rural Development) 2019* are:

(a) to facilitate the orderly economic use and development of lands for primary production,

(b) to reduce land use conflict and sterilisation of rural land by balancing primary production, residential development and the protection of native vegetation, biodiversity and water resources,

(c) to identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations,

(d) to simplify the regulatory process for smaller-scale low risk artificial waterbodies, and routine maintenance of artificial water supply or drainage, in irrigation areas and districts, and for routine and emergency work in irrigation areas and districts,

(e) to encourage sustainable agriculture, including sustainable aquaculture,

(f) to require consideration of the effects of all proposed development in the State on oyster aquaculture,

(g) to identify aquaculture that is to be treated as designated development using a well-defined and concise development assessment regime based on environment risks associated with site and operational factors.

The policy applies to *State significant agricultural land,* farm dams and other artificial waterbodies, livestock industries and aquaculture. There is no *State significant agricultural land* listed in the schedule to the policy. It is noted that, separately, the Department of Primary Industries are in the process of preparing mapping of *Important Agricultural Land* in NSW to assist decision-making.

- Mudgee LALC Clearance Letter

The generic due diligence process outlined in the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* was carried out to ensure that Aboriginal cultural heritage issues have been considered. The findings of that assessment, presented in the Statement of Environmental Effects, are that there are no places or items of Aboriginal significance recorded on the development site. It was noted in the Statement that Mudgee Local Aboriginal Lands Council had been advised of the plans to develop the Burrundulla Mini Sustainable Energy Park and that a representative carried out a ground survey on Friday 24 May 2019. The clearance letter has since been received that advised that whilst there are Aboriginal sites recorded near the development site there are none identified as being potentially impacted by the development. Mudgee LALC has no problem with the development proceeding. The clearance letter is attached for Council's information.

Yours faithfully,

Allen Grimwood RPIA, Director, Zenith Town Planning Pty Ltd

Encl: Social and Economic Impact Assessment, Mudgee LALC Clearance Letter

SOCIAL AND ECONOMIC IMPACT ASSESSMENT

Lots 6 DP 1069441, 3B Sydney Road, Burrundulla, NSW

Burrundulla Mini Sustainable Energy Park

Zenith TOWN PLANNING

sustainable thinking

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Document Details & History

Project number	1219
Project title	Burrundulla Mini Sustainable Energy Park
Document title	Social and economic impact assessment
Client	IT Power (Australia) Pty Ltd
Author	Allen Grimwood
ABN	11 624 467 349
Version	Draft 16 August 2019
	Final 12 September 2019

The report has been prepared using information supplied by the client and other stakeholders. All care is taken to ensure the accuracy and veracity of this information, however, no responsibility is accepted for the interpretation of that information by end users.

1. INTRODUCTION

1.1 Purpose

The purpose of this Social and Economic impact Assessment is to support an application to Mid-Western Regional Council to develop a solar farm at Lot 6 DP 1069441, No 3B Sydney Road, Burrundulla, referred to as the Burrundulla Mini Sustainable Energy Park. The application is for regionally significant development that needs consent and is to be determined by the Western Regional Planning Panel.

The purpose of this report is to assist Council's assessment of the proposal against the matters for consideration listed in section 4.15 of the *Environmental Planning and Assessment Act 1979*.

This Assessment has been prepared to expand upon details of the effects of the proposed development on the community and economy that has been provided in the Statement of Environmental Effects prepared by Zenith Town Planning Pty Ltd and submitted with the development application.

All information referenced in this Assessment has been sourced from publicly available documents or websites and from expert reports produced to support the application.

1.2 Scope of the report

Mid-Western Regional Council have requested additional information during assessment of the application in particular to address the issue of accommodation arrangements for workers involved in the construction of the facility and the impacts on the township of Mudgee.

Council's request for a Social and Economic Impact Assessment is as follows:

The Traffic Assessment Report prepared by Triaxial Consulting refers to the Construction Worker Site Access (page 10) and states that 'Depending upon accommodation arrangements made by the successful building contractor in the construction phase of the project, action should be taken to minimise any impacts on the Mudgee town area by the provision of a bus service to convey workers to the site'. Whilst the Statement of Environmental Effects suggests that a bus will be used to convey the proposed workers to and from the site over the construction phase and labour will be sourced from the Mid-Western LGA wherever possible, there are no alternative solutions provided or assessed in the documentation as to where the labour workforce for the construction phase is to be accommodated. Accommodation options are significantly limited in the area and therefore further justification shall be provided to Council as to where accommodation would be secured and furthermore how this would impact the Mudgee area (particularly mitigations measures to be implemented to not impact upon tourism trade in the area). This information

shall be comprehensively assessed and demonstrated within a Social and Economic Impact Assessment prepared by a suitably qualified Consultant. This shall also clarify the anticipated construction phase of the project as the documentation currently provides conflicting information with references to both 3 and 6 months throughout the reports.

The scope of this Assessment is to describe the existing social and economic environment in Mid-Western local government area and to identify any potential impacts of the proposed solar farm on the community and local economy. The potential social impacts addressed in this Assessment are the effects on accommodation, social cohesion and amenity. The potential economic impacts addressed are employment, change of use of agricultural land to an alternative type of primary production, the likely flow-on effects for business and industry, and impacts on land values.

2. THE PROPOSED DEVELOPMENT

2.1 Explanation of solar energy

Solar energy is energy created by the heat and light of the sun. Solar power is produced when this energy is converted into electricity or used to heat air, water, or other substances. Australia has the highest average solar radiation per square metre of any continent in the world. Despite uncertainty regarding energy policy, the Commonwealth and NSW Governments have recognized the need to supplement energy derived from fossil fuels with energy generated from renewable sources. Alternative energy supply may be sourced from solar photovoltaic, geo-thermal, solar thermal, wave and tidal action, and wind.

Australia has the highest average solar radiation per square metre of all continents and the NSW Government is committed to supporting the national Renewable Energy Target of 33,000 gigawatt hours by 2020.The NSW Government's Renewable Energy Action Plan notes that solar farms provide a range of social and economic benefits to the wider community and help to drive growth in regional communities through increased business during construction and operation. The plan states that additional benefits include:

- *Employment opportunities during construction, including engagement of local contractors and materials and service providers*
- *Long term local employment opportunities over the life of the project*
- *Contributions to local infrastructure improvements*
- *Education and training of contractors and local residents*
- *Reduced greenhouse gas emissions*
- *Increased energy security through a more diverse energy mix*
- *Rent received by local landowners from the developer.*

The development of solar photovoltaic power is well underway in NSW and across Australia. This growth in the local solar PV sector continues to provide a significant boost for Australia's regional economy with renewable infrastructure development estimated to create upwards of 2,300 direct jobs plus indirect employment.

According to the Australian Renewable Energy Agency (ARENA), the deployment of household solar PV that generates about 5kW is expected to continue and at the same time an increase in rooftop solar PV installations on commercial premises generating around (10-100 kW) is expected. Large scale solar PV is also rapidly expanding in Australia with several solar farms being constructed that will have the capacity to generate over 50MW.

The proposed Burrundulla Mini Sustainable Energy Park aims to fill the gap in the mid-sized plants. It will generate 10MW of AC power and contribute to renewable energy supply to supplement electricity generation from coal, oil and gas and assist to reduce reliance on these unrenewable sources of energy.

2.2 Description of the facility

The proposed Burrundulla Mini Sustainable Energy Park is a solar farm with a DC array capacity of 12.1MW and an AC output of 10MW to be located at Lot 6 DP 1069441, 3B Sydney Road, south-east of the town of Mudgee. The site is approximately 64 hectares in area and is used for agricultural purposes. The section of the site for the proposed development covers 27 hectares of land that is now vacant. The development will be in two separate systems – System A is to occupy an area of 12.7 hectares at the west of the development area and System B will occupy 14.2 hectares at the east of the development area.

The Burrundulla Mini Sustainable Energy Park is designed to generate in excess of 20 GWh of energy annually with the system offsetting almost 17 thousand tonnes of CO^2 equivalent emissions (Sources: *National Greenhouse and Energy Reporting (Measurement) Determination 2008 (Schedule 1)* and Department of the Environment and Energy). It will provide enough energy to power about 4,300 NSW homes. Power is to be distributed to the grid maintained by Essential Energy. The solar farm is to connect to the 22kV which feeds into the Mudgee Zone Substation. Any power not consumed by the town would be directed to the grid.

During construction there is expected to be 50 personnel on site working from 7.00 am – 4.00 pm Monday to Friday. The construction is expected to take approximately six months. Once operational the site will be unmanned. Maintenance is expected to be carried out quarterly by a crew of two to three people.

The life of the solar farm is expected to be around 25 years. All components will be removed and the site will be rehabilitated in accordance with a decommissioning plan.

Further details of the proposed development are contained in the Statement of Environmental Effects and drawings submitted to Council with the development application.

3. THE COMMUNITY AND ECONOMY

3.1 The people

At the time of the 2016 Census of Population and Housing and based on a person's usual place of residence on Census night, there were 10,923 persons living in the state suburb of Mudgee. A state suburb is an approximation of the officially recognised boundary of localities outside of cities and larger towns. A map of the state suburb of Mudgee is given below. Mudgee is the main centre within the local government area of Mid-Western Regional area which has a population of 24,076 persons. The population of the LGA is increased by 0.9% between 2011 and 2016 and is projected to increase by 8.1% to 26,000 in 2036.

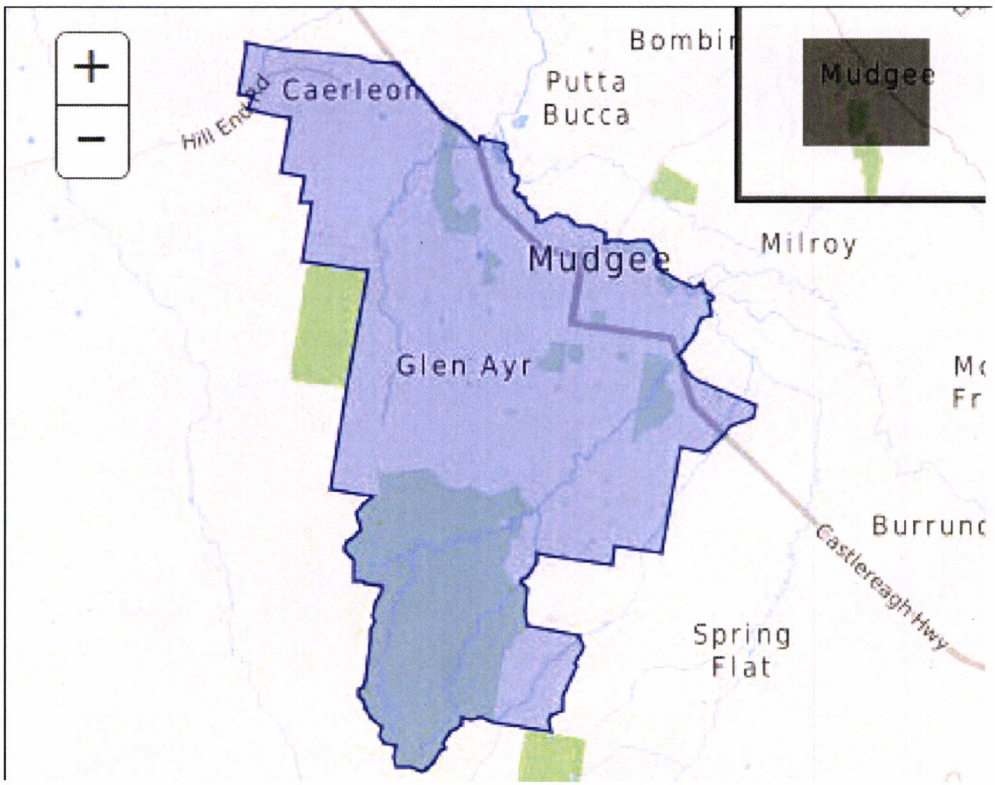


Figure 1: The state suburb of Mudgee. Source: ABS

The median age was 37 years and there were more females than males (48.8% vs 51.2%). Just over 6% of residents were Aboriginal and/or Torres Strait Islander people. About 13% of residents possess tertiary educational attainment. Over 80% were born in Australia, with about the same proportion being a couple family with or without children. The median weekly income for a family was $1,587, for a household was $1,256 and for an individual was $623. These figures are less than for NSW and Australia, for example, the median income for a household in NSW was $1,780 and Australia was $1,734. Cultural diversity is limited in Mudgee with 36.7% of residents being of Australian ancestry, 29.3% English and 8.8% Irish.

