Part	Matter	Applicability to this Development Application	Prohibited Development	Assessable Development	Referral Agency	Assessment Benchmarks / Matters to be assessed against
5	Environmentally Relevant Activity	N/A	N/A	N/A	N/A	N/A
6	Fisheries: - Aquaculture - Declared Fish Habitat - Marine Plants - Waterway Barrier works	 N/A N/A N/A N/A		N/A	N/A	N/A
7	Hazardous Chemical Facilities	N/A		N/A	N/A	N/A
8	Heritage Place: - Local Heritage Place - Queensland Heritage Place	N/A		N/A	N/A	N/A
9	Infrastructure Related: - Designated Premises - Electricity - Oil and Gas - State Transport Generally - State Transport Corridors and Future State Transport Corridors - State-controlled transport tunnels and future state-controlled transport tunnels	 N/A N/A N/A N/A N/A N/A			N/A Powerlink Ergon Energy	N/A Advice Agency response.
10	Koala Habitat in SEQ region	N/A	N/A	N/A	N/A	N/A
11	Noise Sensitive Place on Noise Attenuation land	N/A	N/A			
12	Operational Work for Reconfiguring a Lot	N/A		N/A		N/A
13	Ports: - Brisbane Core Port Land - Within the port limits of the Port of Brisbane - Within the limits of another port	 N/A N/A N/A		N/A		N/A

Part	Matter	Applicability to this Development Application	Prohibited Development	Assessable Development	Referral Agency	Assessment Benchmarks / Matters to be assessed against
	- Priority Ports - Strategic Port Land	N/A N/A				
14	Reconfiguring a Lot under the Land Title Act	N/A		N/A		N/A
15	SEQ Development Area	N/A		N/A	N/A	N/A
16	SEQ Regional Landscape and Rural Production Area and Rural Living Area: - Reconfiguring a Lot - Tourist or sport and recreation activity - Community Activity - Indoor Recreation - Residential Development - Urban Activity - Combined Uses	 N/A N/A N/A N/A N/A N/A N/A	N/A	N/A	N/A	N/A
16A	Southport Spit	N/A	N/A			
17	Tidal Works or Work in a Coastal Management District	N/A		N/A	N/A	N/A
18	Urban Design	N/A			N/A	N/A
19	Water Related Development: - Taking or interfering with water - Removing quarry material - Referral dams - Levees	 N/A N/A N/A N/A N/A		N/A	N/A	N/A
20	Wetland Protection Area	N/A	N/A	N/A	N/A	N/A
21	Wind Farms	N/A		N/A		N/A

Based on the findings in **Table 3**, it has been concluded that the application required referral to Powerlink and Ergon as advice agencies.

4.3. STATE PLANNING POLICY

The State Planning Policy (July 2017) (SPP) commenced on the 3 July 2017 and is effective at the time of writing this report. The Planning Regulation 2017 (PR 2017) states the assessment must be carried out against the assessment benchmarks stated in Part E of the State Planning Policy to the extent Part E is not appropriately integrated into the planning scheme.

In accordance with section (8)(4)(a) of the Act, the State Planning Policy applies to the extent of any inconsistency with the Planning Scheme.

State Planning Policy Part E	
Liveable communities and housing	Not Applicable
Economic growth • Agriculture. • Development and construction. • Mining and extractive resources. • Tourism.	Was determined to be adequately represented in the South Burnett Regional Planning Scheme 2017 v1.4 in this instance.
Planning for the environment and heritage. • Biodiversity. • Coastal environment. • Cultural heritage. • Water quality	Was determined to be adequately represented in the South Burnett Regional Planning Scheme 2017 v1.4 in this instance.
Safety and resilience to hazards • Emissions and hazardous activities. • Natural hazards, risk, and resilience.	Was determined to be adequately represented in the South Burnett Regional Planning Scheme 2017 v1.4 in this instance.
Infrastructure • Energy and water supply. • Infrastructure integration. • Transport infrastructure. • Strategic airports and aviation facilities. • Strategic ports.	The proposed development site is ideally located for regional transmission of bulk electricity to distributors/retailers however, South Burnett Regional Planning Scheme 2017 v1.4 zone intent (and overlays) as applied to the site are inconsistent with State Planning objectives requiring provision of installed generation and distribution of electricity. Assessment of matters regarding State Planning Policy 2017 – Infrastructure (energy and water supply) is provided in response to 'Relevant Matters' section of this report.

4.4. PLANNING SCHEME ASSESSMENT

Pursuant to Section 5.5 – Table 5.5.13 - Level of Assessment in the Rural Zone, an application for Material Change of Use for *Renewable energy facility (Tumurru Solar Farm) and Major electricity*

infrastructure (Battery energy storage system) is subject to Impact Assessment as it is not a listed use under the table. The relevant assessment benchmarks are:

- Strategic Framework;
- Rural Zone Code;
- Rural Residential Code; and
- Services and Works Code.

Strategic Framework

An assessment of the proposed development against the relevant themes included under the Strategic Framework is included below.

Part 3 Strategic Framework **3.1 Preliminary**	
(1) The strategic framework sets the policy direction for the planning scheme and forms the basis for ensuring appropriate development occurs in the planning scheme area for the life of the planning scheme. (2) Mapping for the strategic framework is included in Schedule 2. (3) For the purpose of describing the policy direction for the planning scheme, the strategic framework is structured in the following way: (a) the strategic intent; (b) the following six themes that collectively represent the policy intent of the scheme: (i) Settlement pattern; (ii) Rural futures; (iii) Strong economy; (iv) Natural systems and sustainability; (v) Strong communities; (vi) Infrastructure and servicing; (c) the strategic outcome(s) sought for development in the planning scheme area for each theme; (d) the specific outcomes sought for each or a number of elements. (4) Although each theme has its own section, the strategic framework in its entirety represents the policy intent for the planning scheme	3.1 – All aspects of the South Burnett Regional Planning Scheme 2017 v1.4 'Strategic Framework' were reviewed and responded to in the following way: 1) Commentary provided where considered to have relevance or 2) Stated as Not Applicable to this proposed development.
3.2 Settlement Pattern **Context**	
With a strong agricultural heritage, based on animal and crop production, the South Burnett Region has a resilient economy. It offers its	3.2 - The proposed solar farm does not affect assumptions made in Part 3.2 Context. The

residents a diverse range of lifestyle choices set in a rural environment. In its Community Plan, local residents summarised their aspirations in the statement "we want to be a major regional centre with a country lifestyle atmosphere". In effect, this means Kingaroy is to grow into the Region's major regional centre while the balance of the Region relies on that as support for rural pursuits and lifestyles that include smaller villages, and areas of rural residential development.	site is likely outside of the anticipated growth areas.
The Region is on the edge of the Surat Basin, a region rich in resources, notably thermal coal and coal seam gas. Strong economic growth and consequent development and population impacts are expected over the next 30 years. While the South Burnett Region is not known to contain these resources and is not directly affected by their extraction, its proximity means potential growth and as a base for industry supporting the associated extraction, development, technology and transport operations. While growth consequences would likely focus on Kingaroy – and may influence development around the airport – the Region's range of lifestyle options means impacts could be experienced across the Region.	Not applicable.
3.2 Settlement Pattern **Kingaroy**	
Kingaroy is the major regional centre of the Region and consists of the main town, surrounded by Crawford, Memerambi, Wooroolin, Taabinga, Kumbia and Coolabunia villages. It is characterised by:	
(1) The strongest population growth rate in the Region that reflects the increased level of infrastructure in the town and its proximity to Toowoomba, the Darling Downs and South East Queensland.	1. The proposed solar farm would not affect Kingaroy's role as a major regional centre.
(2) A low residential density. Most people live in houses on relatively large lots and there are opportunities to establish a more compact settlement pattern, comprising a range of low scale multiple dwellings and small lot housing, close to the town centre and other community services.	2. The site does not affect the anticipated Low Density land supply arrangements associated with Kingaroy's population growth.
(3) Rural residential development provides a legitimate lifestyle choice that is, like larger residential lots, characterises Kingaroy's values. There is a commitment toward a continuing supply of rural residential lots, though by way of consolidation, in response to need, rather than expansion. It	3. Not applicable.

	is recognised that this type of development has the capacity to erode rural production and character values. It can also create an expectation by residents for urban-type services that would create unreasonable demands on Council resources.	
(4)	A number of industrial locations. The continued concentration of larger scale and higher impact industry on the southern approaches to town is logical from the perspectives of geography and transport. It presents visual challenges in the interests of retaining an attractive transition from the rural backdrop. The protection of the on-going operations of Swickers Kingaroy Bacon Factory Pty Ltd (Swickers) the Peanut Company of Australia (PCA) and Beangrowers Australia will assist in facilitating their long-term economic benefits to the town. Small scale industrial localities throughout the town provide useful access to more frequently used services. With an ample supply of existing zoned industrial land, expansion beyond zoned areas is not preferred unless there is an overriding planning need.	4. The proposal does not affect Industrial Zoned land associated with Kingaroy nor does it affect the economic or social values associated with the town centre.
(5)	A well-defined and economically and socially valuable town centre. The town centre comprises of a comprehensive range of retail, commercial, cultural, entertainment and administrative facilities. Kingaroy Shoppingworld is the principal retail destination in the town centre and the protection of its viability is a priority. In the interests of maximising walkability, person-dependent retail and commercial activities are concentrated into a principal activity core. Opportunity exists for expansion of, and the establishment of a medical precinct focused on, the Kingaroy Hospital to provide specialist and ancillary activities. Fast food and large showroom activity has occurred along near-town stretches of the Bunya and D'Aguilar Highways, with concentrations of large retail showrooms in the Rogers Drive and River Road/Bunya Highway areas. This represents generally sound planning, and its continuation is facilitated, provided the primacy of the town centre is retained. With an ample supply of existing zoned commercial land, expansion beyond zoned areas is not preferred unless there is an overriding planning need.	5. Not applicable.
(6)	Buffers to industrial activities, particularly Swickers, are crucial to their on-going	6. Not applicable.

viability and must be protected from the encroachment of incompatible land uses.	
(7) The D'Aguilar and Bunya Highways dissecting the town. With the potential increase in heavy vehicle traffic alternative haulage routes that bypass the town centre may need to be investigated to support the town centre's function.	7. The proposal is not expected to affect or add to existing heavy vehicle haulage in and around the Kingaroy Centre.
Kingaroy's growth, and its consequent attractiveness to major service providers, gives communities in the whole Region the confidence to enjoy their country lifestyle choices but with access to major services. Decision-making regarding land uses should support Kingaroy's important attributes – regional level services; a strong and culturally important town centre; a variety of well serviced residential areas with a conventional house character; and well located and suitably buffered industrial land to accommodate service infrastructure for local communities, agriculture and major industry – but still retains its country lifestyle qualities.	Not applicable. The proposed solar Farm is not expected to conflict with Kingaroy's overall role within the South Burnett region.
Kingaroy experiences growth pressures ranging from commercial developments and units in primarily residential areas to urban development near major industry. Strategically, decisions on applications demand a clear appreciation of Kingaroy's long-term urban form and regional role but also its community's aspiration for a relaxed character and lifestyle, which may be reflected in such elements as generous lot sizes, dwelling densities and spaces between buildings, limited unit development low building heights in residential areas and attention to the way in which Kingaroy physically meets its rural backdrop.	Not applicable. The proposed development does not propose a residential component.
3.2 Settlement Pattern	
Other Towns	
South Burnett Region's other towns – Blackbutt, Murgon, Nanango, and Wondai – are significant in terms of their distinctive country characters, strong communities and established facilities. Their residential areas reflect the expectation that larger lot sizes and minimal intrusion by multiple dwelling units will be maintained to preserve the existing character and retain the desired country lifestyle. The towns support mostly small-scale industries but have in the past accommodated significant industrial use based on timber-getting, grazing and dairying. The presence of the Tarong Power Station, and its associated coal reserves,	The proposed solar farm is not anticipated to affect the distinctive country characters, strong communities and facilities in Wondai, Nanango or Murgon.

has contributed to economic and employment activity. From a planning perspective, the quantum of growth in other towns is relatively low and planning for this is largely about managing their distinctive character and local service industries. In the case of Murgon, the relationship with the Cherbourg Community provides additional economic activity and employment generation.	Power supply via the Tarong Power Station has contributed to economic and employment activity in Blackbutt and South Burnett area for considerable time. Accordingly economic activity based on power generation is expected to continue.
Blackbutt (and nearby Benarkin) is a timber and highway service town near the Blackbutt Range and Benarkin State Forest on the D'Aguilar Highway. Its hinterland accommodates substantial rural residential development that has placed the town under some growth pressure particularly in relation to commercial facilities. There is scope for consequential development, such as expanded commercial and service facilities, which in many cases will logically have a highway focus.	The site is in close proximity to Blackbutt which has traditionally been a very low rural residential area. Notwithstanding, a survey of residential land supply in Blackbutt and its surrounds conclude there is adequate land supply for additional residential use should the proposed solar farm generate additional residential demand in the Blackbutt area. It should also be noted that this proposed solar farm intends to use lower maintenance arrays (compared to similar facilities) and therefore it is reasonable to assume that the development will not generate undue impacts on the locality through increased residential demand. The proposal is not expected to negatively affect Blackbutt's distinctive country character. It is determined that the solar farm will not unreasonably affect the current character values.
Nanango, the next largest town in the Region after Kingaroy, is a service centre to a sizeable agricultural district, though its surrounding area accommodates a number of established rural residential developments. Being close to the Bunya Mountains and on the junction of the Burnett and D'Aguilar Highways, on the inland route to northern Queensland, it carries substantial through traffic. It provides service, accommodation and tourist activities for travellers, the latter bolstered by a series of annual events. Nanango has an informal settlement pattern that appropriately reflects the town's nature. That is continued through decisions that permit some flexibility toward such matters as residential densities and infrastructure provision. Nevertheless, management of urban development location, density and form has the potential to improve efficiency, minimise conflicts between different urban forms and limit conflicts associated with spreading into rural areas.	Not applicable. The proposed solar farm is not expected to conflict with Nanango's overall role within the South Burnett region.
Wondai supports sizeable grain, cattle and timber industries and an emerging wine industry, centring on the Moffatdale area. It is characterised by the extensive open space which follows the railway reserve separating the town	Not applicable. The proposed solar farm is not expected to conflict with Moffatdale's overall role within the South Burnett region.

centre from the highway, a legacy of town form following the rail. Its timber industry is still a major employer which is reflected in the Wondai Timber Museum and operating sawmill located on the eastern edge of the town. Sensible decision making is required to maintain separation between the sawmill and other town activities.	
3.2 Settlement Pattern	
Villages	
The villages of Benarkin, Kumbia, Maidenwell, Memerambi, Wooroolin, Tingoora, Hivesville, Boondoomba Dam, Proston and Durong are sizeable communities with few local services. Their village atmospheres – small, rural setting, traditional architecture and street form and an informal mix of land uses – contribute to their appeal and reinforcement of this character is supported. Nevertheless, there are amenity issues associated with historic land use allocation, so it is acknowledged that villages benefit from structure to their land use planning. Occasional piecemeal subdivision has occurred in the past, but topographical, natural resource and hazard related constraints discourage further intensification, as the relative isolation poses servicing difficulties that should not be exacerbated. Where there is legitimate planning need, rural residential development may be consolidated in convenient locations with few constraints. These villages have experienced little growth and that is likely to continue, such that planning strategies centre on containing the area covered by the village's footprint and providing for limited expansion if events transpire to create growth. The small village in the Bunya Mountains is significant because of its location within the Bunya Mountains National Park and its generally distinctive architecture, which reflects the mountainous environment with its alpine village character.	Not applicable. The proposed solar farm is not expected to conflict with the overall role of the specified 'Villages' within the South Burnett region.
3.2 Settlement Pattern	
3.2.1 Strategic Outcomes	
(1) Forecasts suggest moderate growth throughout the Region, prompting incremental increases in urban growth areas around most towns. However, possible growth influences, such as that associated with the Bowen Basin, may occasion larger growth areas.	1. The scale of the proposed solar farm is not expected to influence the predicted urban growth in the South Burnett region.

(2)	Kingaroy will continue to accommodate the greater proportion of the Region's population, commercial development and major facilities.	2.	The proposed solar farm will not affect Kingaroy's role as the main regional centre.
(3)	Kingaroy develops as the main activity centre for the Region with the highest level of commercial, industrial, community and municipal services. Other towns develop at a scale that supports Kingaroy's role while providing a more localised level of service.	3.	The proposed solar farm will not affect activities and roles envisaged for Kingaroy.
(4)	Increases in population densities are facilitated where suitable access to services is available.	4.	The proposed scale of the solar farm is not expected to exceed existing residential land supply available in Blackbutt.
(5)	Industrial, commercial and other high employment generating activities are located in areas of high accessibility, but in a way that minimises their visual influence on the character of their host towns.	5.	This proposed solar farm is considerable distance from its host town (Blackbutt) and is well separated from adjoining land containing sensitive uses. The proposed solar farm intends to use arrays that are approximately 0.8m to 1.0m above natural ground level, hence its visual presence/uniformity is akin to agricultural crops (that do not occur naturally).
(6)	The settlement pattern is well serviced by a range of safe and efficient transport options that promotes the accessibility and mobility of the wider community.	6.	The development will not impact existing transport or infrastructure required by existing settlement patterns.
(7)	The boundary between urban and rural areas is well-defined, particularly along the main approaches to Kingaroy and the other towns where that characteristic is already established. Further strip development is discouraged and buffering is utilised to minimise land use conflicts.	7.	The site does not propose rural uses that would conflict with residential / urban uses in the locality.
(8)	Rural villages provide country town lifestyle options, access to services, opportunities for employment and economic activity at a local level.	8.	Not applicable
(9)	The Bunya Mountains village serves a primarily tourist function that will continue to be enhanced by its alpine village architectural character.	9.	Not applicable
(10)	The risk to life and property from bushfire, flood, landslide and man-made hazards is avoided or mitigated.	10.	(Bushfire Hazard) - The site will retain onsite infrastructure to enable firefighting in terms of: • Two on site dams. • Fire maintenance trails. • Large separation zones that would act in a similar way to an asset protection zones (APZ). In terms of stormwater and local flooding effects, the proposed development makes

	provision for appropriate drainage and will maintain a level of water infiltration into natural ground beneath the proposed array (refer to panel design in the attached drawings).
3.2 Settlement Pattern	
3.2.1.1 Specific Outcomes	
(1) Urban growth is predominantly accommodated in identified broad-hectare sites. Although unlikely to be required in the life of this Planning Scheme, a long-term urban expansion area is shown to the north-west of Kingaroy on the basis that it is the most accessible land nearest the town.	1. Not applicable. The proposal is not expected to affect current urban growth patterns.
(2) Buffering is provided to adjoining rural lands at the urban edges that is satisfactory to minimise land use conflict and accommodate sufficient land for future expansion.	2. Not applicable. The site is not proposed to accommodate rural uses.
(3) The Kingaroy town centre develops as the major business and retail area for the Region providing the highest order of commercial, community and cultural services and facilities. Expansion beyond zoned commercial areas is discouraged unless an overriding planning need can be demonstrated. To maximise walkability and social interaction, walk-to retail and commercial development is to be consolidated into a defined core area. The Rogers Drive retail warehouse precinct aside, no additional centres are envisaged in the life of this planning scheme. A dedicated central parking area in the town centre is supported to reduce the need for individual developments to meet parking requirements. Development of large bulky goods outlets is limited to the existing areas in and around Rogers Drive and on the south-east corner of the Bunya Highway and River Road.	3. The proposed solar farm does not affect Kingaroy's role as the regional centre.
(4) The town centres of Murgon, Nanango and Wondai develop to provide a district level of service without compromising the role of Kingaroy. The capacity of these centres to value add to local rural industries is supported.	4. Not applicable. The proposed solar farm will not affect the region's district centres.
(5) In support of the district level of service, each of the other town centres is encouraged to retain its traditional, street-focussed character, with provisions for redevelopment and streetscape improvements of existing premises.	5. The proposed solar farm does not compromise or change the level of services roles in any of the town centres.

(6)	The establishment of a supermarket in Blackbutt to serve the local community is facilitated.	6.	Not applicable.
(7)	Other town centres continue to provide a local level of service and opportunities to generate local employment and economic activity are encouraged.	7.	The proposed solar farm is considered to generate local employment and economic activity in the short and long term.
(8)	Opportunity to subdivide allotments in existing urban areas is maximised, while ensuring that usable allotments are created and the potential adverse impact on amenity and character is minimised.	8.	Not applicable. Subdivision is not part of this application.
(9)	Increased density residential development is facilitated on serviced lots close to the town centres, with design to minimise impacts on the amenity and character of areas predominantly occupied by houses.	9.	Not applicable. The proposal is not for residential development. Notwithstanding, undue pressure on supply of land for residential purposes is not expected, as the Blackbutt area currently retains sufficient rural residential and low-density zoned land to accommodate a residential demand potentially generated by this project.
(10)	Industry is located and designed to minimise impacts and where appropriate, to minimise visual intrusion into rural landscapes or town/rural fringes. Inherently noisy activities are to be separated from areas and land uses where the expectation is for a quieter environment. Expansion beyond zoned industrial areas is discouraged unless there is an overriding planning need.	10.	a. The proposed solar farm was determined to minimise visual impacts through use of arrays with a low ground clearance – less than 4ft – and tracking with the existing landform. Visually, the proposed arrays undulate with the landscape as opposed to adding additional points of observance. Accordingly, views to the proposed solar farm will not be substantially different from that currently experienced, or that which could be reasonably experienced should some form of strip planting be undertaken. b. Noise associated with the solar farm was considered in two ways: (i) Construction and development (ii) Ongoing use. The system to be utilised is comparatively of a low impact compared to other systems in that it does not require heavy machinery or nematic devices for its mountings (the mounting frames are affixed to the ground via the use of handheld tools). The solar panels remain in situ throughout the day and do not shift with the course of the sun. Therefore, no noise or vibration is associated with motors tracking the sunlight. Auxiliary systems such as transformers, cooling systems, inverters and the like will be located up to 200m from the common boundary to sensitive land uses and

	are certified as being adequately attenuated. c. The proposed solar farm is considered to be an expansion of an industrial use beyond appropriately zoned areas. However, it is determined that co-location of renewable power sources with regionally significant transmission infrastructure is an overriding planning need (such options for co-location/accessibility is limited).
(11) The proliferation of commercial and light industry uses in residential areas is discouraged, with non-residential uses in these areas limited to providing local neighbourhood services.	11. The proposal is not considered to contribute to proliferation of commercial and light industrial uses given the overriding planning need it promotes.
(12) In villages, non-residential development is facilitated, but the villages will retain their traditional form, which is based on a central functional unit surrounded predominantly by houses. The distinctive architecture in the Bunya Mountain village is maintained through basic design provisions.	12. Not applicable.
(13) Rural residential development provides a legitimate life-style choice where existing services and infrastructure can support this development or augmented without difficulty. New allotments outside the areas nominated in the Strategic Framework map are likely to be resisted unless there is legitimate planning need and the productive values of agricultural land and regional ecosystem values are not compromised.	13. Not applicable. The proposed solar farm is not considered to affect the provision of rural residential development (existing or future).
(14) New rural residential development is consolidated in areas nominated on the Strategic Framework map – which are generally close to Kingaroy and the other towns – to maintain good access to services, employment and existing infrastructure. Additional areas may be considered only where there is a legitimate, demonstrated planning need for additional allotments and they retain the fundamentals of good access to urban services via good quality roads, no loss of good quality agricultural land or remnant regional ecosystem vegetation, minimal erosion and flood-free, fire-resistant and moderately sloped house sites.	14. Not applicable.
(15) Development is directed away from historic subdivisions where residential development would lead to isolated communities and uneconomical extension of urban infrastructure.	15. Not applicable.

(16) The impacts of natural hazards such as bushfires, landslide and flooding are identified, and new development avoids or mitigates the risk to personal safety and property damage and provides for the effective functioning of infrastructure during and after an event.	16. (Bushfire Hazard) - The site will retain onsite infrastructure to enable firefighting in terms of: • Two on site dams. • Fire maintenance trails. • Large separation zones that would act in a similar way to an asset protection zones (APZ). In terms of stormwater and local flooding effects, the proposed development makes provision for appropriate drainage and will maintain a level of water infiltration into natural ground beneath the proposed array (refer to panel design in the attached drawings).
3.3 Rural Futures Context	
The Region has historically supported a diverse rural sector; grazing, dairying, piggeries and cropping have been the traditional activities supported by rich red volcanic soils. The resultant rural landscape is an intrinsic part of the Region's character and is important to achieving the community's expressed desire for a country lifestyle atmosphere. Resource extraction – generally in support of the Tarong Power Station – viticulture and rural and eco-based tourism have compromised conventional rural expectations in some localities. The Planning Scheme addresses the preservation of natural resources to provide opportunities for a wide variety of rural pursuits, food production and innovative rural businesses and facilitate suitable non-rural activities where necessary, such as extractive activities associated with major resources. Rural areas can provide suitable locations for non-rural activities – including major industries, clean energy projects or resource extraction enterprises – where they hold significant benefits to a local or wider community and where circumstances or characteristics are such that they are not suited to conventional urban areas. The proviso is that due deference is given to overriding considerations relating to the viability of rural activities and the character of rural landscapes.	Retention of highly valued rural land. The proposed solar farm intends to use an array that relies on a lightweight compact substructure that requires significantly less ground disturbance, therefore leaving the majority of the existing ground in its current form. The arrays will also utilise regular drainage points that flow directly beneath the panels. The majority of any potential stormwater flow appears to be similar to existing conditions (ie. runoff will not be as significant as water will generally filter into existing ground directly beneath panels). In addition to this, it is understood that the site will receive nitrogen fixing vegetation beneath the panels which are capable of improving existing soil profiles over and above current ratings attributed by the Gillbert and Sutherland agricultural Land assessment. In direct response to the planning scheme's need to preserve land for a variety of rural pursuits i.e. food production, grazing etc. It is determined that the proposed solar farm, through its use of low impact arrays and intended soil rejuvenation, leaves the existing site with an improved potential rural capacity upon cessation of the solar farms lifecycle. It is considered that this rural zone site is suitable for a non-rural activity such as the clean energy project proposed, as assessment has determined that its location lends itself well to direct connection into an existing Powerlink network, which in turn secures power for the wider community. Assessment of this solar farm concluded that the project does provide due deference to the viability of rural activities and the character of rural landscapes by proposing the following:

	1. The Agricultural assessment identified that the solar arrays is to be located on those parts of the site where soil quality is poorer, but can be improved over time (as consequence of this development). 2. Character impact on the landscape is considered acceptable in that the solar array is a relatively low impact product that runs parallel to existing ground levels and undulating topography.
Some rural areas are based around specific rural industries or features that can have consequential implications, such as tourist outlets and accommodation. They can also display specific character attributes that are worthy of retention and enhancement. Moffatdale, for instance, has a strong viticultural industry, but in an area also accommodating extensive rural residential development. Similarly, the disused railway corridors and the Bicentennial Trail provide excellent opportunities for relatively level, between-town recreation trails. Tourism demands are accommodated, but generally by way of small-scale, low impact accommodation and in the context of maintaining the character of rural landscapes and productivity of neighbouring rural enterprises. With two substantial runways, one capable of accommodating commercial jets, Kingaroy Airport is an important regional resource. It creates potential opportunities for transporting local residents to places of interest, business or employment, particularly fly-in fly-out workers, and for establishing nearby aviation-based activities. Areas of the Region like the Bunya Mountains National Park, Tarong National Park, Boat Mountain Conservation Park and other State Forests display significant views of important scenic elements that could potentially be jeopardised by large scale, inappropriately sited development more suited for an urban environment.	Blackbutt and surrounds are traditionally known for its timber, highway service and rural residential features. The proposed development will occur on a site that is cleared and not considered appropriate for rural residential use. Accordingly, the solar farm is not considered to negatively affect rural industries or features attributed to the area.
Rural Futures **3.3.1 Strategic outcomes**	
(1) The capacity of important agricultural areas, as shown on Strategic Framework map and rural activities that contribute to the Region's economy is protected from incompatible land uses to optimise agricultural development opportunities. (2) The rural production base of the Region is broadened to accommodate the widest diversity of productive rural activities.	1. Not applicable. Site is not within the important agricultural area shown on the Strategic Framework map. 2. Complies in the future. The site will be capable of enhanced rural usage as a consequence of the development proposed.

(3) Non-rural activities are ancillary or subsidiary to principal rural land uses to widen the economic base for rural production provided that rural production in surrounding areas is not compromised and rural character is maintained. (4) Rural areas can potentially accommodate major industries, infrastructure projects, resource extraction enterprises and transport and aviation related opportunities involving land close to Kingaroy airport. However, they must be of a nature that is unable to be accommodated in towns, brings major local or regional economic benefits and respects overriding considerations of rural character and production values, scenic values and water quality and has direct access to substantial urban areas via high quality roads. (5) Extractive resources in rural areas are protected for effective and sustainable exploitation consistent with demonstrated planning need. (6) Small-scale, low impact accommodation is facilitated on land alongside railway corridors. (7) The function, connectivity and pasture productivity of the stock route network is maintained for sustainable use by travelling stock on hoof. The stock route network is protected from development which have the potential for conflict.	3. The proposed solar farm will not constrain existing potential rural activity in the area in that solar panels are not sensitive to rural activities that would otherwise conflict with more sensitive uses in the area. It was also noted that the immediate locality retains substantial amounts of rural residential development hence rural activity in the area would be more constrained by uses currently undertaken. 4. Not applicable. The site is not close to Kingaroy airport. 5. Not applicable. 6. Not applicable. 7. The site does not impact on known stock routes.
Rural Futures **1. Specific outcomes**	
(1) The potential for economic benefit from the rural utilisation of land resources is maintained and enhanced. (2) Agricultural lands are preserved for productive rural activities by only supporting rural development that directly supports agricultural production or a regionally significant rural based industry. (3) Productive rural land for cropping and animal husbandry is protected from intrusion of incompatible development. Where potentially incompatible development is facilitated, adequate buffers are provided to minimise land use conflict and the risk of disease or contamination from agricultural practices. (4) The development of intensive animal industry like piggeries and feedlots are facilitated by providing appropriate separation and setbacks to ensure that rural residential lifestyles are not compromised.	1. The proposed development seeks to enhance existing rural land. 2. Not applicable. The subject site is not identified as agricultural land on the strategic framework map. 3. The site is identified as suitable for clean energy production which is considered an overriding planning need. 4. Not applicable. Not proposing an intensive animal industry. 5. Not applicable. Not proposing rural based tourism. 6. Not applicable. 7. Not applicable. 8. Complies. The proposed development is for power generation in a rural area. 9. The proposed development qualifies as an infrastructure project in a rural area. Accompanying the application were

(5) Rural-based tourism development is established at an appropriate scale that contributes to the viability of the primary rural use of sites. (6) Small scale, negligible impact tourist activities are facilitated as accepted development on large rural holdings where impacts, especially on agriculture, can be avoided. (7) In Moffatdale, wineries and associated tourist accommodation and facilities are encouraged, provided their scale, intensity, location and buffering arrangements are such that rural production and rural residential lifestyles are not compromised. Proposals to expand rural residential land at Moffatdale to capitalise on this potential must demonstrate a genuine public need and that rural productivity in the locality is not compromised. (8) Non-rural land uses that are incompatible with the power generation, mining or extractive industries do not establish in rural areas or provide sufficient on-site buffering to eliminate any impacts. (9) The location of major industries, infrastructure projects or resource extraction enterprises in rural areas is facilitated where the impacts are managed in keeping with community expectations and where existing and future rural resource utilisation is not compromised. (10) Eco-based tourism development in the Bunya Mountains, Boondooma and Bjelke Petersen Dams and other suitable locations is established at an appropriate scale that avoids impacts on the environmental and scenic values of the area. (11) Exploitation of mining and extractive deposits, including haul routes, is managed such that adverse environmental and amenity impacts are maintained at an acceptable level. Key Resource Areas are expected to be extracted and are identified to ensure that can occur without undue interference from incompatible land uses. (12) Proponents of transport and aviation related opportunities involving land close to Kingaroy airport are to prepare a Structure Plan demonstrating how development can be managed, located and formed to minimise impacts relating to amenity, traffic, ecology, farm productivity and rural character.	documents discussing impacts on visual amenity, noise and landscape. Assessment of these documents determine that the proposal could appropriately manage (impacts) within a reasonable community expectation. As the proposed development is of low impact, it will not compromise future rural utility, it maintains existing landform and it is adequately buffered. 10. Not applicable. 11. Not applicable. 12. Not applicable. 13. Appropriate conditions can be set to ensure suitable outcomes for water quality objectives.

(13) Water supply catchments are protected from incompatible development and land use intensification.	
3.4 Strong Economy **Context**	
The Region's economic base is predominantly rural. It offers multiple business location options and is strategically positioned to provide excellent access to the southeast market, the Darling Downs and Central Queensland. It has strong linkages within its agricultural sector with well-developed supply chains, vertical integration and value adding. It is home to some of Australia's market leaders in the food processing sector, including Swickers Kingaroy Bacon Factory Pty Ltd, the Peanut Company of Australia (PCA), Bean Growers Australia Ltd and timber plantations and processing. The Tarong Power Station, Meandu Mine, extractive and mineral resource areas provide a substantial economic boost to the Region in terms of employment and flow-on economic benefits including short term accommodation for maintenance workers. The Kingaroy Airport presents an opportunity for the expansion of aviation related uses. The Region's wealth of natural assets, including the Bunya Mountains National Park, Boat Mountain Conservation Park, Tarong National Parks and Coomba Falls, various State Forests, and Lake Boondooma and Yallakool Park at Bjelke Petersen Dam, combine with the winery district at Moffatdale, the Rail Trail, Boondooma and Taabinga Homesteads to enhance the potential for tourism diversity, subject to responsible custodianship of those assets. Moderate travelling distance from Brisbane and Toowoomba supports, the Region as a significant tourist destination, particularly for drive tourism. Protection of existing economic resources and enhancing opportunities for expansion, in both scale and diversity, is a key role for the Planning Scheme in securing the Region's economic base. The Planning Scheme recognises the possibility and implications of major industries, infrastructure projects or resource extraction enterprises that are unknown at the time of writing. The Region has the potential to respond to these enterprises with appropriate sites and for resultant population increases, through its wide range of town and country lifestyle choices.	The proposed solar farm does not affect the predominant rural base of the region's economy. Overriding planning needs associated with renewable energy are considered to be a recent factor in promoting strong economies. The proposed solar farm will follow the region's priority for substantial economic boost related to energy production, employment and flow on economic benefits through vertical integration, with existing infrastructure prioritised for bulk energy transmission. The Planning Scheme recognises the possibility and implication of major industries and infrastructure projects. Given the proximity to Tarong Power Station and its supporting infrastructure, it is determined that sites such as the proposed are appropriate to respond to enterprises such as clean energy generation, that will alleviate ongoing pressure of power supply to an ever-increasing population.