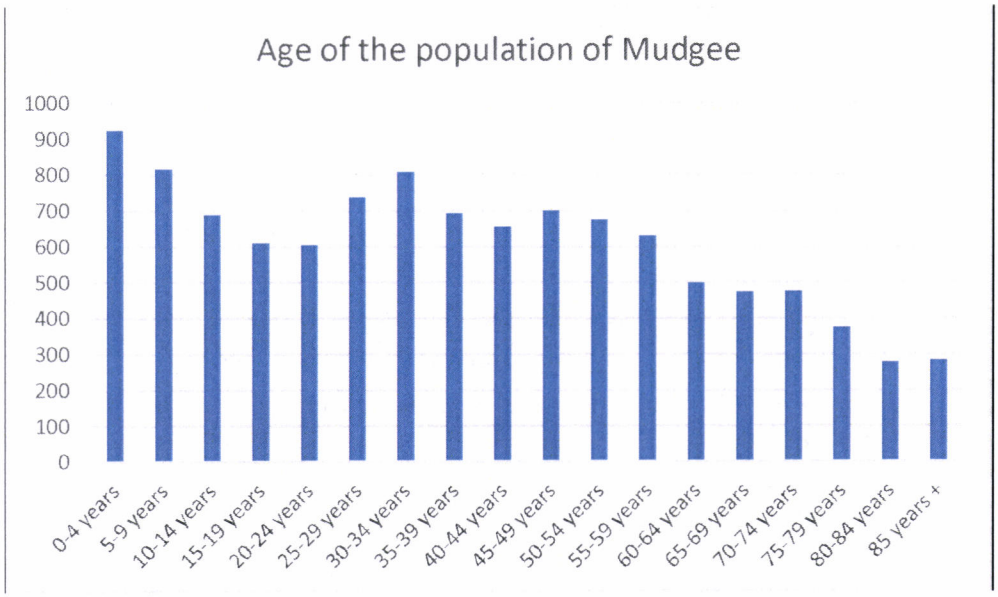


Figure 2: The age distribution of Mudgee. Source: ABS

3.2 Housing

There are a total of 4,516 dwellings in the state suburb of Mudgee, the majority of these (88.4) being private occupied dwellings and the remainder (11.6%) being unoccupied private dwellings. Occupied private dwellings comprise mainly separate houses at 86.1%. Medium density represents 11.9% of dwellings. Houses are generally large with almost 80% of occupied private dwellings having three or more bedrooms.

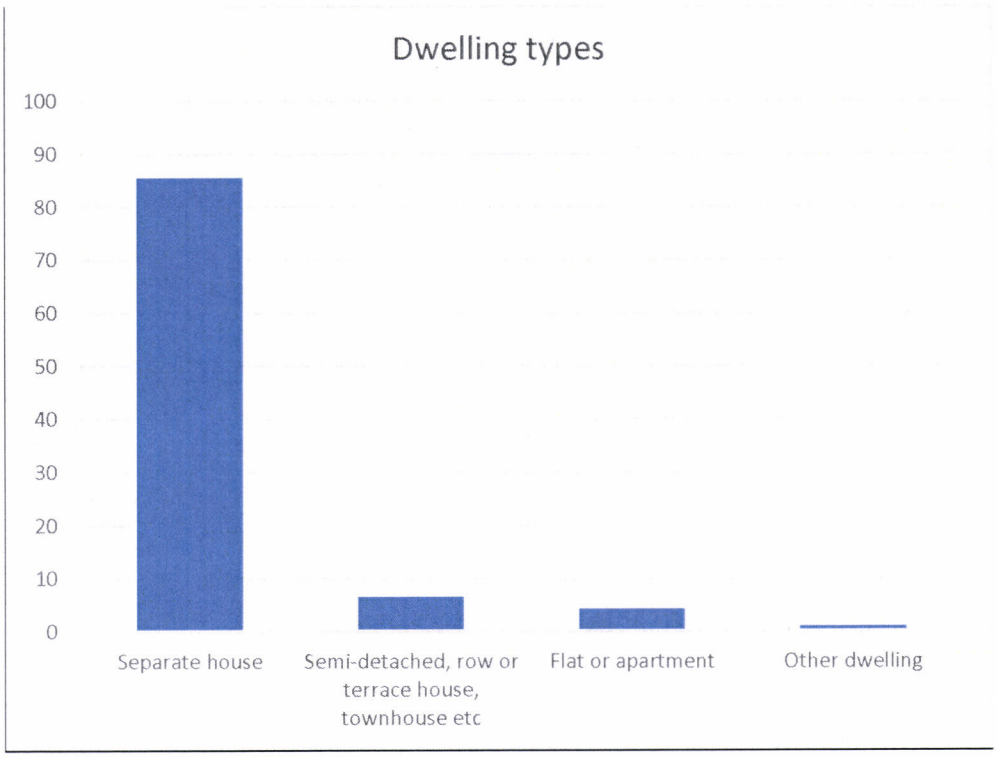


Figure 3: Dwelling types in the state suburb of Mudgee. Source: ABS

Just under one-third of occupied private dwellings were owned outright and one-third were under mortgage. A total of 1,455 occupied private dwellings were rented. In addition there were 525 unoccupied private dwellings.

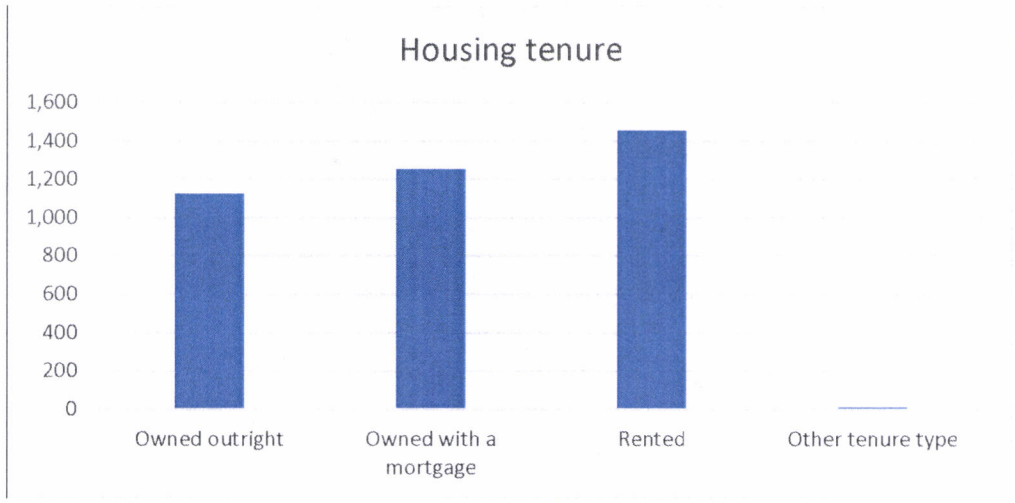


Figure 4: Housing tenure in the state suburb of Mudgee. Source: ABS

The average number of people per household was 2.4 persons and two-thirds were family households with one-third single persons households. The median rent was $300 per week. The percentage of households suffering housing stress, i.e. where rental payments are greater than or equal to 30% of household income was reported to be 14.2%. Median mortgage repayments were $1,733 per month and 6% of households make mortgage repayments greater than or equal to 30% of household income. Housing stress for renters is greater than for NSW at 12.9% but compares favourably for owners with a mortgage with NSW at 7.4%. The ABS notes that these estimates of housing stress may be overstated due to the means of determining an inputed income measure.

According to the website www.yourinevstmentpropertymag.com.au as at April 2019, the median house price for the urban area of Mudgee is $405,000 and weekly median adverted rent is $390.00. The median price for a medium density unit is $265,000 and weekly median adverted rent is $290.00. Gross rental yields are 5.07% and 5.91% for houses and units respectively.

3.3 Industry and employment

Just under 60% of employed people aged 15 years and over worked 40 hours or more per week at the time of the 2016 Census. Under-employment or casual employment is relatively low with about one-fifth of the labour force working less than 24 hours per week. 58.7% of the labour force worked full time and 30.4% part time. Unemployment was lower than the NSW and Australian average at 5.8% of the labour force.

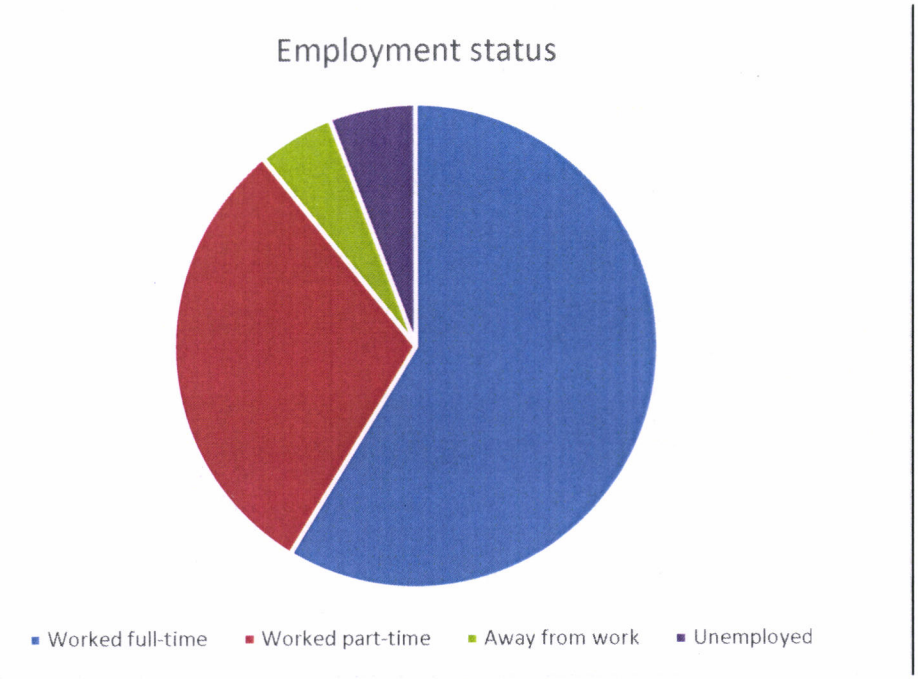


Figure 5: Employment status in the state suburb of Mudgee. Source: ABS

The main occupation of employed people in Mudgee was technicians and trades workers at 18.2%, followed by professionals at 14.7% and machinery operators and drivers at 12.6%. Labourers, sales workers, community and personal service workers, managers, and clerical and administrative workers each represent 10% or 11% of employment.

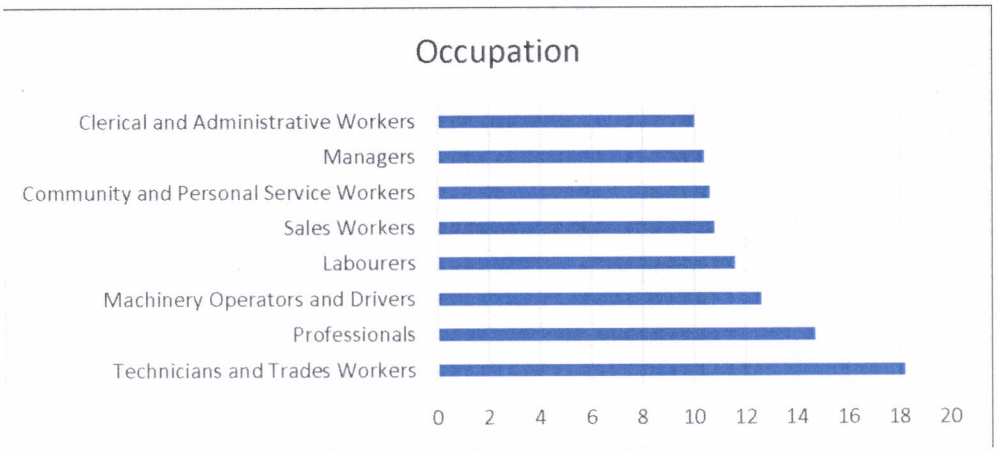


Figure 6: Top responses to occupation in the state suburb of Mudgee. Source: ABS

The top response to industry of employment in the Census was coal mining with 15.9% of employed people.

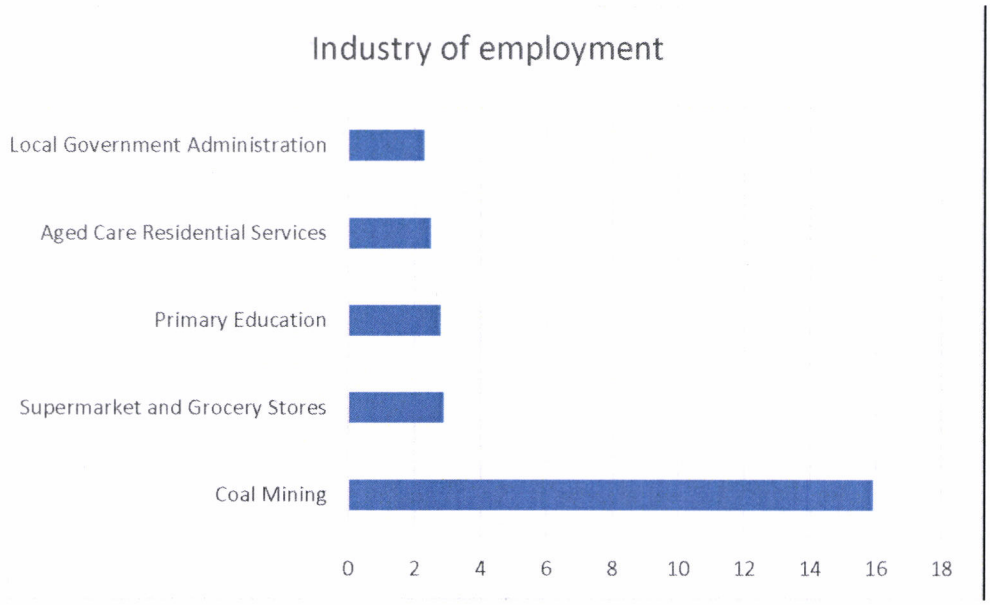


Figure 7: Top responses to industry of employment in the state suburb of Mudgee. Source: ABS

3.4 Short-term accommodation

Tourism is an important industry in the Central West region of NSW. Domestic visitors spent nearly 8 million nights in the region for the year ending December 2018, representing 10.2% of all visitor nights in regional NSW. Friends or relatives' property was the most popular accommodation type at 33.2% followed by a standard hotel or motor inn at 20.8% then caravan or camping at 9.6%. International visitors spent 915,000 nights in the Central West region or 6.1% of nights in regional NSW. Friends or relatives' property was the most popular accommodation type for international visitors to the region at 49.2% followed by rented house, apartment, flat or unit at 16.3%

The tourism website www.visitmudgeeregion.com.au contains details of visitor accommodation available in the Mudgee area. There are 21 bed and breakfast establishments, five boutique hotels, three holiday parks, 24 serviced apartments and cottages, two hotels and resorts, seven motels and one pub that are listed on this website giving a total of 63 places offering short term accommodation. This data is for the town of Mudgee and does not include visitor accommodation in neighbouring rural localities. In addition, there are accommodation places being offered through alternative means such as AirBnB and StayZ as well as establishments that do not advertise through the website.

Destination NSW issues a Tourist Accommodation Profile for regions which contains data for large-scale short-term accommodation establishments comprising hotels, motels and serviced apartments with 15 rooms or more. Data for the year ending Jun 2016 for Mid-Western Regional LGA indicates that there 10 establishments offering a total of 293 rooms operating during the 2015-16 financial year. The average occupancy rate for these establishments was 62.3% during that year, ranging from a low of 57.7% in the March quarter to 67.3% in the June quarter.

4. SOCIAL IMPACTS

The proposed Burrundulla Mini Sustainable Energy Park has the potential to affect on the availability of accommodation in the Mid-Western Regional area, the cohesion of the local community and on amenity such as through impacts on scenic quality and air quality, noise emissions and electromagnetic radiation, and traffic movements. Each of these is considered below.

4.1 Accommodation

If available, workers to assist with construction of the Burrundulla Mini Sustainable Energy Park are to be sourced locally from within the Mid-Western LGA. Local workers would come from the townships of Mudgee, Gulgong, Kandos and Rylstone as well as surrounding localities and be domiciled locally.

Should a worst case scenario eventuate where all 50 workers were sourced from outside Mid-Western LGA, short-term accommodation would need to be made available for the six month construction period (or two three month periods). In this case 50 rooms or places would need to be provided.

Assuming the recorded occupancy rate of large-scale accommodation establishments during 2015-16 applies, there would be 197 rooms available during the most in-demand quarter of the year. Deducting the 10 large-scale establishments from the total number of 63 places offering accommodation on the tourism website leaves an additional 53 places offering short-term accommodation. If the occupancy rate is assumed to be similar to that for large-scale establishments, there would be an additional 42 vacant accommodation places available during the June quarter with many offering multiple rooms.

It is considered that the impact on available short-term accommodation would be modest and welcomed by tourism accommodation operators. It is noteworthy that there are also 1,455 occupied private dwellings being rented some of which may be available for a lease period of three to six months. The 525 unoccupied private dwellings recorded in the Census may also provide short-term accommodation through the unregulated disruptive market exemplified by AirBnB and StayZ.

The development is likely to also bring benefits to local retailers and cafes/restaurants through increased demand generated by additional employment opportunities and income. This would include outlets that are associated with visitor accommodation.

4.2 Social cohesion

New development, particularly of a type that involves renewable energy as a response to climate change, is likely to be divisive within any community in Australia today, in particular one that is highly reliant on the coal industry for employment.

There have been two surveys of attitudes towards the development of renewable energy in Australia both carried out in 2015 by the Office of Environment & Heritage in 2015 and the Australian Renewable Energy Agency. The OEH survey found that 92% of people surveyed in regional NSW support the use of renewable energy to generate electricity and 85% support more energy to be generated by renewable sources. These findings were consistent across all age groups and educational levels but support decreased to 84% if the solar farm is within the local region and to 78% if the solar farm is within 1 to 2 kilometres from where the respondent lived. Environmental benefits were identified but there are mixed views about the costs, reliability and efficiency of renewable energy. A small number of respondents objected to solar farms on the basis of environmental and visual impacts.

The ARENA survey found that three-quarters of persons surveyed felt that solar energy could be a significant source of power for Australia and assist to reduce greenhouse gas emissions. There was also high recognition of the contribution to local economies but disagreement about the visual impacts with an equal proportion believing that the solar farms have nil or a negative visual impact. Attitudes towards solar farms is variable and dependent on the availability of information.

Division in the Mudgee community has been evident since lodgement of the DA for the Burrundulla Mini Sustainable Energy Park through submissions to Council and media reports. This reflects the general range of attitudes across Australia towards this type of development and regarding ways to respond to changes brought about by climate change. Other reasons for objecting are visual impacts, loss of agricultural land and impacts on property values. The impacts on visual and scenic amenity and on agricultural potential are addressed elsewhere in this report or the Statement of Environmental Effects. It is considered that, once constructed and operational, division will subside and the cohesion of the community of Mudgee will be restored after the contribution to the local economy is realised.

4.3 Amenity

Impacts of the proposed development on amenity are measurable through assessment on visual and scenic amenity, traffic generation, and noise, air quality and electromagnetic radiation emissions. Each of these has been considered in the Statement of Environmental Effects with the following findings:

Visual and scenic amenity

The landscape of Burrundulla is one that has been modified by human activity associated with the agricultural industry. It is characterised by a mix of agricultural, including viticulture, and rural living uses and is attractive due to the forested backdrop of hills to the south-west and north-east and the open grazing/cropping lands. These uses impart a uniform character through removal of most native vegetation and large expanses of plantings in rows and of similar height.

The impact of the proposed Burrundulla Mini Sustainable Energy Park on landscape character has been assessed to be low-moderate ranging to high-moderate. Screening is proposed comprising the planting of native shrubs endemic to the locality that will grow to approximately 2 to 2.5 metres in height. Until that vegetation reaches maturity, the works would be visible to motorists travelling along the Castlereagh Highway, however, given proximity to the urban area of Mudgee and the commercial and industrial uses visible on the approach to town it is expected that acceptance of and adaptation to change will occur within a relatively short space of time following completion of works.

Traffic

The findings of the traffic assessment are that the proposed construction of the solar farm will not cause major long-term effects to the surrounding road network due to the need for minimal regular maintenance by a small number of staff. Construction traffic appropriately managed with a bus service for workers and out of peak hour deliveries to the site, combined with the construction of an appropriate site entry catering for B-Double access will ensure traffic impacts are minimised during the construction phase of the project.

Noise

The findings of the assessment are that construction noise levels have the potential to exceed relevant construction NMLs at thirteen of thirty identified receptor locations when works are nearest to those locations. Of these, four receivers are located on the development site and in the same ownership as the development site. The exceedance would be temporary, and of short duration and is primarily due to piling and trenching activities. It is likely that the effect of construction noise will be reduced or possibly inaudible due to the masking noise from the Castlereagh Highway.

Operational noise predictions identify that relevant noise criteria would be satisfied at all receivers. The noise assessment demonstrates that road noise criteria will be satisfied at all receivers on the proposed transport route.

Air quality

Activities that disturb the earth's surface and that are carried out with the use of machinery have the potential to generate dust emissions. This may be exacerbated by wind exposure to an exposed ground surface. The previous use of the land for farming may have involved regular tilling, sowing and harvesting that may create dust and impact on air quality. The current condition of the land is modified with pasture growth with some exposed soil surfaces.

The construction of the solar farm will not involve extensive earthworks and only pile driving to lay footings for the array framework and ancillary structures will be carried out. Along with the delivery of materials using heavy vehicles, construction works may generate dust, however, once operational the change of use

of the land from agricultural to solar photovoltaic electricity generation is expected to reduce particulate emissions and lead to an improvement in local air quality. Vehicle movements would be restricted to internal access roads and the majority of the site would be revegetated with grasses.

Electromagnetic radiation

According to the Australian Radiation Protection and Nuclear Safety Agency, which maintains continual oversight of emerging research into the potential health effects of the EMF exposure, there is no established evidence of health effects from exposure to electric and magnetic fields from powerlines, substations, transformers or other electrical sources, regardless of the proximity, causes any health effects. The location of the solar farm and the distance separation between nearby dwellings and the site mean that any impacts on health are mitigated.

5. ECONOMIC IMPACTS

5.1 Employment and expenditure

The Burrundulla Mini Sustainable Energy Park has a capital investment value of $13.2 million. It is anticipated that there will be 50 personnel directly involved in construction on site which is expected to take approximately six months. This may be carried out over two three-month periods to construct each of the two proposed 5MW systems. Varying levels of expertise will be required ranging from labourers to qualified electricians and project managers.

Employment generation would assist to address local unemployment and the moderate level of underemployment experienced in Mudgee. As well as the construction phase, the proponent engages local professional services where available to assist in preparing studies and reports for the development application. Once operational, two to three personnel will be necessary to carry out maintenance every quarter or as required.

The development will bring direct economic benefits to the local economy through wages and salaries and indirect benefits through the need for accommodation and sustenance in the area for non-local employees. Flow-on effects would include rent payed for short-term or rental lease accommodation of construction workers, heavy vehicle firms with staff to load and deliver materials to the development site, and food and drink premises to provide sustenance to workers.

The skills required to be involved in the construction and ongoing maintenance of Burrundulla Mini Sustainable Energy Park may require some personnel to undergo further training and education, leading to an upskilling of the local workforce and enhanced employment opportunities generally. Another benefit to the community will be through an understanding of sustainable development and by gaining a commitment to greater reliance on renewable energy.

The solar farm may also be attractive to the tourism industry, particularly for visitors from metropolitan areas that are not able to view a solar farm close to home. Viewing platforms and tours of windfarms are popular amongst urban visitors to rural areas as well as local schools. Innovative marketing may capitalize on the development and use it to attract visitors the region. Similarly, the clustering of solar power generation would bring regional economic development benefits as the Central West area gains a reputation as a suitable location for renewable energy and linked industries.

Multipliers are used to estimate the direct and indirect flow-on effects of income and employment generated by a development. However, generalized multipliers are no longer provided by the Australian Bureau of Statistics. The issue of multipliers has been discontinued because they were based on limiting assumptions that resulted in a biased estimation of the benefits or costs of a development project. These assumptions relate to the capacity of the local economy, ratios for inputs and production, response to changes such as

pricing and household budget constraints. ABS considers the published multipliers unsuitable for small regions as they tend to overlook the need to import goods into the region and can overstate the impacts of a particular project. However, the flow-on effects to local business though income and employment will be considerable. There will also be public benefits attributable to development contributions payable by the proponent that will be allocated towards upgrading and maintaining public services such as community facilities and local roads.

5.2 Change of use

According to the *Mid-Western Regional Comprehensive Land Use Strategy*, approximately 61% of land in the LGA is used for agriculture, comprising 2% for cropping, 57% for grazing, less than 1% for horticulture and less than 1% for intensive animal production. Power generation occupies less than 1% of rural land. The development site has a land capability class of 3. This indicates high capability land – land that 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 land management practices. However, careful management of limitations is required for cropping and intensive grazing to avoid land and environmental degradation (*The land and soil capability assessment scheme – A general rural land evaluation scheme for NSW, 2nd Approximation*, OEH). This land capability classification is reflected in the current use of the development site for livestock grazing rather than for cropping or viticulture. The low capability of the land has been confirmed by the land owner who has undertaken soil testing and found that cropping is not feasible.

Any reduction in the productivity or availability of agricultural land due to the solar farm would be minimal and temporary. It would be offset by the contribution that the solar farm will make to the local economy through direct and indirect employment and expenditure over the short term and through the benefits that renewable energy power supply will bring to the nation. The income derived by the land owner through leasing a portion of land for energy production can be put to improvements elsewhere that serve to increase agricultural production, or other land holdings. This is particularly important during times of drought and the rising costs of farm supplies. The lease income of the land holder may support the ongoing viability of farm operations elsewhere.

If necessary and practical in terms of security, the land surrounding panel arrays can continue to be used for farming purposes such as the cultivation of vegetables or the grazing of sheep during the operation of the solar farm. The grazing of sheep is to be trialled at a solar farm to be developed by IT Power (Australia) in Yoogali near Griffith that was granted consent by the Western Regional Planning Panel on 14 August 2019. An existing solar farm on the opposite of Irrigation Way at Yoogali is currently being used for the sheep grazing.