Strong Economy **3.4.1 Strategic Outcomes**	
(1) The Region's economy is founded on strength and diversity of industry and service provision that capitalises on its location advantages and natural assets, improving the Region's employment opportunities and maximising regional economic activity. (2) The Region's major industries are sustained and grown through diversification, clustering of complementary businesses, and expansion of secondary industries and protection from the establishment and intensification of incompatible land uses. (3) The contribution of tourism to the Region's economy is complemented by a diverse range of activities that respect the natural environment and productive rural resources. (4) The role of major employers, including the Tarong Power Station, Swickers Kingaroy Bacon Factory Pty Ltd, the Peanut Company of Australia (PCA), Bean Growers Australia Ltd in the regional economy is supported. (5) Economic development is enhanced by infrastructure that strengthens and develops linkages with the Southeast Queensland, the Darling Downs and the Wide Bay/Fraser Coast.	1. The proposed solar farm will contribute to the region's economy through the provision of clean energy sources that take advantage of existing natural assets and diversify employment opportunities in an area where there is limited diversity. 2. Electricity production is a major industry in the region. It is considered that the addition of clean energy systems, such as the solar farm, are complementary and provide a sustainable growth model for future energy production in a more compatible form compared to traditional means of energy collection (i.e. the land does not have to be mined). 3. Not applicable. The proposal does not affect ongoing promotion of tourist activity. 4. The proposal will bring and/or maintain energy production employment as previously established by the Tarong Power Station. 5. This solar farm proposes a 400mw capacity that is connected to an existing bulk electricity transmission infrastructure. It is considered that developments such as this are beneficial to the immediate region, and contribute to the development of linkages with other regions of Queensland i.e. South East Queensland, Darling Downs, Wide Bay/Fraser Coast.
Strong Economy **3.4.1.1 Specific Outcomes**	
(1) Natural resources and rural land uses that contribute significant economic benefits to the community are identified and protected for use when needed. (2) The role of Swickers Kingaroy Bacon Factory Pty Ltd in the Regional economy is protected from the intrusion and impacts associated with incompatible development. The Strategic Framework map includes a buffer area within which incompatible development and intensification of established development is discouraged. In the affected residential areas, houses and house extensions on existing allotments are allowed, but medium density housing and further subdivision are opposed. (3) The Tarong Power Station continues to provide employment and economic activity in the Regional and additional resources	1. As mentioned above, the proposed solar array is of a lightweight compact substructure that does not require significant change to the existing rural landform. Further, as part of the proposal, the developer intends to rejuvenate the existing subsoil surface so that the land can be re-utilised for rural purposes in the event the solar farm is no longer required for energy production. 2. Not applicable. The site is not within proximity of the Swickers Bacon Factory. 3. The solar farm will not affect operations associated with the Tarong Power Station. In actual fact, it will compliment both energy production, energy related employment / economic activity. The site is not known to contain resources that

that are required for its ongoing operation are preserved for further exploitation. (4) Tourism within and adjoining the Bunya Mountains and in the existing accommodation nodes at Lake Boondooma and Yallakool Park at Bjelke Petersen Dams is conducted in a manner that protects the values of the area and provides for a suitable level of accommodation and other services to tourists. Development is envisaged as continuing the small-scale, low-impact nature of development to date, such that it is actively and visually subservient to the natural environment. (5) The opportunity to establish or expand niche industries focusing on viticulture in the Moffatdale district is supported if amenity impacts can be sustained. (6) The potential to replicate the tourist benefits of the Brisbane Valley Rail Trail in Blackbutt is investigated for other communities at Kingaroy, Wooroolin, Tingoora, Wondai and Murgon. (7) The role of the Region's highways in supporting business development is protected. (8) Major industries, infrastructure projects, resource extraction enterprises or mineral resource realisation are facilitated where the impacts are managed in keeping with rural character values and community expectations and where existing and future rural resource utilisation is not compromised.	would aid in the continued power production of the Taron Power Station. 4. Not applicable. 5. Not applicable. 6. Not applicable. 7. The proposed solar farm is not expected to cause undue impacts, or place additional pressure on the region's highway system. 8. This infrastructure project does not unreasonably impact future resource utilisation of the subject rural land. The proposal seeks to achieve this by minimising changes to the existing landform, use of low impact structures that are less invasive and provide moisture to maintain soil quality. In terms of character, it was determined that the reasonable community expectation would require this solar farm to have limited views as much as practicable. Accordingly, is has been determined that such an expectation is best achieved by ensuring that the solar panels are affixed at a low elevation and undulate with the natural landform, as opposed to parallel rows of panels that would be more obvious in areas where natural ground was higher compared to adjoining properties, or prominent within a local view catchment. Overall, the proposal's ability to return the site back to a rural function as well as its proposed low impact construction, are considered to not compromise rural character values for future rural resource utilisation.
3.5 Natural systems & sustainability Context	
The Region spans both the Southeast Queensland and Brigalow Belt South bioregions and contains rich areas of biological diversity and endemism. The Bunya Mountains, Cooyar, Stuart, Blackbutt and Brisbane Ranges and other isolated mountain and hill formations are prominent landscape features within the Region. The numerous State forests, reserves and protected areas contribute to the Region's biodiversity and ecosystem significance. The Region's watercourses, most notably the Boyne and Stuart Rivers and Barker/Barambah Creek, form the southern headwaters of the Burnett River catchment and play a significant role in the water quality of the river system. Protection and management of watercourses, wetlands and other aquatic features for continued and future	The proposed solar farm is not considered to have a direct effect on the stated bioregions or the overall water quality. While the prospect of increased run off is a matter for consideration, it was determined that reasonable and relevant conditions could deal with potential water quality issues caused by the increased hard stand surfaces and that maintenance of those hard stand surfaces would be required as a matter of course to ensure effective conversion to energy.

agricultural use and fisheries production form an intrinsic role of the planning scheme. Significant areas of the Region have been identified as agricultural land. Responsible management and utilisation of these resources will enable continuing community benefit in conjunction with protecting the quality of the Region's natural areas. Similarly, the Region's coal reserves at Meandu, Kunioon and Hodgleigh and quarry resources must be suitably managed. Protection of these natural resources from incompatible land uses is a key function of the Planning Scheme. The Region possesses a range of natural hazards that can influence planning outcomes, including flooding, bushfire and landslide. The Planning Scheme identifies significant hazards and sets assessment benchmarks for their management.	The site is not actually mapped as retaining high value agricultural land. The Strategic Framework map, actually identifies high quality agricultural land Northeast of this site. The site is not known to retain coal reserves. In terms of natural hazards such as bushfire it is considered that the proposal can be conditioned to adequately cater for such events.
Natural systems & sustainability **3.5.1 Strategic outcome**	
(1) The values of the Region's National Parks, State Forests and all matters of State environmental significance are protected from incompatible development to avoid or otherwise minimise adverse impacts on their biodiversity values. (2) The water, land, vegetation and air resources of the Region are managed on a sustainable basis, maintaining their availability for sustainable use and facilitating their contribution to the Region's ecosystem health, liveability and prosperity. (3) New development acknowledges the potential impacts of climate change and is designed to reduce the carbon footprint of the Region by reducing car and electricity use. (4) Overlays identify natural hazards and prescribe assessment benchmarks for avoiding and mitigating their effects on people and property.	1. Not applicable. Site is not seeking to convert or affect natural parks or state forests. 2. The site is cleared therefore natural functions within context of the known endemic regional ecosystem would be limited to non-existent. 3. As a new development, the proposed solar farm is arguably a consequence of potential impacts from climate change. Its presence as a clean renewable energy source greatly assists in reducing the carbon footprint of the region, by providing clean electricity for use. 4. Material accompanying the application has adequately identified natural hazards and key outcomes that will assist in ongoing management and risk reduction.
Natural systems & sustainability **3.5.1.1 Specific outcome**	
(1) Environmentally significant areas and values, particularly local components of the Southeast Queensland and Brigalow Belt Bioregions, are identified, protected, maintained and enhanced. (2) The impacts of development on habitat fragmentation and biodiversity are minimised and opportunities for the establishment, protection, management, rehabilitation and enhancement of	1. Not applicable. The proposal does not affect environmental significant areas. 2. Not applicable. The site is clear and retains limited natural environmental functions. 3. The site does not require clearing of significant native vegetation. 4. Not applicable.

environmentally significant areas and values, including movement corridors and interface treatments, are accommodated. (3) New development does not necessitate clearing of significant vegetation, significant landscape modification or management practices within National Parks or State Forests to manage bushfire hazard on development sites. (4) The riparian amenity and habitat of the Region's waterways and wetlands are protected from inappropriate development. (5) Urban development protects and enhances water quality objectives and does not adversely impact on the environmental values of waterways, wetlands, groundwater resources, natural drainage paths and landscape features as described in the Queensland Water Quality Guidelines 2009. (6) Water sensitive urban design incorporates effluent and stormwater management measures that protect and enhance water quality objectives and minimise the adverse impacts from erosion, altered stormwater flow, wastewater and nutrient discharge. (7) The dam catchments of Lake Boondooma and the Bjelke Petersen and Gordonbrook Dams are identified and all development undertaken maintains and improves water quality within these catchments. Development in the water supply buffer associated with Cooyar Creek achieves the standards of the Seqwater Development Guidelines: Development Guidelines for Water Quality Management in Drinking Water Catchments 2012. (8) Patterns of urban development are established that reduce the generation of vehicle trip frequency and distance and by encouraging walking and cycling as viable transport options. (9) Development avoids or mitigates risks to personal safety and property damage from natural hazards. (10) Development avoids impacts on the function of flood plains and does not worsen the severity or impact of natural hazards. (11) Development supports and does not unduly burden disaster management responses or recovery capacities and capabilities.	5. Not applicable. 6. Stormwater management report has been submitted and determined to adequately deal with both quantity and quality of water exiting the site. 7. Not applicable. 8. Not applicable. 9. Reports accompanying the application have addressed the matter of natural hazards and can be conditioned as part of an approval package. 10. Not applicable. The site is not on a flood plain. 11. The development is designed to deal with aspects of disaster management as part of its operations.
3.6 Strong communities Context	
The Region has many assets that contribute to the liveability and prosperity of the area. Conversely, isolated ad-hoc development has	The development site has access to regionally significant power transmission infrastructure and therefore increases access to appropriate

resulted in some communities suffering from a lack of access to appropriate services. The country environment of the Region's communities, the scenic qualities, the strong sense of community and reasonable access to metropolitan areas and the coast, underpins the attractiveness of living in the South Burnett. Building on the Region's cultural heritage, capitalising on the attributes of individual communities, recognising Kingaroy's regional centre role and promoting tourism, agricultural and business opportunities will assist in enhancing the liveability of the Region. The Planning Scheme confronts the challenge of community building, providing services to meet growing and diversifying demands, managing development and sustaining affordable housing and services.	services for housing and other related activities i.e business and agricultural opportunities. The development is not considered to be an isolated ad hoc development. In terms of environmental and scenic quality, the proposed solar farm over this particular site is considered to be more appropriate given its construction method places it closer to the ground whilst running parallel to the existing landform.
Strong communities **3.6.1 Strategic outcomes**	
(1) The towns and villages retain the country look and feel that has created their individual social character and contributed to their desirability as places to live. The role of Kingaroy as the major regional centre is not compromised. (2) Development occurs in a manner that provides access to a range of employment, commercial, cultural, recreational, education and community opportunities in serviceable locations that respond to community needs. (3) A range of dwelling types in keeping with desired neighbourhood character enables residents to remain in the same community when their housing needs change, maintaining their existing lifestyle and social contacts. (4) The Region's cultural heritage is acknowledged and protected to maintain the link between the current community and the historic values that contributed to its establishment. (5) Re-use and redevelopment of heritage places occurs in a way that is compatible with their heritage values and mitigates adverse impacts on the heritage significance. (6) The role of visual character in defining township identity and creating traditional streetscapes is reinforced. (7) Community health and safety, sensitive land use (as defined in the Regulation) and the natural environment are protected from the potential adverse impacts of hazardous	1. Not applicable. 2. The development is expected to contribute to local employment associated with South Burnett's energy sector. 3. Not applicable. 4. Not applicable. 5. Not applicable. 6. Not applicable. 7. In terms of effects on sensitive land use, the application has demonstrated that impacts arising from potential noise sources can be adequately attenuated in accordance Matrix acoustic report, as referred to as an approved document. 8. The application is conditioned to manage fire hazards. Development has appropriate level of accessibility for firefighting. 9. While the site is not proposing extractive industry, the applicant has demonstrated that as part of this development, the site's existing rural capacity will be reinstated/enhanced for future agricultural use upon cessation of the solar farm itself.

air, noise and odour emissions from higher impact uses. (8) Sensitive land use (as defined in the Regulation) are protected from the impacts of previous activities that pose a risk to people or property. (9) Extractive industry sites are available for re-use for other activities or revert to their natural state upon cessation of extraction.	
Strong communities **3.6.1.1 Specific outcomes**	
(1) Opportunities to redevelop key sites at the entrances to Kingaroy are encouraged to improve the sense of arrival and contribute to community pride in the town. The town centre is encouraged to undergo a revitalisation that provides a recurring urban design and enhances pedestrian connectivity and usability. (2) Retail and other activities that generate higher levels of social interaction between residents and members of the public travelling through Nanango are focused on Drayton Street. (3) The contribution to town character of development directly fronting streets and street awnings is maintained and enhanced in new development where practicable. (4) The town centre of Wondai is strengthened through the encouragement of recreational, commercial and community-based activities in the former rail corridor to the east of Scott Street, subject to resolution of tenure. (5) The re-use of former public buildings for commercial activities in the centre of Wondai and Murgon is encouraged. (6) Commercial activities in Proston are concentrated at the intersection of Rodney and Blake Streets. (7) The proliferation of roadside advertising devices on the main approaches to the Region's towns is contained, though the incidence in different communities may vary depending on levels of acceptance in the local community. (8) New development does not result in isolated or poorly serviced communities. (9) Existing communities have enhanced access to community services that is commensurate with anticipated demand. (10) Larger lot developments with suitable access occur within seven kilometres of the urban zoned town perimeter and their associated services.	1. Not applicable. 2. Not applicable. 3. Not applicable. 4. Not applicable. 5. Not applicable. 6. Not applicable. 7. No applicable. 8. Not applicable. 9. No applicable. 10. Not applicable. 11. Not applicable. 12. Not applicable (while being new development, this infers residential uses) 13. No applicable. 14. No applicable. 15. The application seeks minimal ground disturbance, and is not expected to affect aspects associated with Aboriginal Cultural Heritage, however obligations and responsibilities will be adhered to. 16. Not applicable. 17. Not applicable. 18. Not applicable. 19. Not applicable. Notwithstanding special industry's reference to power plant, it is understood that power plants often relate to a mechanical means to produce power i.e. steam generators, turbines etc. While this solar farm produces electricity, it should not be called special industry given there is no power plant as such. 20. Not applicable.

(11) The provision of recreational and open space facilities provides increased opportunities for social interaction. (12) New development should be suitably integrated with existing development in relation to road, public and active transport networks, open space linkages and access to community facilities and employment opportunities. (13) Residential neighbourhoods comprise a variety of lot sizes that support a diverse range of housing options in keeping with desired neighbourhood character. (14) Housing choice that includes traditional detached houses, small-lot houses, townhouses, duplexes, residential care facilities and community residences is facilitated provided the character resulting from the dominance of traditional detached houses is not compromised. (15) The cultural heritage of all sectors of the community is protected by the recognition of features that contribute to community identity. (16) Places of local heritage significance may be identified, registered and provided with protection in the form of development control. The adaptive reuse of places of local cultural heritage is supported where the significance of the place and surrounding amenity is retained. (17) Development of areas adjoining places of local heritage significance maintain and enhance the heritage values of the nominated site. (18) Streetscape character that is created by groups of residential and commercial buildings, their setting and landscaping is retained. (19) Special Industry land uses are adequately separated from sensitive land use (as defined in the Regulation) to avoid the occurrence of environmental harm or environmental nuisance. (20) Sites that are contaminated or pose a health risk from previous hazardous uses are remediated prior to being developed for sensitive land use (as defined in the Regulation). (21) Extractive industry sites are rehabilitated once the resource has been exhausted.	21. Not applicable. Refer to response to 3.6.1.9.
3.7 Infrastructure & servicing Context	
The Planning Scheme coordinates a sequenced response to demand for additional and upgraded infrastructure as a result of population growth and expanded business opportunities across the	This renewable energy plant has the ability to offer immediate and long terms economic prosperity within Blackbutt. Installation of the lightweight compact substructure requires little

Region. Infrastructure provision is a key determinant of economic prosperity, social cohesion and environmental responsibility. The Region's performance in these areas is dependent on maintaining a high level of service in transport (vehicular, public and active), total water cycle management and utility infrastructure. New major infrastructure items that hold significant benefits to a local or wider community are facilitated where due deference is given to overriding considerations relating to the viability of rural activities and the character of rural landscapes.	training and therefore have limited reliance on specialist nonlocal labour (i.e. potentially good immediate short term employment option for local people in the district) This renewable energy facility has direct access to existing (major) powerline transmission infrastructure. Addition of such facilities is considered to enhance the region's energy supply sector which is a benefit in both the local and regional context. While the renewable energy facility will require use of existing rural land, it should be noted that solar panels are placed outside of areas considered to have higher agricultural value. Notwithstanding this proposal also seeks to enhance rural use in the long term.
Infrastructure & servicing **3.7.1 Strategic outcomes**	
(1) New development occurs in a manner that allows for the efficient and affordable provision and on-going maintenance of utility infrastructure. (2) To maintain its major regional centre status, Kingaroy is the recipient of most investment in urban infrastructure, so is best suited to accommodating major urban development. (3) The relationship between development and utility infrastructure recognises that Blackbutt, Nanango, Wondai and Murgon require a level of infrastructure provision appropriate to the circumstances. (4) Public and active transport options contribute to reduced greenhouse gas emission and increase the community's well-being. (5) The investment in the provision of major infrastructure, particularly the Tarong Power Station and its associated entities, is protected from the implications of incompatible development. (6) Urban development is planned, designed, constructed and operated to manage stormwater and wastewater in ways that help protect the environmental values of waters, including the biodiversity and functioning of freshwater ecosystem. (7) New development occurs in a manner that allows for the efficient and affordable provision and on-going maintenance of utility infrastructure.	1. Not applicable. 2. Not applicable. 3. Not applicable. 4. Not applicable. Notwithstanding, the proposal is very much aimed at assisting with greenhouse gas reduction. 5. The proposed development would be complimentary to the Tarong Power Station's roll in terms of reducing pressure on the existing facility in an environmentally appropriate manner. 6. While not urban development, the proposed solar farm is planned and designed in such a way to minimise negative stormwater impacts by retaining as much water infiltration into natural ground as possible. 7. Not applicable.
Infrastructure & servicing **3.7.1.1 Specific outcomes**	
(1) Development is located to allow immediate connection to existing infrastructure or	1. The development will not affect this outcome.

provides for the orderly extension of that infrastructure to service the development. (2) Development responds to and helps establish a clear hierarchy of function for the road network that reflects the intended use of each road or street. (3) Increase in non-local traffic on local roads is minimised. (4) Efficient connections are established between neighbourhoods, limiting the need to use major roads for local trips. (5) Development facilitates the use of walking and cycling to assist in reducing vehicle trip frequency. (6) The development of centres establishes a concentration of uses that encourages single trips for multiple purposes. (7) Conflict between sensitive land use (as defined in the Regulation) and the effects of infrastructure operation including renewable energy facility are avoided. (8) Residential and other sensitive land use (as defined in the Regulation) are not established adjacent to major infrastructure where that has the potential for negative impacts, unless impacts can be demonstrably managed, such as through adequate buffering, preferably on-site. (9) Urban stormwater and wastewater management design objectives are identified and implemented to protect the environmental values of receiving water and avoids the transport of contaminants. (10) Discharge of wastewater demonstrates best practice environmental management. (11) Critical and community infrastructure is able to function effectively during and after natural hazard events.	2. The development does not affect existing road hierarchy in and around the site. 3. The proposal does not impose unreasonable levels of nonlocal traffic on the development though traffic management may be a requirement of an endorsed construction management plan during installation of the solar farm. 4. Not applicable. 5. Not applicable. 6. Not applicable. 7. & 8. The development has demonstrated that conflicts with adjoining sensitive uses can be managed and/or avoided based on the following: a) The solar farm will be well separated from adjoining sensitive sites through the use of large buffering corridors and asset protection zones. b) The panels are attached to a lightweight compact substructure that extends between 800mm to 1m above the natural ground level. Accordingly, all panels will follow the undulations of the existing landform. Therefore, viewpoints from sensitive sites are expected to only see a minimal glimpse of the development within their view catchment. This would be considered a similar effect where the land is to be utilised for agricultural purposes. This site is intended for rural use to which agricultural activity i.e. crops etc, would be a reasonable expectation. On that basis it is reasonable to assume that any change to the landform would include uniformity in terms of products planted, and their corresponding height above the natural ground level. The proposed solar arrays for this project operate in a similar way. Therefore, all sensitive lands will retain some view that will be similar in nature to landform changes that could be expected otherwise. 9. The site is considered to manage stormwater appropriately by maximising opportunity for infiltration into natural

	ground, onsite retention and appropriate rate of discharge offsite. 10. Not applicable. Wastewater will be treated onsite in accordance with civil engineering specifications. 11. Not applicable.

Rural Zone Code

The subject site is situated in the Rural Zone of the Planning Scheme.

The following table sets out an assessment of the proposal against the Acceptable Outcomes and Performance Outcomes for the Rural Zone Code.

Rural Zone Purpose	
Outcomes	**Response**
(1) The purpose of the rural zone code is to– (a) provide for rural uses and activities; (b) provide for other uses and activities that are compatible with– (i) existing and future rural uses and activities; and (ii) the character and environmental features of the zone; and (c) maintain the capacity of land for rural uses and activities by protecting and managing significant natural resources and processes.	1. a) Significant portion of the site remains available for Rural Use (note solar farm is located on those sections of the site not affected by the Agricultural Overlay. b) This solar farm will: i. utilise construction methods that require minimal change to existing natural ground (array sit atop lightweight supporting structure installed by hand tools). ii. minimal change to existing ground and proposed subgrade soil enrichment is expected to improve future agricultural capacity. c) Solar array is located in areas with little agricultural value, limiting the ability to run any appreciable number of livestock.
(2) The overall outcomes sought for the zone code are as follows: (a) Land that is essential to the economic viability of productive Agricultural Land Classification Class A or Class B and rural land uses within the region is conserved. (b) Development comprises a wide range of existing and new rural pursuits, including cropping, intensive horticulture and animal industries, animal husbandry and keeping and other compatible primary production uses. (c) On farm value adding in the form of small scale agri-tourism is supported	2. (a) the solar arrays are not located within areas mapped by the Agricultural Land Classification overlay. (b) the proposed solar array will constrain this outcome however it is noted that such activity could occur in those parts of the site where solar array will not be installed. A proposed renewable energy facility with high accessibility to major transmission lines is determined as sufficient grounds to depart from requirements in this overall outcome. (c) the proposed solar array will constrain this outcome. A proposed renewable energy facility with high accessibility to major transmission lines is determined as sufficient

Rural Zone **Purpose**	
Outcomes	**Response**
where associated with the rural use of the site. (d) Infrastructure is provided at a standard normally expected in rural locations. (e) Areas of land used for primary production are conserved and not unnecessarily fragmented. (f) The viability of existing and future rural uses and activities are protected from the intrusion of incompatible uses. (g) Uses that require isolation from urban areas as a consequence of their impacts such as noise or odour may be appropriate where land use conflicts are minimised. (h) Development embraces sustainable land management practices and contributes to the rural amenity and landscape of the area. (i) Development is reflective of and responsive to the surrounding character of the area, natural hazards and the environmental constraints of the land. (j) Sites that are contaminated or pose a health risk from prior activities are remediated prior to being developed for sensitive land use (as defined in the Regulation). (k) Residential or other sensitive land use (as defined in the Regulation) are not intensified in the identified separation area around the Swickers Kingaroy Bacon Factory on Overlay Map 11. (l) New residential development of historic or remote residential subdivisions is inconsistent with the purpose of this zone code. (m) Non-rural development is appropriate only where directly associated with the rural use of the zone and does not compromise the rural use of the land. (n) Natural features such as creeks, gullies, waterways, wetlands and bushland are retained, managed, enhanced and buffered from adjacent development.	grounds to depart from requirements in this overall outcome. (d) not applicable, proposal will not affect this Overall Outcome. (e) the solar arrays are not located within areas mapped by the Agricultural Land Classification overlay. The site's existing title area will be maintained (no boundary realignments proposed). (f) proposed array rests on a light-weight frame and is supported by small footings that do not require change to the land form or use of heavy machinery (during installation). (g) aspects associated with noise are separated from sensitive uses by as much as 200 metres as shown in the acoustic assessment. (h&i) The development seeks to minimise change to the existing landform, by using lightweight material and minimal penetration into the ground. The development is not more than one metre above natural ground at any point it will therefore not present any significant visual change. (j) It is understood that the site is not contaminated. (k) Not applicable. (l) Not applicable. (m) The development is of a non-rural nature the site itself is located within close proximity two major electrical transmission infrastructure. It is being determined that placement of renewable energy facility with high accessibility 2 electrical transmission infrastructure is a sufficient reason to depart from this overall outcome on the basis of planning need. (n) The undulating landscape will be retained in its current form as the solar arrays will be mounted on very lightweight low impact framing with footings that require minimal change to existing ground and levels. Significant buffering is proposed and conditioned part of the development approval. (o) Not applicable.

Rural Zone **Purpose**	
Outcomes	**Response**
(o) Water supply catchments are protected from activities that may endanger water quality.	

Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
Section 1 General		
PO1 Development maintains rural amenity and character	**AO1.1** Buildings are set back 20m from any collector or higher order road and 10m from any other road frontage. AND **AO1.2** The use does not cause odour, noise or air emissions in excess of the prescribed limits in the Environmental Protection (Air) Policy 1997 or the Environmental Protection (Noise) Policy 1997.	**PO1** a. Proposed solar arrays and ancillary structures are set back significant distance from all road boundaries. It is highly unlikely that the development will be viewable from the local road system. b. Potential noise sources will be placed as much as 200 metres from site boundaries and attenuated to avoid unreasonable noise emission.
PO2 Development does not jeopardise the rural production capacity of the Zone.	Development resulting in lots less than the minimum size in Table 8.4.2 satisfying outcomes – **AO2.1** The proposal is necessary for the efficient production and processing of a crop grown in the area. OR **AO2.2** The proposal provides an alternate productive rural activity that supports regionally significant industry. OR **AO2.3** An agricultural sustainability report prepared by a suitably qualified agronomist demonstrates that – (a) The lot is suitability sized for the proposed activity, including a	**PO2** Not applicable. This development does not propose fragmentation of the existing lot.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	dwelling house including yard; and (b) There is sufficient water for the proposed activity; and (c) The allotment is capable of being connected to reticulated electricity; and (d) The proposed activity is financially viable, requiring a viability assessment that includes capital costs, operational costs, sustainable yields to support a family, climate, soils and geological factors affecting crop growth, nutrients, salinity, topography, susceptibility to flooding and erosion and an assessment of market robustness (both recent and projected) and alternative practices in the event of failure. AND **AO2.4** Development is consistent with any Soil Conservation Plan that applies to the locality, as approved by the relevant State agency.	
PO3 Development does not result in any degradation of the natural environment, in terms of the geotechnical, physical, hydrological and environmental characteristics of the site and its setting.	**AO3.1** Uses and associated works are confined to existing lawfully cleared land or areas not supporting regulated vegetation. AND **AO3.2** Uses and associated works are confined to areas outside stormwater discharge points, overland flow paths, watercourses and natural drainage features.	**PO3** The development does not require any clearing of regulated vegetation. a. The development is not located in an over land flow path, or watercourse, but will encompass some natural drainage. Accordingly, the development is designed to alleviate concentration of storm water flow by using regular drainage points within the array itself. A significant portion of the storm water flow off the array will be able to fall directly beneath a panel with the

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	AND **AO3.3** Development, excluding forestry activities and permanent plantations, adjacent to National Parks or State Forests is set back a minimum of 100m from the park boundaries in the absence of any current 'Management Plans' for these areas.	balance drain to existing dams for attention and use on site. b. The site does not adjoin natural park or state forest.
PO4 Development is not exposed to risk from natural hazard relating to land slip.	**AO4.1** Uses and associated works are confined to slopes not exceeding: (a) 15% for residential uses; (b) 10% for treated effluent disposal areas; (c) 6% for non-residential uses.	**PO4** Not applicable. It is not mapped as retaining land slip hazard.
PO5 Development is adequately serviced.	**AO5.1** A 45kl water tank is provided for consumption purposes. AND **AO5.2** On-site sewage treatment is provided. AND **AO5.3** Each dwelling is provided with a service line connection to the electricity supply and telecommunications networks.	**PO5** Development will retain dams which can be accessed for firefighting purposes. On site sewage treatment or be designed to comply with scale deemed necessary for those attending site maintenance.
PO6 Development is located and designed to ensure that land uses are not exposed to: (a) Areas that pose a health risk from previous activities; and (b) Unacceptable levels of contaminants.	**AO6.1** Development does not occur: (a) In areas that pose a health risk from previous activities; and (b) On sites listed on the Contaminated Land Register or Environmental Management Register. OR **AO6.2** Areas that pose a health risk from previous activities and contaminated soils which are subject to development are remediated prior to plan	**PO6** a. there is no known health risks arising from previous activities on site (i.e. Was used to run cattle, currently runs cattle). b. Site is not on the contaminated land register.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	sealing, operational works permit, or issuing of building works permit.	
Section 2 Where the vicinity of an existing intensive animal industry		
PO7 Non-rural development does not compromise the integrity and operations of intensive animal industries	**AO7.1** Non-rural development does not result in an increase in the number of people living or working within 1km from an existing or approved intensive animal industry facility.	**PO7** Not applicable. The proposal does not involve residential development.
Section 3 Caretaker's accommodation		
PO8 Caretaker's accommodations are subsidiary to and compatible with the principal use on the same site	**AO8.1** Only one caretaker's accommodation is established on the site. AND **AO8.2** A caretaker's accommodation is not located at the front of the primary use on the site. AND **AO8.3** A caretaker's accommodation is separated from the principal activity areas of the primary use of the site by at least 10m.	**PO8** Matter is conditioned as part of the approval.
PO9 Caretaker's accommodations are compatible with the scale, character and appearance of the setting and provide for the accommodation needs of a caretaker and their family.	**AO9.1** A caretaker's accommodation does not exceed 8.5m in height. AND **AO9.2** Where adjoining land used, or approved for use, for uses in the accommodation activities use group, a caretaker's accommodation is located adjacent to the adjoining use. AND **AO9.3** A caretaker's accommodation has a floor area no greater than 125m2, has a balcony, verandah or deck with a minimum area of 6m2 with minimum dimensions of 3m. AND	**PO9** It is considered appropriate that where any new caretaker's accommodation is sought, it complies with AO8/AO9 of this code hence conditions to this effect are imposed.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	AO9.4 A caretaker's accommodation is provided with private open space which is directly accessible from a habitable room. AND **AO9.5** A caretaker's accommodation is setback: (a) A minimum of 1.5m from the common property boundary to an adjoining residential use; or (b) A minimum of 10m from the principal activity areas of an industrial or commercial use on an adjoining allotment.	
Section 4 Home based business		
PO10 Home based businesses are a small-scale component of the principal use on the site.	**AO10.1** The area used for a home-based business is: (a) for outdoor activities – maximum 20m2 (b) in all other circumstances – maximum 50m2 AND **AO10.2** Except for short term accommodation, the home-based business is conducted in, under or within 20m of the principal dwelling. AND **AO10.3** A home-based business is setback from the road frontage of the site a distance greater that the existing building line. AND **AO10.4** A home-based business is setback a minimum of 15m from any side or rear boundary. AND **AO10.5** A structure associated with a homebased business is no higher than 8.5m above ground level. AND	**PO10** Not applicable.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	AO10.6 No more than one non-resident of the site is employed in the home-based business.	
PO11 The conduct of home-based businesses minimises the off-site impacts on the amenity of the local residential area and the health and safety of its residents.	**AO11.1** Except for a bed and breakfast, operating hours are limited to 7am to 8pm Monday to Friday (excluding public holidays) and 8am to 4pm on other days. AND **AO11.2** The use does not produce noise emissions more than 3dB(A) above background noise levels at the property boundary. AND **AO11.3** The use does not generate dust or other particle emissions measurable at the property boundary. AND **AO11.4** The use does not involve the storage of hazardous or noxious materials in quantities beyond that reasonably associated with the dwelling. AND **AO11.5** The use does not involve the servicing or repair of vehicles not reasonably associated with the use of the dwelling. AND **AO11.6** The occupation does not rely on transport provided by vehicles larger than a 3-tonne rigid vehicle. AND **AO11.7** The occupation does not involve the hiring out of any machinery or equipment.	**PO11** Not applicable.
PO12 Car parking and access is provided in a safe, attractive and functional manner.	**AO12.1** Except for a bed and breakfast, home-based businesses provide a maximum of one parking space in addition to the	**PO12** Not applicable.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	requirements of the principal dwelling. AND **AO12.2** A bed and breakfast provides parking in addition to the requirements of the principal dwelling at the rate of one space per bedroom. AND **AO12.3** Site access is provided from an all-weather road way with a minimum width of: (a) 6m for a bed and breakfast (b) 4m in all other circumstances.	
PO13 Non-resident workers are provided with adequate open space to accommodate their social, relaxation and recreational needs	**AO13.1** Non-resident workforce accommodation provides communal open space at the rate of 0.2m2 per square metre of gross floor area of the accommodation building. AND **AO13.2** Communal open space has a minimum dimension of 4m and a depth to width ratio of 2:1. AND **AO13.3** Ground level open space does not including vehicle parking or manoeuvring areas or clothes drying areas. AND **AO13.4** An indoor communal area is provided at either 1m2 for each bed space or 25m2 overall, whichever is the greater area and is equipped with toilet, kitchen and storage facilities as a minimum.	**PO13** Not applicable.
Section 5 Secondary dwelling		
PO14 A secondary dwelling must be subsidiary to its primary dwelling.	**AO14.1** A secondary dwelling is no larger than 70m2 in gross floor area or 40% of the gross floor area of the primary dwelling, whichever is less.	**PO14** Not applicable.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	AND **AO14.2** Parking is provided for one vehicle and access to it is via the same driveway as the primary dwelling.	
Section 6 For development affected by one or more overlays		
Agricultural land overlay		
PO15 The productive capacity and utility of agricultural land for rural activities is maintained.	**AO15.1** The proposal is not located on agricultural land as identified on SPP Interactive Mapping (Plan Making). OR **AO15.2** The proposal is necessary for the efficient production and processing of a crop grown in the area. OR **AO15.3** The proposal provides an alternate productive rural activity that supports regionally significant industry. OR **AO15.4** An agricultural sustainability report prepared by a suitably qualified agronomist demonstrates that – a) The lot is suitability sized for the proposed activity. Including a dwelling house including yard; and b) There is sufficient water for the proposed activity; and c) The allotment is capable of being connected to reticulated electricity; and d) The proposed activity is financially viable, requiring a viability assessment that includes capital costs, operational costs, sustainable yields to support a family, climate, soils and	**PO15** Eastern part of the site is mapped as containing agricultural land. a. Gilbert and Sutherland Agricultural Impact Assessment document 12215_ALARSAC2F assess the agricultural value of the site and noted that past cropping attempts were unsuccessful 'due to poor soil fertility'. b. Notwithstanding proposed location over land mapped as retaining agricultural value Gilbert and Sutherland's report cites that the proposed PEG Mounting System (supporting the arrays) is low impact system requiring very little physical disturbance to the ground surface. c. Accordingly, areas mapped as retaining agricultural value remain in situ beneath the proposed solar array.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	geological factors affecting crop growth, nutrients, salinity, topography, susceptibility to flooding and erosion and an assessment of market robustness (both recent and projected) and alternative practices in the event of failure. AND **AO15.5** Development is consistent with any Soil Conservation Plan that applies to the locality, as approved by the relevant State agency.	
Airport environs overlay		
Public safety sub-area		
PO16 Development located at the end of runways does not increase the risk to public safety.	**AO16** Development does not include the following within an airport's public safety area as depicted on Overlay Map 01: (a) a significant increase in the number of people living, working or congregating in the public safety area, such as accommodation activities (b) uses that attract large numbers of people (recreation activities, shopping centres, industrial or commercial uses involving large numbers of workers or customers) (c) community activities (e.g. education establishments, hospitals) (d) the manufacture, use or storage of flammable, explosive, (e) hazardous or noxious materials.	**PO16** Not applicable.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
PO17 Development does not significantly increase the risk of wildlife hazard particularly flying vertebrates, such as birds and bats, intruding within an airport operational airspace.	**AO17.1** Development located within 3 km of an airport runway as depicted on Overlay Map 01 does not include turf farms, fruit tree farms, piggeries, show grounds, food processing plants or food, organic waste or putrescible waste facilities. Development for the purposes of dairy or poultry farms, outdoor sport and recreation, non-putrescible waste facility or sewage treatment facilities ensure landscaping and drainage works (including artificial water bodies) minimise bird and bat attracting potential. AND **AO17.2** Development located between 3 km and 8 km of an airport runway as depicted on Overlay Map 01 for turf farms, fruit tree farms, piggeries, show grounds, food processing plants, food, organic waste or putrescible waste facilities, dairy or poultry farms, outdoor sport and recreation or sewage treatment facilities ensures potential food or waste sources are covered and collected so that they are not accessible to wildlife. and AO17.3 Putrescible waste disposal sites (e.g. landfill and waste transfer facilities) are not located within a 13km radius of an airport.	**PO17** Not applicable.
Biodiversity overlay		
PO18 Areas of environmental significance, including biodiversity values, are identified, protected and enhanced.	**AO18.1** Uses and associated works are confined to areas not identified on Overlay Map 05. OR	**PO18** Not applicable.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	AO18.2 Development is compatible with the environmental values of the area. OR **AO18.3** Where development within an area identified on Overlay Map 05 is unavoidable, measures recommended by a suitably qualified ecologist are incorporated to protect and retain the environmental values and underlying ecosystem processes within or adjacent to the development site to the greatest extent practical.	
PO19 Biodiversity values of identified areas of environmental significance are protected from the impacts of development	**AO19** Development adjacent to Protected Areas identified on Overlay Map 05 is set back a minimum of 100m from the park boundaries in the absence of any current 'Management Plans' for these areas	**PO19** Not applicable.
PO20 There are no significant adverse effects on water quality, ecological and biodiversity values.	**AO20.1** Uses and associated works are confined to areas outside overland flow paths and natural drainage features. AND **AO20.2** All buildings, on-site effluent disposal, external activities or storage areas are located 100m from the top of the bank of a river, creek, stream or wetland identified on Overlay Map 05. Note: This setback does not apply to equipment such as pumps that are necessary to access water or waterway crossings. AND **AO20.3** The Waterway Corridors identified on Overlay Map 05 are	**PO20** Not applicable.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	maintained in a natural state.	
Bushfire hazard overlay		
PO21 Development is not placed at unacceptable risk from bushfire, does not increase the extent or severity of bushfire and maintains the safety of people and property from bushfire	**AO21.1** Development does not occur in areas mapped as Very High or High Potential Bushfire Intensity Areas on the SPP Interactive Mapping (Plan Making). OR **AO21.2** A written assessment by a suitably experienced or qualified person confirms that the site is of Low Potential Bushfire Hazard. OR **AO21.3** For areas mapped as Medium Potential Bushfire Intensity Areas on the SPP Interactive Mapping (Plan Making), bushfire risk is mitigated through a Bushfire Management Plan incorporating: (a) Lot design and the siting of buildings and uses so: (i) high intensity uses are located on the least bushfire prone area on the site and activities least susceptible to fire are sited closest to the bushfire hazard; and (ii) efficient emergency access is optimised; and (iii) bushfire risk is effectively minimised having regard to aspect, elevation, slope and vegetation. (b) Including firebreaks that provide adequate:	**PO21** North eastern & South-eastern sections of the site have intermittent areas mapped as 'Very High Potential Bushfire' (associated with stands of trees), however, it appears that current mapping does not reflect current ground conditions, as are generally devoid of vegetation associated with the Very High potential bushfire hazard. Given the absence of vegetation in mapped high hazard locations it is determined that the development does not increase severity of existing bushfire risk, however it is noted that conditions regarding maintenance of safety from potential bushfire are imposed. Site is generally clear of fuel sourced associated with actual bushfire hazard. North-eastern and South-eastern parts of the Solar Array will be separated by 75m to 200m from property boundaries. A 10m wide vegetated buffer will be placed in the separation zone between the solar array and property boundary. The arrays will be accessed via an internal track/road system allowing vehicles to travel the site's length and width as shown on the Tumurru Solar Farm Plan of Development ref J001321).