It is considered that the impact in terms of loss of productive agricultural land should be seen in the context of the impacts on farmland of other forms of power generation, for example, fracking for coal seam gas,

and mining for coal and uranium as well as the infrastructure to support the processing of coal and gas. The arrays of solar panels and all above-ground and underground infrastructure can be removed once the facility is decommissioned and the land can be returned to full agricultural use. The development of a solar farm will create a new market for local contractors and diversify income for the land holder.

5.3 Land values

Property values are subject to prevailing market conditions at any point in time as well as location, amenity, lifestyle opportunities, and zoning and the range of land uses permitted. The impact of solar farm development on land values is a common point of objection. However, a recent study carried out by the LBJ School of Public Affairs at the University of Texas at Austin in May 2018 which involved a survey of land owners living in close proximity to solar farms found that the majority of respondents believed that proximity to a solar farm has either no impact or a positive impact on home values. There was some variation depending on the size of the facility and distance from the dwelling. Some features were also found to be associated with positive impacts, including where the land had previously been used for an unattractive or unappealing use, and where there are trees or other visual barriers around the array. The research concludes that incorporating vegetation to screen the visibility of solar panels helps to minimize any perceived negative impacts on property values.

Cohn Reznick, an American property valuation advisory service, have conducted several studies during 2018 into the effects of solar farms on the values of adjacent properties for facilities in the mid-west region of the US. Solar farms with a variety of output capacities and with residential dwellings in close proximity have been examined. The sale prices of these dwellings are compared with value trends in similar locations adjacent agricultural or residential uses. The basic premises of the analysis is that if there is any impact on property value due to proximity to a solar farm then this would be reflected in sale prices, conditions of sale and marketability. The studies have consistently found that there is no measurable difference in property values for properties adjacent solar farms compared to similar properties adjacent alternative land uses. The findings have been verified through consultation with real estate agents who claim there is not difference in price, marketing periods or demand for dwellings adjacent solar farms or adjacent an alternative use. The firm concludes that for proximity to a solar farm does not adversely affect property value in either the short or long term subject to compliance of the solar farm with regulatory standards that ensure nil affect on amenity due to noise, air quality, visibility and the like.

Prior to these studies being conducted the U.S. Department of Energy, National Renewable Energy Laboratory issued a statement to dispel myths regarding solar farms. The agency made the following statement regarding impacts on property values:

While the impacts of a solar farm on neighbouring property values have not been studied in-depth, numerous studies have found the impact of wind energy generation on neighbouring property values to be negligible. As solar farms do not have the same impacts as wind farms (i.e., PV facilities do not cast a

shadow on neighbouring properties, cause light flicker, or have the same visual impact as wind farms), the impacts on property values caused by solar farms are anticipated to be less than the impacts of wind farms. Some communities have opted for mitigation measures to reduce visual impacts of solar farms through the use of vegetative screening or decorative fencing, since PV modules are usually mounted close to the ground. (U.S. Department of Energy, National Renewable Energy Laboratory, www.nrel.gov/state-local-tribal/blog/top-five-large-scale-solar-myths.html)

6. CONCLUSION

6.1 Findings

The findings of this analysis of the potential social and economic effects of the proposed Burrundulla Mini Sustainable Energy Park are as follows:

Accommodation

Based on an occupancy rate of 67.3% the impact on available short-term accommodation, as listed in a tourism profile issued by Destination NSW and on a tourism website for the Mid-Western region, would be modest and welcomed by tourism accommodation operators. There are 1,455 occupied private dwellings being rented some of which may be available for a lease period of three to six months. The 525 unoccupied private dwellings recorded in the Census may also provide short-term accommodation through the unregulated market exemplified by AirBnB and StayZ. There would also be additional business generated by incoming workers for local retailers, food and drink premises and entertainment providers.

Social cohesion

There may be short-term social impacts as the development of a source of renewable energy can be a divisive issue within the community, reflecting diverse attitudes about the broader issue of responding to climate change across the nation. However, resilient communities demonstrate adaption to and acceptance of change. It is expected that over the longer term the Mudgee community will embrace the positive contribution of the solar farm to the local economy.

Amenity

The impact of the proposed Burrundulla Mini Sustainable Energy Park on landscape character has been assessed to be low-moderate ranging to high-moderate. Given the character of the area, proposed screening of the facility with native vegetation, proximity to the urban area of Mudgee and the commercial and industrial uses visible on the approach to town it is expected that acceptance of the solar farm will occur within a relatively short space of time following completion of works.

Construction of the solar farm is not expected to cause any major long-term effects to the surrounding road network due to the need for minimal regular maintenance by a small number of staff. Construction traffic appropriately managed with a bus service for workers and out of peak hour deliveries to the site, combined with the construction of an appropriate site entry will ensure traffic impacts are minimised during the construction phase of the project.

It is expected that construction noise levels have the potential to exceed relevant construction noise management levels at some receptor locations when works are nearest to those locations. The exceedance would be temporary and of short duration. Construction noise will be reduced or possibly inaudible due to the masking noise from the Castlereagh Highway at some of these receptors. Operational noise predictions identify that relevant noise criteria would be satisfied at all receivers. The noise assessment demonstrates that road noise criteria will be satisfied at all receivers on the proposed transport route.

The use of machinery during construction has the potential to generate dust emissions which may be exacerbated by wind over an exposed ground surface. However, the construction of the solar farm will not involve extensive earthworks and only excavation for footings for the array framework, cabling and ancillary structures will be carried out. Along with the delivery of materials using heavy vehicles, construction works may generate dust, however, once operational the change of use of the land from agricultural to solar photovoltaic electricity generation is expected to reduce particulate emissions and lead to an improvement in local air quality. Vehicle movements would be restricted to internal access roads and the majority of the site would be revegetated with grasses.

According to ARPANSA, there is no established evidence of health effects from exposure to electric and magnetic fields from powerlines, substations, transformers or other electrical sources, regardless of the proximity, causes any health effects. The location of the solar farm and the distance separation between nearby dwellings and the site mean that any impacts on health are mitigated.

Employment and expenditure

50 personnel are expected to be directly involved in construction on site which is expected to take approximately six months. Varying levels of expertise will be required ranging from labourers to qualified electricians and project managers. The development will bring direct economic benefits to the local economy through wages and salaries and indirect benefits through the need for accommodation, retail goods and sustenance in the area for non-local employees. Flow-on effects would include rent payed for short-term or rental lease accommodation of construction workers, heavy vehicle firms with staff to load and deliver materials to the development site, and food and drink premises to provide sustenance to workers. Once operational the site will be unmanned, however, two to three personnel will be necessary to carry out maintenance every quarter or as required. Technicians, tradesmen, machinery operators and labourers make up over 30% of the workforce of Mudgee enabling most if not all workers to be sourced locally.

Change of use

Any loss of agricultural land would be minimal and temporary. Alternatively, the land may be used for ongoing agricultural operations including the grazing of sheep or the production of crops or flowers amongst

panel arrays. The income derived by the land owner through leasing a portion of land for energy production can be put to improvements elsewhere that serve to increase agricultural production.

Land values

Comparative analysis studies carried out in the US have concluded that there is no measurable difference in sales values, demand or marketing periods for dwellings located in close proximity to solar farms when compared to dwellings located in similar locations adjacent alternative uses such as agriculture or residential. Subject to compliance with recommended measures to mitigate adverse impacts on local amenity there is not expected to be any negative effects on the values of properties located adjacent or in close proximity to the Burrundulla Mini Sustainable Energy Park.

In summary, the development of Burrundulla Mini Sustainable Energy Park will contribute to the local and regional economy and the community through direct and indirect employment and expenditure over the short term and through the benefits that renewable energy power supply will bring to the nation. The solar farm will contribute to the electricity grid in a sustainable manner that reduces greenhouse gas emissions and will assist the transition of our economy from reliance on fossil fuels to renewable sources to decarbonise electricity production in line with Commonwealth and NSW Government targets.

6.2 Recommendations

The following recommendations are made to mitigate any adverse social and economic impacts:

- Labour to construct and operate the solar farm be sourced from within Mid-Western Regional area wherever possible. Advertisements should be placed in local print media to gauge interest in employment,

- Goods and services, such as oils, portable water and effluent facilities, and transport of equipment, required to construct and operate the solar farm should be sourced locally wherever possible,

- Construction be carried out during the off-peak or shoulder tourist season to prevent any potential shortage in short term accommodation,

- Information about the benefits of renewable energy, and in particular solar farms, be disseminated in Mid-Western Regional area through print media,

- Opportunities to continue livestock grazing of the development area once the solar farm is operational be investigated, and

- Mitigation measures identified in the Statement of Environmental Effects in relation to amenity impacts be implemented.

MUDGEE
LOCAL ABORIGINAL LAND COUNCIL

Allen Grimwood
PO BOX 591
Moruya NSW 2537

5/8/19

RE: Clearance Letter – For 3b Sydney Road Mudgee, NSW 2850

Dear Allen,

On behalf of the Mudgee LALC I would like to thank you for consulting with us regarding your proposed development of a Solar farm on 3B Sydney Road Mudgee NSW 2850.
Lot 6 DP 1069441

Following a review of the Aboriginal Cultural Heritage Assessments previously conducted in the vicinity we can advise you that whilst there are Aboriginal sites recorded nearby there are none identified as being potentially impacted by your development.

The Mudgee Local Aboriginal Land Council has no problem with the development proceeding.

If you have any queries or require any further assistance please do not hesitate to contact our office.

Yours Sincerely,

Tony Lonsdale
CEO
Mudgee LALC

Mudgee Local Aboriginal Land Council
PO Box 1098, Mudgee NSW 2850
Ph: 0263723511 Fax: 0263723522
Email: mudgeelalc@bigpond.com
ABN: 54 927 738 589

ITP Renewables
Consulting | Engineering | Implementation

11 October 2019

Kayla Robson,

RE: Roads and Maritime have the following comments for Council's consideration in response to DA0288/2019

We can confirm that the proposed access is to be via the gate in the image provided.

We would be happy to commit to a minimum of 50% of the workforce to be bussed to and from the site to lessen the number of light vehicle movements during peak hours.

If you have any questions, please feel free to contact me directly on 0403 520 690.

Yours sincerely,

Mishka Talent

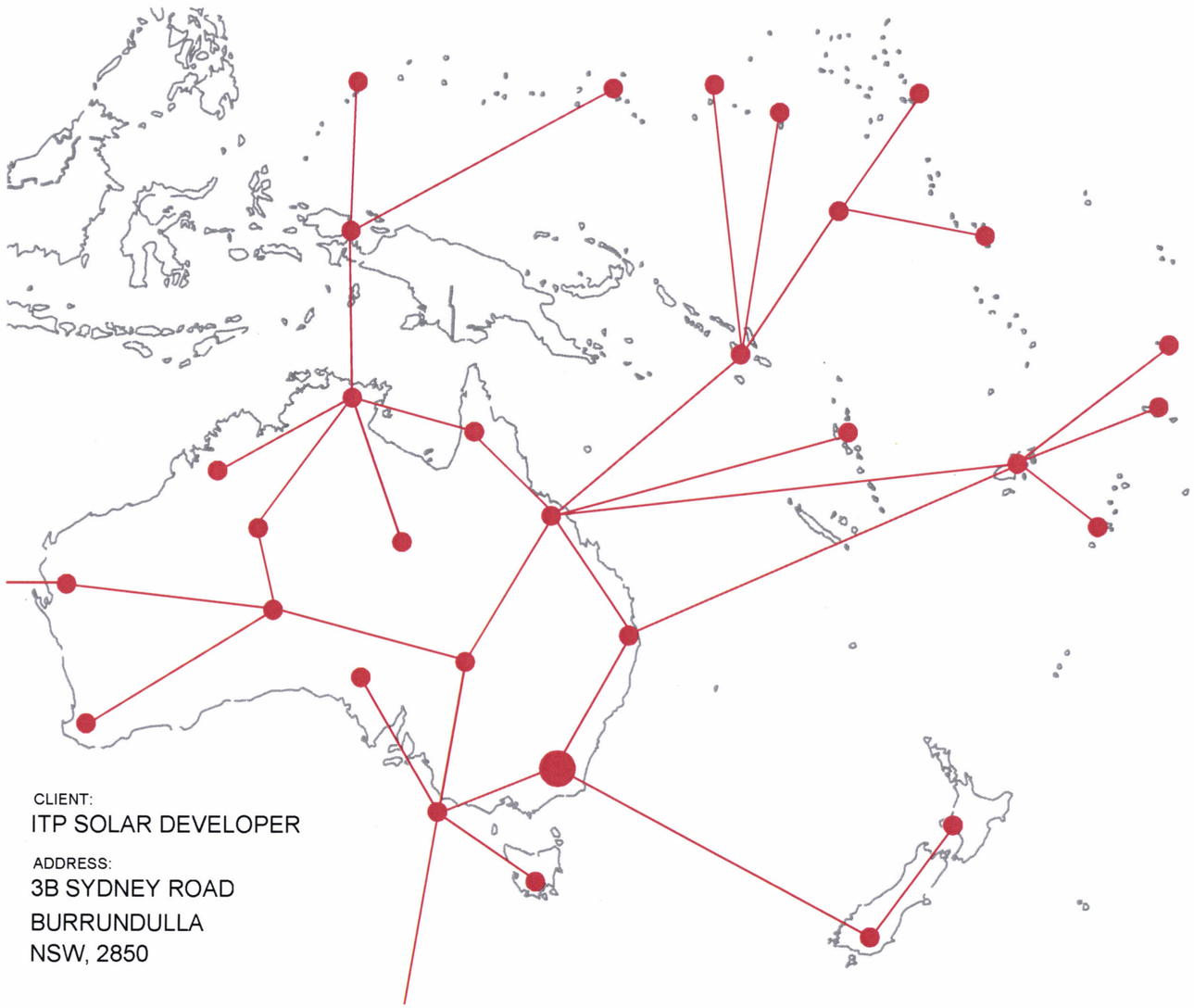
Development Portfolio Manager

Level 1, 19-23 Moore St, Turner ACT 2612
PO Box 6127, O'Connor ACT 2602
info@itpau.com.au
itpau.com.au

abn 42 107 351 673
p +61 (0) 2 6257 3511
f +61 (0) 2 6257 6511
IT Power (Australia)