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	(i) setbacks between buildings/ structures and hazardous vegetation; and (ii) access for fire fighting or other emergency vehicles; and (c) Road access for fire-fighting appliances and firebreaks are provided through a perimeter road that separates the use from areas of bushfire hazard and that road has a minimum cleared width of 20 metres; and (d) Where a reticulated water supply is not available and development involves buildings with a gross floor area greater than 50m2, one tank within 100m of each residential building that has: (i) fire brigade tank fittings; and (ii) 25,000 litres dedicated for fire fighting purposes.	
PO22 Community infrastructure in any area mapped as Very High to Medium (Potential Intensity) Areas are able to function effectively during and immediately after bushfire events.	**AO22.1** No outcome specified.	
PO23 Public safety and the environment are not adversely affected by the detrimental impacts of bushfire on hazardous materials	**AO23.1** No hazardous materials, manufactured or stored in bulk, are on land mapped as Very High to Medium (Potential Intensity) Areas.	**PO23** The development conditions have been imposed to ensure that potentially hazardous materials are not stored (in bulk) on the site.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
manufactured or stored in bulk.		
PO24 Major risks to the safety or property and to the wellbeing of occupants in areas mapped as Very High to Medium (Potential Intensity) Areas is minimised through appropriate siting, servicing and managing of residential premises.	**AO24.1** New dwellings on land mapped as Very High to Medium (Potential Intensity) Areas are located: (a) Centrally within existing cleared areas on a lot which allows a regular shaped area (with a minimum dimension of 50m) of 5,000m2 to be identified that: (i) is free of highly combustible vegetated areas; and (ii) is on southerly to easterly facing slopes not exceeding 15% gradient; or (iii) on flat lands at the base of north to western facing slopes not exceeding 15% gradient. (b) A fire protection buffer is established around the complete perimeter of the dwelling unit within a lot for a minimum width of 50m.	**PO24** Not Applicable.
Extractive industry overlay		
PO25 The long term availability of the extractive resource, coal or mineral for extraction or processing is maintained.	**AO25** Development in the resource or processing area depicted on Overlay Map 07 is for: (a) extractive, coal or mineral industry or is directly associated with extractive, coal or mineral; industry, or (b) other uses that would not constrain existing or future extractive, coal or mineral activities, or	**PO25** Not Applicable.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	(c) a temporary use.	
PO26 Development does not increase the number of people living or working in the separation area.	**AO26** New residential, business and community activities are not located within the separation area depicted on Overlay Map 07. OR **AO26.2** Development does not increase the total number of lots within the separation area depicted on Overlay Map 07.	**PO26** Not Applicable.
PO27 Development does not increase the number of people living in the transport route's separation area.	**AO27.1** Development does not involve: (a) New residential, business or community activities; or (b) An increase in the total number of lots; within 100m distance each side of a transport corridor associated with the extractive or mining resource. AND **AO27.2** Access points are designed to avoid adversely affecting the safe and efficient operation of vehicles transporting extractive materials.	**PO27** Not Applicable.
Flood hazard overlay		
PO28 Development is not exposed to risk from flood events by responding to flood potential and maintains personal safety at all times.	**AO28.1** All new allotments include an area of sufficient size to accommodate the intended land use outside the area identified on overlay Map 03. AND **AO28.2** New buildings are not located within the area identified on Overlay Map 03; OR **AO28.3** Development is sited above the 1%AEP flood event where known, or the highest known flood event, as follows:	**PO28** Not Applicable. Site is not flood affected. The following information systems were reviewed: • QLD Govt Flood Check (*floodcheck.information.qld.gov.au*) • State Planning Policy Interactive Mapping System – '*Natural Hazards Risk & Resilience*'. • South Burnett Regional Planning Scheme – *Flood Hazard Overlay Map (OM3)*.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	(a) Habitable floor levels - 500mm; (b) Non-habitable floor levels - 300mm; (c) On-site sewage treatment and storage areas for potential contaminants - 300mm; (d) All other development - 0mm. AND **AO28.4** Building work below the nominated flood level allows for the flow through of flood water at ground level: (a) The structure below flood level is unenclosed; or (b) Any enclosure below flood level aligns with the direction of water flow; or (c) Any enclosure not aligning with the direction of water flow must have openings that are at least 50% of the enclosed area with a minimum opening of 75mm. AND **AO28.5** Resilient building materials are used below the nominated flood level in accordance with the relevant building assessment provisions. AND **AO28.6** Signage is provided on site indicating the position and path of all safe evacuation routes off the site.	
PO29 Development directly, indirectly and cumulatively avoids any significant increase in water flow, velocity or flood level, and does not increase	**AO29** Works associated with the proposed development do not: (a) involve a net increase in filling greater than 50m3; or	**PO29** Not Applicable. Site is not flood affected. The following information systems were reviewed: • QLD Govt Flood Check (*floodcheck.information.qld.gov.au*)

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
the potential for flood damage either on site or other properties.	(b) result in any reductions of onsite flood storage capacity and contain within the site any changes to depth/duration / velocity of flood waters; or (c) change flood characteristics outside the site in ways that result in: (i) loss of flood storage; (ii) loss of/changes to flow paths; (iii) acceleration or retardation of flows; or (iv) any reduction in flood warning times.	• State Planning Policy Interactive Mapping System – '*Natural Hazards Risk & Resilience*'. • South Burnett Regional Planning Scheme – *Flood Hazard Overlay Map (OM3).*
PO30 Development avoids the release of hazardous materials into floodwaters.	**AO30.1** Materials manufactured or stored on site are not hazardous in nature. OR **AO30.2** Hazardous materials and any associated manufacturing equipment are located above the nominated flood level.	**PO30** Not Applicable. Site is not flood affected. The following information systems were reviewed: • QLD Govt Flood Check (*floodcheck.information.qld.gov.au*) • State Planning Policy Interactive Mapping. • System – '*Natural Hazards Risk & Resilience*'. South Burnett Regional Planning Scheme – *Flood Hazard Overlay Map (OM3).*
PO31 Community infrastructure in any area mapped as Flood Hazard is able to function effectively during and immediately after flood.	No outcome specified.	**PO31** Not Applicable – site is not flood affected. The following information systems were reviewed: • QLD Govt Flood Check (*floodcheck.information.qld.gov.au*) • State Planning Policy Interactive Mapping. • System – '*Natural Hazards Risk & Resilience*'. • South Burnett Regional Planning Scheme – *Flood Hazard Overlay Map (OM3).*
Historic subdivisions overlay		

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
PO32 Historic subdivisions are only developed in locations where there is adequate access to physical and social services Editor's Note: This does not apply to outbuildings and extensions to an existing house.	**AO32** The site is within 5km distance by road of a school if not on a current school bus route.	**PO32** Not Applicable.
PO33 A site identified on the Overlay Map 09 is not developed where: (a) the site characteristics, including impacts from natural hazards, make it unsuitable for development; and (b) infrastructure, including water, sewerage, stormwater and roads are not adequate or result in environmental harm	**AO33.1** The site has frontage to a gazetted and constructed road. Editor's Note: The construction standard for unmade roads is defined in the 'Construction of Unmade Roads' policy resolved by South Burnett Regional Council and adopted on 19 August 2009 AND **AO33.2** The site has sufficient area to provide for on-site effluent disposal in accordance with the requirements of the Queensland Plumbing and Wastewater Code. AND **AO33.3** The site is: (a) within a reticulated town water area, and reticulated water supply is provided, or; (b) outside a reticulated town water area, and a rainwater tank or other supplementary water supply system is installed with a minimum capacity of 45,000 litres. AND **AO33.4** Habitable rooms within new buildings are 300mm above the highest	**PO33** Not Applicable.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	known flood level, located on the highest part of the site and elevated to enhance flood immunity. Editor's Note: Where historical flood data exists, it may be possible to use this information to determine the highest know flood level. Historical data may include: • formally recorded gauge heights records for a number of floods; • formally surveyed peak flood levels; • photographs of a historic flood; • 'high-water' marks recorded on public or private property; and • Interviews with long-term residents AND **AO33.5** New buildings are provided with a service line connection to the electricity supply and telecommunications networks. AND **AO33.6** Stormwater drainage is discharged from the boundary of a development site: (a) without nuisance and annoyance to adjoining or downstream properties, (b) into natural systems, and (c) with conveyance to a lawful point of discharge including by way of easement where drainage systems traverse private property into natural systems.	

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	AND **AO33.7** New buildings are confined to areas outside of overland flow paths and natural drainage features.	
Landslide hazard overlay		
PO34 Development does not increase the risk of harm to people and property as a result of landslide, by:- (a) avoiding development in a landslide hazard (b) area; or (c) undertaking development in a landslide hazard area only where strictly in accordance with best practice geotechnical principles.	**AO34.1** Development, including associated access, is not located in a landslide hazard area as identified on Overlay Map 10. OR **AO34.2** Development, including associated access, is located in a low or very low land landslide hazard area as determined by a site-specific geotechnical assessment prepared by a competent person.	**PO34** Not Applicable.
PO35 Community Infrastructure in any area mapped as Landslide Hazard is able to function effectively during and immediately after landslide events	No outcome specified.	**PO35** Not Applicable.
Regional infrastructure overlay		
PO36 Stock routes and trails identified on Overlay Map 04 are protected from compatible development on adjoining sites.	No outcome specified.	**PO36** Not Applicable.
PO37 Development is sufficiently separated from major electricity infrastructure or substations to minimise the likelihood of nuisance or complaint.	AO37.1 Sensitive land use (as defined in the Regulation) maintain the following separation distances from substations or easement for major electricity infrastructure identified on Overlap Map 04:	**PO37** Not Applicable.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	(a) 20 m for transmission lines up to 132 kilovolts (b) 30 m for transmission lines between 133 kilovolts and 275 kilovolts and (c) 40 m for transmission lines exceeding 275 kilovolts. Editor's Note: Information relating to the voltage of transmission lines is available from the relevant energy supplier.	
PO38 There is sufficient space within the site to establish landscaping which substantively assists in screening and softening obtrusive major electricity infrastructure identified on Overlay Map 04.	**AO38** A minimum 3m wide densely planted landscaped buffer is provided along the boundary adjoining the major electricity infrastructure, including provision for advanced trees and shrubs that will grow to a minimum height of 10m.	**PO38** Not Applicable.
PO39 There are no significant adverse effects on the water quality of drinking water supply.	**AO39.1** Development within the BjelkePetersen Dam Water Resource Catchment Area and the 800m buffer to Boondooma and Gordonbrook Dams shown on Overlay Map 06 has no significant adverse effect on the quantity and availability of raw water for consumption, as determined by a suitably qualified water quality expert. OR **AO39.2** Development within the Cooyar Creek water supply buffer area shown on Overlay Map 06 complies with the specific outcomes and measures of the Seqwater Development Guidelines: Development Guidelines for Water Quality Management in	**PO39** Not Applicable.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
	Drinking water Catchments 2012.	

Rural Residential Zone Code

The following table sets out an assessment of the proposal against the Acceptable Outcomes and Performance Outcomes for the Rural Residential Zone Code.

Rural Residential Zone **Purpose**	
Outcomes	**Response**
(1) The purpose of the rural residential zone code is to provide for residential uses and activities on large lots, including lots for which the local government has not provided infrastructure and services.	(1) The proposed development directly adjoins Rural Residential Zoned land on its Northern, Southern, & Eastern boundaries. The proposed development does not constrain the ability of adjoining land to accommodate residential use and activities as intended.
(2) The overall outcomes sought for the zone code are as follows: South Burnett Regional Council Planning Scheme | Effective from 4 January 2021 (Version 1.4). (a) Development is comprised predominantly of dwelling houses on larger allotments in a clustered settlement pattern that protect residential amenity and the semi-rural landscape associated with the locality. (b) The 4,000m2 RR1 precinct identifies locations near urban centres where smaller rural residential allotments are preferred. (c) Development preserves environmental and topographical features by minimising alteration or disturbance in the design, siting and construction of buildings, roadways, and other engineering works. (d) Natural features such as creeks, gullies, waterways, wetlands, and bushland are retained, enhanced and buffered from the impacts of development. Rural residential development avoids treed ridgelines or ensures that buildings remain below the vegetation canopy on steeper more visible lands. (e) The risk to life and property from natural and manmade hazards is not	(a) Not Applicable – purpose of assessment against the Rural Zone Code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo. (b) Not Applicable – purpose of assessment against the Rural Zone Code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo. (c) The proposed development will utilise a solar array product that are supported by light weight, low impact framing referred to as the PEG System (refer to PEG Modular Installation system document referred to in the conditions package). The PEG System supporting this solar array relies on use of small steel rods screwed into the ground with hand held tools on slopes between 8% & 11%. Accordingly, the proposed PEG System will not require extensive earth works or change to the current landform (the array will follow current site topography). The proposed development is not expected to unreasonably affect. Adjoining Rural Residential expectations in terms of maintaining existing land form within the greater locality. (d) The proposed development is considered to achieve the following: • Retains the existing (natural landform) accordingly gullies and drainage will

Rural Residential Zone **Purpose**	
Outcomes	**Response**
increased as a result of development. (f) Sites that are contaminated or pose a health risk from prior activities are remediated prior to being developed for sensitive land use (as defined in the Regulation). (g) Residential or other sensitive uses are not intensified in the identified separation area around the Swickers Kingaroy Bacon Factory on Overlay Map 11. (h) Residences are provided with an adequate supply of potable water and sustainable means of wastewater treatment and disposal. Access to infrastructure and essential services is of a standard normally expected in isolated communities. (i) Conflict with adjoining land in the Rural zone is avoided by the provision of buffers on the site of new development for rural residential purposes. (j) The productive capacity of Agricultural Land Classification Class A or Class B, and regional biodiversity is not compromised. (k) Non-residential uses do not detrimentally affect residential amenity and meet the day-to-day needs of the residential catchment or have a direct relationship to the land in which it is proposed. The extent and scale of rural activities will be limited. (l) Non-residential uses do not detrimentally affect residential amenity and meet the day-to-day needs of the residential catchment or have a direct relationship to the land in which it is proposed. The extent and scale of rural activities will be limited.	remain in situ beneath the arrays. While it is recognised that natural drainage on the site will change during life of the solar array, existing natural drainage will remain unaltered and hence can be reinstated (upon decommissioning). • The site shares a common boundary with Rural Residential Zone land on its northern, southern, and eastern sides hence amenity impacts were considered. The Land Plan 'Visual Impact Assessment' (Updated September 2023, page 49) specifies a planting regime along the shared property boundary which is to comprise the following: o 10m wide planting buffer. o Vegetation planted in an offset screening arrangement. o Vegetation specimens increasing in height as distance increases from common boundary. • The proposed solar array has a maximum height of 1m above natural ground. It has been determined that this development will remain well below any vegetations canopies in the locality (this is not considered a view catchment issue). (e) Hazards associated with bushfire (and potential fire source of the array) can be managed through implementation of a management plan. Imposed as a condition of approval. (f) Site is not known to retain contamination, as previously mentioned the proposed solar array will be mounted on a low impact frame requiring minimal land alteration. (g) Not Applicable – purpose of assessment against the Rural Zone Code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo. (h) Not Applicable – purpose of assessment against the Rural Zone Code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo. (i) In terms of conflicts, 2(i)'s wording has more relevance impacts of rural residential use on rural zoned land. Accordingly, this matter was not considered.

Rural Residential Zone **Purpose**	
Outcomes	**Response**
	(j) Not Applicable – purpose of assessment against the Rural Zone Code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo. (k) Not Applicable – purpose of assessment against the Rural Zone Code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo. (l) This outcome specifically relates to non-residential uses on Rural Residential Land, however in this instance it is considered relevant in terms of community expectations for residential amenity in the SBRC Regional Planning Scheme's Rural Residential Zone as most of the surrounding lots are used for residential purposes. The following impacts on local residential amenity were assessed: • Visual impact (i.e., effects on views, outlook, glare). • Noise **Views, Outlook & Glare -** The applicant commissioned Landplan (landscape architecture) to conduct a 'Visual Impact Assessment' (Updated September 2023). The Landplan visual impact assessment was reviewed to which the following was noted: • Initial desk top assessment was undertaken to establish potential view catchments based on LIDAR ground level information. • The initial desktop assessment established 20 key locations surrounding the development site (generally encompassing all cardinal points). • All 20 established view points underwent an onsite appraisal to confirm extent of visual impact. • All 20 view points were assessed pursuant to the *'Landscape Institute and institute for Environmental Management & Assessment 2002'*. • All viewpoints potentially impacted by the solar farm were assigned a 'rating of importance of impact' in accordance with the required industry standards. Accordingly, scores were assigned in terms of 'visual exposure & landscape

Rural Residential Zone **Purpose**	
Outcomes	**Response**
	prominence' (refer to page 30 of the Landplan Visual Impact Assessment). • The Landplan visual impact assessment concluded that 19 of the viewpoints to the solar farm from nearby properties could generally fall into one of the below impact categories: o 'not exposed to visual impact', or o 'of low significance, or o 'not significant. • The Landplan visual impact assessment identified that land fronting Emerson/Boobi Creek Road (site's southern boundary) will be exposed to visual impacts of 'medium significance' from the solar farm if left unaddressed (refer to page 31). It was recommended the southern extent of the solar array be reduced, and a vegetation screen be installed to bring visual impact (from adjoining properties), back to a 'low significance' category which in this instance is considered a non-worsening given impacts of the electrical transmission lines. • Applicant's response to Council's further advice dated 3 August 2023 incorporated Landplan's recommendations to reduce extent of visual impact to adjoining properties to the south: o The solar array will have a separation distance of 200m to 205m from properties fronting Emerson/Boobi Creek Road (separation taken from common boundary). o Existing regrowth in the (180m setback to the buffer) will be maintained. o A 10m wide vegetation screen (buffer) is proposed with shrubs to be as high as 3m (noting the solar array's maximum height is 1m). It is determined that the development's visual impact on surrounding residential amenity is acceptable provided all of Landplan's recommendations are enacted. The Landplan visual impact assessment report recommendations are to be conditioned. • The Landplan visual impact assessment has considered potential for 'glare' (reflected light) from the solar array. Landplan's Categorization of glare, focussed on the following parameters:

Rural Residential Zone **Purpose**	
Outcomes	**Response**
	○ Tilt/orientation and optical properties of the solar panels. ○ Sun position during day time and relationship to geography. ○ Proximity of sensitive uses (residential dwellings). ○ Potential for screening. • Landplan's consideration of glare (pages 38 to 41 of report) identified that 17 of the viewpoints will have a 'Low', or 'No' Glare potential, however 3 viewpoints will be affected by glare if left untreated. • Applicant's response to Council's further advice dated 3 August 2023 incorporated Landplan's recommendations to mitigate glare impacts to adjoining properties through the use of vegetation screening. It is determined that risk of potential glare impacts to sensitive uses, from the solar array can be mitigated via implementation of Landplan's recommended vegetation screening or through retention of existing vegetation screens. The Landplan visual impact assessment report recommendations are to be conditioned **Noise** - the applicant commissioned Matrix Acoustics to undertake an acoustic assessment of the proposed development in terms of construction and operational phases. Matrix's assessment was made pursuant to EPP Noise 2019, in turn achieving EP Act's objectives that include avoidance of environmental nuisance or harm which in this case were identified as: ○ Protect the health and biodiversity of ecosystems. ○ Human health and wellbeing, including an individual's ability to have sleep, study, or learn, and recreation activities (incl relaxation & conversation). ○ Protect the amenity of the community. • The acoustic assessment was measured against noise limits attributed to Daytime (7am-6pm), Evening (6pm-10pm) & Night (10pm-7am) to which a 'most stringent criterion was applied to the following: ○ Operational noise was based on a 'most stringent criterion assessed against the EPP Noise 2019. An 'external noise

Rural Residential Zone **Purpose**	
Outcomes	**Response**
	criterion of 37dB(A) measured against evening hours was adopted. o Construction noise was based on a 'most stringent criterion' assessed against the EPP Noise 2019. An external noise criterion of 50 dB(A) measured against daytime hours was adopted. • The Matrix Acoustic assessment modelled a 'worst case' scenario for both construction and operational activity on the site (in context of the criterion stated above). The following activities were considered relevant and modelled accordingly: o Construction/installation phase – ▪ Vehicles attending the site. ▪ Concrete trucks and pumps (limited to central facilities). ▪ Constructions works (limited to central facilities). ▪ Crews of workers (25) (measured nearest to dwellings). ▪ Operation of hand tools o Operational phase (equipment generating noise) – ▪ Inverters & Distributed Batteries (118, located 75m or more from site boundaries). ▪ High Voltage Switch Yard. • In terms of construction noise, the Matrix Acoustic modelling identified that the most stringent day time noise criterion of 50dB(A) is contained within the site boundaries (noise contours at image 5-1 page 10 of the report show 30dB(A) to 40dB(A) beyond the site boundaries). • In terms of operational noise, the Matrix Acoustic modelling identified that the most stringent night time noise criterion of 37dB(A) is contained within the site boundaries (noise contours at image 5-2 page 11 of the report show 30dB(A) to 35dB(A) beyond the site boundaries). • The Matrix Acoustic assessment concludes that a solar farm can comply with noise criteria contained in the EPP Noise on this site however goes on to state that 'good environmental management practice should be undertaken throughout construction and operation of the project. The report infers implementation of the following during construction and operations: o An environmental management plan that clearly states the noise criteria for activity

Rural Residential Zone **Purpose**	
Outcomes	**Response**
	associated with time periods for day, evening, & night. o Procedures for addressing noise complaints. o A noise monitoring program including items such as, spot noise monitoring, noise monitoring in response to complaints, periodic noise monitoring, or long-term permanent noise monitoring. o Noise measurements be undertaken of equipment used in the development including inverters, batteries, and central power area to enable confirmation of the noise assumptions made in the Matrix Acoustic Assessment report. • The Matrix Acoustic assessment has been reviewed and given due consideration with the following conclusions made: o The Matrix Acoustic assessment identifies that stringent day time and night-time noise criterion can be contained within the subject site boundaries during construction, and operational phases (locations of inverters, batteries, central power area noted relative to noise contours in the report). o Notwithstanding Matrix Acoustics demonstration that stringent day time and night-time noise criterion can be contained there is no clear demonstration that specific equipment, intended to operate on the proposed solar farm can meet the stringent noise criterion cited in accordance with SPP Noise 2019 (i.e. 50dB(A), & 37dB(A)). o Given there is no clear evidence that noise generating equipment associated with the Solar Farm will meet stringent noise criterion cited in the report, it is deemed reasonable that Council's decision impose conditions requiring all noise generating equipment operate in a way that can be certified as retaining appropriate dB(A) levels at sensitive receptors prior to commencement of the use.

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
Section 1 General		
PO1 Buildings and structures must complement the semi-	**AO1.1** Site cover does not exceed 10%.	**PO1**

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
rural character of nearby development and protects residential amenity.	AND **AO1.2** Buildings and structures are not higher than 8.5m above ground level. AND **AO1.3** Buildings have a minimum set back of: (a) 10m to the road frontage; (b) 6m to a side or rear boundary. AND **AO1.4** The maximum length of any façade without articulation or change of materials is 15m. AND **AO1.5** On-site storage areas visible from outside the site are screened by a 1.8m high fence along intervening boundaries. AND **AO1.6** Outdoor lighting is designed, installed and maintained in accordance with *AS4282 – Control of the Obtrusive Effects of Outdoor Lighting.*	Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
PO2 Development minimises the potential for reverse amenity impacts for adjoining existing non-residential activities.	**AO2** A well-maintained vegetative buffer is provided on the residential land between the residential development and adjacent existing non-residential use.	**PO2** Complies – refer to the Landplan landscape concept.
PO3 Dwellings are to be adequately serviced.	**AO3.1** Where in a reticulated water supply area, development is to be connected to the supply network. OR **AO3.2** Where reticulated water supply is not available, a 45kl water tank is provided for each dwelling for consumption purposes and an additional 22.5kl water storage located no more than 10m from the main dwelling is available for fire fighting purposes. AND **AO3.3** The provision of on-site sewage treatment conforms to the requirements of the Queensland Plumbing and Wastewater Code. AND **AO3.4** Each dwelling is provided with a service line connection to the electricity supply and telecommunications networks. AND	**PO3** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
	AO3.5 Stormwater discharge must be to a lawful point of discharge or to downstream properties but only with the consent of the affected landowners. AND **AO3.6** Development has direct access to a sealed road.	
PO4 Development is located and designed to ensure that land uses are not exposed to: (a) Areas that pose a health risk from previous activities; and (b) Unacceptable levels of contaminants.	**AO4.1** Development does not occur: (a) In areas that pose a health risk from previous activities; and (b) On sites listed on the Contaminated Land Register or Environmental Management Register. OR **AO4.2** Areas that pose a health risk from previous activities and contaminated soils which are subject to development are remediated prior to plan sealing, operational works permit, or issuing of building works permit.	**PO4** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
Section 2 Where in the vicinity of an existing intensive animal industry		
PO5 Non-rural development does not compromise the integrity and operations of intensive animal industries.	**AO5** Non-rural development does not result in an increase in the number of people living or working within 500m from an existing or approved intensive animal industry facility.	**PO5** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
Section 3 Home based business		
PO6 The activity, occupation or business is subordinate to the dwelling on the site.	**AO6.1** The home-based business is conducted in, under or within 20m of the principal dwelling and is conducted by a person living in the dwelling. OR **AO6.2** Except for a bed and breakfast, the maximum internal floor area used is the greater of 50m2 of the gross floor area or 20m2 of outdoor area. OR **AO6.3** The area used for a bed and breakfast has a maximum capacity of 6 people. AND	**PO6** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
	AO6.4 No more than one non-resident of the site is employed in the home-based business. AND **AO6.5** A home-based business is setback from the road frontage of the site a distance greater that the existing building line. AND **AO6.6** A home-based business is setback a minimum of 15m from any side or rear boundary.	
PO7 Car parking and access is provided in a safe, attractive and functional manner.	**AO7.1** Except for a bed and breakfast, homebased businesses provide a maximum of one parking space in addition to the requirements of the principal dwelling. OR **AO7.2** A bed and breakfast provides parking in addition to the requirements of the principal dwelling at the rate of one space per bedroom. AND **AO7.3** Access is taken from the same crossover and driveway servicing the existing dwelling.	**PO8** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
PO8 The amenity of the local residential area is not adversely affected.	**AO8.1** Except for a bed and breakfast, operating hours are limited to 7am to 8pm Monday to Friday and 8am to 4pm Saturday, Sunday and public holidays. AND **AO8.2** The home-based business does not rely on transport provided by vehicles larger than a 3-tonne rigid vehicle. AND **AO8.3** The home-based-business does not involve the storage of hazardous or noxious materials in quantities beyond that reasonably associated with the dwelling. AND **AO8.4** The home-based business does not involve servicing, repair or hiring of vehicles, machinery or equipment. AND	**PO8** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
	AO8.5 The home-based business does not necessitate an environmental licence	
Section 4 Secondary dwelling		
PO9 A secondary dwelling must be subsidiary to its primary dwelling	**AO9.1** A secondary dwelling is no larger than 70m2 in gross floor area or 40% of the gross floor area of the primary dwelling, whichever is less. AND **AO9.2** Parking is provided for one vehicle and access to it is via the same driveway as the primary dwelling.	Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
Section 5 For development affected by one or more overlays		
Airport environs overlay		
Public safety sub-area		
PO10 Development located at the end of runways does not increase the risk to public safety.	**AO10** Development does not include the following within an airport's public safety area as depicted on Overlay Map 01: (a) a significant increase in the number of people living, working or congregating in PSAs, such as accommodation activities (b) uses that attract large numbers of people (recreation activities, shopping centres, industrial or commercial uses involving large numbers of workers or customers); (c) community activities (e.g. education establishments, hospitals) (d) the manufacture, use or storage of flammable, explosive, (e) hazardous or noxious materials.	**PO10** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
PO11 Development does not significantly increase the risk of wildlife hazard particularly flying vertebrates, such as birds and bats, intruding within an airport operational airspace.	**AO11.1** Development located within 3 km of an airport runway as depicted on Overlay Map 01 does not include turf farms, fruit tree farms, piggeries, show grounds, food processing plants or food, organic waste or putrescible waste facilities. Development for the purposes of dairy or poultry farms, outdoor sport and recreation, non-putrescible waste facility or sewage treatment facilities ensure landscaping and drainage works	**PO11** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
	(including artificial water bodies) minimise bird and bat attracting potential. AND **AO11.2** Development located between 3km and 8 km of an airport runway as depicted on Overlay Map 01 for turf farms, fruit tree farms, piggeries, show grounds, food processing plants, food, organic waste or putrescible waste facilities, dairy or poultry farms, outdoor sport and recreation or sewage treatment facilities ensures potential food or waste sources are covered and collected so that they are not accessible to wildlife.	
Biodiversity overlay		
PO12 Areas of environmental significance, including biodiversity values, are identified, protected and enhanced.	**AO12.1** Uses and associated works are confined to areas not identified on Overlay Map 05. OR **AO12.2** Development is compatible with the environmental values of the area. OR **AO12.3** Where development within an area identified on Overlay Map 05 is unavoidable, measures recommended by a suitably qualified ecologist are incorporated to protect and retain the environmental values and underlying ecosystem processes within or adjacent to the development site to the greatest extent practical.	**PO12** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
PO13 Biodiversity values of identified areas of environmental significance are protected from the impacts of development	**AO13** Development adjacent to Protected Areas identified on Overlay Map 05 is set back a minimum of 100m from the park boundaries in the absence of any current 'Management Plans' for these areas	**PO13** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
PO14 There are no significant adverse effects on water quality, ecological and biodiversity values.	**AO14.1** Uses and associated works are confined to areas outside overland flow paths and natural drainage features. AND	**PO14** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
	AO14.2 All buildings, on-site effluent disposal, external activities or storage areas are located 100m from the top of the bank of a river, creek, stream or wetland identified on Overlay Map 05. Note: This setback does not apply to equipment such as pumps that are necessary to access water or waterway crossings. AND **AO14.3** The Waterway Corridors identified on Overlay Map 05 are maintained in a natural state.	negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
Bushfire hazard overlay		
PO15 Development is not placed at unacceptable risk from bushfire, does not increase the extent or severity of bushfire and maintains the safety of people and property from bushfire	**AO15.1** Development does not occur in areas mapped as Very High or High Potential Bushfire Intensity Areas on the SPP Interactive Mapping (Plan Making). OR **AO15.2** A written assessment by a suitably experienced or qualified person confirms that the site is of Low Potential Bushfire Hazard. OR **AO15.3** For areas mapped as Medium Potential Bushfire Intensity Areas on the SPP Interactive Mapping (Plan Making), bushfire risk is mitigated through a Bushfire Management Plan incorporating: (a) Lot design and the siting of buildings and uses so: (i) high intensity uses are located on the least bushfire prone area on the site and activities least susceptible to fire are sited closest to the bushfire hazard; and (ii) efficient emergency access is optimised; and (iii) bushfire risk is effectively minimised having regard to aspect, elevation, slope and vegetation. (b) Including firebreaks that provide adequate: (i) setbacks between buildings/ structures and	**PO15** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo. Refer to Rural zone code.

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
	hazardous vegetation; and (ii) access for fire fighting or other emergency vehicles; and (c) Road access for fire-fighting appliances and firebreaks are provided through a perimeter road that separates the use from areas of bushfire hazard and that road has a minimum cleared width of 20 metres; and (d) Where a reticulated water supply is not available and development involves buildings with a gross floor area greater than 50m2, one tank within 100m of each residential building that has: (i) fire brigade tank fittings; and (ii) 25,000 litres dedicated for fire fighting purposes.	
PO16 Community infrastructure in any area mapped as Very High to Medium (Potential Intensity) Areas are able to function effectively during and immediately after bushfire events.	No outcome specified.	**PO16** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
PO17 Major risks to the safety or property and to the wellbeing of occupants in areas mapped as Very High to Medium (Potential Intensity) Areas is minimised through appropriate siting, servicing and managing of residential premises.	**AO17.1** New dwellings on land mapped as Very High to Medium (Potential Intensity) are located: (a) Centrally within existing cleared areas on a lot which allows a regular shaped area (with a minimum dimension of 50m) of 5,000m2 to be identified that: (i) is free of highly combustible vegetated areas; and (ii) is on southerly to easterly facing slopes not exceeding 15% gradient; or (iii) on flat lands at the base of north to western facing slopes not exceeding 15% gradient.	**PO17** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
	(b) A fire protection buffer is established around the complete perimeter of the dwelling unit within a lot for a minimum width of 50m.	
Flood hazard overlay		
PO18 Development is not exposed to risk from flood events by responding to flood potential and maintains personal safety at all times.	**AO18.1** All new allotments include an area of sufficient size to accommodate the intended land use outside the area identified on Overlay Map 03. AND **AO18.2** New buildings are not located within the area identified on Overlay Map03. OR **AO18.3** Development is sited above the 1%AEP flood event where known, or the highest known flood event, as follows: (a) Habitable floor levels - 500mm; (b) Non-habitable floor levels - 300mm; (c) On-site sewage treatment and storage areas for potential contaminants - 300mm; (d) All other development - 0mm. AND **AO18.4** Building work below the nominated flood level allows for the flow through of flood water at ground level: (a) The structure below flood level is unenclosed; or (b) Any enclosure below flood level aligns with the direction of water flow; or (c) Any enclosure not aligning with the direction of water flow must have openings that are at least 50% of the enclosed area with a minimum opening of 75mm. AND **AO18.5** Resilient building materials are used below the nominated flood level in accordance with the relevant building assessment provisions. AND **AO18.6** Signage is provided on site indicating the position and path of all safe evacuation routes off the site.	**PO18** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
PO19 Development directly, indirectly and cumulatively avoids any significant increase in water flow, velocity or flood level, and does not increase the potential for flood damage either on site or other properties.	**AO19.1** Works associated with the proposed development do not: (a) involve a net increase in filling greater than 50m3; or (b) result in any reductions of on-site flood storage capacity and contain within the site any changes to depth / duration/velocity of flood waters; or (c) change flood characteristics outside the (d) site in ways that result in: (i) loss of flood storage; (ii) loss of/changes to flow paths; (iii) acceleration or retardation of flows; or (iv) any reduction in flood warning times.	**PO19** Not Applicable – purpose of assessment against the Rural residential zoned code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
PO20 Community infrastructure in any area mapped as Flood Hazard is able to function effectively during and immediately after flood.	No outcome specified.	**PO20** Not Applicable.
Landslide hazard overlay		
PO21 Development does not increase the risk of harm to people and property as a result of landslide, by:- (a) avoiding development in a landslide hazard area; or (b) undertaking development in a landslide (c) hazard area only where strictly in accordance with best practice geotechnical principles.	**AO21.1** Development, including associated access, is not located in a landslide hazard area as identified on Overlay Map 10. OR **AO21.2** Development, including associated access, is located in a low or very low land landslide hazard area as determined by a site-specific geotechnical assessment prepared by a competent person.	**PO21** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
PO22 Community infrastructure in any area mapped as Landslide Hazard is able to function effectively during and immediately after landslide events.	No outcome specified.	**PO22** Not Applicable
In the Rural Residential 4,000 RR1 Precinct **PO23** New lots are not constrained by: (a) excessive slope;	In the Rural Residential 4,000 RR1 Precinct **AO23.1** New lots are not on land steeper than 15% over 50% or more of the lot. OR	**PO23** Not Applicable

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
(b) poor drainage; or (c) instability.	**AO23.2** Where lots are proposed on land steeper than 15%, the proposal is supported by a geotechnical assessment prepared by a suitably qualified specialist that demonstrates that each lot has a building envelope 25m x 40m suitable for construction of a house and outbuildings.	
Regional infrastructure overlay		
PO24 Stock routes and trails identified on Overlay Map 04 are protected from incompatible development on adjoining sites.	No outcome specified.	**PO24** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
PO25 Development is sufficiently separated from major electricity infrastructure or substations to minimise the likelihood of nuisance or complaint.	**AO25** Sensitive land use (as defined in the Regulation) maintain the following separation distances from substations or easement for major electricity infrastructure identified on Overlap Map 04: (a) 20 m for transmission lines up to 132 kilovolts (b) 30 m for transmission lines between 133 kilovolts and 275 kilovolts and (c) 40 m for transmission lines exceeding 275 kilovolts. Editor's Note: Information relating to the voltage of transmission lines is available from the relevant energy supplier.	**PO25** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
PO26 There is sufficient space within the site to establish landscaping which substantively assists in screening and softening obtrusive major electricity infrastructure identified on Overlay Map 04.	**AO26.1** A minimum 3m wide densely planted landscaped buffer is provided along the boundary adjoining the major electricity infrastructure, including provision for advanced trees and shrubs that will grow to a minimum height of 10m.	**PO26** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.
Water catchments overlay		
PO27 There are no significant adverse effects on the water quality of the Region's drinking water supply.	**AO27.1** Development within the Bjelke Petersen Dam Water Resource Catchment Area and the 800m buffer to Boondooma and Gordonbrook Dams shown on	**PO27** Not Applicable – purpose of assessment against the Rural residential zone code is to determine whether

Rural residential zone		
Performance outcomes	**Requirements for accepted development and assessment benchmarks**	**Response**
	Overlay Map 06 has no significant adverse effect on the quantity and availability of raw water for consumption, as determined by a suitably qualified water quality expert.	negative impacts arise from installation of a Solar Array on 341 Bowman Road Taromeo.