BURRUNDULLA MINI SUSTAINABLE ENERGY PARK

MUD3C - **DEVELOPMENT APPLICATION**



CLIENT:
ITP SOLAR DEVELOPER

ADDRESS:
3B SYDNEY ROAD
BURRUNDULLA
NSW, 2850

SHEET LIST

SHEET NUMBER	SHEET NAME
G-010	TITLE SHEET
G-040	LOCATION PLAN
G-210	GENERAL ARRANGEMENT PLAN
C-130	SITE ELEVATION
C-430	TYPICAL INVERTER FOOTINGS DETAIL
C-530	TYPICAL FENCE DETAIL
C-630	TYPICAL ROAD DETAIL
E-341	TYPICAL NEXTRACKER ARRAY DETAIL
E-430	TYPICAL INVERTER STATION DETAIL

itp
RENEWABLES

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PO Box 6127, O'Connor ACT 2602
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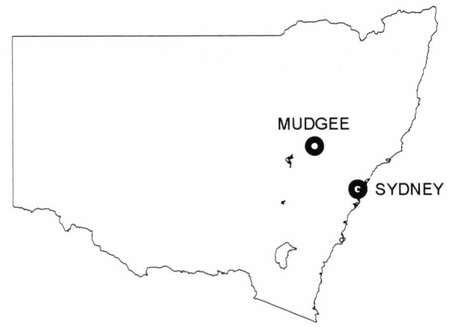
IT Power (Australia)

1 - LOCATION MAP

SCALE: 1:100,000



2 - NSW STATE MAP

SCALE: N.T.S.

3 - LOCATION PLAN

SCALE: 1:12,500

DEVELOPMENT APPLICATION

NO.	STAGE	DATE
1	ISSUE FOR DA APPROVAL	13/06/19
2	----	----
3	----	----
4	----	----
5	----	----
6	----	----

NOTES

PARTNERS

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P. +61 2 6257 3511
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PO BOX 6217
O'CONNOR, ACT 2602
AUSTRALIA

DRAWN NAL, WJ
CHECKED LF
APPROVED KB

DO NOT SCALE.
ALL MEASUREMENTS IN MM UNLESS OTHERWISE STATED.

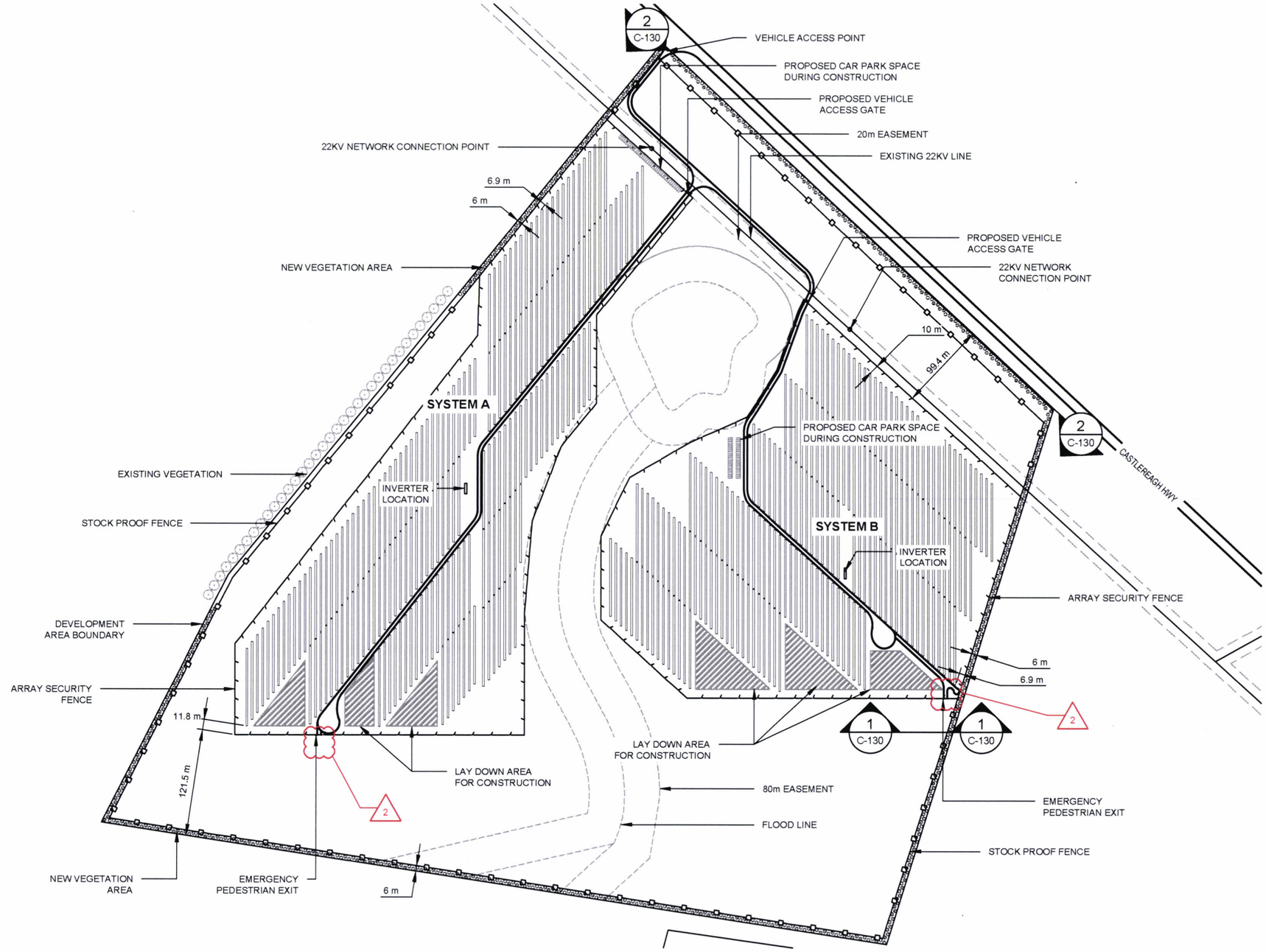
DRAWING: **LOCATION PLAN**

PROJECT: BURRUNDULLA MINI SUSTAINABLE ENERGY PARK
CLIENT: ITP SOLAR DEVELOPER
ADDRESS: 3B SYDNEY ROAD
BURRUNDULLA, NSW, 2850

SCALE: AS NOTED
SHEET SIZE: A3
ORIG. DATE: 22/5/19
REV. DATE: 11/10/19

DRAWING NO: **MUD3C-G-040**
REV NO: **1**

G:\ITP Solar Farm Development\A5000 Engineering team\6 Site-specific work\MUD3C Mudgee 3C\4 System design\4 01 CAD\G-040 LOCATION PLAN.dwg, PLOTTED BY WOOKYEUNG JOE AT 11/10/2019 12:35 PM



1 - GENERAL ARRANGEMENT PLAN

SCALE: 1:5000

SITE INFORMATION

LOT / DP	6 / 1069441
ADDRESS	3B SYDNEY ROAD, BURRUNDULLA, NSW, 2850
LGA	MID-WESTERN REGIONAL COUNCIL
LAT / LONG	-32.6337, 149.625628
ELEVATION	454 m
LOT AREA	63.8 ha
FENCED AREA	27 ha (A:12.7 ha, B: 14.2 ha)
DNSP	ESSENTIAL ENERGY

SYSTEM INFORMATION

DC CAPACITY	6.048 MW
AC CAPACITY	5.0 MW
DC/AC RATIO	1.21
INVERTERS	1 INVERTER STATION WITH 2 X 2.5 MW PER SYSTEM
MOUNTING	SINGLE AXIS TRACKER (1V)
MODULE CAPACITY	385 W - 72 CELL MONO (1500 V)
STRING CONFIGURATION	28 MODULES PER STRING
TRACKER	3 STRINGS, 88 m
NO. TRACKERS	187 TRACKERS
TRACKER SPACING (N-S)	1 m
ARRAY PITCH	6 m
SPECIFIC YIELD	2146 kWh/kWp/year
ANNUAL GENERATION	12.97 GWh
CONNECTION VOLTAGE	22 kV
CONNECTION FEEDER	ESSENTIAL ENERGY MUD62
CONNECTION SUBSTATION	ESSENTIAL ENERGY MUDGEE
SECURITY FENCE SETBACK	MIN. 6 m FROM DEVELOPMENT AREA BOUNDARY
ARRAY SETBACK	MIN. 7 m FROM SECURITY FENCE
ACCESS ROAD WIDTH	6 m

NOTE: SYSTEM INFORMATION IS THE SAME FOR SYSTEM A AND SYSTEM B.

DEVELOPMENT APPLICATION

NO	STAGE	DATE
1	ISSUE FOR DA APPROVAL	13/06/19
2	UPDATED EMERGENCY EXIT	11/10/19
3	----	----
4	----	----
5	----	----
6	----	----

NOTES

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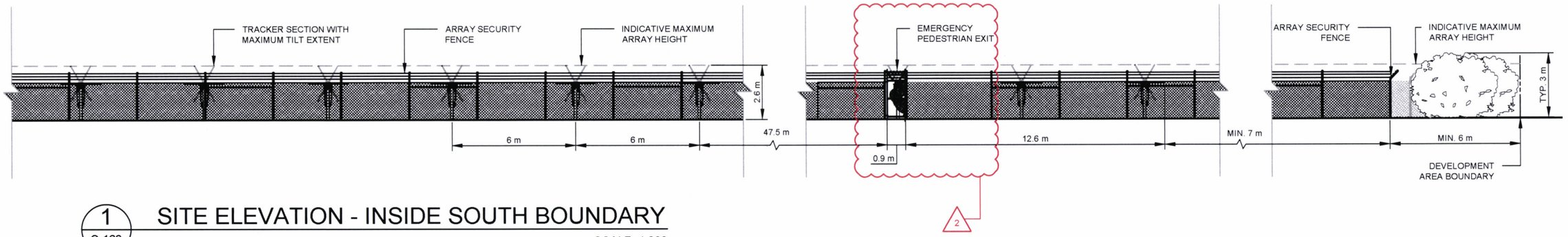
DRAWN	WJ, NAL
CHECKED	LF
APPROVED	KB

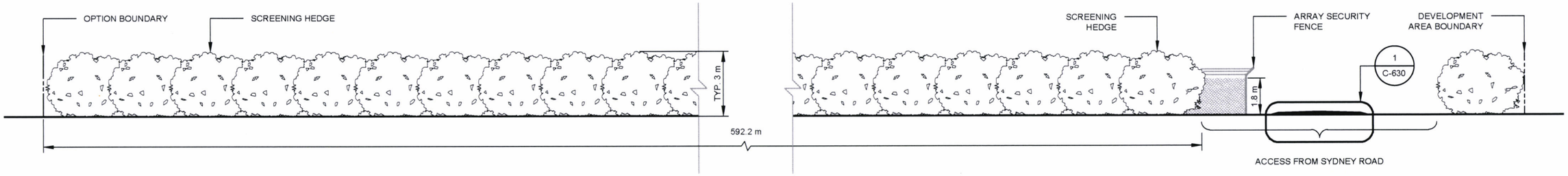
DO NOT SCALE.
ALL MEASUREMENTS IN MM UNLESS OTHERWISE STATED.