Services and Works Code

Table 8.4.2—Assessable development

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
Section 1 General		
PO1 The development is planned and designed considering the land use constraints of the site for achieving stormwater design objectives.		To be conditioned.
PO2 Development does not discharge wastewater to a waterway or off-site unless demonstrated to be best practice environmental management for that site.		
PO3 Construction activities avoid or minimise adverse impacts on stormwater quality.		
PO4 Operational activities avoid or minimise changes to waterway hydrology from adverse impacts of altered stormwater quality and flow.		
PO5 Development is provided with infrastructure which: (a) conforms with industry standards for quality; (b) is reliable and service failures are minimised; and (c) is functional and readily augmented.		To be conditioned.
PO6 Vehicle parking and access is provided to meet the needs of occupants,		To be conditioned.

Performance outcomes	Requirements for accepted development and assessment benchmarks	Response
employees, visitors and other users.		
PO7 Landscaping is appropriate to the setting and enhances local character and amenity.		To be conditioned.
PO8 Plant species avoid adverse impacts on the natural and built environment, infrastructure and the safety of road networks.		
PO9 Development results in ground levels that retain: (a) access to natural light; (b) aesthetic amenity; (c) privacy; and (d) safety.		To be conditioned.
PO10 Filling or excavation does not cause damage to public utilities.		To be conditioned.
PO11 Filling and excavation avoids water ponding on the premises or nearby premises that will adversely impact on the health of the community.		
Overlays		Refer to responses in zone code above.

Other Relevant Matters

STATE PLANNING POLICY 2017	
The state interest statements – Infrastructure -Energy & water supply	
The timely, safe, affordable and reliable provision and operation of electricity and water supply infrastructure is supported, and renewable energy development is enabled – pg19	Complies – proposed solar farm is a renewable power source that: • is ideally located in terms of its ability to access supporting infrastructure such as: o road networks for delivery of product and ongoing operational servicing. o high accessibility to regionally significant electricity transmission infrastructure. • can be constructed simply and in a timely manner. • can be reasonably conditioned to minimise safety/amenity risks in terms of: o hazards such as bushfire, erosion, and stormwater passage. o noise, glare, residential sensitivities.

Infrastructure integration – The benefits of past and ongoing investment in infrastructure and facilities are maximised through integrated land use planning. – pg19	Complies – Site sits within the Tarong Power Station's, Powerlink transmission corridor, electrical transmission lines (traversing the site) are of a type used to convey bulk electricity to local network providers (i.e. Energex, Ergon etc), locally and within the South East Queensland population centres. Proposed Solar Farm takes advantage of integration with regionally significant electricity transmission infrastructure.
State Interests – Five Themes (1) Planning for liveable communities and housing. (2) Planning for economic growth. (3) Planning for the environment and heritage. (4) Planning for safety and resilience to hazards. (5) ***Planning for infrastructure*** The state interest policies and assessment benchmarks express the outcomes for planning and development and underpin the overarching state interest statement. The guiding principles expressed in part C should be considered when applying the state interest policies and assessment benchmarks.	Complies – Whilst the specific focus of this application is infrastructure provision, assessment of the has also determined that the proposed development will provide indirect benefits to aspects of state interests over and above *'Planning for Infrastructure'* Below response to 'Guiding Principles' focuses on the following: a) Infrastructure. b) Economic Growth. c) Environment. d) Safety & Resilience to Hazards.
GUIDING PRINCIPLES	
Outcome focussed:	
Clearly focus on delivery of outcomes • Plans and development outcomes integrate and balance the economic, environmental and social needs of current and future generations in order to achieve ecological sustainability. • Plans express clear performance outcomes for development, supported by a range of acceptable outcomes, where possible. • Innovative and flexible approaches to design and development are supported and encouraged when consistent with a plan's strategic intent. • Decision making ensures that, where acceptable, when outcomes are satisfied by development, then the relevant performance outcome is taken to be satisfied in full. Performance outcomes may still be satisfied, even though an associated acceptable outcome is not met. • Plans and development outcomes support stated objectives, needs and	Complies – a) **Economic** – the solar farm will have short and long-term benefits in terms of: i. local employment during construction as the solar array will be mounted on PEG framing system which is installed with hand tools (minimal training is required for the labour needed to install). Accordingly, the development does not have to rely on importation of non-local skill for a significant part of the installation. ii. facility's life span which is expected to be in the range of 55 years which during that time the solar farm will provide a consistent revenue and be a source of employment for aspects such as day to day operations, and ongoing maintenance of the array, supporting elements, and landscape itself. iii. The facility has high level access to established electricity transmission infrastructure and hence is able to avoid costs associated large scale investment on aspects required to deliver to end users.

aspirations of the community at the state, regional and local level.	b) **Environmental –** the solar farm is expected to contribute to the preferred policy direction of renewable energy supply now and into the future hence lessening ongoing reliance on fossil fuels. This particular development, is also conditioned to maintain its existing rural capacity in terms of the following: i. Undertake land improvement strategies through cultivation surface vegetation for future use as pastureland. ii. Installation of landscape trees supporting farming of bees (for pollination of native vegetation throughout the area). iii. Installation of solar array that does not require concrete footings or trenching for underground cabling (land from will remain generally as is). c) **Performance Outcomes** - the proposal was assessed against the SBRC Regional Plan 2017 v1.4 and where relevant, was found to either comply with or not affect the 'Purpose' of applicable assessment benchmarks. Accordingly, where in compliance with the 'Purpose' of an assessment benchmark it is determined that Performance Outcomes (PO's) are also met (as PO's are an expression of an assessment benchmarks 'Purpose'). d) **Innovative & flexible approaches to design and development –** the proposed development was assessed against the SBRC's Regional Planning Scheme strategic intent (part 3) and was determined to have provided sufficient innovation and flexibility to address the varied competing interest attributed in terms of balancing the needs of: i. regionally significant renewable energy production. ii. retention of viable agricultural land. iii. Amenity and sensitivities of surrounding residential uses. e) **Satisfying Performance Outcomes (does not have to meet Acceptable Outcomes) –** the proposed development is not a consistent use within the Rural Zone. As part of the impact assessment the SBRC Regional Planning Sheme's Rural Zone, & Rural Residential Zone Codes were reviewed to determine: i. Whether a solar farm could meet or avoid constraining the Rural Zone's 'Purpose/Overall Outcomes (and by extension its Performance outcomes) ii. That a solar farm on the subject site could manage impacts on adjoining sensitive uses by ensuring it did not compromise

	'Purpose/Overall Outcomes in the Rural Residential Zone (and by extension its Performance Outcomes). This assessment determined that Performance Outcomes in the relevant zone codes were either fully complied with or not compromised with Acceptable Outcomes often having relevance to specific uses expected within respective zones (deemed not to be applicable in most instances). f) **Stated Objectives** – i. The site has high accessibility to major electrical transmission infrastructure hence minimal investment in supporting infrastructure is required. ii. The development will contribute to reduction in local and broader region al dependence on energy sources derived from fossil-based sources. iii. The proposed development will utilise a technology that is relatively quick to implement and simple to decommission. iv. The development is undertaken in such a way as to allow for conversion back to Rural Use for future generations.
Integrated:	

Reinforce the role of local planning schemes as the integrated, comprehensive statement of land use policy and development intentions for a local area. • Plans coordinate and integrate land use policy for a local area by considering: – international agreements, such as the UNESCO world heritage listing of the Great Barrier Reef and Ramsar Convention – national, state, regional and local matters, to the extent relevant. • Plans integrate land use, resource management and infrastructure needs and considerations. • Plans support a 15 year supply of land for development. • The zoning of land reflects and responds to the characteristics of the land that constrain its use. • Overlays should be compatible with and not operate either individually or cumulatively to prevent or restrict land from being used for the purpose for which it has been zoned. • Plans include a performance-based assessment of development against a clear hierarchy of policies linked to the achievement of realistic and long-term strategic planning	a) **Reinforce Role of the Local Planning Scheme** – assessment of the proposed development determined that: i. Role of the SBRC Regional Planning Scheme's Strategic Land use policy and development intentions for Blackbutt do make provision for non-rural uses on Rural Zoned Land. ii. The function of the Rural Zoned Land is not compromised. iii. Impacts on uses commensurate with other surrounding Planning Scheme zones are appropriately managed. b) **Integrate land use, resource management, and infrastructure needs and considerations -** assessment of the proposed development determined that: i. Agricultural resources will be adequately maintained and improved for future use. ii. There is an opportunity to maximise existing regionally significant electrical transmission infrastructure without the need for procurement of additional resources to aid network connection. c) **Support a 15 year supply of land for development** – Proposed development does not affect envisaged land supply for development under the current SBRC Planning Scheme 2017 v1.4, it is unlikely to affect land supply considerations in the coming 15years (agricultural resources expected to remain a priority in that time horizon). d) **Compatible Overlays** – this was not considered relevant to assessment of the proposed solar farm. e) **Clear hierarchy of policies linked to the achievement of realistic and long-term strategic planning -** this was not considered relevant to assessment of the proposed solar farm.
Efficient:	
Support the efficient determination of appropriate development. • Plans and assessment processes result in development outcomes that are certain, responsive and performance-based. • Plans regulate development only to the extent necessary to address potential impacts. When applied, plans adopt the lowest appropriate level of assessment required to efficiently and effectively address those impacts. • The level of assessment for development is proportionate to the potential impacts and level of risk of the development being	SBRC Regional Planning Scheme 2017 v1.4, assessment benchmarks and strategic criteria were (in this instance) considered capable of facilitating efficient determination of appropriately placed renewable energy projects in the following way: a) SBRC Regional Planning Scheme 2017 v1.4 is capable of recognising existing circumstances and opportunities (within its jurisdiction) to locate renewable energy projects where connections to existing transmission networks are available. b) Proposed solar farm was found to be contrary to the intent of the SBRC Regional Planning

regulated and a plan's strategic intent and purpose of the relevant zone, local plan and/or precinct, for instance development that is: – minor, low-risk and that is encouraged or contemplated in a zone should be identified as accepted development – consistent and in accordance with the broad intent of a zone and able to be assessed against assessment benchmarks, should be identified as code assessable development – contrary to the intent of a zone, requires public input or is unforeseen by a planning scheme, should be identified as impact assessable development and assessed against a broader range of matters.	Scheme 2017 v1.4, where located on a Rural Zoned site however, as mentioned at point 'a' it was determined that a renewable energy project at this location is envisaged in the following parts of Council planning scheme: i. Part 3 Strategic Framework (3.1 to 3.7). ii. Part 6 Rural Zone Code 6.2.13.2 provisions do not specifically preclude a solar farm on Rural Zoned land but rather set requirements on how to avoid constraining achievement of preferred Rural Zone Outcomes in terms of: • Ensuring Rural Zoned land is not fragmented or compromised. • Ensuring Rural Zoned can be uses for purposes of primary production in the future. c) The development sought public input in the following ways: i. Statutory notification pursuant to the *Planning Act 2016 - DA Rules*. ii. Voluntary Public information drive as referred to in this report.
Positive	
Enable positive responses to change, challenges and opportunities. • Contemporary information, challenges and community needs and aspirations are reflected through up-to-date plans. • Evidence and objectively assessed needs form a basis for planning that uses the best available knowledge. • Plans are written using clear, concise and positive language to describe what outcomes are sought, required or encouraged in a particular location, rather than what is to be avoided, prevented or discouraged. • Community health and wellbeing, and resilience and adaptability to change (including economic change, social change, and climate change adaptation and mitigation), are promoted in plans and development outcomes. • Plans adopt a performance-based approach to development assessment to allow for innovation and flexibility in how development in a local area can be achieved. • Plans are drafted to ensure that development is assessed on its individual merits	SBRC Regional Planning Scheme 2017 v1.4, assessment benchmarks and strategic criteria were (in this instance) considered sufficiently up to date in terms of the following: a) Strategic framework recognised the importance of energy production and presence of existing infrastructure within the South Burnett Regional Council jurisdiction and that in this instance there were clear planning merit in collocating a renewable energy facility on land with direct access to major transmission infrastructure. b) Strategic framework recognised community needs and aspirations around the matter of providing opportunity to increase availability or renewable power sources to local and regional communities. c) SBRC Regional Planning Scheme 2017 v1.4 assessment benchmarks were determined to be sufficiently drafted to accommodate a performance-based assessment of the proposed solar farm. In this instance the performance and evidence-based assessment identified that placement of a non-invasive solar array allows for future utilisation of the land for Rural use upon decommissioning[1]. 1 the solar array will be mounted on a PEG Framing System that requires minimal change the land form and existing soil structure

Accountable	
Promote confidence in the planning system through plans and decisions that are transparent and accountable. • Plans and development outcomes reflect balanced community views and aspirations based on a clear understanding of the importance of the community's involvement in plan making. • Plans resolve competing state and local interests through using an evidence-based approach, which balances community needs, views and aspirations. • Reasonable, logical and fair development decisions are supported by clear and transparent planning schemes. • Plans only seek to regulate land use and planning outcomes and do not address matters regulated outside of the planning system, for instance building work regulated under the Building Act 1975 (unless permitted). • Obtaining access to planning information is simple and direct, capitalising on opportunities presented by information technology	With respect to assessment of proposed renewable energy projects, SBRC Regional Planning Scheme 2017 v1.4, was determined to: a) Provide necessary outcomes that balance local and regional community views and aspirations. b) Resolve competing local issues in terms of impacts on nearby sensitive uses. c) Provide sufficient information on requirements for compliance and appraisal of inconsistencies, and/or impacts.
PLANNING FOR INFRASTRUCTURE:	
State and local government and the private sector plan, deliver and facilitate a wide range of infrastructure for transport, energy, water, roads, airports, ports and public utilities. This infrastructure drives our economy and provides essential services and facilities to communities across the state. This infrastructure also plays a fundamental role in creating and sustaining our built environment and providing for growth in our cities, towns, villages and rural areas. Infrastructure influences urban form, access to employment and services, community connectivity and recreational opportunities. It drives economic growth by supporting productive and successful industries and businesses that are important to the state. Infrastructure represents a significant physical resource in Queensland and requires careful planning and development.	The proposed solar farm meets requirements set down by the State Infrastructure Plan (SIP) in terms of the following: a) The development is a private sector initiative fulfilling the fundamental role of investment in clean energy infrastructure addressing the broader energy demands associated with growth of local and regional town, cities, villages, and rural areas. b) The development will provide both short- and longer-term economic benefits. c) The development will link into/use existing electrical transmission infrastructure.

Accordingly, the State Infrastructure Plan (SIP) sets the priorities for infrastructure delivery within Queensland. The SIP considers the state's future infrastructure needs and provision of infrastructure in a timely, sensible and cost-effective way. The SIP will help to coordinate infrastructure across government and align national, state, regional and local infrastructure planning. Effective planning will ensure: • infrastructure is appropriately designed and located (including considering the projected impacts of climate change) • innovative solutions are used to support the needs of development • existing infrastructure is well used • areas required for future infrastructure are preserved	
ENERGY & WATER SUPPLY	
Providing safe, reliable and affordable energy and water supply is vital to meeting the basic needs of communities and to ensuring a liveable, sustainable and prosperous Queensland. There are also opportunities to minimise greenhouse gas emissions through enabling the development and supply of renewable energy. Queensland's largest source of greenhouse gas emissions comes from energy generation. Planning has an important role in reducing emissions by enabling the development and supply of renewable energy opportunities at the regional, local and individual scale. The state's network of high-voltage electricity and bulk water supply infrastructure provides the backbone of the energy and water supply system, moving electricity and water resources from generators and storage sites to the areas in which they are consumed The planning system plays an important role in supporting the timely, safe, cost-effective, energy efficient and reliable provision and operation of this infrastructure, and ensuring the location of future infrastructure is resilient to the projected impacts of climate change.	a) The development will provide renewable energy within an existing transmission network to local and major Queensland population centres. b) The development will provide a meaningful contribution to offsetting Queensland's current greenhouse gas emitting energy production inventory. c) The development will be directly connected into the state's network of high-voltage electricity supply infrastructure; hence this development will be capable of contributing bulk renewable power to major Queensland population centres. d) In this instance local planning via the SBRC Regional Planning Scheme 2017 v1.4 has recognised the strategic importance of placing a renewable energy plant on the site whilst also ensuring the scheme's intent can advance in terms of protecting other valuable resources and management of inappropriate impacts.

Local planning can contribute to reducing the cost of providing these essential services by recognising and protecting existing and approved future supply infrastructure corridors and associated facilities.	
All of the following state interest policies must be appropriately integrated in planning and development outcomes, where relevant: (1) Existing and approved future major electricity infrastructure locations and corridors (including easements and electricity substations), and bulk water supply infrastructure locations and corridors (including easements) are protected from development that would compromise the corridor integrity, and the efficient delivery and functioning of the infrastructure.	Complies - The proposed development does not affect the existing power transmission line corridors traversing the site. It was determined that the solar farms intended connection is cause for protection and enhanced use of existing major infrastructure.
(2) Major electricity infrastructure and bulk water supply infrastructure such as pump stations, water quality facilities and electricity substations, are protected from encroachment by sensitive land uses where practicable	Not applicable – the proposal does not involve encroachment of a sensitive use near major electricity infrastructure.
(3) Development of major electricity infrastructure and bulk water supply infrastructure avoids or otherwise minimises adverse impacts on surrounding land uses and the natural environment.	Complies – the solar farm was assessed against the SBRC Regional Planning Scheme 2017 v1.4, Rural Residential Zone Code (surrounding the site). It was determined that impacts resulting from the solar array are either sufficiently attenuated, or conditioned to ensure their reasonable management.
(4) The development and supply of renewable energy at the regional, local and individual scale is enabled in appropriate locations.	Complies.
INFRASTRUCTURE INTEGRATION	
The availability, location and quality of infrastructure, shapes and responds to settlement patterns, urban form and built form. This influences how we live and work in our cities, towns and regions by enabling economic and social activity. The state recognises that land use planning and infrastructure planning are intertwined and that land use decisions are central to maximising desired community outcomes, and the economic and environmental benefits afforded by infrastructure. The decentralised nature of Queensland provides challenges in planning and delivering infrastructure and services. There are major differences between Southeast Queensland (SEQ) and regional	Proposed development seeks to co-locate on land currently burdened by major electricity transmission lines to which the solar array will have a direct connection. From an infrastructure planning perspective, this project only needs to consider aspects relating to placement of the solar array itself as procurement of land and equipment for transmission of bulk electricity to end retailers is established. Assessment of the proposed development established there is significant benefit in linking a solar array into a major electricity supply network close to Queensland's population centres. In terms of: • Efficient re-use of existing major infrastructure.

Queensland including population density, distribution of expected population growth, and climatic variations. Therefore, SEQ and regional Queensland face different challenges, and the way land use and infrastructure planning is integrated varies accordingly Building new infrastructure or augmenting existing infrastructure is not always the best solution, particularly where there are competing priorities for limited funds. Improved coordination of land use and infrastructure decision making, across all levels of government and the private sector, can assist in making the best use of existing infrastructure, while maximising the social, environmental and economic benefits of investment in future infrastructure Local land use planning that is aligned and supportive of the effective and efficient use of both existing and planned infrastructure is necessary to ensure the benefits arising from infrastructure investment are maximised and benefits are shared. Land use planning decisions need to adequately consider the availability of existing infrastructure and any impacts on it, along with potential costs and locations for infrastructure to service future needs. Strategic planning facilitates the infrastructure we need to support new and existing communities, while also helping industries and regions respond to change, such as technological advancement and the emergence of a knowledge economy.	• Reduced regional environmental footprint (no offsite impacts associated with establishment of electrical transmission corridors). • Timely rollout and operation renewable power source due to reduced risk & cost associated with establishing transmission infrastructure to end users.
All of the following state interest policies must be appropriately integrated in planning and development outcomes, where relevant. (1) The outcomes of significant infrastructure plans and initiatives by all levels of government are considered and reflected, where relevant.	Complies – the Local government has considered this proposed renewable energy facility in the context of: • Broader statewide need to invest in clean energy solutions that are integrated into existing networks (where possible). • Preservation of agricultural land (as identified by State mapping) for future use. • Minimisation of and management of negative impacts on surrounding sensitive land uses. • No needs to remove ecological communities/stands of trees containing regulated vegetation.
(2) Development achieves a high level of integration with infrastructure planning to: (a) promote the most efficient, effective and flexible use of existing and planned infrastructure	Complies – a) the proposed development has high accessibility to existing major electricity infrastructure (traversing the site). The ability to connect proposed solar array is considered a

(b) realise multiple economic, social and environmental benefits from infrastructure investment (c) ensure consideration of future infrastructure needed to support infill and greenfield growth areas (d) optimise the location of future infrastructure within communities to provide greater access to facilities and services and enable productivity improvements.	prime example of efficient, effective use of existing infrastructure. b) the proposed development will bring economic benefits in the following way: i. improved electrical network supply via clean/renewable means. ii. short term local employment during construction phase. iii. long term employment during operational phase.
(3) Development occurs: (a) in areas currently serviced by state and/or local infrastructure and associated services; or (b) in a logical and orderly location, form and sequence to enable the cost effective delivery of state and local infrastructure to service development.	Complies – the proposed development will occur within proximity of: i. Powerlink major electrical transmission lines. ii. Existing road system to main entry likely intended to convey higher traffic volumes to other high order roads and local street networks in the area.
(4) Existing and planned infrastructure is protected from development that would compromise the ability of infrastructure and associated services to operate safely and efficiently	Complies – the solar array, inverters, batteries etc is located as much as 200m from the internal site boundaries and buffered as necessary. The development's arrangement ensures it can operate properly whilst ensuring appropriate and/or acceptable impacts on nearby sensitive uses.
QUEENSLAND SOLAR FARM GUIDELINES	
The detailed assessment, planning and approvals stage is the final stage of the large-scale solar farm lifecycle before the development application is lodged, the proponent with have established the project is both commercially and technically viable before proceeding through the development assessment process. At this stage, the proponent will: • Complete detailed technical studies to support the development of a solar farm design • Finalise the solar farm layout (i.e. the intended layout of the PV panels and ancillary infrastructure), including site access and screening, with consideration of the expectations, needs and concerns of the community • Prepare and lodge the development application with the local council and planning authorities. This will follow the development assessment process outlined in Section 2.	Pursuant to the 'Solar Farm Guidelines' it is assumed that the development proponent has undertaken appropriate due diligence prior to lodgement of a development application with South Burnett Regional Council. From a detailed assessment, planning and approvals stand point, the proposal provides an appropriate response to the below technical considerations.
Technical considerations At this stage, the proponent will complete detailed assessments of technical,	a) The proposed development will be located on land burdened by a major electricity transmission corridor (managed by Powerlink).

environmental and planning constraints and identify the ways in which these constraints will be managed or mitigated to inform the development application. This may include:

• A grid connection application with the network service provider in line with the requirements set out in the National Electricity Rules. The general alignment and infrastructure associated with the future grid connection may be subject to change.

• Impact assessments, such as glint and glare assessments or visual amenity assessments, to properly understand the potential impacts and propose an appropriate design response or mitigation measures. These assessments are not required for all development applications as they are determined based on proximity to surrounding sensitive receptors, such as urban areas or airports.

• Land use assessments to determine the existing land use both on the proposed site and surrounding area. This includes identifying features such as powerline easement corridors, future road corridors, future urban growth areas, areas of local environmental significance or important agricultural land.

• A detailed assessment of ecological values that builds upon the desktop studies conducted during the site selection and feasibility stages. Where environmental matters are present, impacts should be systematically and consistently addressed through a range of federal, state and local legislation and policy.

• Traffic assessments that consider both construction and operational volumes. Traffic management measures will also be considered to allow safe access to the site. This will include consideration of heavy goods vehicles, potential for impacts on local roads and maintenance and repair regimes.

• Flooding and stormwater management plans that consider existing overland flow pathways, discharge points and changes that may arise as a result of development on the site. The purpose of these plans is to ensure that there is no worsening of stormwater quantity or quality for any downstream properties.

• A decommissioning plan specifying how decommissioning will be undertaken after

Accordingly, accessibility to a network provider is high, as grid connection is literally on site.

b) The development site adjoins land zoned as Rural Residential to which sensitive uses are located. The proponent provided a Glare Assessment based on SGHAT modelling (Solar Glare Hazard Analysis Tool) which predicts potential glare impacts from Solar Arrays near airports, work places, & communities. The proponents glare assessment concluded that risk of inappropriate was either non-existent, low potential, or potential. Where there is potential risk for glare on sensitive uses, the proponents Glare assessment makes recommendations to manage the matter. Recommendations to manage potential glare on sensitive uses are conditioned as part of this approval.

c) The proposed development's land use was assessed in the following way:

   i. **Solar farm on the proposed site**:
      - Will take advantage of existing powerline easement corridors by directly connecting for bulk electricity to end users.
      - Road upgrades have been conditioned as a result of this development.
      - Will utilise a solar array technology that can be installed with hand tools and has a low to no impact on the existing landscape.
      - Will utilise a solar array technology that is low to no impact on existing agricultural soil profiles.

   ii. **Solar farm impacts on surrounding area**:
      - Proponent established key amenity/view corridors from land further away, and land adjoining the subject site. It was determined that impact on views and outlook from sensitive uses could be managed via implementation of separation areas (75m to 190m shown on plans) between solar arrays and site boundary, with views further obscured by a 10m wide vegetated buffer in eastern, western, & southern parts (shown on plans). Assessment of the proposed separation areas and vegetated buffer identified that adjoining sites would not suffer inappropriate impacts based on the following key reasons:
        - The proposed separation distances to the solar arrays ensure there is no reasonable argument for overbearing development on adjoining land with sensitive uses (also noting that the

the operational life of the development is complete. At the conclusion of the detailed assessment, planning and approvals stage the proponent will lodge the development application with the local council and relevant planning authorities and await determination. Depending on the complexity of the site, and the mechanism through which the development application is assessed, the assessment process can take approximately six to 12 months.	arrays are no more than 1m above ground level). ▪ The vegetated buffer will consist of shrubs and trees that are as much as 3m in height (with shrubs offset from each other). The vegetated buffer will be 2m above the solar array's maximum height (1m above ground level). It is determined that views to the solar array (from affected properties) will be partial and subject to those parts of the land that are higher and further away from affected locations, which on this basis is considered a reasonable impact. ▪ Site inspection and contour analysis established that predevelopment views from affected locations would vary depending on presence of existing vegetation, topography, and elevation. It was concluded that nearby properties are unlikely to retain full unadulterated views to the entire predevelopment site. It is therefore considered reasonable to assume that a solar array no more than 1m above existing ground levels and buffered by 3m high shrubs could be cause for an unreasonable impact on views/outlook from sensitive uses on adjoining and nearby properties. d) The site was not found to contain assets considered to be of notable ecological value (site was cleared for pasture/grazing in 1960's). e) Issues relating to Traffic impacts (off site) were not sufficiently resolved however it was determined that reasonable condition could be imposed to ensure adequate maintenance of local road networks (not specifically constructed to cope with the demands of major infrastructure). f) The development has been conditioned to comply with recommendations outlined in the 'Empower – Conceptual Site Based Stormwater Management Plan. g) The intended solar array is a PEG Modular System that utilises light weight framing and does not required trenching for running of cables. The support structure relies on metal rods and plates (there are no concrete footings or bulk earthworks required for installation). Application material provided in support of the development state that the PEG Modular system is simple to decommission however details on specifics of the decommissioning

	process were not provided. Notwithstanding it is determined reasonable to impose conditions for submission of a decommissioning plan.
Social considerations At this stage of the development process, the project has passed through feasibility and the proponent should be confident that the project can be practically achieved. However, before the development application is lodged, the proponent should seek to resolve, or otherwise respond to, the critical issues raised by the community during earlier stages. This is important because, at this stage, community support for large-scale solar projects is reliant on the proponent's ability to establish, build and maintain social licence by: • Keeping all stakeholders updated about the progress of the solar farm development • Utilising various tools and approaches that engage the community across the various levels of the International Association of Public Participation (IAP2) Spectrum1 specific to their needs as identified in the Community Engagement Plan • Sensitively responding to the needs and expectations of the local community about the construction and operation of the solar farm • Communicating the opportunities for the community, including benefits to the local economy and businesses, that will be realised at the construction and operations stages. Guided by the Community Engagement Plan, which considers the specific social context of the site and wider community, the proponent should engage with the community to gain general acceptance, approval or support of the project. At this stage, it is likely that communication and engagement will increase and various tools and channels will be adopted to engage the community such as information sessions, one-on-one engagement, and community reference groups. Communication should outline the basis for the decision-making process and opportunities for the community to contribute and provide feedback. The proponent may then undertake engagement activities to demonstrate the ways in which it has influenced the final design of the site.	Proponent of the development has undertaken a multiple non statutory community engagement initiatives since mid-2022 and are still ongoing. Community engagement initiatives include: a) Continued updates via regular newsletters, ongoing meetings and phone calls provided to the 44 registered stake holders/subscribers. b) Establishment of a website that as of October 2023 has received 8,617 visits. c) Presentations to other stakeholders (including South Burnett Regional Council and local businesses). d) Circulation of 1,088 information booklets to the community. e) Letterbox Drop delivering 90 information sheets to local properties. f) Consultation with 40 local businesses who've registered interest in supplying or working on the project during construction phase. g) Consideration of further catalyst industries associated with manufacturing and distribution of the mounting system used for solar array systems similar to the PEG Modular System. h) Establishment of a $100,000 per annum community grant funding.

The proponent may also consider developing a local industry participation plan or social sustainability plan , outlining their commitment to delivering local economic benefits during the construction and operational phases, such as jobs and training, procurement and spending, and social benefits, such as community development and sponsorships.	
2023 QUEENSLAND RENEWABLE ENERGY ZONE ROADMAP	
Queensland is on track to become a renewable energy powerhouse. This draft 2023 Queensland Renewable Energy Zone Roadmap (the Roadmap), outlines the pathway for connecting 22 gigawatts (GW) of new wind and solar generation to provide clean, reliable, affordable power for generations. It is a key component of the over $60 billion Queensland Energy and Jobs Plan (QEJP) and meeting the state's clean energy targets of 50 per cent by 2030, 70 per cent by 2032 and 80 per cent by 2035.	The proposed development of this solar farm will contribute to the QEJP's clean energy target by contributing approximately 280Mw of renewable power to Queensland's existing electrical power infrastructure.
A Renewable Energy Zone (REZ) is an area with excellent characteristics for renewable energy that is developed in a coordinated way to lower costs and improve local community, environmental, and cultural heritage outcomes. By strategically building new energy infrastructure within REZs, Queensland can unlock the full potential of its renewable energy resources. REZ development is a critical step to ensuring Queenslanders have access to affordable energy in the long term, as well as creating regional job opportunities, and lowering Queensland emissions. REZ transmission network includes a transmission network, or part of a transmission network, within a REZ that renewable energy projects may connect to and use to transfer their energy to the shared network. Under the proposed Queensland legislation, REZ transmission network will be outside the open access regime. The Queensland Government, working with Powerlink Queensland, has identified 12 potential REZs across the Southern, Central, North and Far North Queensland regions. A REZ will coordinate renewable projects within a targeted area to connect to the	The draft 2023 Queensland Renewable Energy Zone Roadmap places the South Burnett Region within the 'Southern Queensland - Tarong Renewable Energy Zone' which based on current planning expects the following: ▪ 2000 to 6000 MW installed generation. ▪ Up to 600 renewable energy construction jobs throughout development. (source 2023 QLD Renewable Energy Zone Roadmap) NOTE - Pursuant to the Draft 2023 Queensland Renewable Energy Zone Roadmap, Tarong Renewable Energy Zone' is within the 'initial planning phase' hence assumptions may be subject to change. Notwithstanding, this proposed development is not considered to prematurely affect the broadly anticipated installed generation.

network outside the open access environment. The indicative location, size and timing of these REZs is based on analysis of available network capacity, renewable resources, project pipelines, investor interest, land use, and optimal network expansion. Each of the 12 potential future REZs will be declared over time, kicking off a process for consultation and development including an outline of the specific geographical and detailed assessments of local opportunities and impacts. The proposed REZ Framework will enable the REZ Delivery Body to coordinate and optimise projects connecting in the REZ. This will help deliver the right mix of energy technologies, in the right locations at the right time.	
QUEENSLAND CLIMATE ACTION PLAN	
Queenslanders are taking strong action on climate change. The Queensland Government has set bold but achievable targets for reducing our emissions while creating jobs. We will deliver: • 50% renewable energy target by 2030 • 30% emissions reduction below 2005 levels by 2030 • 70% renewable energy by 2032 • 80% renewable energy by 2035	The proposed solar farm will contribute to the Queensland Government's renewable energy targets whilst contributing to job creation (as discussed in this report).
SOUTH BURNETT REGIONAL COUNCIL ADVOCACY ACTION PLAN 2022	
Council needs investment to grow our region's population, boost employment, liveability and industry across the region. This will be actioned through the 2025 South Burnett Regional Development Strategy. Our key outcomes are: o Working together with Government to build a plan for our region's coal transition beyond the eventual closure of Tarong Power Station and Meandu Mine including support for renewable energy projects. Council is seeking funding and resources to establish a bi-partisan committee that will support the region through transition and diversification of the	The proposed solar farm will assist in realizing the following aspects of the South Burnett Regional Council Advocacy Action Plan 2022: i. Assist the local energy industry transition from Coal to renewables. ii. Provide short- and long-term employment opportunities associated with construction and ongoing operations of the facility. iii. Potential catalyst for related industries meeting service requirements, and manufacture of supporting materials.

economy in pursuit of decarbonisation goals.	
ANNUAL REPORT 2021/2022	
STRATEGIC PRIORITY: SAFEGUARDING OUR ENVIRONMENT **GOALS -** Encourage responsible investment in renewable energy.	Proposed solar farm generally aligns with Council's vision of responsible investment in renewable energy noting that the proponent has demonstrated the following: o The proposed development site's high accessibility to existing major electrical transmission lines: i. Increases project certainty in realisation/construction as there is no 3rd party risk associated with land required for transmission corridor(s). ii. Reduced off site environmental impacts as electrical transmission corridors are not required (can utilise the existing Powerlink network). o The development will provide both short- and longer-term employment with potential to generate of new service type industries (note 40 local business have registered interest in participation of the project). o The proponent has demonstrated how the intended solar array (PEG Modular System) makes provision for non-disturbance and potential improvement of competing agricultural values known to exist within the development footprint. o The proponent has demonstrated how impacts on adjoining sensitive uses will be managed reasonably.
ANNUAL OPERATION PLAN 2023/24	
Projects/New Activities **OPE/12** Engage key stakeholders conducting advocacy activities to build regional economic diversification in energy transformation, encouraging responsible investment in renewable energy and engagement in energy policy and advocacy for transition of economies impacted by State and Australian Government policies.	o Assessment of the application material identified significant stakeholder engagement has occurred regarding this project as listed: ▪ Council & Proponent – it is understood that presentations have been made to the Council early October 2022 & late April 2023. ▪ Proponent & Community – various community groups, residents, and business have been consulted regarding the project. ▪ Proponent & Community – the proponent has maintained ongoing engagement with those interested via updates posted on an associated website, and issue of regular newsletters. It is also understood that the Proponent has commissioned a 'Local Community Liaison Officer' to facilitate ongoing meetings/phone calls.
2021-2026 SOUTH BURNETT REGIONAL DEVELOPMENT STRATEGY	
Emerging Industries	

The South Burnett's geographic position and inherent characteristics will enable the region to intentionally capitalise on numerous emerging industries. Advancements in renewable energies such as hydrogen, solar or wind, and technology such as batteries, could see our region potentially leverage existing infrastructure of State significance, including Tarong Power Stations and Cooper's Gap wind farm, that already supplies much of Queensland with its energy needs.	Council's 2021-2026 South Burnett Regional Development Strategy was given due consideration in the context of 'Emerging Industries' involving projects that promote responsible contributions to installed generation of clean/renewable energy. The development site is burdened by a Powerlink, major electricity transmission line that connects directly into Southeast Queensland to which the proposed solar farm can directly connect. Assessment of this application concluded that the merits of this proposed development and its access to Powerlink transmission lines is consistent with Council's 2021-2026 South Burnett Regional Development Strategy to *'leverage existing infrastructure of State significance'.*
Economic diversity	
The region's established energy generation, supporting infrastructure and transmission network strengthens it's attractiveness for new investment and the responsible growth of renewable energy in areas such as wind, solar, hydrogen and battery storage. The region is well placed to continue its role as an energy powerhouse for Queensland, and interstate while being a leading region in the Queensland government's commitment to 50 percent renewable energy generation by 2030. Both state and federal government's growing commitment to decarbonisation will see more renewable generation investment in the South Burnett, including by our existing generators. Leveraging energy investment in ways that create social and economic value to the region will underpin our sustainability during this era transition.	The proposed development recognises the region's established supporting infrastructure for energy generation and demonstrated that a new renewable energy facility can be responsibly placed at the preferred location. The proposed development will add approximately 240MW of installed electricity generation and therefore assist the region continue its role as an energy powerhouse for QLD whilst contending with state and federal commitments to decarbonisation of electricity.