DRAWING	**GENERAL ARRANGEMENT** ----
PROJECT	BURRUNDULLA MINI SUSTAINABLE ENERGY PARK
CLIENT	ITP SOLAR DEVELOPER
ADDRESS	3B SYDNEY ROAD BURRUNDULLA, NSW, 2850
DRAWING NO	**MUD3C-G-210**
SCALE	AS NOTED
SHEET SIZE	A3
ORIG. DATE	17/5/19
REV. DATE	11/10/19
REV NO	**2**



1 C-130 SITE ELEVATION - INSIDE SOUTH BOUNDARY

SCALE: 1:200



2 C-130 SITE ELEVATION - SYDNEY ROAD FRONTAGE

SCALE: 1:200

DEVELOPMENT APPLICATION

NO.	STAGE	DATE
1	ISSUE FOR DA APPROVAL	13/06/19
2	UPDATED EMERGENCY EXIT	11/10/19
3	----	----
4	----	----
5	----	----
6	----	----

NOTES

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CHECKED LF
APPROVED KB

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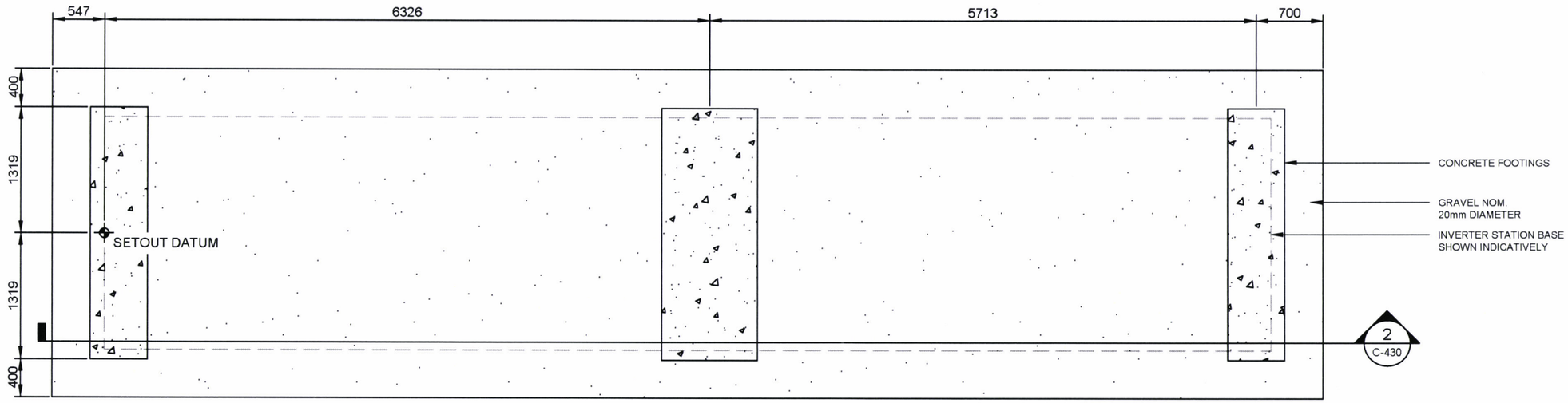
DRAWING **SITE ELEVATION**

PROJECT BURRUNDULLA MINI SUSTAINABLE ENERGY PARK
CLIENT ITP SOLAR DEVELOPER
ADDRESS 3B SYDNEY ROAD
BURRUNDULLA, NSW, 2850

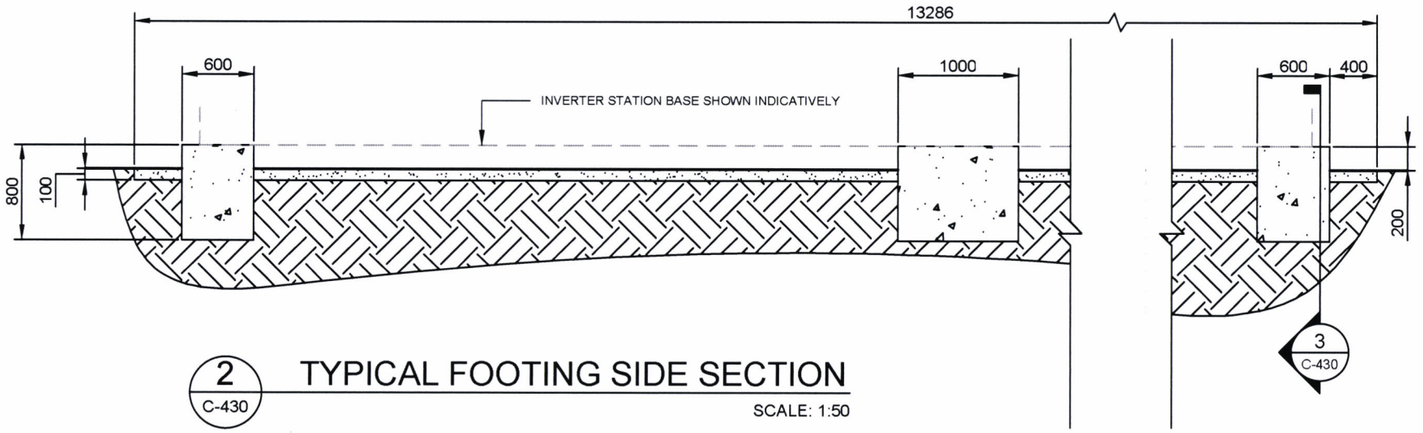
SCALE AS NOTED
SHEET SIZE A3
ORIG. DATE 23/5/19
REV. DATE 11/10/19

DRAWING NO. **MUD3C-C-130**
REV NO. **2**



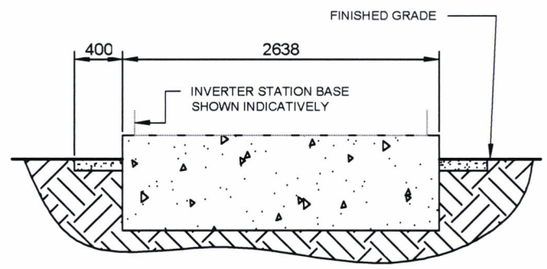
1 C-430 **TYPICAL FOOTING PLAN**

SCALE: 1:50



2 C-430 **TYPICAL FOOTING SIDE SECTION**

SCALE: 1:50



3 C-430 **TYPICAL FOOTING END SECTION**

SCALE: 1:50

DEVELOPMENT APPLICATION

NO	STAGE	DATE
1	ISSUE FOR DA APPROVAL	13/06/19
2	----	----
3	----	----
4	----	----
5	----	----
6	----	----

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APPROVED LF

DO NOT SCALE.
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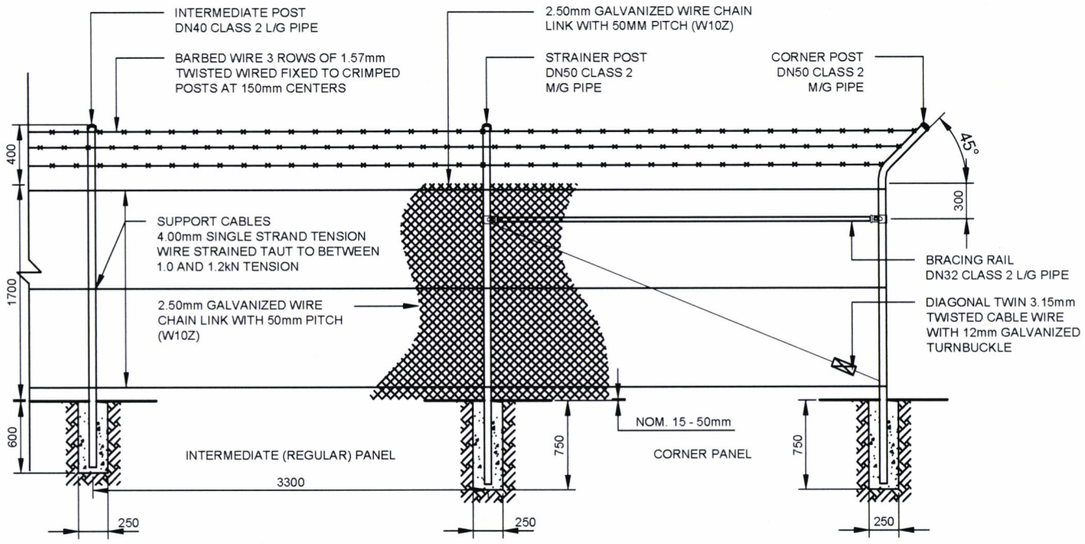
DRAWING **TYPICAL INVERTER FOOTINGS DETAIL**

PROJECT BURRUNDULLA MINI SUSTAINABLE ENERGY PARK
CLIENT ITP SOLAR DEVELOPER
ADDRESS 3B SYDNEY ROAD
BURRUNDULLA, NSW, 2850

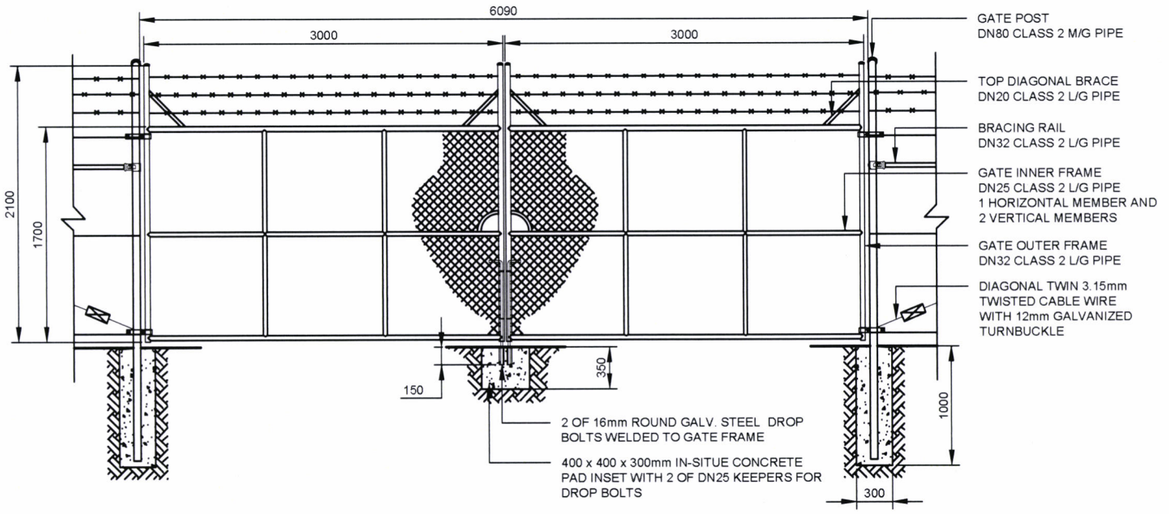
SCALE AS NOTED
SHEET SIZE A3
ORIG. DATE 22/5/19
REV. DATE 11/10/19