5. CONSULTATION

Referral Agencies

State Assessment and Referral Agency	The application was referred to Powerlink and Ergon Energy as advice agencies. Following Advice Agency response documents are attached to this report: • Powerlink – DA5122 • Ergon Energy – HBD7671957
Other	N/A.

Council Referrals

INTERNAL REFERRAL SPECIALIST	***REFERRAL / RESPONSE***
Development Engineer	Council's Development Engineer provided standard engineering conditions. Development Engineer has calculated the Infrastructure Charges.
Infrastructure Charges	Council adopted the LGIP on 14 June 2019 which commenced on 1 July 2019. The types of developments that may trigger the issuing of an infrastructure charges notice are: • Reconfiguring a lot; • Making a material change of use; • Carrying out building work Refer to Attachment B for the Infrastructure Charges Notice

Public Notification

Date Notification Commenced	2 June 2023
Date Notification Completed	23 June 2023
Date notice of compliance received	25 June 2023

A total of 11 submissions objecting to the proposal were received during the statutory public notification period. Issues and responses are summarised below:

Comments/Issues	Review/Response
Lack of updates/input – no direct letters, phone calls, notifications	It's understood the applicant undertook a voluntary consultation program in addition to the statutory requirements set out in the DA Rules. The voluntary consultation program was undertaken in accordance with the Queensland Solar Farm Guidelines – 'Social Considerations' section.
Visual impact – general inability to hide the view of the solar farm from balconies of residential uses. Concern with flood lighting compromising views to the night sky (star gazing).	• Residential properties will likely have views to the proposed solar array from certain vantage points. The applicant commissioned LANDPLAN landscape architects to undertake a view assessment of the proposal from 20 vantage points (considered in their opinion as relevant). The view assessment provided evidence demonstrating why the solar array proposed in this development does not cause unreasonable views from surrounding (affected) properties. Council did not receive any alternative, qualified commentary on the matter of views. • Floodlighting the site (during nighttime) - The development is conditioned in accordance with the LANDPLAN – 'Assessment of Potential Visual Impact'

	recommendations to install outdoor (nighttime) lighting designed to operate in accordance with AS4282 *'Control of Intrusive Light, Effects from Outdoor Lighting'*. The development is also conditioned to utilise motion sensor systems for adaptive lighting similar to 'WE-EF 'Wildlight Systems'.
Noise impact	The applicant commissioned an acoustic consultant to assess impacts of noise on sensitive receptors on surrounding properties. The acoustic consultant established that noise impacts will not exceed the most stringent criterion for residential dwellings during construction and operational phases.
Waste impact	It's likely that waste will be generated during construction and operation of the development (possibly more during construction phase). Management of waste is conditioned.
Environmental impact	Environmental impacts were considered in the following ways: • **Ecological (Fauna/Flora) –** areas identified for development have sparse vegetation cover mapped as Category X. Where possible vegetation will be retained on the subject site. Areas identified for development have multiple (internal) service tracks on the north/south axis & east/west axis. The internal tracks will be either 5m or 12m in width with regular intervals affording opportunity for fauna movement between areas mapped as having regional ecosystems. • **Stormwater, Dust –** the applicant commissioned a site-based stormwater management plan which will provide necessary measures to manage quantity and quality off the site.
Harper Road impact - Dirt Road with cattle grid	Council has imposed conditions limiting road use to Bowman Rd only.
Inconsistencies in documents regarding:	
a. Impact on Spring fed dams	The presence of spring fed dams would infer a ground water source which circumstances permitting could be affected by earthworks. In this instance the development is conditioned to utilise a light-weight low impact framing system that does not require earthworks.

b. Impact on local fauna including endangered species	The proposed solar array makes adequate provision for retention potential fauna movement via the following means: • Will have regular maintenance tracks interspersed amongst panels (5m or 12m wide depending on track orientation). • Will retain a consistent (planted) understorey that is between 800mm to 1000mm above natural ground level. The solar array will allow movement of larger fauna and may improve sheltered movement for smaller fauna.
c. Degradation of property	The development will utilise a lightweight framing system that does not require excavation for cables and large/concrete footings. The framing system is mounted on small rods that can be installed with hand tools. The proposed Solar Array does not change 314 Bowman Road's current landform.
d. Reduced grazing opportunities for cattle - degradation of grasses, shelter, and trees	The development will limit the extent of grazing land available on the site. However, the applicant proposes to utilise a lightweight framing system that retains existing landform and soil profiles. The applicant also intends to rejuvenate existing soils (beneath the array) for future use. The Council have conditioned the framing system, and measures to rejuvenate the soil.
e. Heat emission to destroy vegetation	The solar array is likely to be a heat source, however the development is separated 75m to 200m from property boundaries on sites containing nearest (established) vegetation. The array also employs a slight grade hence unreasonable emission/transmission of heat to adjoining mature vegetation seems unlikely.
f. Impact of health of family members (rare blood disorder, Asthma, Autism)	The development is either conditioned to manage impacts or will be required to manage impacts in accordance with relevant legislation.
g. Impact on Biodiversity of the area	• The development will be in those parts of the site that were cleared for pasture in the 1960's. Existing information sources identified ecological value as low. • The development has made sufficient provision to allow continued movement between mapped regional ecosystems.
h. Proposed employment is not sufficient, Will the Solar array use tracking panels or	• **Employment not sufficient -** applicant advised there will be short- and long-term employment opportunities to which certain

not, community funding will not be $4.8million (only $3 million).	positions can be filled locally. Employment generation was considered a relevant matter during assessment (amongst several other relevant matters). Metrics to determine sufficient job creation was not prescribed in the material assessed. • **Use of Tracking Panels –** material submitted in support of the application clearly states that this solar array does not intend to utilise tracking panels. Council have imposed conditions of development limiting installation of the solar array to fixed type that is no more than 1m above natural ground level. • **Community Funding –** the development is conditioned to operate for 50 years. Community Funding 'could' as much as the amount stated ($4.8 million) depending on the arrangements made.
i. Upgrading of Bowman Rd incl safe walking/cycling path to Blackbutt	Council have imposed reasonable & relevant conditions to upgrade Bowman Rd to the appropriate standard.
j. Insurance liability – as discussed with Plan C (Responsible for Community Engagement).	This is not a matter that can be assessed by the Planning Scheme, nor was it a matter referred to in other State Planning Policies, Guidelines or the like.
k. Devaluation of property	This is not a matter that can be assessed by the Planning Scheme, nor was it a matter referred to in other State Planning Policies, Guidelines or the like.
l. Fire risk	Council have imposed conditions to implement measures to manage risk of fire/bushfire. Plans, detailing measures and required infrastructure are to be provided prior to undertaking of site works in accordance with an approved OEMP.
m. Size of batteries?	The Solar Farm Facility was publicly advertised as having a capacity of approximately 400MW to which the Battery Energy Storage System (BESS) will be tailored accordingly. The BESS is to be located within a 2-hectare area as shown on the approved site plan (likely to be co-located) with the inverters. Final capacity of the BESS will be subject to several factors associated with installation of the Solar Farm's key components which Council understands are determined by detailed surveys, studies. While we do not know the final size/capacity we understand the BESS will be contained within the 2ha compound, and will be temperature

	controlled. To date final assessment and correspondence is based on the provision of a 400MW facility and no more (a condition is imposed to this effect). Should detailed design studies change capacity of the Solar Farm beyond that understood in this assessment, Council would expect the applicant to make necessary change representations pursuant to the *Planning Act 2016*.
n. Future expansion	The development approval is limited to the extent shown on the plans. Further expansions would trigger further assessable development.
A bond should be payable to fully decommission the solar farm if the company declares bankruptcy.	Council have imposed conditions regarding requirements for decommissioning.
Lack of Stormwater systems	Stormwater systems are to be implemented in accordance with the approved Site Based Stormwater Management Plan. Council has imposed conditions for implementation of the Stormwater System.
Boundary to increase on northern and eastern sides to 100m minimum	Separation between the solar array and Northern/Eastern boundaries is 75m with a 10m wide buffer (between the array and property boundaries). Vegetation stands in the 10m wide buffer will include trees/shrubs up to 3m in height. It was determined that combination of separation and vegetated buffer height will sufficiently obscure the 800mm to 1000mm solar array.
Potential flooding in heavy rain. *Damage to dam wall.*	• **Potential Flooding in Heavy Rain -** The applicant's Stormwater Management Report confirmed that increased stormwater will be generated however measures have been conditioned to detain stormwater on site and discharge at a rate comparable to the site's current predevelopment condition. Accordingly, site development will include stormwater basins in select locations to account for multiple catchments. Stormwater quantity/flows from the developed site were considered in a worst-case scenario of 1% Annual Exceedance Probability (i.e., 1 in 100-year weather event). • **Damage to dam wall -** Applicant's Stormwater Management Report appraised the site's hydrology and determined that stormwater runoff traverses multiple catchments (within the site). The proposed solar array generally

	retains existing hydrologic conditions hence additional basins will be required to detain and slowly release stormwater. Site drainage will not solely rely on existing dams.
Glare	Applicant commissioned LANDPLAN landscape architects to assess and determine impacts of glare. LANDPLAN's assessment was based on a Solar Glare Hazard Analysis Tool (SGHAT) which assess glare on the following basis: • Site latitude & longitude. • Elevation. • Sun Position. • Vector (magnitude of glare and direction). • Array orientation, reflectance environment. SGHAT utilizes the above metrics to identify potential glare and calculates glare on the receptor (retinal irradiance) to determine extent of hazard. The LANDPLAN SGHAT identified potential glare effects and recommended necessary amendments to the array to ensure appropriate impacts. The applicant's final plan of layout (for the array) reflects the suggested amendments by LANDPLAN. The proposed array is determined to generate acceptable Glare impacts based on LANDPLAN's assessment and recommendations.
Increased insurance premiums	This is not a matter that can be assessed by the Planning Scheme, nor was it a matter referred to in other State Planning Policies, Guidelines, or the like.
Lack of communication, Lack of consultation with the public	Consultation was undertaken and/or continues via the following means: • Statutory notification in accordance with the Planning Act 2016 'DA Rules'. • Community Engagement program in accordance with the 'Queensland Solar Farm Guidelines – Social Considerations criteria' It was determined that the applicant has provided consultation beyond the minimum expected under statutory requirements. It is understood that multiple businesses, and members of the public registered their interest with the development proponent and receive

	regular updates. It is also understood that personnel assisting the proponent with voluntary public engagement were available and discussed aspects of the development during preliminary consultation, and with submitters during statutory notification.
Rural setting removed – would now feel industrial	Large portions of the site will remain undeveloped hence rural setting from those vantage points will be unaffected. LANDPLAN – 'Assessment of Potential Visual Impact' document has assessed the proposal and made recommendations to manage impacts of direct views to the solar array.
Creation of 17 jobs is not enough justify the proposal.	Metrics to determine sufficient job creation was not prescribed in the material assessed.
Fire Hazard – Lack of accessibility for fire vehicles.	The development incorporates fire/ maintenance trails around the development's perimeter and within the solar array. Trails will generally consist of the following: • 15m wide maintenance tracks around the development's perimeter. • 12m wide maintenance tracks interspersed between the array at regular intervals (running east/west). • 5m wide maintenance tracks interspersed between the array at regular intervals (running north/south).
Road conditions/damage	Large vehicles associated with the development will be limited to the use of Bowman Rd only and further conditioned to undertake necessary upgrades to ensure associated vehicle movements can be accommodated.
Dust storms/flooding/chemical movement when raining due to lack of vegetation under the panels	The applicant clarified that vegetation beneath the panels will be installed which is conditioned accordingly.

Voluntary Community Engagement

The applicant undertook Voluntary Community Engagement in accordance with the 'Queensland Solar Farm Guidelines – Social Considerations criteria'. The applicant has engaged with neighbours, local businesses, community groups, and South Burnett Regional Council through various means prior to lodgment of, and during progression of the development application. Engagement has included:

- Phone calls.
- Face to face meetings.
- Mail drops.
- Newsletters.

- Information sheets.
- Presentations at Council General Meetings.

The purpose of voluntary community engagement was identification of key issues, concerns, and potential impacts. Applicant also sought to understand how the solar farm could better integrate into the community and provide additional local benefits.

The applicant's May 2023 'Engagement Outcomes Report' identified the following 'engagement outcomes':

- 37 people registered for updates between October 2022 to May 2023.
- 21 people completed an online survey between October 2022 to May 2023.
- 90 letters and information sheets were distributed October 2022 to properties along:
    - Bowman Road.
    - Emerson Road
    - Franks Road.
    - Old Esk Road.
- Newsletters issued to those registered interest and community members during January, February, March 2023.
- 18 local businesses and community groups provided information sheets during October 2022.
- 1088 Information brochures delivered around Blackbutt by Australia Post in May 2023.
- 300 flyers made available for distribution at the Blackbutt Visitor Information Centre in May 2023.

As of October 2023, the applicant advised that ongoing efforts to engage with stakeholders yielded the following outcomes:

- Support for community events via sponsorship of the Blackbutt Delights/Avocado Festival.
- 44 stakeholders registered for regular updates (appears to have increased since May 2023).
- 40 local businesses have provided expressions of interest in supplying or working on the project during construction.
- The Australian Solar Enterprises website (Tumuruusolar.com.au) has received 8617 'unique visits'.

It was determined that voluntary community engagement pursuant to the 'Queensland Solar Farm Guidelines – Social Considerations criteria' was a relevant matter pursuant to s45 of the *Planning Act 2016* and hence given weight in the overall assessment. Upon review of all aspects constituting statutory and non-statutory consultation the material indicated that submissions formally objecting to the proposal were significantly lower than the purported number of local respondents participating and/or notified via voluntary community engagement. The variation between registered interest and submissions (formally objecting) does not necessarily infer a greater or lower level of local support, but rather that fewer people on land directly affected by the development did not object. Notwithstanding, the applicant's claim that 40 registered local businesses have given expressions of interest in providing services could be considered supportive.

6. RECOMMENDATION

That Council approve the Development Permit for a Material Change of Use for Renewable Energy Facility and Major Electricity Infrastructure (Battery Energy Storage System) at 341 Bowman Road, Taromeo (formally described as Lot 2 on SP155159) – Applicant Australia Solar Enterprises C/- Gilvear Planning

ATTACHMENTS

1. **Attachment A - Statement of Reasons**
2. **Attachment B - Infrastructure Charges Notice**
3. **Attachment C - Approved Plans**
4. **Attachment D - Powerlink Advice Response**
5. **Attachment E - Ergon Advice Response**
6. **Attachment F - Properly Made Submissions**

NOTICE ABOUT DECISION – STATEMENT OF REASONS

The following information is provided in accordance with Section 63(4) & (5) of the Planning Act 2016

SITE DETAILS – MCU22/0034	
Applicant:	Australian Solar Enterprises /- Gilvear Planning
Proposal:	Material Change of Use for Renewable Energy Facility and Major Electricity Infrastructure (Battery Energy Storage System)
Properly Made Date:	9 December 2022
Street Address:	341 Bowman Rd Taromeo Queensland 4314
RP Description:	Lot 2 on SP155159
Assessment Type:	Impact Assessment
Number of Submissions:	11 Submissions
ISSUE	Refer to item 2 below
Decision:	Approved with conditions
Decision Date:	22 November 2023

1. Assessment Benchmarks

The following are the benchmarks apply to this development:

South Burnett Regional Council Planning Scheme 2017

- Strategic Framework.
- Rural Zone Code.
- Rural Residential Zone Code.
- Services & Works Code.

2. Matters raised in submissions and officer response

Comments/Issues	Review/Response
Lack of updates/input – no direct letters, phone calls, notifications	It's understood the applicant undertook a voluntary consultation program in addition to the statutory requirements set out in the DA Rules. The voluntary consultation program was undertaken in accordance with the Queensland Solar Farm Guidelines – 'Social Considerations' section.
Visual impact – general inability to hide the view of the solar farm from balconies of residential uses. Concern with flood lighting compromising views to the night sky (star gazing).	• Residential properties will likely have views to the proposed solar array from certain vantage points. The applicant commissioned LANDPLAN landscape architects to undertake a view assessment of the proposal from 20 vantage points (considered in their opinion as relevant). The view assessment provided evidence demonstrating why the solar array proposed in this development does not

	cause unreasonable views from surrounding (affected) properties. Council did not receive any alternative, qualified commentary on the matter of views. • Floodlighting the site (during nighttime) - The development is conditioned in accordance with the LANDPLAN – 'Assessment of Potential Visual Impact' recommendations to install outdoor (nighttime) lighting designed to operate in accordance with AS4282 *'Control of Intrusive Light, Effects from Outdoor Lighting'*. The development is also conditioned to utilise motion sensor systems for adaptive lighting similar to 'WE-EF 'Wildlight Systems'.
Noise impact	The applicant commissioned an acoustic consultant to assess impacts of noise on sensitive receptors on surrounding properties. The acoustic consultant established that noise impacts will not exceed the most stringent criterion for residential dwellings during construction and operational phases.
Waste impact	It's likely that waste will be generated during construction and operation of the development (possibly more during construction phase). Management of waste is conditioned.
Environmental impact	Environmental impacts were considered in the following ways: • **Ecological (Fauna/Flora) –** areas identified for development have sparse vegetation cover mapped as Category X. Where possible vegetation will be retained on the subject site. Areas identified for development have multiple (internal) service tracks on the north/south axis & east/west axis. The internal tracks will be either 5m or 12m in width with regular intervals affording opportunity for fauna movement between areas mapped as having regional ecosystems. • **Stormwater, Dust –** the applicant commissioned a site-based stormwater management plan which will provide necessary measures to manage quantity and quality off the site.
Harper Road impact - Dirt Road with cattle grid	Council has imposed conditions limiting road use to Bowman Rd only.
Inconsistencies in documents regarding:	

a. *Impact on Spring fed dams*	The presence of spring fed dams would infer a ground water source which circumstances permitting could be affected by earthworks. In this instance the development is conditioned to utilise a light-weight low impact framing system that does not require earthworks.
b. *Impact on local fauna including endangered species*	The proposed solar array makes adequate provision for retention potential fauna movement via the following means: • Will have regular maintenance tracks interspersed amongst panels (5m or 12m wide depending on track orientation). • Will retain a consistent (planted) understorey that is between 800mm to 1000mm above natural ground level. The solar array will allow movement of larger fauna and may improve sheltered movement for smaller fauna.
c. *Degradation of property*	The development will utilise a lightweight framing system that does not require excavation for cables and large/concrete footings. The framing system is mounted on small rods that can be installed with hand tools. The proposed Solar Array does not change 314 Bowman Road's current landform.
d. *Reduced grazing opportunities for cattle - degradation of grasses, shelter, and trees*	The development will limit the extent of grazing land available on the site. However, the applicant proposes to utilise a lightweight framing system that retains existing landform and soil profiles. The applicant also intends to rejuvenate existing soils (beneath the array) for future use. The Council have conditioned the framing system, and measures to rejuvenate the soil.
e. *Heat emission to destroy vegetation*	The solar array is likely to be a heat source, however the development is separated 75m to 200m from property boundaries on sites containing nearest (established) vegetation. The array also employs a slight grade hence unreasonable emission/transmission of heat to adjoining mature vegetation seems unlikely.
f. *Impact of health of family members (rare blood disorder, Asthma, Autism)*	The development is either conditioned to manage impacts or will be required to manage impacts in accordance with relevant legislation.
g. *Impact on Biodiversity of the area*	• The development will be in those parts of the site that were cleared for pasture in

	the 1960's. Existing information sources identified ecological value as low. • The development has made sufficient provision to allow continued movement between mapped regional ecosystems.
h. *Proposed employment is not sufficient, Will the Solar array use tracking panels or not, community funding will not be $4.8million (only $3 million).*	• **Employment not sufficient -** applicant advised there will be short- and long-term employment opportunities to which certain positions can be filled locally. Employment generation was considered a relevant matter during assessment (amongst several other relevant matters). Metrics to determine sufficient job creation was not prescribed in the material assessed. • **Use of Tracking Panels –** material submitted in support of the application clearly states that this solar array does not intend to utilise tracking panels. Council have imposed conditions of development limiting installation of the solar array to fixed type that is no more than 1m above natural ground level. • **Community Funding –** the development is conditioned to operate for 50 years. Community Funding 'could' as much as the amount stated ($4.8 million) depending on the arrangements made.
i. *Upgrading of Bowman Rd incl safe walking/cycling path to Blackbutt*	Council have imposed reasonable & relevant conditions to upgrade Bowman Rd to the appropriate standard.
j. *Insurance liability – as discussed with Plan C (Responsible for Community Engagement).*	This is not a matter that can be assessed by the Planning Scheme, nor was it a matter referred to in other State Planning Policies, Guidelines or the like.
k. *Devaluation of property*	This is not a matter that can be assessed by the Planning Scheme, nor was it a matter referred to in other State Planning Policies, Guidelines or the like.
l. *Fire risk*	Council have imposed conditions to implement measures to manage risk of fire/bushfire. Plans, detailing measures and required infrastructure are to be provided prior to undertaking of site works in accordance with an approved OEMP.
m. *Size of batteries?*	The Solar Farm Facility was publicly advertised as having a capacity of approximately 400MW to which the Battery Energy Storage System (BESS) will be tailored accordingly. The BESS is to be located within a 2-hectare area as shown on

	the approved site plan (likely to be co-located) with the inverters. Final capacity of the BESS will be subject to several factors associated with installation of the Solar Farm's key components which Council understands are determined by detailed surveys, studies. While we do not know the final size/capacity we understand the BESS will be contained within the 2ha compound, and will be temperature controlled. To date final assessment and correspondence is based on the provision of a 400MW facility and no more (a condition is imposed to this effect). Should detailed design studies change capacity of the Solar Farm beyond that understood in this assessment, Council would expect the applicant to make necessary change representations pursuant to the *Planning Act 2016*.
n. Future expansion	The development approval is limited to the extent shown on the plans. Further expansions would trigger further assessable development.
A bond should be payable to fully decommission the solar farm if the company declares bankruptcy.	Council have imposed conditions regarding requirements for decommissioning.
Lack of Stormwater systems	Stormwater systems are to be implemented in accordance with the approved Site Based Stormwater Management Plan. Council has imposed conditions for implementation of the Stormwater System.
Boundary to increase on northern and eastern sides to 100m minimum	Separation between the solar array and Northern/Eastern boundaries is 75m with a 10m wide buffer (between the array and property boundaries). Vegetation stands in the 10m wide buffer will include trees/shrubs up to 3m in height. It was determined that combination of separation and vegetated buffer height will sufficiently obscure the 800mm to 1000mm solar array.
Potential flooding in heavy rain. *Damage to dam wall.*	• **Potential Flooding in Heavy Rain -** The applicant's Stormwater Management Report confirmed that increased stormwater will be generated however measures have been conditioned to detain stormwater on site and discharge at a rate comparable to the site's current predevelopment condition. Accordingly, site development will include stormwater basins in select locations to account for multiple catchments. Stormwater quantity/flows from the developed site were considered in a worst-case scenario

	of 1% Annual Exceedance Probability (i.e., 1 in 100-year weather event). • **Damage to dam wall -** Applicant's Stormwater Management Report appraised the site's hydrology and determined that stormwater runoff traverses multiple catchments (within the site). The proposed solar array generally retains existing hydrologic conditions hence additional basins will be required to detain and slowly release stormwater. Site drainage will not solely rely on existing dams.
Glare	Applicant commissioned LANDPLAN landscape architects to assess and determine impacts of glare. LANDPLAN's assessment was based on a Solar Glare Hazard Analysis Tool (SGHAT) which assess glare on the following basis: • Site latitude & longitude. • Elevation. • Sun Position. • Vector (magnitude of glare and direction). • Array orientation, reflectance environment. SGHAT utilizes the above metrics to identify potential glare and calculates glare on the receptor (retinal irradiance) to determine extent of hazard. The LANDPLAN SGHAT identified potential glare effects and recommended necessary amendments to the array to ensure appropriate impacts. The applicant's final plan of layout (for the array) reflects the suggested amendments by LANDPLAN. The proposed array is determined to generate acceptable Glare impacts based on LANDPLAN's assessment and recommendations.
Increased insurance premiums	This is not a matter that can be assessed by the Planning Scheme, nor was it a matter referred to in other State Planning Policies, Guidelines, or the like.
Lack of communication, Lack of consultation with the public	Consultation was undertaken and/or continues via the following means: • Statutory notification in accordance with the Planning Act 2016 'DA Rules'. • Community Engagement program in accordance with the 'Queensland Solar

	Farm Guidelines – Social Considerations criteria' It was determined that the applicant has provided consultation beyond the minimum expected under statutory requirements. It is understood that multiple businesses, and members of the public registered their interest with the development proponent and receive regular updates. It is also understood that personnel assisting the proponent with voluntary public engagement were available and discussed aspects of the development during preliminary consultation, and with submitters during statutory notification.
Rural setting removed – would now feel industrial	Large portions of the site will remain undeveloped hence rural setting from those vantage points will be unaffected. LANDPLAN – 'Assessment of Potential Visual Impact' document has assessed the proposal and made recommendations to manage impacts of direct views to the solar array.
Creation of 17 jobs is not enough justify the proposal.	Metrics to determine sufficient job creation was not prescribed in the material assessed.
Fire Hazard – Lack of accessibility for fire vehicles.	The development incorporates fire/ maintenance trails around the development's perimeter and within the solar array. Trails will generally consist of the following: • 15m wide maintenance tracks around the development's perimeter. • 12m wide maintenance tracks interspersed between the array at regular intervals (running east/west). • 5m wide maintenance tracks interspersed between the array at regular intervals (running north/south).
Road conditions/damage	Large vehicles associated with the development will be limited to the use of Bowman Rd only and further conditioned to undertake necessary upgrades to ensure associated vehicle movements can be accommodated.
Dust storms/flooding/chemical movement when raining due to lack of vegetation under the panels	The applicant clarified that vegetation beneath the panels will be installed which is conditioned accordingly.

3. Reasons for the Decision

The reasons for this decision are:

- The proposal is consistent with the South Burnett Regional Planning Scheme 2017 v1.4 Strategic Framework regarding the provision of renewable energy infrastructure, use of existing electrical transmission infrastructure, local economic benefit, preservation and improvement of rural land.
- The proposal was assessed against relevant South Burnett Regional Planning Scheme 2017 v1.4 'Assessment Benchmarks' and found to either comply, be conditioned to comply, or conditioned to ensure overall outcomes are not compromised
- The proposal was assessed against and found to comply with the following broad planning criteria (considered as relevant matters in the impact assessment)
  - State Planning Policy 2017 (Infrastructure Energy & Water Supply).
  - Queensland Solar Farm Guidelines.
  - 2023 Draft Queensland Renewable Energy Zone Road Map.
  - Queensland Climate Action Plan.
  - South Burnett Regional Council Advocacy Action Plan 2022.
  - South Burnett Regional Council Annual Report 2012/2022.
  - South Burnett Regional Council Annual Operation Plan 2023/2024.
  - South Burnett Regional Council Regional Development Strategy.
- It was determined that sufficient consultation and engagement to inform the community was undertaken.
- Reasonable and relevant conditions of approval can be imposed to ensure compliance with the South Burnett Planning Scheme 2017 v1.4 requirements.

3. Compliance with Benchmarks

The development was assessed against all the assessment benchmarks listed above and complies with all of these or can be conditioned to comply.

Note: Each application submitted to Council is assessed individually on its own merit.

INFRASTRUCTURE CHARGES NOTICE

(Section 119 of the Planning Act 2016)

APPLICANT:	Australian Solar Enterprises - Chris Elder	
APPLICATION:	Renewable Energy Facility (Tumurru Solar Farm) and Major Electricity Infrastructure (Battery Energy Storage System)	
DATE:	24/10/2023	
FILE REFERENCE:	MCU22/0034	
AMOUNT OF THE LEVIED CHARGE: *(Details of how these charges were calculated are shown overleaf)*	**$5,000.00**	**Total**
	$0.00	Water Supply Network
	$0.00	Sewerage Network
	$5,000.00	Transport Network
	$0.00	Parks and Land for Community Facilities Network
	$0.00	Stormwater Network
AUTOMATIC INCREASE OF LEVIED CHARGE:	The amount of the levied charge is subject to an automatic increase. Refer to the Information Notice attached to this notice for more information on how the increase is worked out.	
LAND TO WHICH CHARGE APPLIES:	**Lot 2 on SP155159**	
SITE ADDRESS:	341 Bowman Rd, Taromeo	
PAYABLE TO:	**South Burnett Regional Council**	
WHEN PAYABLE: *(In accordance with the timing stated in Section 122 of the Planning Act 2016)*	Material Change of Use – When the change happens.	
OFFSET OR REFUND:	Not Applicable.	

This charge is made in accordance with South Burnett Regional Council's ***Charges Resolution (No. 3) 2019***

DETAILS OF CALCULATION

Water Supply

Adopted Charges

Development Description	Number of Units	Units of Measure	Charge Rate	Reference	Amount
Not Applicable	-	-	$0.00	-	$0.00

Discounts*

Description	Number of Units	Units of Measure	Discount Rate	Reference	Amount
Not Applicable	-	-	$0.00	-	$0.00

Sewerage

Adopted Charges

Development Description	Number of Units	Units of Measure	Charge Rate	Reference	Amount
Not Applicable	-	-	$0.00	-	$0.00

Discounts*

Description	Number of Units	Units of Measure	Discount Rate	Reference	Amount
Not Applicable	-	-	$0.00	-	$0.00

Transport

Adopted Charges

Development Description	Number of Units	Units of Measure	Charge Rate	Reference	Amount
Specialised Uses – Other Industry (Solar Farm)	625	GFA	$8.00	CR Table 2.2	$5,000.00

Discounts*

Description	Number of Units	Units of Measure	Discount Rate	Reference	Amount
Not Applicable	-	-	$0.00	-	$0.00

Parks and Land for Community Facilities

Adopted Charges

Development Description	Number of Units	Units of Measure	Charge Rate	Reference	Amount
Not Applicable	-	-	$0.00	-	$0.00

Discounts*

Description	Number of Units	Units of Measure	Discount Rate	Reference	Amount
Not Applicable	-	-	$0.00	-	$0.00

Stormwater

Adopted Charges

Development Description	Number of Units	Units of Measure	Charge Rate	Reference	Amount
Not Applicable	-	-	$0.00	-	$0.00

Discounts*

Description	Number of Units	Units of Measure	Discount Rate	Reference	Amount
Not Applicable	-	-	$0.00	-	$0.00

Levied Charges

Development Description	Water Supply	Sewerage	Transport	Parks & Land for Community Facilities	Stormwater	Total
Specialised Uses – Other Industry (Solar Farm)	$0.00	$0.00	$5,000.00	$0.00	$0.00	$5,000.00
Total	**$0.00**	**$0.00**	**$5,000.00**	**$0.00**	**$0.00**	**$5,000.00**

** In accordance with Section 3.3 of the Charges Resolution, the discount may not exceed the adopted charge. Any surplus discounts will not be refunded, except at South Burnett Regional Council's discretion.*

INFORMATION NOTICE

Authority and Reasons for Charge	This Infrastructure Charges Notice has been given in accordance with section 119 of the *Planning Act 2016* to support the Local government's long-term infrastructure planning and financial sustainability.
Appeals	Pursuant to section 229 and Schedule 1 of the *Planning Act 2016* a person may appeal an Infrastructure Charges Notice. Attached is an extract from the *Planning Act 2016* that details your appeal rights.
Automatic Increase Provision of charge rate ($)	An infrastructure charge levied by South Burnett Regional Council is to be increased by the difference between the Producer Price Index (PPI) applicable at the time the infrastructure charge was levied, and PPI applicable at the time of payment of the levied charge , adjusted by reference to the 3-yearly PPI average[1]. If the levied charge is increased using the method described above, the charge payable is the amount equal to the sum of the charge as levied and the amount of the increase. However, the sum of the charge as levied and the amount of the increase is not to exceed the maximum adopted charge the Authority could have levied for the development at the time the charge is paid.
GST	The Federal Government has determined that contributions made by developers to Government for infrastructure and services under the *Planning Act* 2016 are GST exempt.
Making a Payment	This Infrastructure Charges Notice cannot be used to pay your infrastructure charges. To pay the levied charge, you must request an Itemised Breakdown showing the total levied charge payable at the time of payment. An Itemised Breakdown must be presented at the time of payment. An Itemised Breakdown may be requested by emailing info@southburnett.qld.gov.au

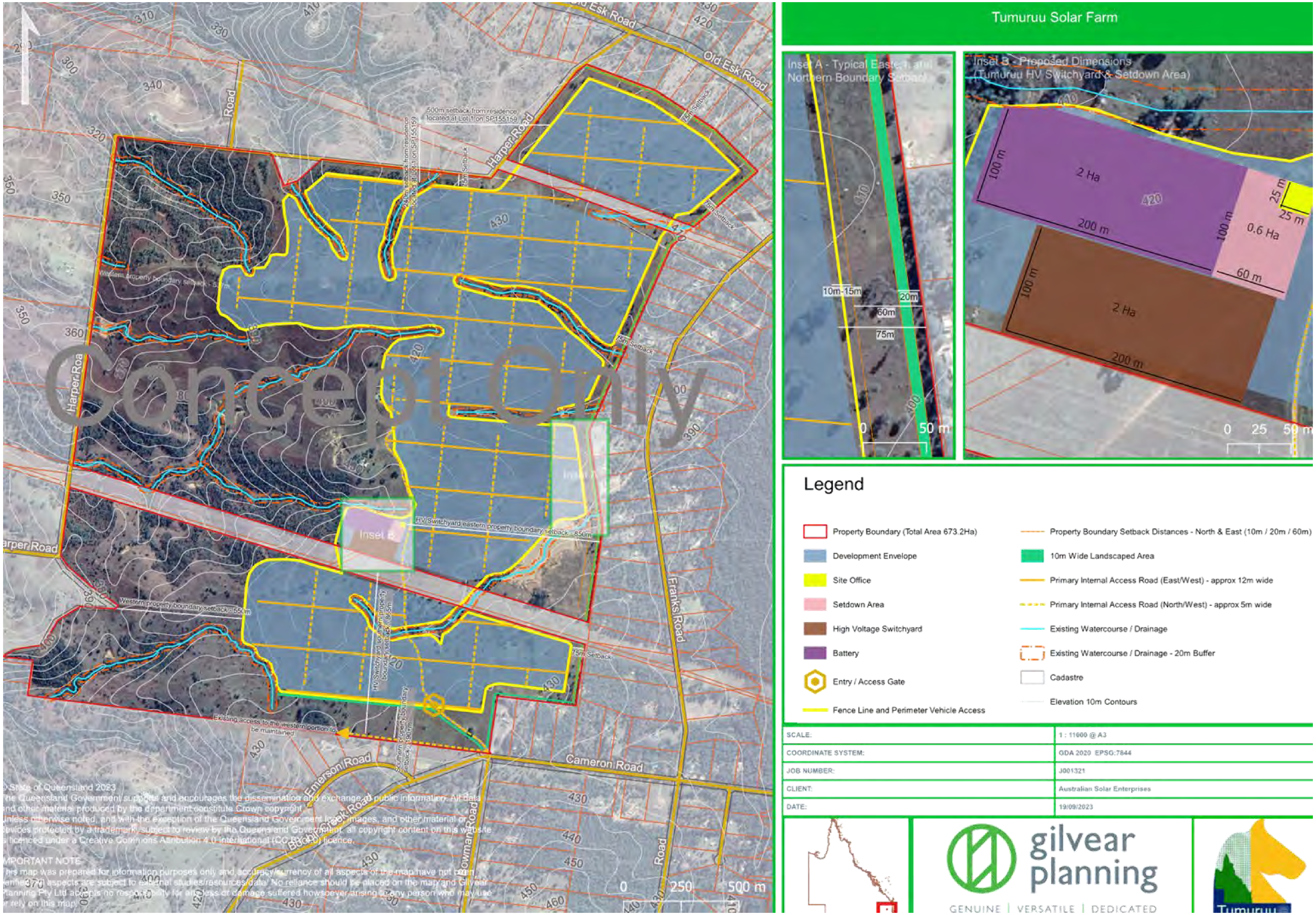
[1] 3-yearly PPI average is defined in section 114 of the *Planning Act 2016* and means the PPI adjusted according to the 3-year moving average quarterly percentage change between financial quarters. PPI Index is the producer price index for construction 6427.0 (ABS PPI) index number 3101 – Road and Bridge construction index for Queensland published by the Australian Bureau of Statistics.

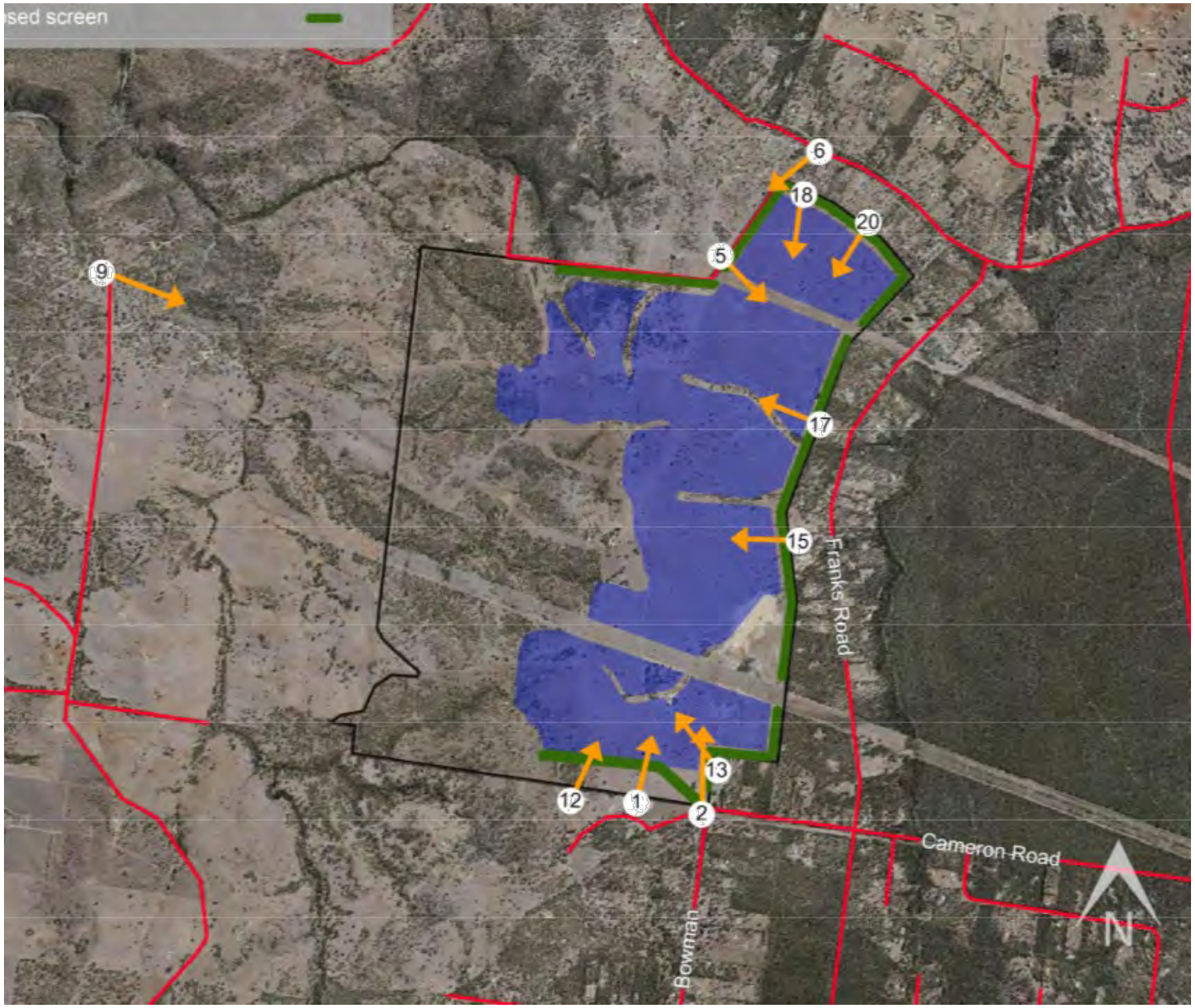
Payment can be made at any of the following South Burnett Regional Council Offices:

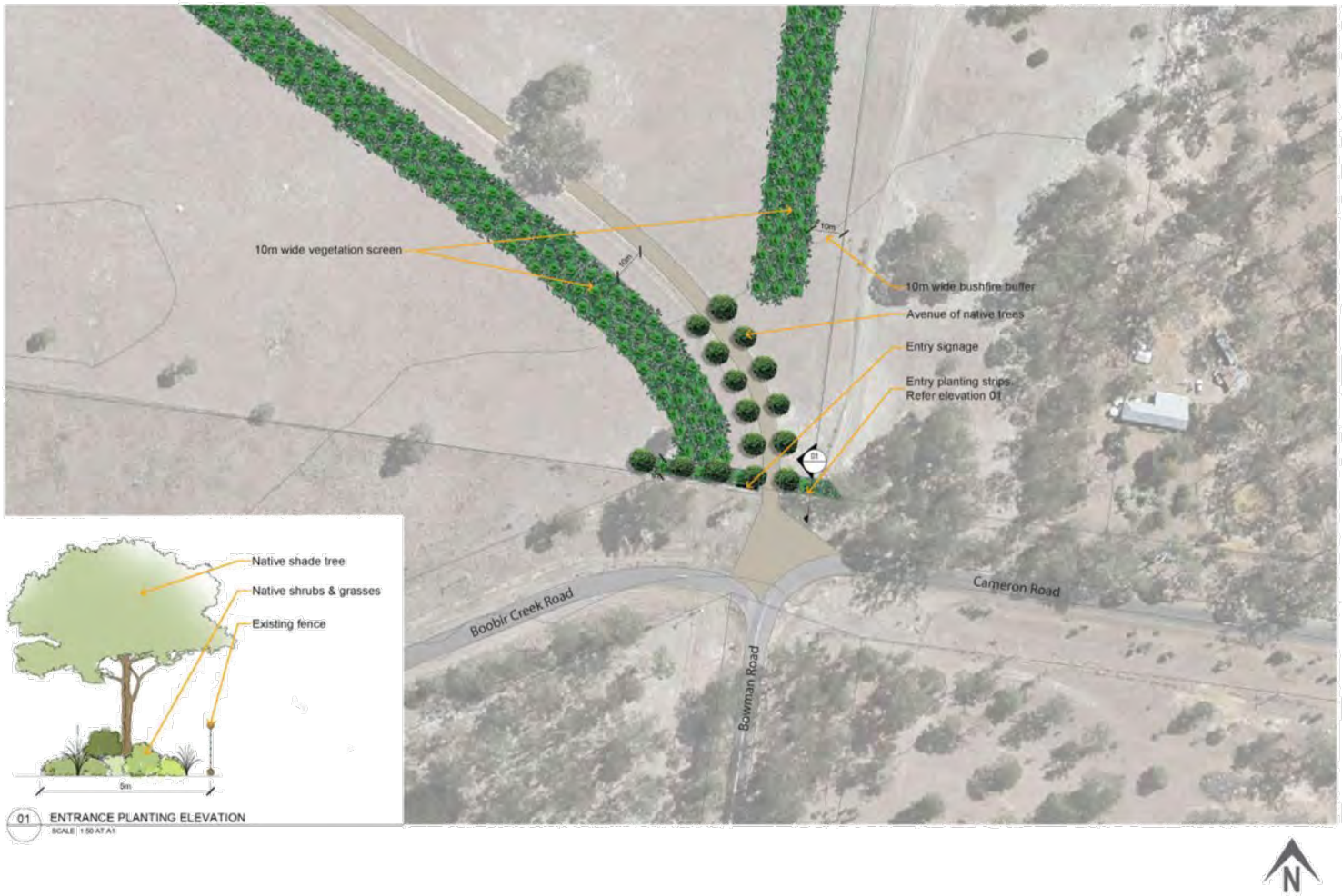
- 69 Hart Street, Blackbutt, 4314;
- 45 Glendon Street, Kingaroy, 4610;
- 42 Stephens Street West, Murgon, 4605;
- 48 Drayton Street, Nanango, 4615;
- McKenzie Street, Wondai, 4606; or
- via other methods identified on the Itemised Breakdown.

Enquiries

Enquiries regarding this Infrastructure Charges Notice should be directed to the SOUTH BURNETT REGIONAL COUNCIL, Department of Planning and Land Management, during office hours, Monday to Friday by phoning (07) 4189 9100 or email at info@southburnett.qld.gov.au


Tumuruu Solar Farm
Concept Only
Inset A - Typical Eastern and Northern Boundary Setback
Inset B - Proposed Dimensions (Tumuruu HV Switchyard & Setdown Area)
2 Ha
200 m
100 m
0.6 Ha
60 m
25 m
Legend
Property Boundary (Total Area 673.2Ha)
Development Envelope
Site Office
Setdown Area
High Voltage Switchyard
Battery
Entry / Access Gate
Fence Line and Perimeter Vehicle Access
Property Boundary Setback Distances - North & East (10m / 20m / 60m)
10m Wide Landscaped Area
Primary Internal Access Road (East/West) - approx 12m wide
Primary Internal Access Road (North/West) - approx 5m wide
Existing Watercourse / Drainage
Existing Watercourse / Drainage - 20m Buffer
Cadastre
Elevation 10m Contours
SCALE: 1 : 11000 @ A3
COORDINATE SYSTEM: GDA 2020 EPSG:7844
JOB NUMBER: J001321
CLIENT: Australian Solar Enterprises
DATE: 19/09/2023
gilvear planning
GENUINE | VERSATILE | DEDICATED
Old Esk Road
Harper Road
Franks Road
Cameron Road
Emerson Road
Western property boundary setback - 850m
HV Switchyard eastern property boundary setback - 850m
Existing access to the western portion to be maintained
75m Setback
© State of Queensland 2023


sed screen
6
18
20
5
9
17
15
Franks Road
13
12
1
2
Cameron Road
Bowman
N



TUMURUU SOLAR FARM ENTRANCE CONCEPT PLAN 1:500 AT A1 2204-033 08/09/2023

Figure 44 : Landscape Concept Entry


JURCHEN
TECHNOLOGY
PEG®
PV substructure

JURCHEN TECHNOLOGY

It is very simple
to make something
complicated,

**but really complicated
to make something simple.**


What is PEG®?

What is PEG®?

JURCHEN TECHNOLOGY

The revolution in the field of PV substructures

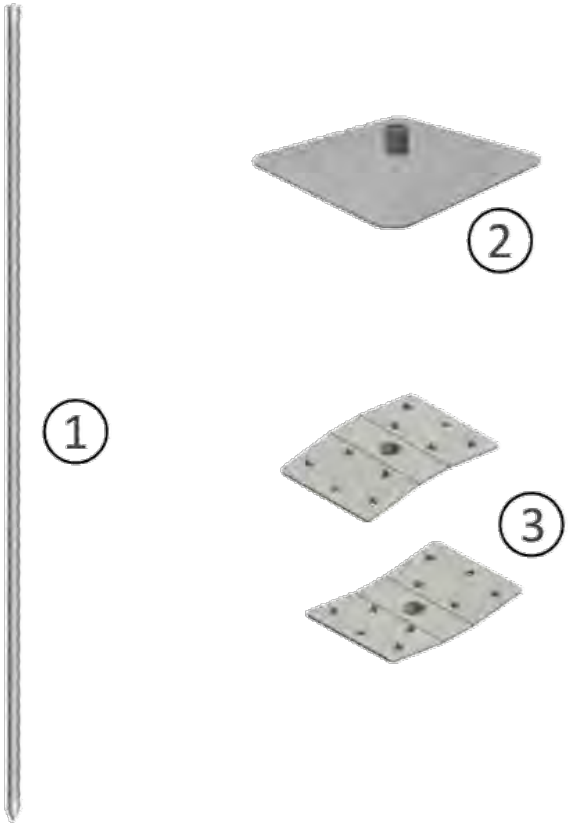
A real gamechanger designed for E/W

What is PEG®?

JURCHEN TECHNOLOGY

The patented construction consists of only three parts.

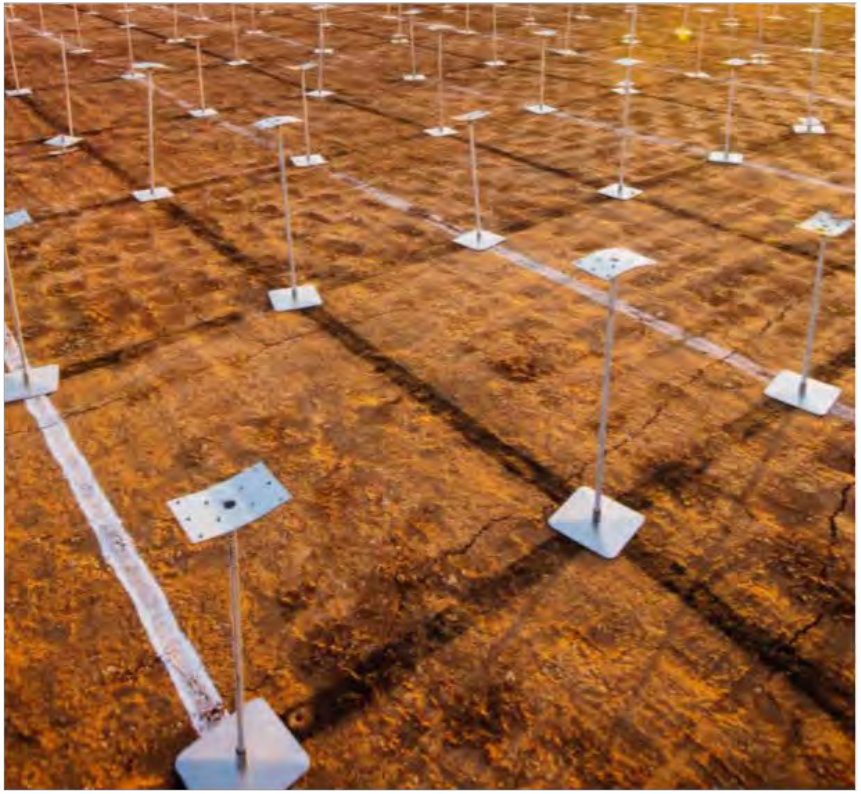
1. Rod
2. Ground plate
3. Top and down plate



What is PEG®?

JURCHEN TECHNOLOGY

Each module is connected to
4 rods, one per corner.




What is PEG®?
JURCHEN TECHNOLOGY
Scalable
from residential scale...


What is PEG®?
JURCHEN TECHNOLOGY
… to utility scale

What is PEG®?

JURCHEN TECHNOLOGY

IT'S NOT EPC, IT´S EPI

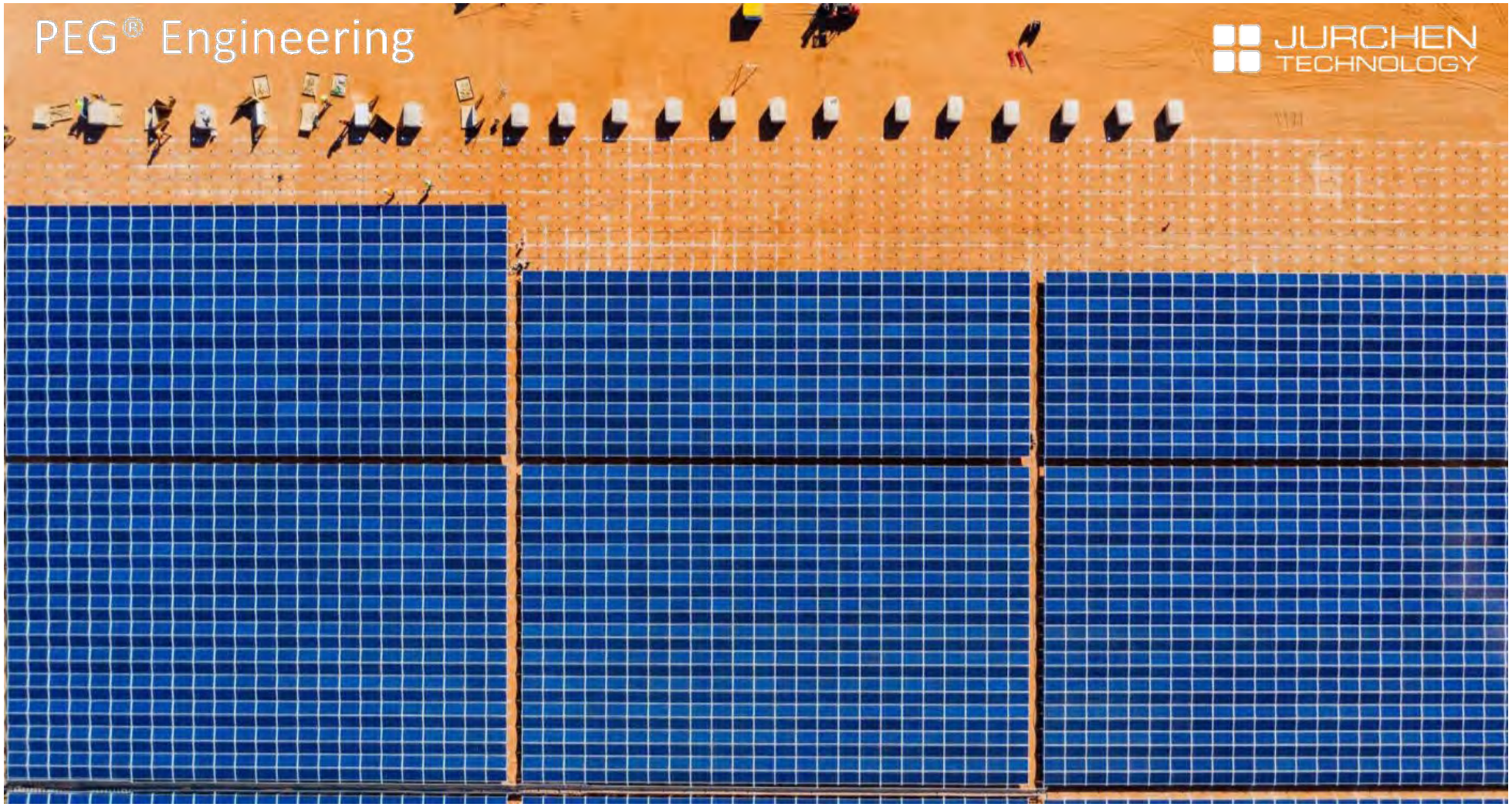
Engineering
Procurement
Installation


PEG® Engineering

JURCHEN TECHNOLOGY

ENGINEERING

- Most effective land utilization
- Low visual impact
- Fully scalable
- From 10kWp to MWs
- Worldwide patent
- UL certified

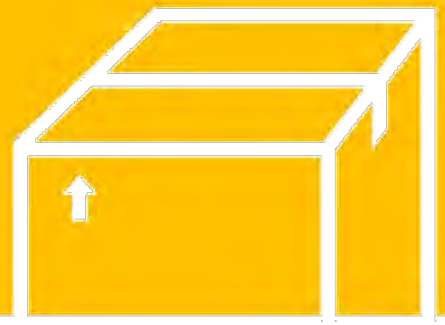

PEG® Engineering
JURCHEN
TECHNOLOGY


PEG® Procurement

JURCHEN TECHNOLOGY

PROCUREMENT

- Minimal transport cost
- Significantly reduced steel consumption
- Jurchen also manufactures the perfectly fitting DC cable harnesses
- Easier transport to remote regions

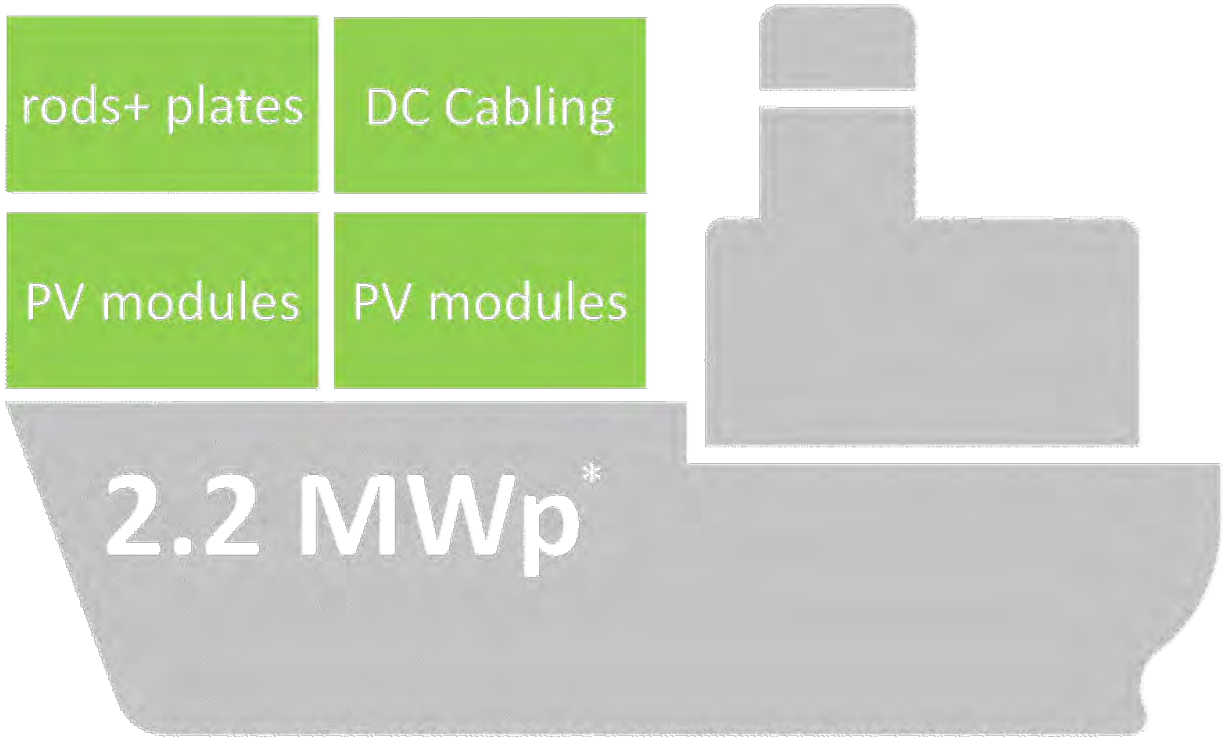


PEG® Procurement

JURCHEN TECHNOLOGY

Shipment

- Power plant components for 2.2 MWp* fit into only four 40-ft. containers.
- This is suitable for more than one hectare.



* Figures refer to 550W modules and may differ from regionally


PEG® Procurement
JURCHEN
TECHNOLOGY

PEG® Procurement

JURCHEN TECHNOLOGY

The revolutionary design of the PEG system enables **transport in regions that are difficult to reach**.


PEG® Installation

JURCHEN TECHNOLOGY

INSTALLATION

- No heavy machines needed
- No cable trenching
- No concrete foundations required
- Lower labor skills sufficient
- Simpler H&S procedures on site

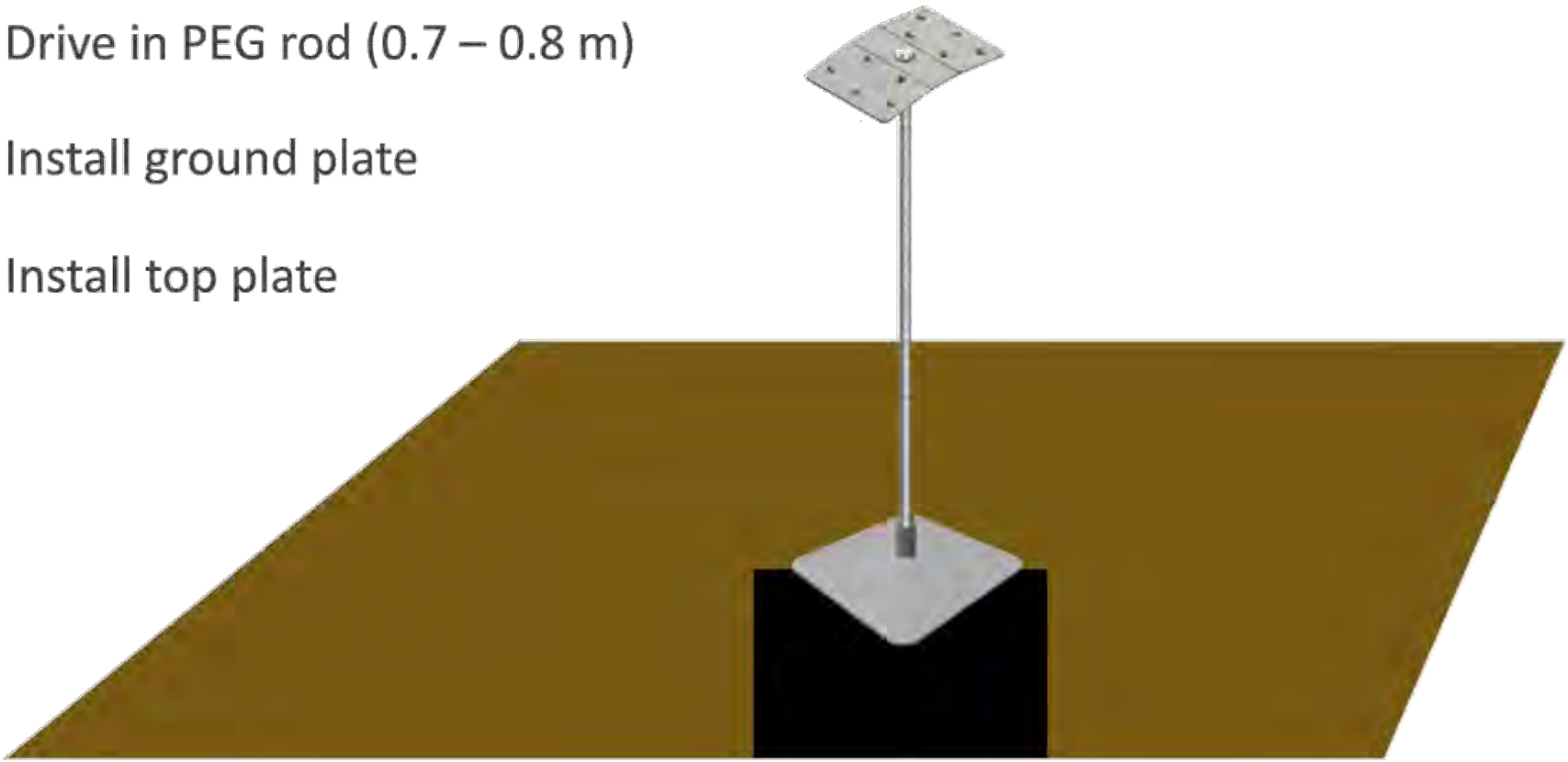
PEG® Installation

JURCHEN TECHNOLOGY

1. Drive in PEG rod (0.7 – 0.8 m)

2. Install ground plate

3. Install top plate

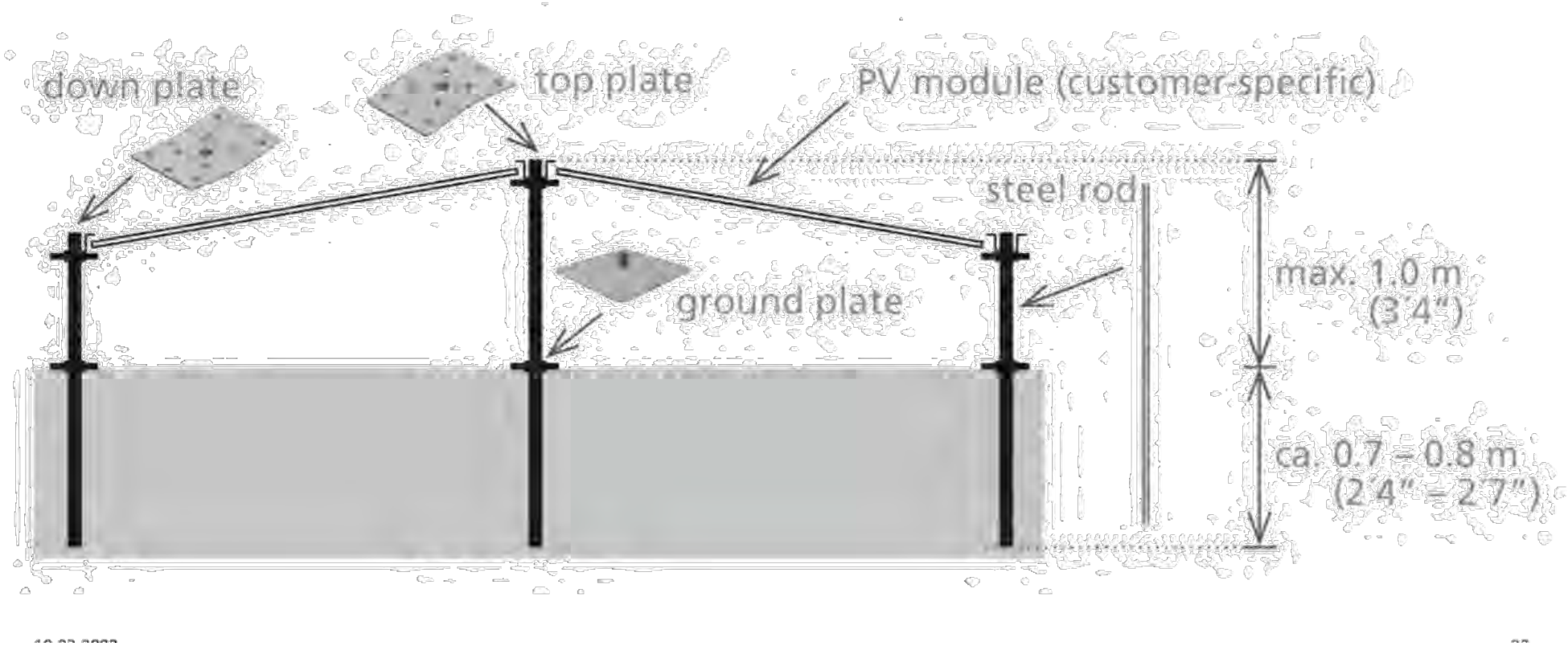



PEG® Installation
JURCHEN
TECHNOLOGY


PEG® Installation
JURCHEN
TECHNOLOGY

PEG® Installation

JURCHEN TECHNOLOGY




PEG® Installation
JURCHEN
TECHNOLOGY


PEG® Installation
JURCHEN
TECHNOLOGY


PEG® Installation
JURCHEN
TECHNOLOGY


PEG® O&M

JURCHEN TECHNOLOGY

OPERATION & MAINTENANCE

- consistent energy generation across the day
- low ecological footprint
- robust design
- windproof
- smart solutions for cleaning & greenkeeping


PEG® O&M
JURCHEN TECHNOLOGY
Module cleaning


PEG® O&M
JURCHEN TECHNOLOGY
Module replacement


PEG® at a glance

PEG® at a glance

JURCHEN TECHNOLOGY

Simplicity

- No foundation
- Less material
- Self stabilizing
- Robust & certified for tropical weather
- Reduced phase between planning and commissioning

PEG® at a glance

JURCHEN TECHNOLOGY

Efficiency improvement

- Light
- Innovative
- High installation safety
- No heavy machines

2.20 MWp*
per one 40 ft. container
for the substructure

1.85 MWp*
per hectare
(750 kWp per acre)

500 working hours*
per MWp
(2.0 kWp* per working hour)

World record

* Figures refer to 550W modules and may differ from regionally

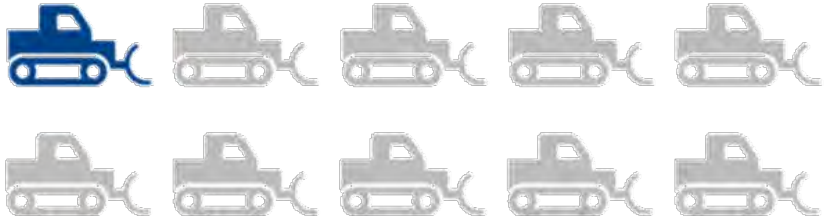
PEG® at a glance

JURCHEN TECHNOLOGY

Cost reduction

PEG delivers electricity at lowest possible levelized costs of energy (LCOE)

-90%
machine costs



-50%
logistic costs

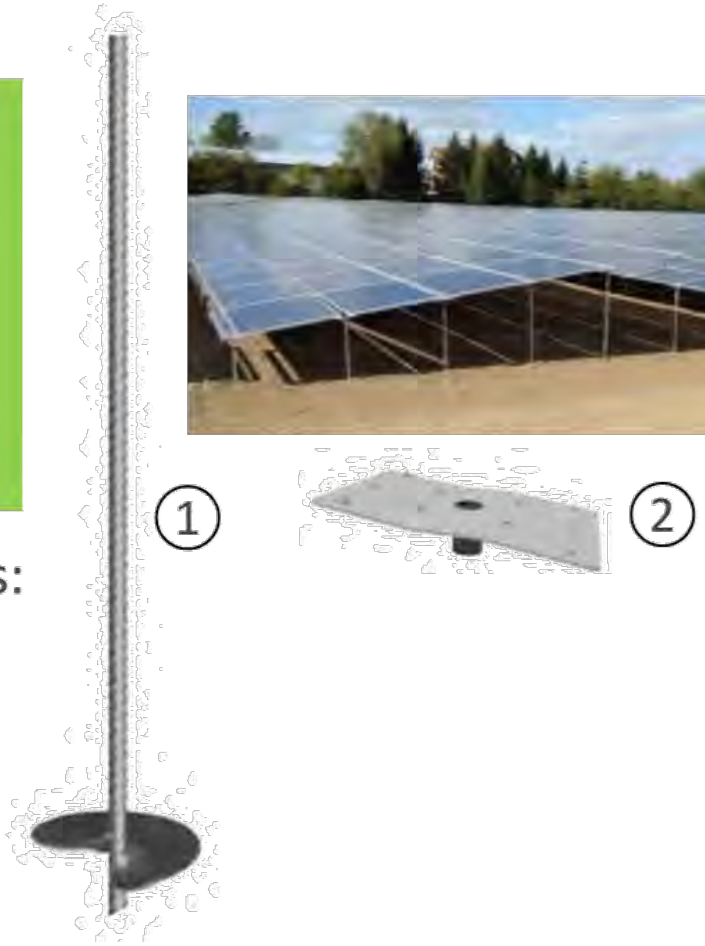

PEG® SD

What is PEG® SD?

JURCHEN TECHNOLOGY

It is the version for areas

- slopes
- areas with limited installation depth



The system consists of two components:

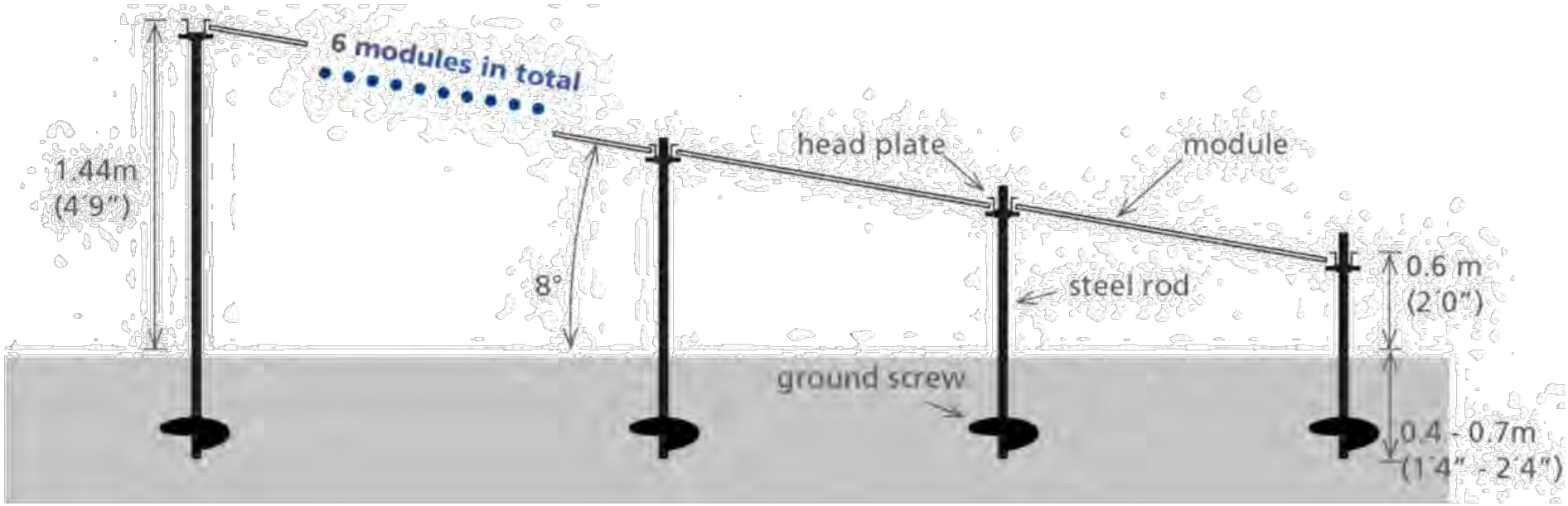
1. Rod with ground screw (can also be used for E-W)
2. South Plate


PEG® SD installation

PEG® SD Installation

JURCHEN TECHNOLOGY

Installation in flat terrain

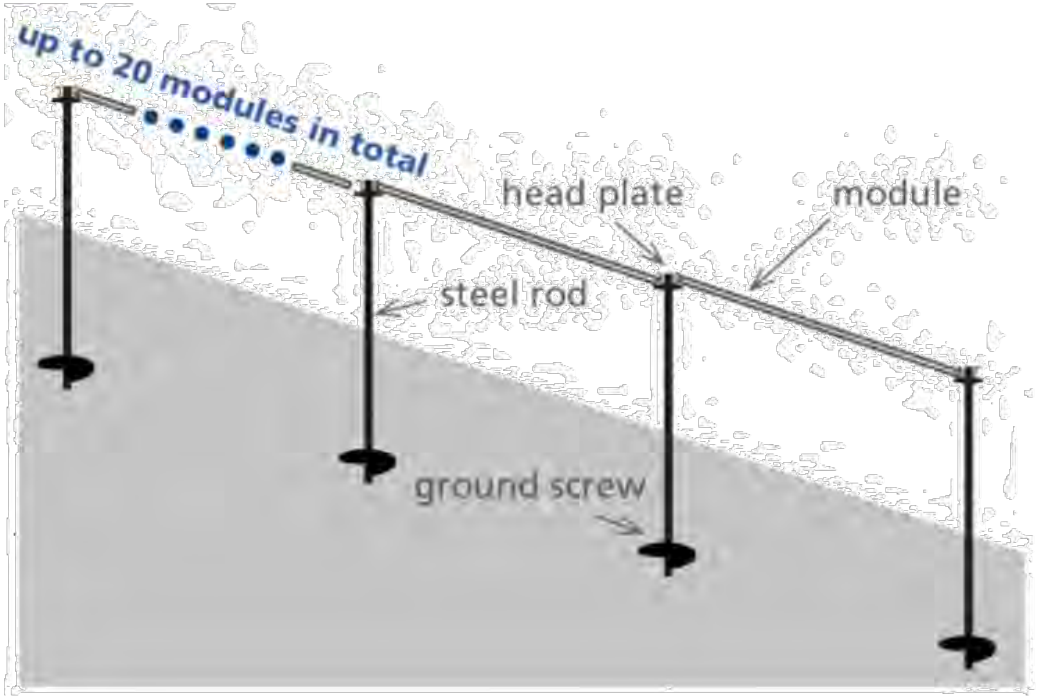


PEG® SD Installation

JURCHEN TECHNOLOGY

Installation on a hillside

Choose this solution if slopes have more than 4.5 deg.