DRAWING NO **MUD3C-C-430**
REV NO **1**



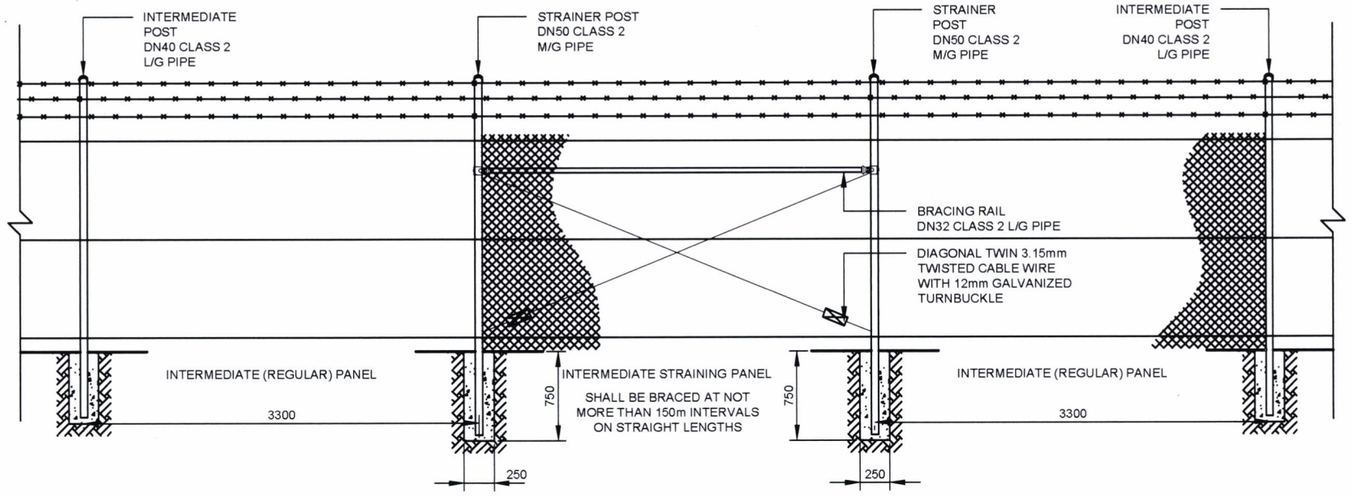
1 - TYPICAL FENCE SECTION

SCALE: 1:50



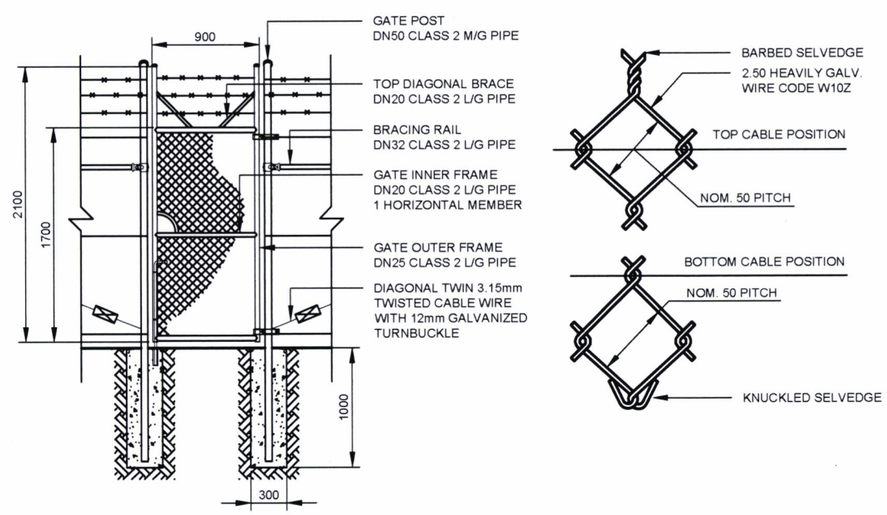
3 - DOUBLE LEAF 6 METER GATE SECTION

SCALE: 1:50



2 - INTERMEDIATE STRAINING PANEL FENCE SECTION

SCALE: 1:50



4 - SINGLE LEAF GATE SECTION

SCALE: 1:50

DEVELOPMENT APPLICATION

NO	STAGE	DATE
1	ISSUE FOR DA APPROVAL	13/06/19
2	----	----
3	----	----
4	----	----
5	----	----
6	----	----

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APPROVED LF

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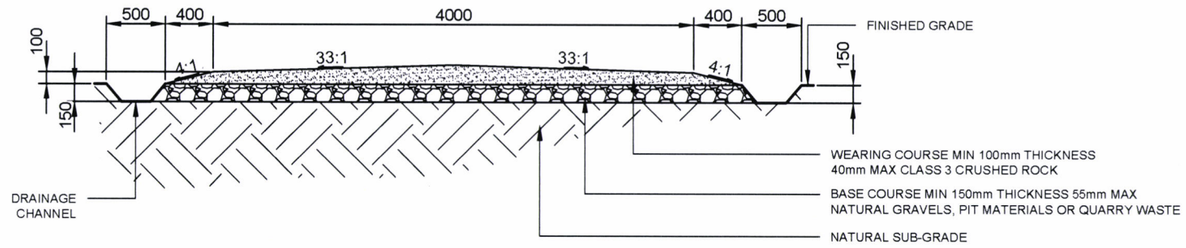
DRAWING: **TYPICAL FENCING DETAIL**

PROJECT: BURRUNDULLA MINI SUSTAINABLE ENERGY PARK
CLIENT: ITP SOLAR DEVELOPER
ADDRESS: 3B SYDNEY ROAD BURRUNDULLA, NSW, 2850

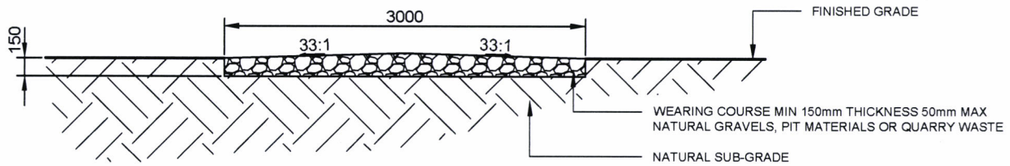
SCALE: AS NOTED
SHEET SIZE: A3
ORIG. DATE: 22/5/19
REV. DATE: 11/10/19

DRAWING NO: **MUD3C-C-530**
REV NO: **1**



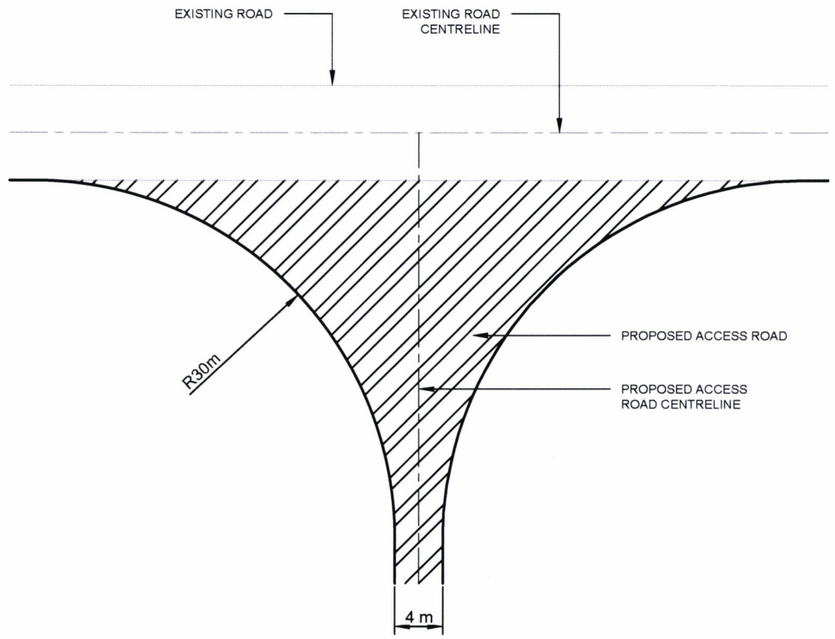
1 - CROSS SECTION - PRIMARY ROAD

SCALE: 1:50



2 - CROSS SECTION - SECONDARY ROAD

SCALE: 1:50



3 - TYPICAL TURNING DETAIL PLAN

SCALE: 1:500

DEVELOPMENT APPLICATION

NO.	STAGE	DATE
1	ISSUE FOR DA APPROVAL	13/06/19
2	----	----
3	----	----
4	----	----
5	----	----
6	----	----

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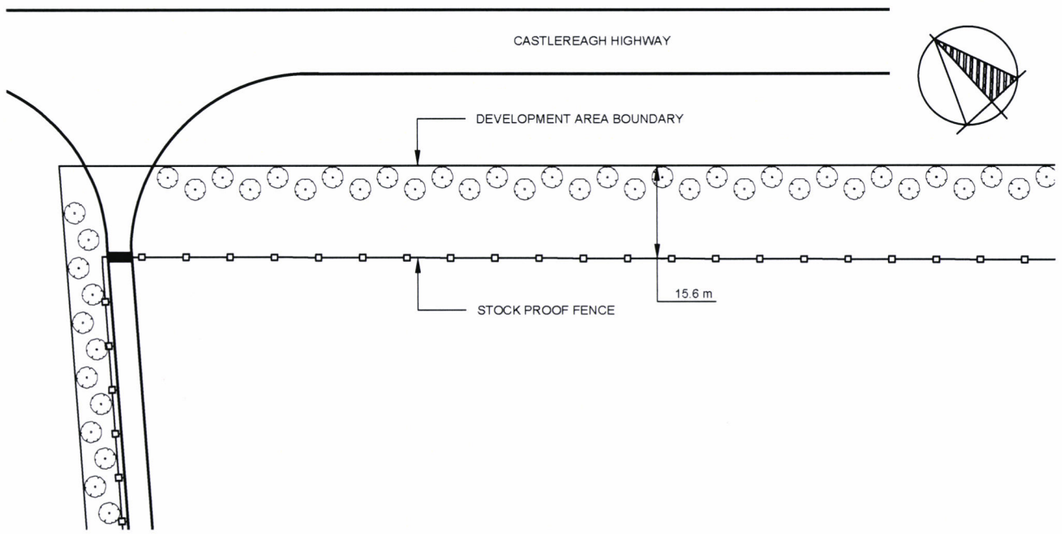
DRAWN	NAL, WJ
CHECKED	LF
APPROVED	LF

DO NOT SCALE.
ALL MEASUREMENTS IN MM UNLESS OTHERWISE STATED

DRAWING: **TYPICAL ROAD DETAIL**

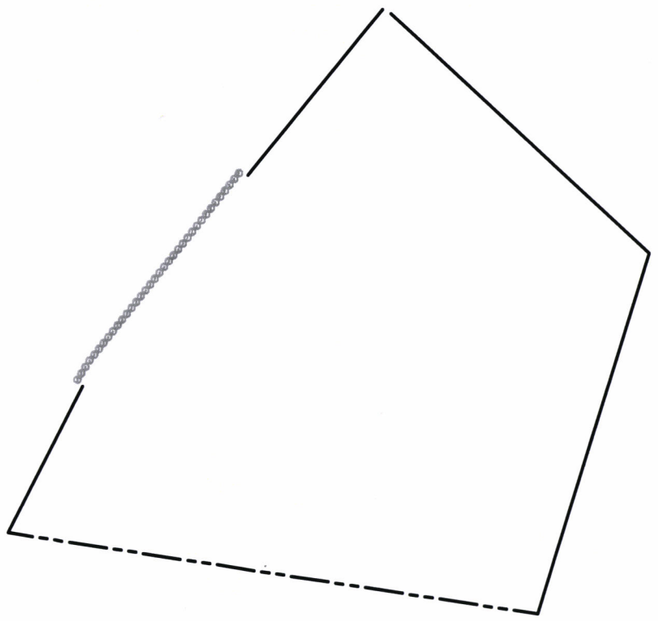
PROJECT	BURRUNDULLA MINI SUSTAINABLE ENERGY PARK
CLIENT	ITP SOLAR DEVELOPER
ADDRESS	3B SYDNEY ROAD BURRUNDULLA, NSW, 2850

SCALE	AS NOTED
SHEET SIZE	A3
ORIG. DATE	22/5/19
REV. DATE	11/10/19
DRAWING NO.	MUD3C-C-630
REV NO.	1



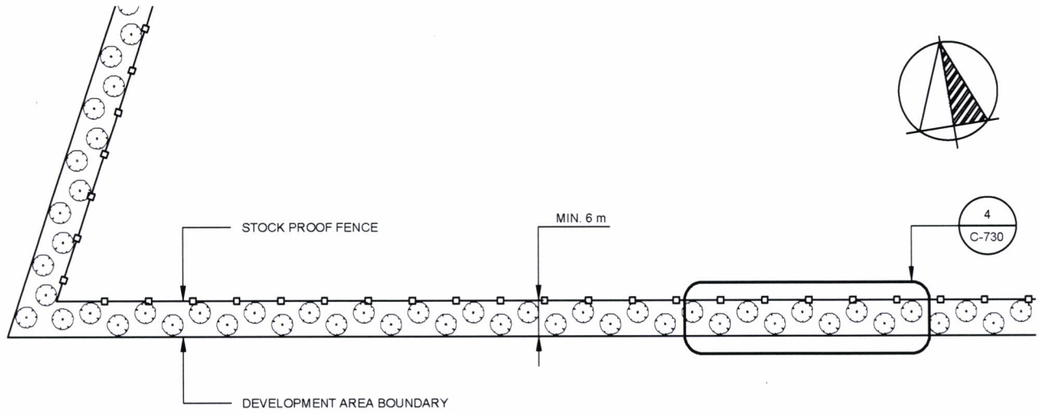
1 C-730 PARTIAL LANDSCAPE PLAN - NORTH BOUNDARY

SCALE: 1:1000



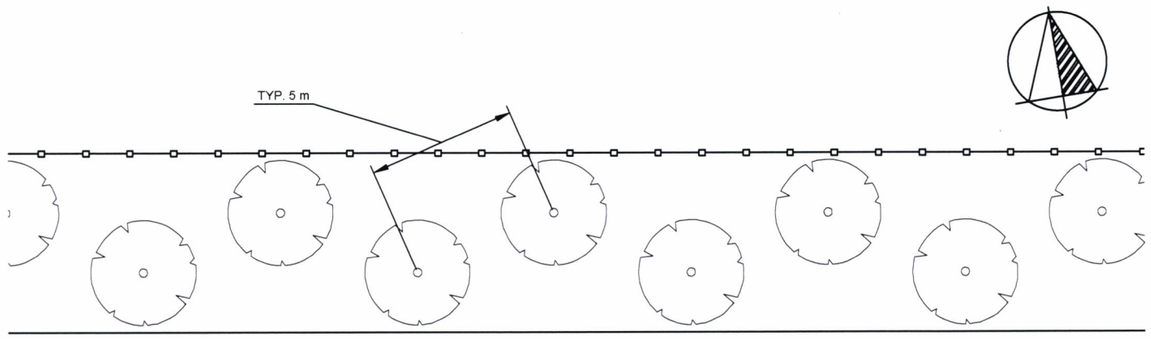
2 C-730 KEY PLAN

SCALE: 1:10,000



3 C-730 PARTIAL LANDSCAPE PLAN - SOUTH BOUNDARY

SCALE: 1:1000



PLANTING SCHEDULE

KEY PLAN SYMBOL	INDICATIVE VEGETATION TYPE	PLANT SPACING	MAX. HEIGHT	NO. PLANTS
	EXISTING	-	-	-
	ACACIA AND GREVILLEAS	5 m	3 m	405
	YELLOW BOX AND WHITE BOX EUCALYPTS	5 m	15 m	195

4 C-730 LANDSCAPE DETAIL

SCALE: 1:200

DEVELOPMENT APPLICATION

NO.	STAGE	DATE
1	ISSUE FOR DA APPROVAL	13/06/19
2	----	----
3	----	----
4	----	----
5	----	----
6	----	----

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AUSTRALIA

DRAWN: NAL, WJ
CHECKED: LF
APPROVED: KB

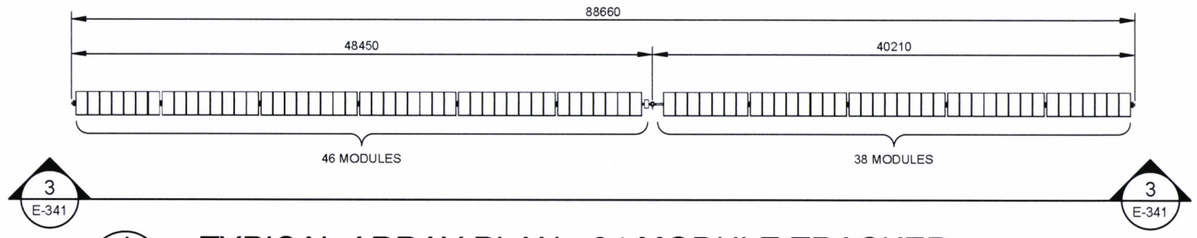
DO NOT SCALE.
ALL MEASUREMENTS IN MM UNLESS OTHERWISE STATED.