Pictures:
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Meralli projects PTY Ltd
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Prinz-Ludwig-Straße 5
97264 Helmstadt, Germany
phone: +49 (0) 9369 98229 6600
E-Mail: info@jurchen-technology.com
www.jurchen-technology.com
THANK YOU FOR YOUR ATTENTION

JURCHEN TECHNOLOGY

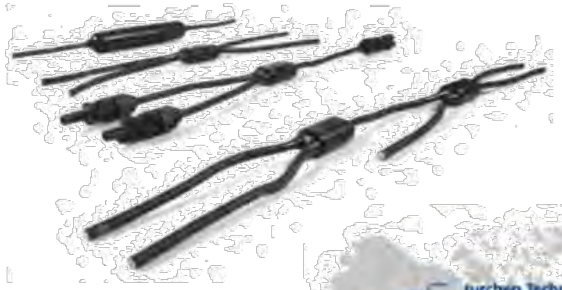
PEG EW System Overview

30th May 2022

Jurchen Technology: Introduction

JURCHEN TECHNOLOGY

- **Established in 2008**
- **Supply of substructure / accessories and cabling harnesses:**



- **Extensive global presence:**

26 Countries **5** Continents

4.2 GW of wiring harness

3.2 GW of ground installation

145 million of module clips

PEG: Main Benefits

JURCHEN TECHNOLOGY

- **Extremely high land use**. Comparison per acre:
  - **~3 times more DC vs trackers, ~twice more vs fixed-tilt**
  - **~225% more yield** vs trackers & other fixed-tilt systems
- **Extremely cost-effective CAPEX** (supply and installations)
- **Low profile & shallow foundations, <1m (3.3 ft)** above & below ground
- **Very light** system, **~9 kg (~20 lb) per kWp** (540W modules)
- Proven globally, **Over 400MWp already installed**

The PEG system, an ocean of modules covering the complete land with small gaps between the blocks

PEG: Bankable System

JURCHEN TECHNOLOGY

- **Debt finance was provided** for PEG projects, both pre and post construction
- **DNV-GL bankability report completed in June 2020**

- PEG's main advantage is in the efficiency of land use (the energy output per acre) and CAPEX reduction.
- the area-related energy harvest per acre is almost the same for either the fixed-tilt or single-axis tracker systems, while the PEG system exhibits a comparative 227% advantage over either of these types.
- The PEG product has been installed in the field since 2014 and Jurchen has not received any warranty claims to date.
- Jurchen has performed geotechnical and structural

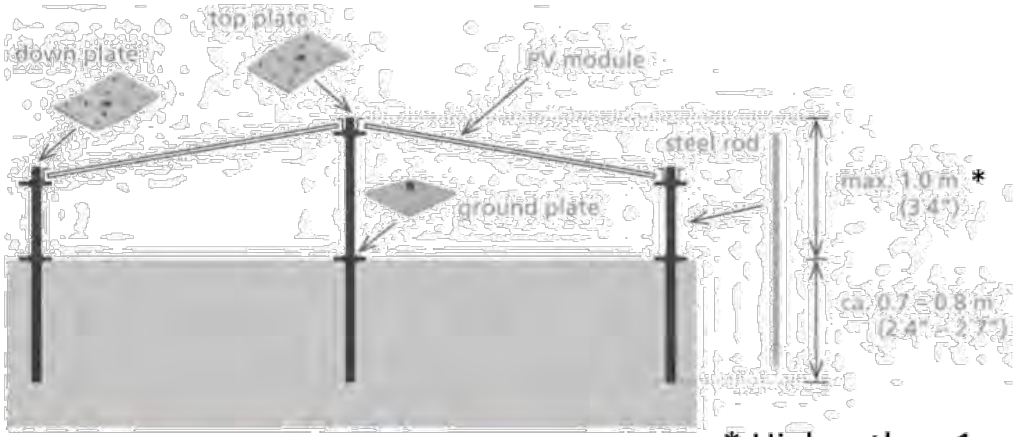
Energy land-use efficiency (MWh/acre/yr)	
Location	Gain PEG vs. FT/SAT
St. Cloud, Minnesota	+217% FT +224% SAT
Las Vegas, Nevada	+227% FT +222% SAT
Raleigh, North Carolina	+231% FT +241% SAT

Mounting type	GCR (Ground Cover Ratio)
PEG	≈1.0
Fixed-tilt, ground-mount	US locations: 0.40 Tropical locations: 0.87-0.93
Single-axis	0.33

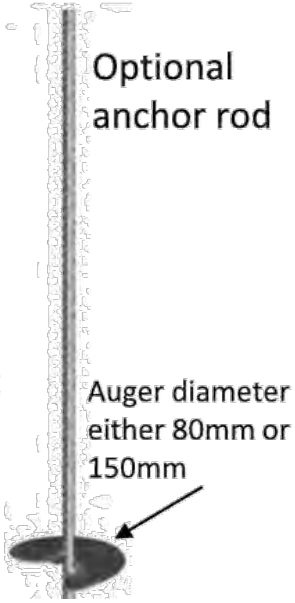
PEG: Design Characteristics

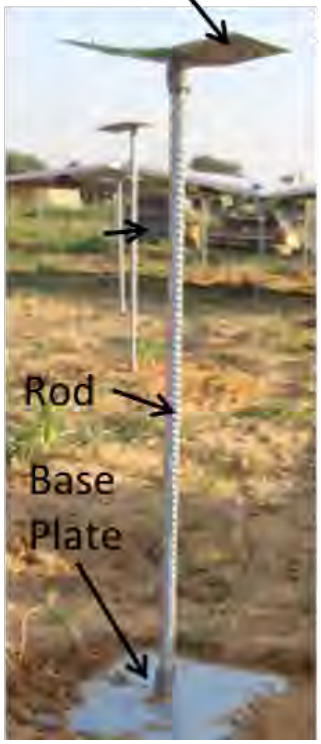
JURCHEN TECHNOLOGY

- **Only 3 items: Steel rod, ground plate and top plate**
- **Modules at 8 deg E-W laid on the top plates** under the corners
- Optional **anchor rods** for shallow foundations or soft soil



* Higher than 1m might be possible – to be evaluated per project





PEG: Mechanical BOM – Material Spec

JURCHEN TECHNOLOGY

Item	Material India / Germany supply)	Corrosion protection ** India / Germany supply)	Weight
Rod *	Ripped Steel rebar: Fe 500D / B500B	Zinc coating ~80 µm	16mm rod: ~1.75 Kg / m (~1.18 lbs / ft)
Ground plate	Steel: S275MPa / S280GD	Zinc coating ~50 µm HDG / Z275 MA Pre-galvanized	~0.8 kg (1.76 lbs)
Top plate	Steel: S275MPa / S280GD	Zinc coating ~50 µm HDG / Z275 MA Pre-galvanized	~0.46 kg (1.0 lbs)
Corner Bracing	Steel: E250 or E350 / DX51D	Zinc coating ~80 µm HDG / Z275 MA Pre-galvanized	~3.5-4.0kg (~7.7-8.8lb)
Middle clamp	Stainless steel: SS304 / 1.4301	(None)	~0.05 kg (0.11 lbs)
Edge clamp	Aluminium Alloy: 6063-T6 / EN AW 6060	(None)	~0.04 kg (0.09 lbs)
Bolts	Stainless steel: SS304 / A2-70	(None)	~0.02 kg (0.045 lbs)

* The rods diameter is 14mm (non UL) or 16mm. The short & long rods lengths defined per site based on the required ramming depth (defined by Geotech report and pullout tests) and the required above-ground height.

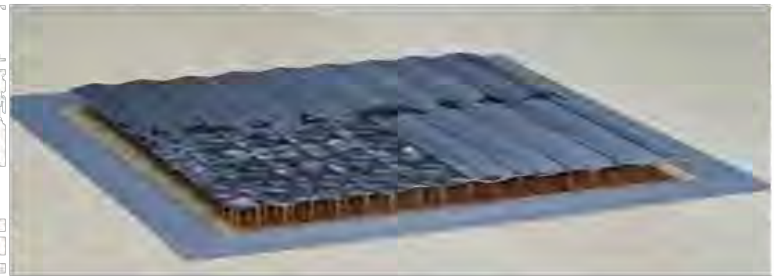
PEG: Design Robustness

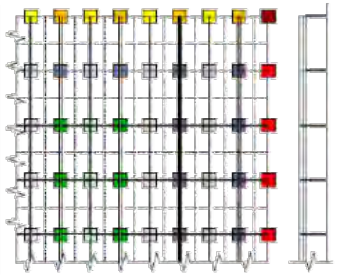
JURCHEN TECHNOLOGY

- **Wind Tunnel tests successfully completed** by IFI in Germany
- **Max wind speed** TBD per country, e.g. ASCII 7-10**: 180mph (~288km/hr) ***, AS/NZ**: 135mph (~217km/hour) ***
- Compliant and installed in Australian wind regions A, B & **C (tropical region)**
- **Max snow load**: **~50-60PSF** (Pound per Square Foot) *

PEG wind tunnel tests done by IFI

Institut für Industrieaerodynamik

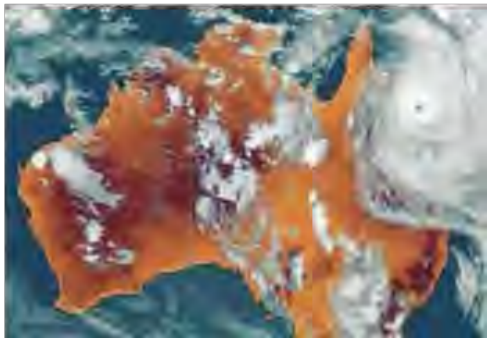




gamcorp

CONSULT AUSTRA

PEG is **certified for cyclone regions** in tropical Australia!



* Subject to modules' compatibility for the site-specific calculated loads which are determined by the site's wind speed, snow load and local code. The PEG design might

PEG: Atmospheric Category

JURCHEN TECHNOLOGY

- The Atmospheric Category (Corrosion Classes) is defined per site based on the local code, eg proximity to the ocean
- PEG suitable for **up to C3 (ISO 9223)**, or the equivalent local code. **C4 might be approved**, evaluated per project
- Example: Australia code guidance (below): **Category C (C3) can be up to few 10s meters or 1km from the ocean**, subject to the type of shore (eg bay area, sheltered area, amount of salt spray)

ISO 9223 Corrosivity categories

Corrosivity	Category
Very low	C1
Low	C2
Medium	C3
High	C4
Very high	C5

Example: Australia Category C (C3) guidance:

Category C: Medium. This category mainly covers coastal areas with low salinity. The extent of the effected area varies significantly with factors such as wind, topography and vegetation. Around sheltered areas, such as Port Phillip Bay, Category C extends beyond about 50 metres from the shoreline to a distance of about one kilometre inland. For a sheltered bay or gulf, such as near Adelaide, this category extends from the shoreline to about 3 to 6 kilometres inland. Along ocean front areas with breaking surf and significant salt spray, it extends from about 1 kilometre inland to between 10 to 50 kilometres inland, depending on the strength of prevailing

PEG: Soil Requirements – Type & Slopes

JURCHEN TECHNOLOGY

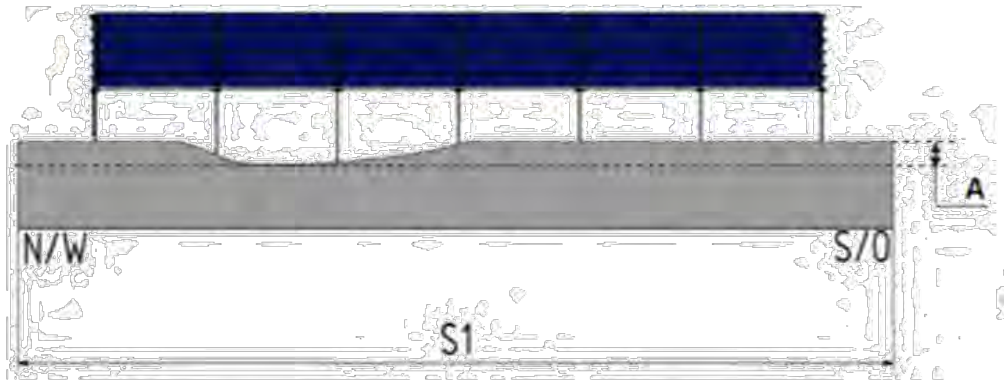
- **Soil type**:
  - Can be either non-cohesive (e.g. sand or sand-gravel) or cohesive (e.g. sandy-clay, clayey silt)
  - Ramming through very soft soil is possible using the anchor rods
  - Ramming through limestone rock might be possible (experience in AUS)
  - Predrill and concrete required for harder (volcanic) rock
- **Site slopes**:

  The PEG can be installed on slopes (in any direction):
  - **For sites without snow: Up to 4.5 degree (~8%)**. Higher slope up to ~6 deg (~11%) might be allowed – evaluated per project.
  - **For sites with snow: Up to 2 degree (3.5%)**. Higher slope of up to 3 degree (~5%) might be allowed – evaluated per project

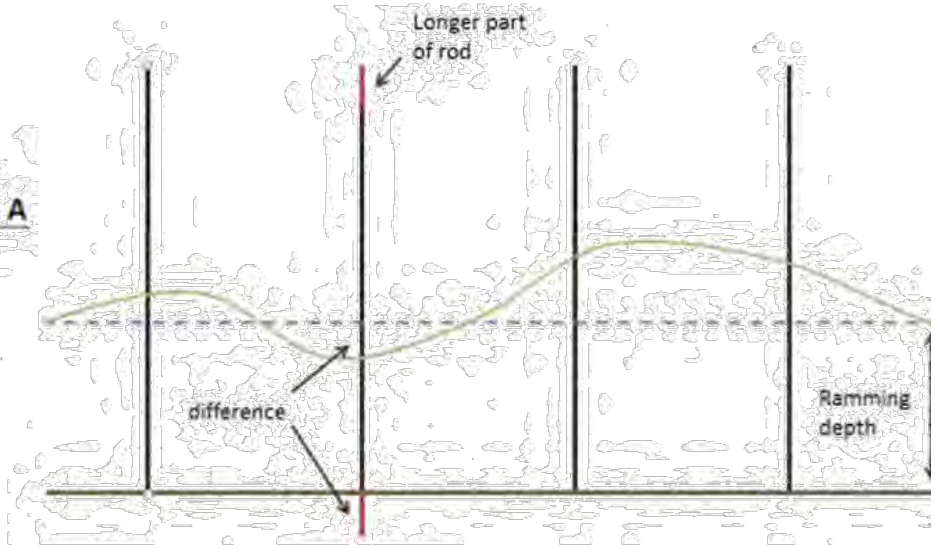
PEG: Soil Requirements – Flatness

JURCHEN TECHNOLOGY

- Ground flatness: **Up to 200mm (8 Inch) over 40m (130 ft)** is recommended. Higher value is possible as long as the required ramming depth and the max above-ground height are achieved.
  → The rods should be sufficiently long considering the ground flatness



S1 = 40m (130ft), A = 0.2m (8 Inch)



PEG: Land Use

JURCHEN TECHNOLOGY

- Extremely high land use: **~1.9MWp/Hectare** (**~0.8MWp/Acre**) with 540W module
- **Flexible system design** allowing very high land use also at sites with irregular shape (e.g. not-rectangle or narrow and long)
- System's **orientation can be alighted to site boundaries** (NOT to East-West direction) **to maximize the land use**, with **no effect on the system's yield** due to the low modules' tilt

5MWp PEG aligned to the site boundaries

Non-rectangle PEG block

PEG on very narrow land, ~10m wide

PEG: Land Use – Example

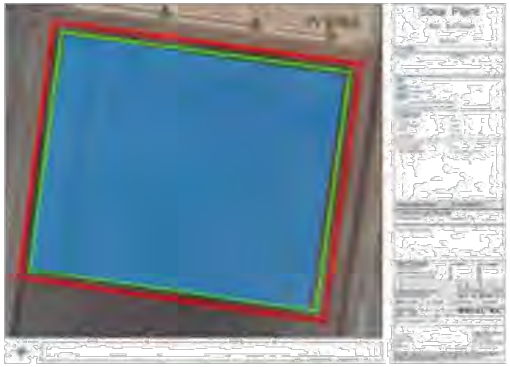
JURCHEN TECHNOLOGY

Layout example PEG vs Tracker, on the same land, with the same modules:

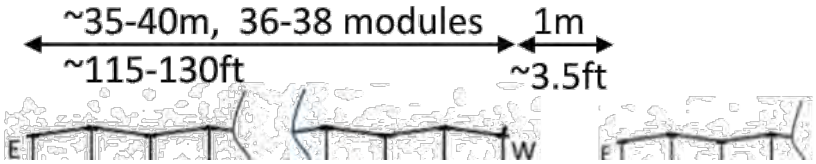
~3 times more DC with PEG vs Tracker

PEG

~20.5MWp

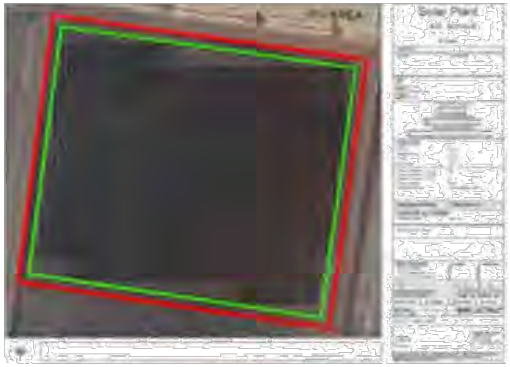


Fewer gaps, ~1m (~3.3ft) each

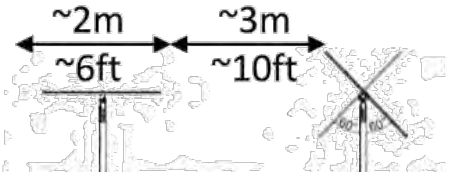


Tracker

~7.0MWp



Many large gaps, ~3m (~10ft) each

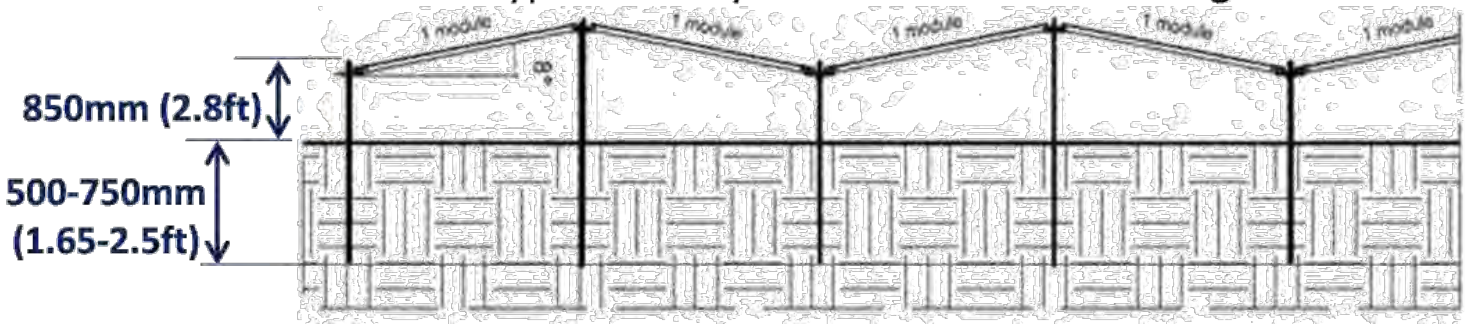


PEG: System's Height & Foundations

JURCHEN TECHNOLOGY

- **No foundations required**. The rods are rammed into the ground
- **Common ramming depth ~650-750mm (~2.1-2.5ft)**, rarely exceeded 800mm (2.6ft), minimum 500mm (1.65ft), **concluded by pull-out tests** & soil type
- **Anchor rods** used for soft soil with 0.5-0.6m (~1.65-2ft) typical drilling depth
- **Depth of ground frost does not effect ramming depth**, since the rods are thir
- **Short rods above ground height: 850mm (2.8ft)** (higher TBD per project)

Typical PEG system foundation and height



Anchor rod

PEG: Approved Modules

JURCHEN TECHNOLOGY

- The **modules on the PEG must have frames**
- The **approved modules list regularly updated in PEG webpage**: Approved Modules for PEG - Jurchen Technology GmbH
- Partial manufacturers list for which some of their modules approved with PEG

ASTRONERGY, BYD *, CanadianSolar *, GCL *, EGING PV, First Solar, Hanwha Solar *, JA SOLAR *, JinKO Solar *, LONGi *, REC *, risen solar technology *, SERAPHIM SOLAR-SYSTEM *, SOLAR FRONTIER, SUNTECH *, TALESUN, YINGLI SOLAR *

* Approved for UL27(

PEG: Packing & Delivery

JURCHEN TECHNOLOGY

- Substructure weight (16mm rods): **~9kg (~20 lb) per kWp** for MWp scale system (with 550W modules)
- **~2.2MWp** (16mm rods) substructure **per 40ft container** (with 550W modules)



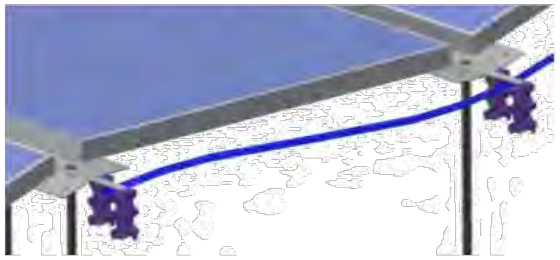

PEG: Cable Management System

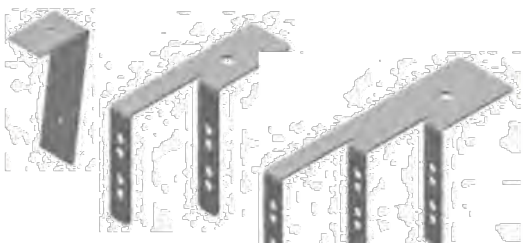
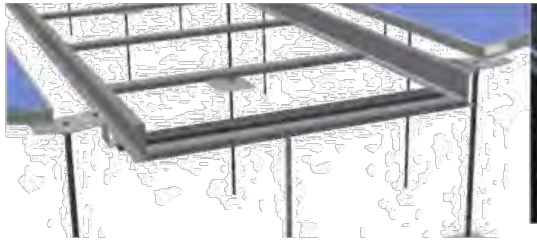
JURCHEN TECHNOLOGY

- All **DC cables are above ground** with **no trenches** in the DC plant
- Jurchen Technology offers cables management solutions for PEG, the **specification document** is available upon request

Cabling management products (East-West and North-South)






PEG: Installation Methodology

JURCHEN TECHNOLOGY

Construction practices are irrelevant!

From **E P** Construction:




- **Small amount of material and labor**
- **Without concrete, trenching and heavy machines**
- **Working height is ~1m (~3.5ft)**
- **Lightweight substructure**, <3kg (7 lb) per item

...to **E P** Installation:




PEG: Installation Process

JURCHEN TECHNOLOGY

- Extremely **simple, safe and fast installation**
- Labor: **~440-480 man-hours / MWp** for all DC plant (with 550W modules, including surveying, substructure, modules, cabling & logistics until & inc. inverters)
- Tools: Drill hammer (with chisel function, 1200W min power, Impact Energy: 8-11 Joules) and hydraulic crimping tool

1

2

3

PEG: CAPEX Costs Saving vs other systems

JURCHEN TECHNOLOGY

Cost Factor	Saving
Material	**Substructure: 50-65% less, DC cables: 20-30% less**
Logistics	**~50% less** due to far lower substructure weight
Labor	**~50% less** due to less labour time (hr/MW) & skilled labour (avg. hr cost)
Construction material	**No concrete & sand required** for foundations or DC trenching
Machinery & tools	**No heavy machinery required** (eg ramming, trenching, concreting). Only small forklift for site logistics and hand tools required.
Site operation	**~30-50% less installation time**, leading to saving of site operation costs, eg management, safety & security labor & equipment, consumables, Etc.
Safety	**Far simpler installation process**, eg no working on heights, no heavy substructure items. Leading to significant less OHS effort and injury risks
Land	**DC area ~50-65% smaller** → Less land acquisition/rent cost. Less installation costs due to less material & machinery movement and shorter perimeter fence

PEG: Warranty

- **10 years standard product warranty**
- Functional warranty, excluding cosmetic issues like rust
- Subject to site specific soil characteristics (pH level, conductivity, etc.)
- Warranty document & geotechnical tests spec are available upon request

LIMITED WARRANTY

for

PEG substructure ("PEG Product")

Jurchen Technology GmbH ("Seller")

1. Seller warrants that the PEG Product will be free from defects in design, material and workmanship with the exclusive scope set forth in this Limited Warranty for a period of ten (10) years ("Limited Warranty Period") from the transfer of risk to the Buyer of the PEG Product ("Buyer") under normal installation, service and application conditions in accordance with applicable technical standards and pursuant to the underlying sales contract. In case of subsequent deliveries under the same sales contract the Limited Warranty Period shall start 90 days after the delivery of the first batch of the PEG Products to the Buyer in accordance with the incoterm agreed in the sales contract. Any notification under this Limited Warranty shall be made within the Limited Warranty Period. Seller makes no warranty with respect to goods or

PEG: O&M – Access to DC plant

JURCHEN TECHNOLOGY

- **Walking paths** between the blocks allow access to the DC plant
- **Walking platform** allows access on the DC plant
- **Access from underneath** the PEG, **Trolley** in use by few customers

Walking paths, 10.8MWp PEG
Barcaldine, Qld, AUS

SMB Multi-board

Trolley for access
under the PEG

O&M personnel
under the PEG

PEG: O&M – Modules Cleaning

- Dust typically accumulates along the edges of the PEG block (which is easily accessible) and less in the middle of the block
- "Gal-In", a **lightweight manual cleaning**, **18 kg (40 lb)**, pulled with a rope and operated by two workers. **430 modules cleaned per man-hour.**
- **Robotic machine - First productive use of Serbot robot will start during July-August 2022**, further details will be shared later

Serbot pvClean Robot on the PEG

"Gal-In" manual cleaning system

PEG: O&M – Vegetation Control

JURCHEN TECHNOLOGY

Mowing solutions:

- **Fabric sheet** placed on the ground, prevents vegetation growth. Commercially available product, not flammable, allows water to penetrate
- **Raymo robotic mower** under the structure, operated by a remote control
- **Clover grass**, ~150mm (~0.5ft) tall, drought-resistant, prevents other plants growth

Fabric sheet placed under the PEG

Mowing robot machine for PEG

PEG: Worldwide Installations

JURCHEN TECHNOLOGY

PEG systems worldwide:

Maastricht, Netherlands, 12MWp (2020)

Goondiwindi, Australia, 4.8MWp (2017)

Haidt, Germany, 1.7MWp (2012)

Hoensbroek, Netherlands, 2MWp (2020)

Coronel Suarez, Argentina, 333kWp (2019)

Mesilot, Israel, 4.6MWp (2019)

PEG: Worldwide Installations – Cont.

JURCHEN TECHNOLOGY

PEG systems worldwide:

Sri Lanka, 1.35MWp (2020)

Tan Chau, Vietnam, 22kWp (2018)

Kalom, Senegal, 20kWp (2016)

Adam, Oman, 500kWp (2018)

Somaliland, 500kWp (2017)

PEG: Demonstrated Benefits

JURCHEN TECHNOLOGY

Example of PEG success stories:

Goondiwindi, Qld, Australia, 4.8MWp (2017)
The first unsubsidized commercial solar project in Australia

Dareton, NSW, Australia, 3.7MWp (2019)
Low profile PEG (~1m, <3.3ft) key enabler for successful DA following neighbors' consent

Mesilot, Israel, 4.6MWp (2019)
PEG the only system to achieve the required DC capacity and yield

Barcaldine, Qld, Australia, 10.8MWp (2018)
Government OH&S audit indicated PEG installation safety standards are exceptionally high

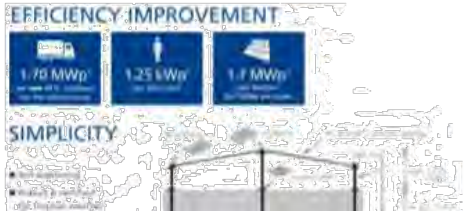
PEG: Summary

- **Extreme efficient land use** and energy density (MWh/Ha), **~225% more** vs Trackers & Fixed-Tilt
- **Significant CAPEX reduction** (both supply and installations)
- **Competitive LCOE vs Trackers and Fixed-Tilt** (AUS customers feedback)
- **Simpler permit process**, due to lower profile & shallow foundation
- **The PEG online**: https://www.jurchen-technology.com/products/pv-substructures/peg

Web page:

Projects list:

Data sheet:



Case studies:

PEG: Articles Online

Example of online articles about the PEG system:

Solar racking system that's easier to install from Jurchen Technologies, PV Magazine
Jurchen Technology's response to traditional solar module racking, the PEG, reduces the racking material needed, while cost-effectively simplifying the installation process and maximizing land utilization.

New 11MW solar farm sets new benchmarks in Queensland, Giles Parkinson
The 11MW Dunblane solar farm in Queensland is far from the biggest solar farm in the country, but is setting some important new benchmarks on construction and financing.

Belectric completes second solar farm, plans two more, Giles Parkinson
Belectric plans two more small solar farms by end of year after completing first with new, low cost installation system.

Solar's new sweet spot: Low cost, compact PV plants at $1/watt, Giles Parkinson
New solar plant in Queensland will be built at less than half the cost modelled in the Finkel Review, and give a payback to investors in less than 5 years. Small is beautiful for large scale solar.


otos:
chen Technology GmbH
eralli projects PTY Ltd
LECTRIC GmbH
Jurchen Technology GmbH
Prinz-Ludwig-Straße 5
97264 Helmstadt, Germany
phone: +49 (0) 9369 98229 6600
E-Mail: info@jurchen-technology.com
www.jurchen-technology.com
THANK YOU FOR YOUR ATTENTION

25 January 2023

Our Ref: DA5122
(MSLink126220)

South Burnett Regional Council
PO Box 336
KINGAROY QLD 4610

Attention: Sam Dunstan
Email: info@southburnett.qld.gov.au
Application: MCU22/0034

Australian Solar Enterprises
C/- Gilvear Planning
PO Box 438
PADDINGTON QLD 4604

Attention: Sera Rohan
Email: sera@gilvearplanning.com.au

Dear Sera,

Referral Agency Response (Advice)

(Given under section 9.2 of the Development Assessment Rules)

Transmission Infrastructure Impacted	
Transmission Corridor	Tarong Mount England (275kV) Transmission Line Corridor Tarong South Pine (275kV) Transmission Line Corridor
Easement ID	Easement H on RP184564 (Dealing No. 601651970) Easement J on RP184564 (Dealing No. 601651970) Easement G on RP184564 (Dealing No. 601651970) Easement F on AP4866 (Dealing No. 601566121) Easement E on AP4866 (Dealing No. 601566121) Easement G on AP4866 (Dealing No. 601566121)
Location Details	
Street address	341 Bowman Road Taromeo
Real property description	Lot 2 on SP155159
Local government area	South Burnett Regional Council
Application Details	
Proposed development:	Material Change of use
Approval sought	Development Permit

We refer to the above referenced development application which has been referred to Powerlink Queensland in accordance with Section 54 of the *Planning Act 2016*.

In accordance with its jurisdiction under Schedule 10 Part 9 Division 2 of the *Planning Regulation 2017*, Powerlink Queensland is a Referral Agency (Advice) for the above development application.

Specifically, the application has been triggered for assessment by Powerlink Queensland because:

1. For **material change of use** – all or part of the premises are subject to a transmission entity easement which is part of the transmission supply network (Table 2 1b)

33 Harold Street, Virginia
PO Box 1193, Virginia, Queensland 4014, Australia
Telephone: (07) 3860 2111 Facsimile: (07) 3860 2100
www.powerlink.com.au
Powerlink Queensland is the registered business name of the

PLANS AND REPORTS ASSESSED

The following plans and reports have been reviewed by Powerlink Queensland and form the basis of our assessment. Any variation to these plans and reports may require amendment of our advice.

Table 1: Plans and Reports upon which the assessment is based

Drawing / Report Title	Prepared by	Dated	Reference No.	Version / Issue
341 Bowman Road Taromeo – Solar farm Concept layout	Empower Engineers & Project Managers	17/10/2022	B00484-DA-CR002	A

Powerlink Queensland, acting as a Referral Agency (Advice) under the Planning Regulation 2017 provides its response to the application as attached (**Attachment 1**).

Please treat this response as a properly made submission for the purposes of Powerlink being an eligible advice agency in accordance with the *Planning Act 2016*.

For further information please contact our Property Services Team via email property@powerlink.com.au who will be pleased to assist.

Yours sincerely

[redacted]

for Narelle Titman
MANAGER PROPERTY

ATTACHMENT 1 – REFERRAL AGENCY (ADVICE) RESPONSE

Powerlink Queensland **supports** this application subject to the inclusion of the following conditions in the Assessment Manager's Decision Notice.

No.	Condition	Timing	Reason
1	The development must be carried out generally in accordance with the reviewed plans detailed in Table 1.	At all times.	To ensure that the development is carried out generally in accordance with the plans of development submitted with the application.
2	The statutory clearances set out in the *Electrical Safety Regulation 2013* must be maintained during construction and operation. No encroachment within the statutory clearances is permitted.	At all times.	To ensure that the purpose of the *Electrical Safety Act 2002* is achieved and electrical safety requirements are met.
3	Compliance with the terms and conditions of the easement dealing no. shown in the heading of this letter.	At all times.	To ensure that the existing rights contained in the registered easement dealings are maintained.
4	Compliance with the generic requirements in respect to proposed works in the vicinity of Powerlink Queensland infrastructure as detailed in the enclosed Annexure "A".	At all times.	To ensure that the purpose of *the Electrical Safety Act 2002* is achieved and electrical safety requirements are met. To ensure the integrity of the easement is maintained.

Advice to Council and the Applicant

1. Powerlink and Australia Solar Enterprises Pty Ltd are currently negotiating network connection of the solar farm and battery energy storage system to the transmission grid. This correspondence does not constitute approval for connection which remains the subject of ongoing technical assessment and commercial negotiations. The exact location of connecting infrastructure is also part of ongoing negotiations. As a result we wish to advise council that the location of any infrastructure is likely to change, and as such its location should not form part of the approval.

2. Should any doubt exist in maintaining the prescribed clearance to electrical infrastructure the applicant is obliged under the *Electrical Safety Act 2002* to seek advice from Powerlink.

3. This response does not constitute an approval to commence any works within the easement. Prior written approval is required from Powerlink Queensland before any work is undertaken within the easement areas. All works on easement (including but not limited to earthworks, drainage and detention basins; road construction; underground and overhead service installation) require detailed submissions, assessments and consent (or otherwise) by Powerlink.

4. In order for Powerlink to maintain and operate a safe and reliable supply of electricity, we require unrestricted 24-hour access to our corridors and infrastructure.