DRAWING: **LANDSCAPE PLAN**

PROJECT: BURRUNDULLA MINI SUSTAINABLE ENERGY PARK
CLIENT: ITP SOLAR DEVELOPER
ADDRESS: 3B SYDNEY ROAD BURRUNDULLA, NSW, 2850

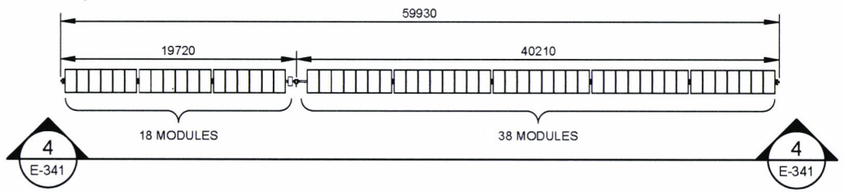
DRAWING NO: **MUD3C-C-730**

SCALE: AS NOTED
SHEET SIZE: A3
ORIG. DATE: 12/6/19
REV. DATE: 11/10/19
REV NO: 1



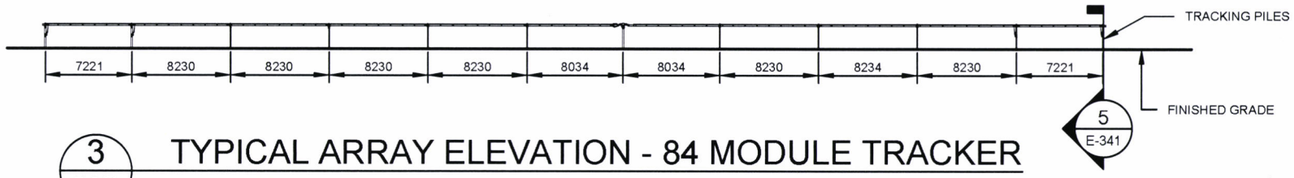
1 E-341 TYPICAL ARRAY PLAN - 84 MODULE TRACKER

SCALE: 1:500



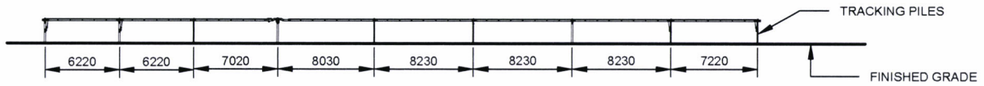
2 E-341 TYPICAL ARRAY PLAN - 56 MODULE TRACKER

SCALE: 1:500



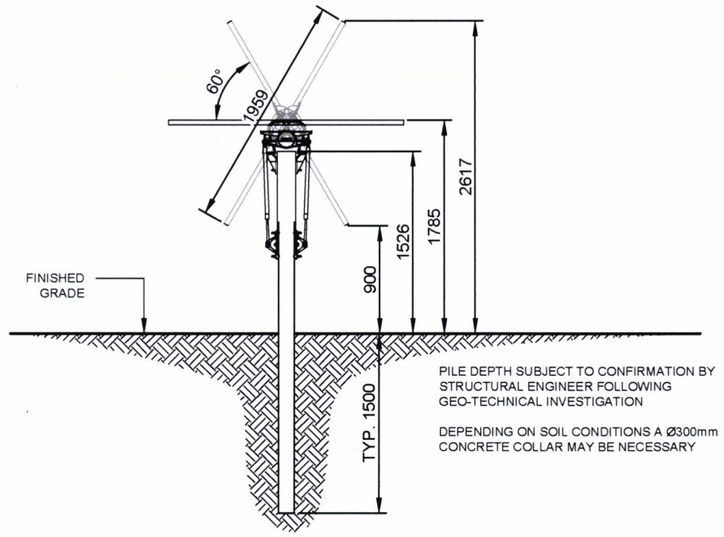
3 E-341 TYPICAL ARRAY ELEVATION - 84 MODULE TRACKER

SCALE: 1:500



4 E-341 TYPICAL ARRAY ELEVATION - 56 MODULE TRACKER

SCALE: 1:500



5 E-341 TYPICAL ARRAY SECTION

SCALE: 1:50

DEVELOPMENT APPLICATION

NO.	STAGE	DATE
1	ISSUE FOR DA APPROVAL	13/06/19
2	----	----
3	----	----
4	----	----
5	----	----
6	----	----

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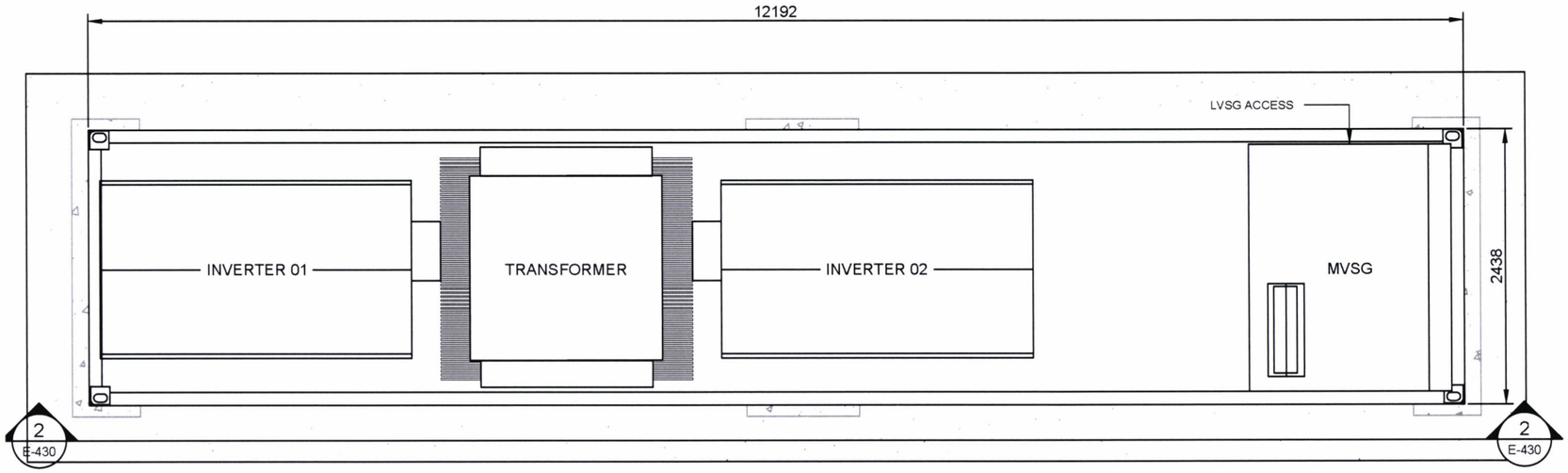
DRAWN NAL, WJ
CHECKED LF
APPROVED LF

DRAWING **TYPICAL NEXTRACKER ARRAY DETAIL**

PROJECT BURRUNDULLA MINI SUSTAINABLE ENERGY PARK
CLIENT ITP SOLAR DEVELOPER
ADDRESS 3B SYDNEY ROAD BURRUNDULLA, NSW, 2850

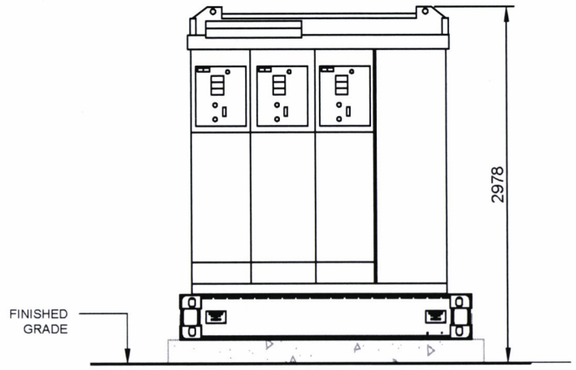
DRAWING NO. **MUD3C-E-341**

SCALE AS NOTED
SHEET SIZE A3
ORIG. DATE 22/5/19
REV. DATE 11/10/19
REV NO. 1



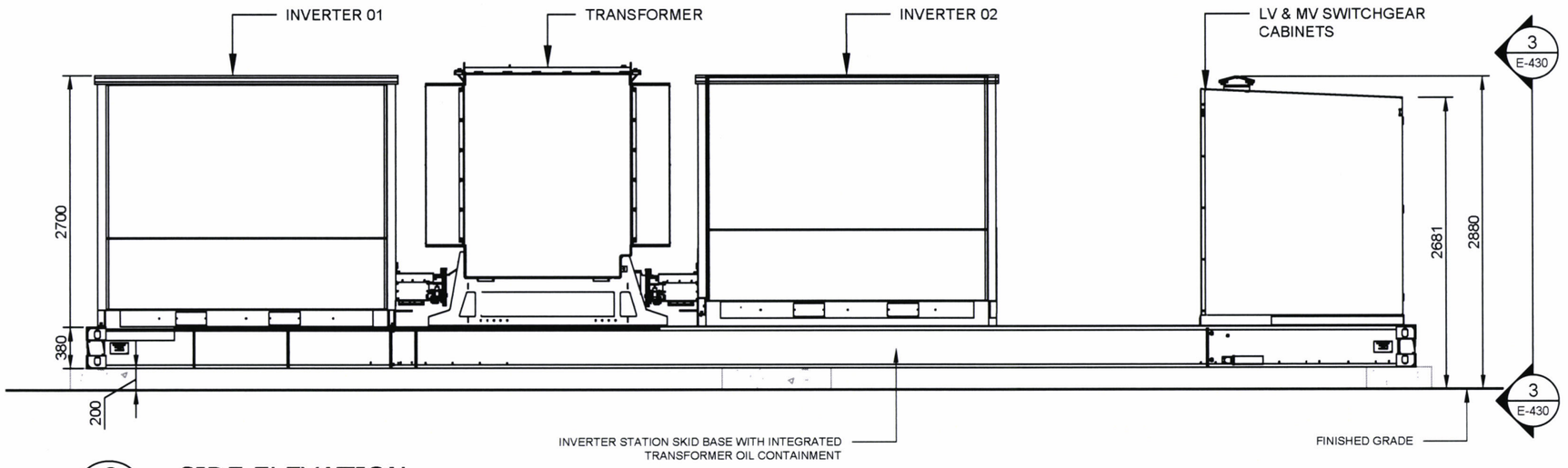
1 E-430 **PLAN VIEW**

SCALE: 1:50



3 E-430 **END ELEVATION**

SCALE: 1:50



2 E-430 **SIDE ELEVATION**

SCALE: 1:50

DEVELOPMENT APPLICATION

NO	STAGE	DATE
1	ISSUE FOR DA APPROVAL	13/06/19
2	----	----
3	----	----
4	----	----
5	----	----
6	----	----

NOTES

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AUSTRALIA

DRAWN: NAL
CHECKED: LF
APPROVED: LF

DO NOT SCALE.
ALL MEASUREMENTS IN MM UNLESS OTHERWISE STATED

DRAWING: **TYPICAL INVERTER STATION DETAIL**

PROJECT: BURRUNDULLA MINI SUSTAINABLE ENERGY PARK
CLIENT: ITP SOLAR DEVELOPER
ADDRESS: 3B SYDNEY ROAD
BURRUNDULLA, NSW, 2850

SCALE: AS NOTED
SHEET SIZE: A3
ORIG. DATE: 22/5/19
REV. DATE: 11/10/19

DRAWING NO: **MUD3C-E-430**
REV NO: **1**