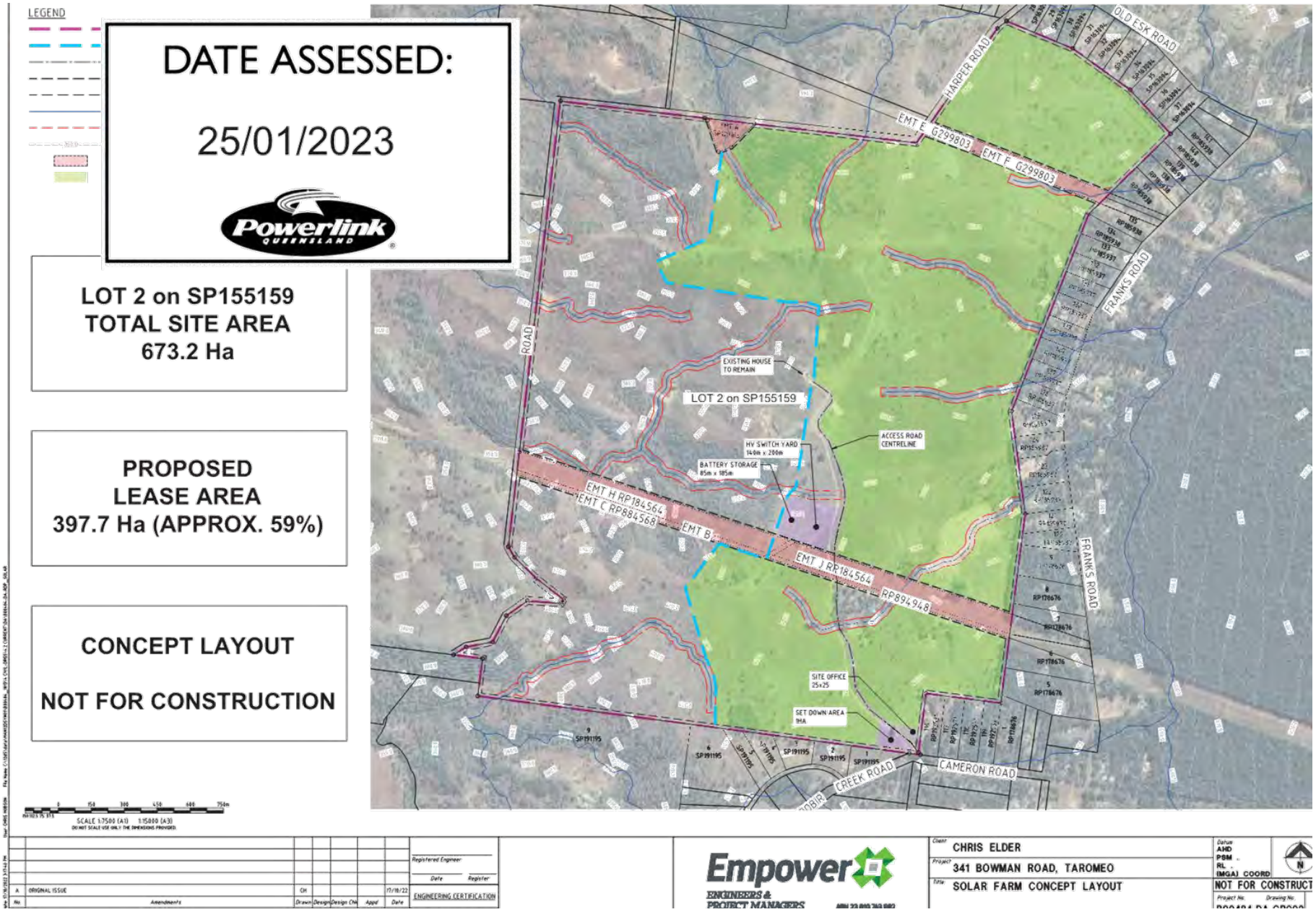
   We will require practical access (typically by 4WD vehicle – but to standard no less than existing) to the Powerlink structures.

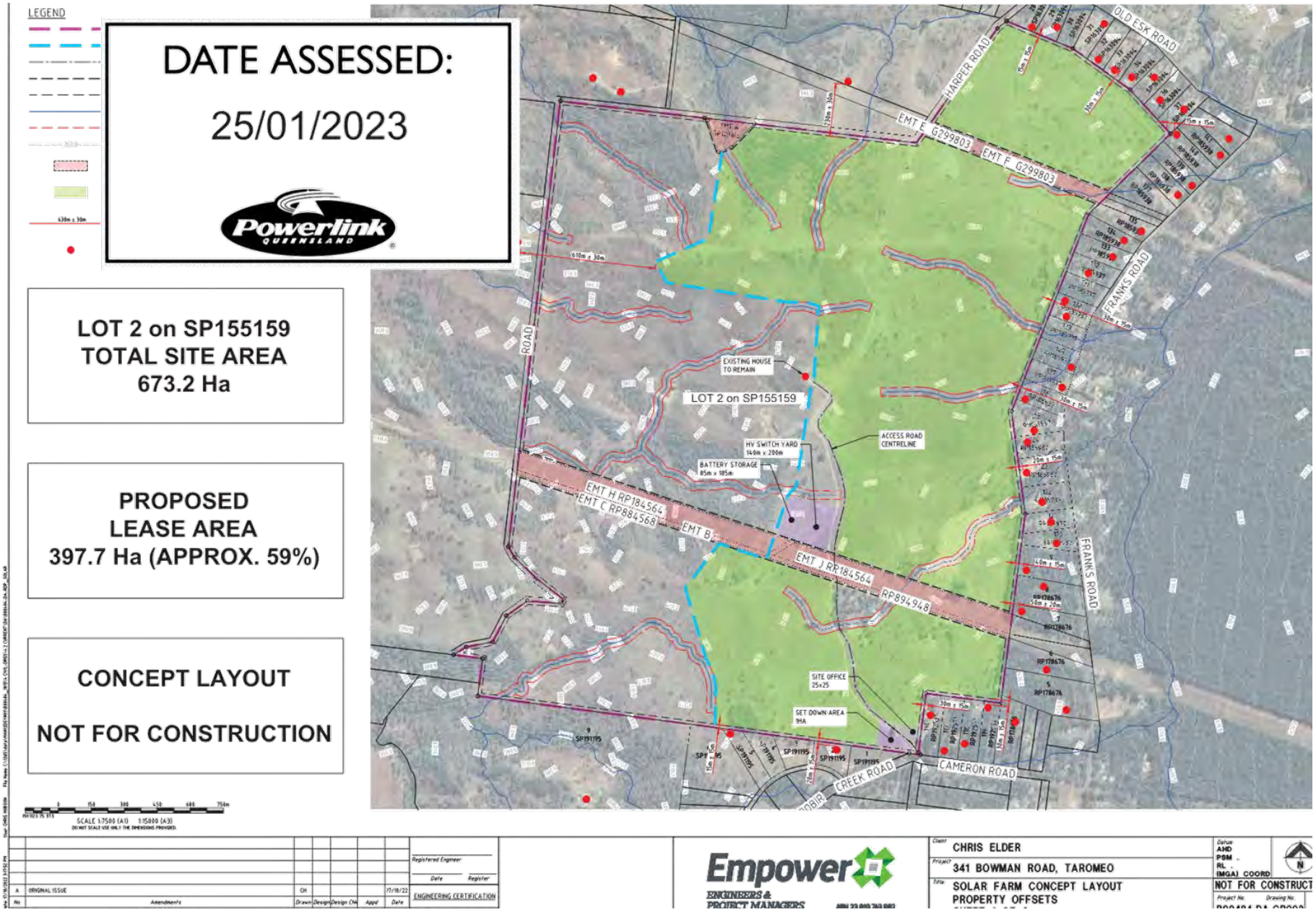
   If it is envisaged that there will be any interference or alteration to our current access arrangements prior, during or after the completion of your works, we require that the applicant contacts our Works Control Manager Easements (Mr Ehren Wittmer – ph 0418 233 916)

5. Compliance with the Electrical Safety Act 2002 including any Code of Practice under the Act and the Electrical Safety Regulation 2013 including any safety exclusion zones defined in the Regulation.

In respect of this application, the exclusion zone for untrained persons and for operating plant operated by untrained persons is six (6) metres from the 275,000-volt wires and exposed electrical parts.

If works have the potential to come within the prescribed clearance to the conductors and electrical infrastructure, then the applicant must seek advice from Powerlink by completing the attached Application for Safety Advice – Form and submitting to property@powerlink.com.au


LEGEND
DATE ASSESSED:
25/01/2023
Powerlink QUEENSLAND
LOT 2 on SP155159
TOTAL SITE AREA
673.2 Ha
PROPOSED
LEASE AREA
397.7 Ha (APPROX. 59%)
CONCEPT LAYOUT
NOT FOR CONSTRUCTION
HARPER ROAD
OLD ESK ROAD
FRANKS ROAD
CAMERON ROAD
CREEK ROAD
EMT E G299803
EMT F G299803
EMT H RP184564
EMT C RP884568
EMT B
EMT J RP184564
RP894948
LOT 2 on SP155159
EXISTING HOUSE TO REMAIN
ACCESS ROAD CENTRELINE
HV SWITCH YARD 140m x 200m
BATTERY STORAGE 85m x 185m
SITE OFFICE 25x25
SET DOWN AREA 9HA
SCALE 1:7500 (A1) 1:15000 (A3)
DO NOT SCALE USE ONLY THE DIMENSIONS PROVIDED
A ORIGINAL ISSUE CH 17/10/22
Registered Engineer
Date Register
ENGINEERING CERTIFICATION
Empower
ENGINEERS & PROJECT MANAGERS
Client CHRIS ELDER
Project 341 BOWMAN ROAD, TAROMEO
Title SOLAR FARM CONCEPT LAYOUT
Datum AHD
PSM
RL
(MGA) COORD
NOT FOR CONSTRUCT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ENGINEERS & PROJECT MANAGERS
CHRIS ELDER
341 BOWMAN ROAD, TAROMEO
SOLAR FARM CONCEPT LAYOUT
PROPERTY OFFSETS
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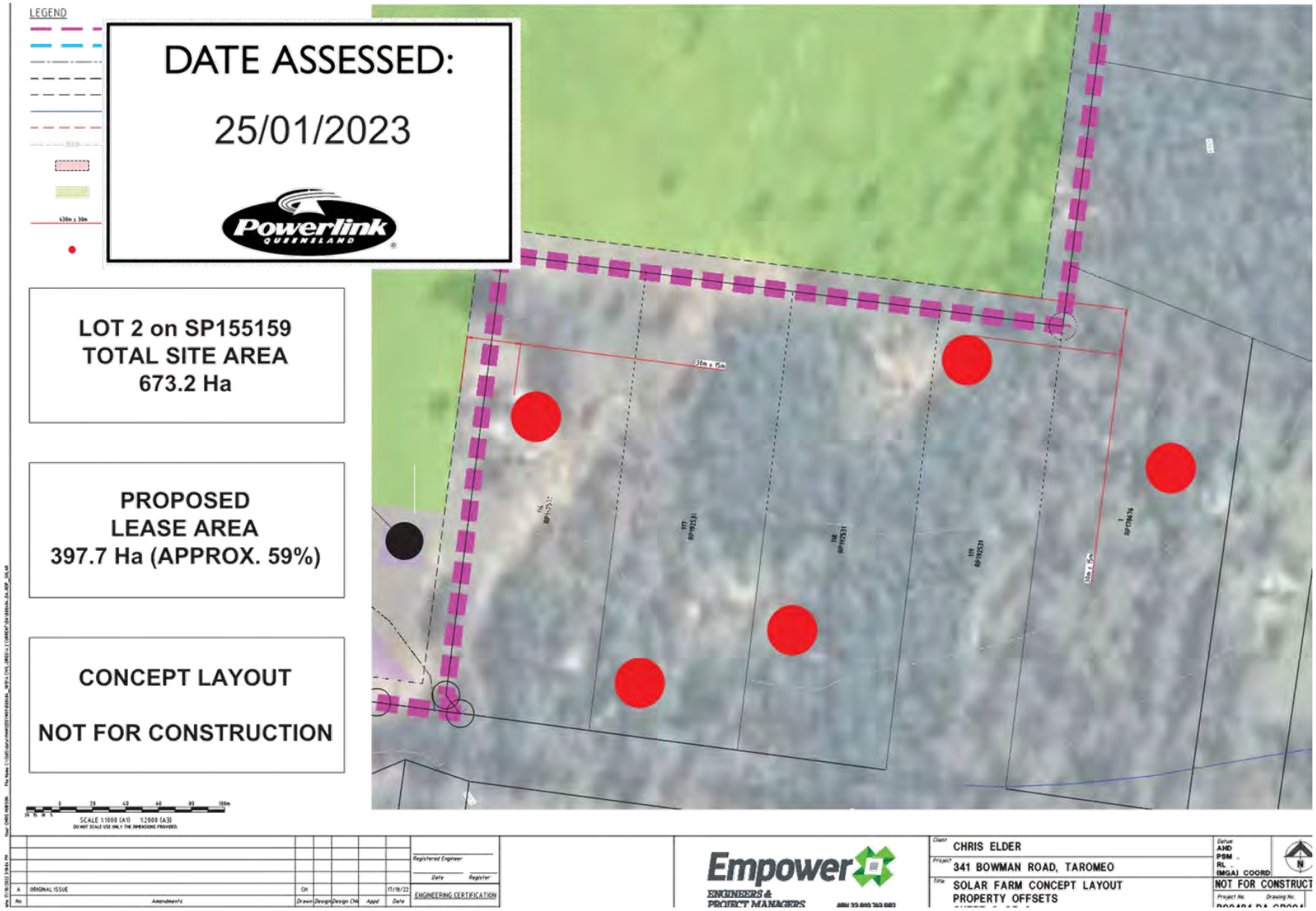
ORIGINAL ISSUE
ENGINEERING CERTIFICATION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CONCEPT LAYOUT
NOT FOR CONSTRUCTION
SCALE 1:1000 (A1) 1:2000 (A3)
DO NOT SCALE USE ONLY THE DIMENSIONS PROVIDED
ORIGINAL ISSUE
ENGINEERING CERTIFICATION
Empower
ENGINEERS & PROJECT MANAGERS
CHRIS ELDER
341 BOWMAN ROAD, TAROMEO
SOLAR FARM CONCEPT LAYOUT
PROPERTY OFFSETS
NOT FOR CONSTRUCT

ANNEXURE A – GENERIC REQUIREMENTS

The conditions contained in this Annexure have been compiled to assist persons (the applicant) intending to undertake work within the vicinity of high-voltage electrical installations and infrastructure owned or operated by Powerlink. The conditions are supplementary to the provisions of the Electrical Safety Act 2002, Electrical Safety Regulation 2013 and the Terms and Conditions of Registered Easements and other forms of Occupational Agreements hereinafter collectively referred to as the "Easement". Where any inconsistency exists between this Annexure and the Easement, the Easement shall take precedence.

1. POWERLINK INFRASTRUCTURE

You may not do any act or thing which jeopardises the foundations, ground anchorages, supports, towers or poles, including (without limitation) inundate or place, excavate or remove any soil, sand or gravel within a distance of twenty (20) metres surrounding the base of any tower, pole, foundation, ground anchorage or support.

2. STRUCTURES

No structures should be placed within twenty (20) metres of any part of a tower or structure foundation or within 5m of the conductor shadow area. Any structures on the easement require prior written consent from Powerlink.

3. EXCLUSION ZONES

Exclusion zones for operating plant are defined in Schedule 2 of the Electrical Safety Regulation 2013 for Untrained Persons. All Powerlink infrastructure should be regarded as "electrically live" and therefore potentially dangerous at all times.

In particular your attention is drawn to Schedule 2 of the Electrical Safety Regulation 2013 which defines exclusion zones for untrained persons in charge of operating plant or equipment in the vicinity of electrical facilities. If any doubt exists in meeting the prescribed clearance distances from the conductors, the applicant is obliged under this Act to seek advice from Powerlink.

4. ACCESS AND EGRESS

Powerlink shall at all times retain the right to unobstructed access to and egress from its infrastructure. Typically, access shall be by 4WD vehicle.

5. APPROVALS (ADDITIONAL)

Powerlink's consent to the proposal does not relieve the applicant from obtaining statutory, landowner or shire/local authority approvals.

6. MACHINERY

All mechanical equipment proposed for use within the easement must not infringe the exclusion zones prescribed in Schedule 2 of the Electrical Safety Regulation 2013. All operators of machinery, plant or equipment within the easement must be made aware of the presence of live high-voltage overhead wires. It is recommended that all persons entering the Easement be advised of the presence of the conductors as part of on site workplace safety inductions. The use of warning signs is also recommended.

ANNEXURE A – GENERIC REQUIREMENTS

7. EASEMENTS

All terms and conditions of the easement are to be observed. Note that the easement takes precedence over all subsequent registered easement documents. Copies of the easement together with the plan of the Easement can be purchased from the Department of Environment & Resource Management.

8. EXPENDITURE AND COST RECOVERY

Should Powerlink incur costs as a result of the applicant's proposal, all costs shall be recovered from the applicant.

Where Powerlink expects such costs to be in excess of $10 000.00, advanced payments may be requested.

9. EXPLOSIVES

Blasting within the vicinity (500 metres) of Powerlink infrastructure must comply with AS 2187. Proposed blasting within 100 metres of Powerlink infrastructure must be referred to Powerlink for a detailed assessment.

10. BURNING OFF OR THE LIGHTING OF FIRES

We strongly recommend that fires not be lit or permitted to burn within the transmission line corridor and in the vicinity of any electrical infrastructure placed on the land. Due to safety risks Powerlink's written approval should be sort.

11. GROUND LEVEL VARIATIONS

Overhead Conductors

Changes in ground level must not reduce statutory ground to conductor clearance distances as prescribed by the Electrical Safety Act 2002 and the Electrical Safety Regulation 2013.

Underground Cables

Any change to the ground level above installed underground cable is not permitted without express written agreement of Powerlink.

12. VEGETATION

Vegetation planted within an easement must not exceed 3.5 metres in height when fully matured. Powerlink reserves the right to remove vegetation to ensure the safe operation of the transmission line and, where necessary, to maintain access to infrastructure.

13. INDEMNITY

Any use of the Easement by the applicant in a way which is not permitted under the easement and which is not strictly in accordance with Powerlink's prior written approval is an unauthorised use. Powerlink is not liable for personal injury or death or for property loss or damage resulting from unauthorized use. If other parties make damage claims against Powerlink as a result of unauthorized use then Powerlink reserves the right to recover those damages from the applicant.

ANNEXURE A – GENERIC REQUIREMENTS

14. INTERFERENCE

The applicant's attention is drawn to s.230 of the Electricity Act 1994 (the "Act"), which provides that a person must not wilfully, and unlawfully interfere with an electricity entity's works. "Works" are defined in s.12 (1) of the Act. The maximum penalty for breach of s.230 of the Act is a fine equal to 40 penalty units or up to 6 months imprisonment.

15. REMEDIAL ACTION

Should remedial action be necessary by Powerlink as a result of the proposal, the applicant will be liable for all costs incurred.

16. OWNERS USE OF LAND

The owner may use the easement land for any lawful purpose consistent with the terms of the registered easement; the conditions contained herein, the Electrical Safety Act 2002 and the Electrical Safety Regulation 2013.

17. ELECTRIC AND MAGNETIC FIELDS

Electric and Magnetic Fields (EMF) occur everywhere electricity is used (e.g. in homes and offices) as well as where electricity is transported (electricity networks).

Powerlink recognises that there is community interest about Electric and Magnetic Fields. We rely on expert advice on this matter from recognised health authorities in Australia and around the world. In Australia, the Federal Government agency charged with responsibility for regulation of EMFs is the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). ARPANSA's *Fact Sheet – Magnetic and Electric Fields from Power Lines*, concludes:

"On balance, the scientific evidence does not indicate that exposure to 50Hz EMF's found around the home, the office or near powerlines is a hazard to human health."

Whilst there is no scientifically proven causal link between EMF and human health, Powerlink nevertheless follows an approach of "*prudent avoidance"* in the design and siting of new powerlines. This includes seeking to locate new powerline easements away from houses, schools and other buildings, where it is practical to do so and the added cost is modest.

The level of EMF decreases rapidly with distance from the source. EMF readings at the edge of a typical Powerlink easement are generally similar to those encountered by people in their daily activities at home or at work. And in the case of most Powerlink lines, at about 100 metres from the line, the EMF level is so small that it cannot be measured.

Powerlink is a member of the ENA's EMF Committee that monitors and compiles up-to-date information about EMF on behalf of all electricity network businesses in Australia. This includes subscribing to an international monitoring service that keeps the industry informed about any new developments regarding EMF such as new research studies, literature and research reviews, publications, and conferences.

We encourage community members with an interest in EMF to visit ARPANSA's website: www.arpansa.gov.au Information on EMF is also available on the ENA's website: www.ena.asn.au

420 Flinders Street, Townsville QLD 4810
PO Box 1090, Townsville QLD 4810
ergon.com.au

09 February 2023

South Burnett Regional Council
PO Box 336
Kingaroy QLD 4610

Attention: Sam Dunstan
Via email: info@sbrc.qld.gov.au

Cc Australian Solar Enterprises Pty Ltd
c/- Gilvear Planning
PO Box 438
Paddington QLD 4064

Attention: Sera Rohan
Via email: [redacted]

Dear Sir/Madam,

Referral Agency Response – Development Permit for a Material Change of Use for a Renewable Energy Facility (Solar Farm) and Major Electricity Infrastructure (Battery Energy Storage System) at 341 Bowman Road, Taromeo (Lot 2 on SP155159)

Council Ref: MCU22/0034
Applicant Ref: J001320
Our Ref: HBD 7671957

We refer to the abovementioned Development Application, which has been referred to Ergon Energy pursuant to section 54(1) of the *Planning Act 2016*.

In accordance with Schedule 10, Part 9, Division 2 of the *Planning Regulation 2017*, the application has been assessed against the purposes of the *Electricity Act 1994* and *Electrical Safety Act 2002*. This notice is provided in accordance with section 56 of the *Planning Act 2016*.

The subject site is encumbered by Easement B on RP894948, granted in favour of Ergon. The easement contains the Tarong-Caboonbah sub-transmission feeders, with the proposed development footprint located on either side of this corridor. The application material assessed by Ergon proposes connection to Powerlink's 275kV transmission network, which also traverses the site. The Applicant is advised that this response does not constitute approval for connection to the Ergon distribution network.

Have you seen our fact sheets?
See the 'considerations when developing around electricity infrastructure' section of our website
www.ergon.com.au/referralagency

Should the Assessment Manager decide to approve the proposed Material Change of Use, as an Advice Agency for the application, Ergon advises the following in relation to the development:

1. The development is to be carried out in accordance with the plans identified on the following page. Any changes to these plans should be resubmitted to Ergon for further review and comment.

Approved Plans			
Title	**Plan Number**	**Issue**	**Date**
Solar Farm Concept Layout	DA-CR002	A	17 October 2022

2. The conditions of any easements in favour of Ergon must be maintained at all times.

3. Access to the easement and access along the easement must be available to Ergon personnel and heavy equipment at all times.

4. Any future development or works proposed on the easement, including access tracks, must have prior approval from Ergon.

   Prior to works commencing, the Applicant/Developer is to submit RPEQ certified drawings to Ergon having regard to any existing electrical assets in the vicinity of the proposed works.

   Note: where relevant, this requirement may be satisfied by referring to Ergon any future development application/s for Operational Work, in accordance with the requirements of the Planning Regulation 2017.

5. Stockpiling of spoil on the easement is prohibited.

6. Finished ground levels and future buildings/structures must maintain clearances to electrical assets in accordance with the *Electrical Safety Regulation 2013* at all times.

The Applicant is further advised to ensure any future works in the vicinity of Ergon assets are to be carried out in accordance with the *Electricity Entity Requirements: Working Near Overhead and Underground Electric Lines*. This guideline can be accessed via the following link: https://www.ergon.com.au/network/safety/your-industry/building-and-construction

Should you require further information regarding this matter, feel free to contact the undersigned on 0455 403 399 or email townplanning@ergon.com.au.

Yours faithfully,

[redacted]

Benjamin Freese
Town Planner

Have you seen our fact sheets?
See the 'considerations when developing around electricity infrastructure' section of our website
www.ergon.com.au/referralagency

[redacted]

Sent: Friday, 23 June 2023 5:26 PM
To: Council Information General Email Account <info@sbrc.qld.gov.au>
Subject: [EXTERNAL] Application reference: MCU22/0034

Please be cautious
This email originated outside of SBRC..

Good Afternoon Council,

We bought our block of land at Taromeo over 10 years ago with the dream of retiring in this beautiful and serene area and building our future here.

With the submission for the current plans for the Tumuruu solar farm, this would render our dreams useless as our outlook will be disrupted by looking at solar panels much to our disappointment.

When we purchased our 5 acre property we assumed nothing like this would be proposed in a semi-rural area. We are also very concerned about any potential impact this may have on the vallue of the land.

If it is to proceed we would like to see the boundary on the northern and eastern sides increased to a minimum of 100 metres. This would allow for increased vegetation plantation to help maintain the current wildlife population and corridor and move the site away from our back fences.

Please take this feedback as strong consideration in your final deliberation.

Kind regards,

Chris and Helen Marsden

[redacted]

Sent: Friday, 23 June 2023 1:09 PM
To: Council Information General Email Account <info@sbrc.qld.gov.au>
Subject: [EXTERNAL] Objection toTurmur Solar Farm in Blackbutt

Please be cautious
This email originated outside of SBRC..

The farm does not effect me directly by location. I understand it has to go somewhere, that we have to look at energy alternatives. I personally wonder, why this sort of energy catchment is not put on all the rooftops, an existing platform.

I Am concerned about the Blackbutt property values plummeting, Road conditions.

My Major concern is, that this Solar Farm Project is happening immediately after overpriced purchases of properties in our town, during Covid relocation movements for people to live out of the cities. These figures of purchases have already been analysed.

My property sale possibility increased two fold, I did not sell because I love living here (if I had been aware of this project, I would have). A lot of new people in town paid too much for their properties and the banks may be looking for their money, if valuations decrease. I myself had witnessed such an occurrence years ago, resulting in a nice gentleman standing on top of the Gateway Bridge, ready to jump.

The only benefit will be if it brings Local, ongoing employment to our town. I doubt that will be the case. 17 jobs over the time span in total, will not offer any relief. I personally would like to stop driving 1000 klm a week to be gainfully employed.

Thank you for allowing community input on your project.

Warm Regards
Lorraine Marie Unwin

Sent from Android device

[redacted]
Sent: Tuesday, 20 June 2023 11:09 AM
[redacted]
Subject: [EXTERNAL] Solar farm in Taromeo

Please be cautious
This email originated outside of SBRC..

Good morning,

I object strongly to the Tumuruu Solar Farm project.

Letter and supporting article attached.

Sincerely

Marjie Spies

20.6.2023

To the Assessment Manager

South Burnett Regional Council

I refer to the Material Change of Use – Renewable Energy Facility (Tumuruu Solar Farm) and Major Electricity Infrastructure (Battery Energy Storage System) – MCU22-0034.
I strongly object to the Material Change of Use of 341 Bowman Rd, Taromeo, Lot 2 SP155159 to a Renewable Energy facility (proposed solar farm) and Battery Energy Storage
System.
The reasons are as follows:
• **Insurance and property devaluation**. If the solar farm goes ahead, my property would potentially become uninsurable due to the unaffordability of the 3rd party insurance premiums. My third party liability insurance only covers $20M accidental damage, and the solar farm would well exceed that value – approx.
$1Billion. I would have to look offshore for insurance to cover that value, and premiums would be excessive. I must all (every neighbouring property with potential to put a dwelling on) receive a lifetime indemnity for accidental damage to the solar farm and this must include every future owner. Information I received was that the solar farms insurance would not be able to rely on adjacent landowners and entities 3rd party liability insurance to pay for damage. How do they propose to legally protect the current and future adjacent landowners for the life of the project should there be a change of solar farm ownership and /or change of insurance company? This would need to be included in the final development approval. The property devaluation is not just the insurance issue, it's also the loss of visual amenity, noise, dust, water, nuisance value, and the fact that I am no longer living next to a rural property, but an industrial estate. We all believe that our properties valuations would be severely affected and this is backed up by local real estate agents. This will affect all 55 properties immediately bordering the farm and another 100 in close proximity. It makes no sense to wreck the lives and futures of more than 150 residents when a solar farm could be located far away from rural residential properties. In my case, my property is all I have, and I have lived on my peaceful nature block, some of it with my late husband, for over 31 years.
I expected to be living a quiet peaceful rural lifestyle with a rural outlook as per the zoning. Not to have major electrical infrastructure and solar farm on my doorstep.
• **Loss of visual amenity and impacts to neighbours**. The properties along Boobir Creek Rd/Emerson Rd through negotiation have had the setback increased from 15m to 190m which is a better distance but the panels will still be visible. However, 18 Emerson Rd, and also 1 Cameron Rd will still be significantly disadvantaged with

regards to loss of visual amenity as they have a higher viewpoint overlooking a larger area. The other approximately **50 properties** on the bundary of the proposed solar farm (Franks Rd and Old Esk Rd (my road), and Harper Rd) have not had any formal communication from the proposed solar farm until they received the notification by express post on 31/5/23. I consider this an appalling lack of concern for the impact on these affected landowners, and the applicants have not engaged with more than 5 property owners face to face. They have said that they have held 2 community engagement days – it appears the only people invited to these were councillors and a few business owners in Blackbutt– we have been in constant communication with Plan C and no residents on the adjoining properties have ever had the opportunity to attend a community engagement meeting. Most of these properties will have a terrible outlook from their properties, with a setback of only 20m from their boundary. The attempt by the proposing Solar Farm development to obfuscate this issue and their suggestion that they are mitigating the impact of the solar array on these properties by planting a vegetation buffer is misleading. The photos they have supplied in their own application are proof that the properties will still have significant loss of visual amenity, even though their words say otherwise. It is also unlikely that the vegetation buffer will even grow given the poor quality of the soil. (As per other solar farms in the South Burnett region – see photo below.)

The Landplan Assessment of Potential Visual impact supplied is reliant on factual information supplied to Landplan by the applicants. We (the residents) are not confident that this is the case. There was not a physical assessment.
The Landplan assessment states that their visual impact of the solar panels to these properties will be of low significance. As these property owners also value their

landscape setting and have long viewing periods of the proposed development, the visual impact to these properties is definitely of high significance.

• **Safety**.

Fire risk - We understand there has been one meeting only with one member of the Taromeo rural volunteer fire brigade. The rural fire brigade will not be able to fight any fire within the perimeter of the solar farm due to live electricity. That would be a task for Queensland Fire and Rescue and there has been no consultation with the Blackbutt Queensland Fire and Rescue as to their capabilities, equipment and training for incidents at a solar farm. What systems and procedures will Tumuruu have in place to protect our properties from fire originating from the solar farm, also giving consideration to the fact that many of the adjoining properties are on no exit roads and there is no safe escape route?

There is mounting evidence of fires originating from solar farms – see attached evidence and see also photo below of April 2023 Solar Farm fire in NSW.

Furthermore, the surrounding rural properties are situated in a very high potential bushfire intensity zone, so even though most of the solar farm is not in a high bushfire intensity zone, some of it is classified as very high, high and medium intensity, and a fire originating from the solar panels would easily spread to those high risk areas in the surrounding community well before any fire service response. In all the time I have lived on my property I have never had a wildfire come through but I now have great cause for concern.

See bushfire risk article attached.

Road safety – Bowman Rd is a narrow rural road, unsuitable for heavy vehicle traffic and is not a designated haulage route. In the construction phase, they expect 62 truck movements per week along this road. We consider this an unsafe amount of heavy vehicle traffic and also a financial burden on the ratepayers to

maintain the road. People walk their animals alongside this road (horses, dogs) and there are BnB properties accessed by bicycle along Bowman Rd– due to Blackbutts accessibility to the Brisbane Valley Rail Trail, which is a tourism destination for the area. A safe walking and cycling path should also be planned.

• **Stormwater management** - The impervious nature of the solar panels and also the poor absorption of the existing land (similar to a supermarket carpark), may mean a much higher increase in water runoff. We do not agree that overland runoff will be maintained, as the flows from the panels will be channelled onto the ground in a channel flow effect, causing faster flow increasing discharge onto neighbouring properties. Because the design of the solar panel system will give virtual total coverage of the whole 440 Ha site with only 70mm gaps between banks of solar panels, it is very unlikely grass will grow due to no sunlight and sheeting of water, creating faster runoff, and in the dry, massive dust problems. If the Change of Material Use comes about, surely a stormwater plan must need to be submitted to council for prior approval, as with any other industrial facility.

• **Connection to powerlines** – from the referrals provided by Ergon and Powerlink to council, it appears that Ergon has not given approval, and Powerlink potentially has but with conditions. And even if approval was given, they could not guarantee the provided plan of locations of switchyard, inverters, batteries, substation etc. would be suitable.

• **Noise nuisance** – 52 container sized inverter buildings located spread out somewhere in the solar farm. How many 3 stack inverters are contained in one inverter building? Inverter buildings to be located at least 100m from residential property boundaries, and even that may not necessarily comply with the Environmental Protection policy (Noise) 2008. An unbiased qualified sound engineer ? needs to be involved in the planning for the location of all the noise producing items which includes the inverters, the cooling aircon units attached to the top of the buildings, the batteries, then switchyard, the substation (not relying on a photocopied brochure from the inverter company) Affected neighbouring residential properties should not have to experience any more noise than they currently do.

. Impact on local wildlife

Where do I start! We are talking over 1000 acres of habitat here. It may be poor country but there are perhaps into the thousands of wildlife individuals living in this area, all already in serious local decline.

Eastern Grey Kangaroos, Whiptail Wallabies, Red-necked Wallabies, Black-striped Wallabies, Red-necked Pademelons, Red-legged Pademelons, Rufous Bettongs, Northern Brown Bandicoots, Long-nosed Bandicoots, Antechinus, Dunnarts, Melomys, Echidnas, Brush-tailed Possums, Short-eared Possums, Ringtail Possums, Squirrel Gliders, Sugar Gliders, Feather-tailed Gliders.

Boobook Owls, Barn Owls, Masked Owls, Barking Owls, Powerful Owls, Frogmouths, Owlet Nightjars, White-throated Nightjars, Red-tailed Black Cockatoos, Yellow-tailed Black Cockatoos etc. etc.

I can't name all of the many, many bird species that live there, but there are also very possibly endangered Black-breasted Buttonquails also living out there. They have been recorded very close to the area.
The road kills happening just lately have been very numerous. If this solar farm goes ahead, it will be absolute wildlife genocide and you can be assured that the wildlife deaths on Cameron, Franks and Old Esk Rds will be catastrophic!

Further questions are:

- What guarantees are there that if the application is approved, that the locations of the solar panels and facilities will not be expanded or moved in the future, especially should the solar farm be sold in the future? (as with the new one in Kingaroy)
- Is there a bond payable by the solar farm sufficient to fully decommission the property if in the situation of the owning company declaring bankruptcy or similar, and walking away?

What are the benefits to the community?

I strongly request that the South Burnett Regional Council reject the application for the proposed solar farm.

Signed:

[redacted]

Marjie Spies

[redacted]

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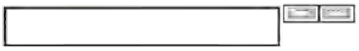

Fire a major hidden danger for solar farms

Renewable energy providers underestimate this critical risk, expert says

Fire a major hidden danger for solar farms

Risk Management News

By Gabriel Olano

Sep 08, 2022 Share

Fire is one of the oldest and most omnipresent risks businesses face and is potentially one of the most devastating. Any business worth its salt has adequate fire safety measures and insurance in place.

However, in many emerging industries, risks are often harder to measure, leading to exposures and losses. One such industry is solar energy, which has been growing

rapidly in recent years due to the shift to renewable energy.

A recent report by Firetrace International found that the solar industry is potentially underestimating the risk of fire at solar farms, partly due to a shortage of data on solar farm fires. The report also said that research into the issue has given rise to suspicions that fires at solar farms have been under-reported.

□To be clear, fire risk is present across all utility scale, high voltage, renewable energy from wind to solar to battery storage systems,□Ross Paznokas (pictured above), global business development manager, clean energy at Firetrace International, told Corporate Risk and Insurance. □Fire risks cannot be totally engineered out.

□With the expected exponential growth of renewable energy as well as aging infrastructure, the number of fire occurrences will only increase. One thing that operators tend to overlook is addressing these fire risks with fire mitigation strategies. Often, owners will simply rely on their insurance provider to cover a loss, if that does occur, rather than implementing the likes of fire suppression technology.□

According to Paznokas, solar asset owners and major OEMs are reluctant to discuss or publicly acknowledge a loss attributable to fire. This means that there is a lack of data and definitive case studies to draw insights from.

With regard to data that is actually available, Paznokas said that the US Department of Energy□s Solar Energy Technologies Office cited a study conducted by European testing and certification company T□V Rheinland, titled Assessing Fire Risks in Photovoltaic Systems and Developing Safety Concepts for Risk Minimization. The study found that in approximately half of 430 cases of fire or heat damage in photovoltaic (PV) systems, the PV system itself was considered the □cause or probable cause.□

Meanwhile, a study conducted by the BRE National Solar Centre found that more than a quarter of fires involving solar power systems were caused by the photovoltaics and those fires were all □serious fires,□meaning fires that were □difficult to extinguish and spread beyond the area of origin.□

☐Unfortunately, solar farm infrastructure is not just sitting in a warehouse and can have long lead times, which can result in degradation as parts move through the supply chain,☐Paznokas said. ☐There have been numerous solar farm fires ranging from Argentina to the USA and in Europe. In each of these cases, the affected companies have found themselves with hundreds of thousands worth of losses. Accumulated losses come from destroyed equipment anywhere near the fire and lost production for extended periods due to waiting for replacement parts, construction, and recommissioning. In our work, we have seen solar farm fires result in losses which encompass the entire solar farm with the potential to spread and endanger surrounding communities.☐

The Firetrace study highlighted three major causes of solar farm fires. These are an error in the system design, a faulty product (a design or quality issue), and poor installation practices. Among components, DC isolators pose the highest fire risk, being involved in the outbreak of around 30% of studied fires. Other components that are likely to cause a fire are DC connectors and inverters.

To minimize the risk of solar farm fires, Firetrace and T☐V Rheinland recommended the following steps:

- Ensure solar systems are regularly tested by independent third parties
- Incorporate additional safety components everywhere possible
- Create standardized quality assurance measures
- Ensure defective or prematurely aged components are promptly replaced

In the future, as the risk of fire becomes clearer for operators of solar energy facilities, Paznokas predicts that the industry will become more proactive in managing fire risks.

☐As is the case with all maturing industries, we feel as though the solar farm industry will embrace the installation of fire suppression systems in the areas of the modules which can be protected,☐he said. ☐Additionally, we will begin to see original equipment manufacturers of these key components offering fire suppression fully integrated into their systems from the factory. This will not only address owner and investor concerns, but also help communities understand how safe and affordable systems can benefit the entire area through their provision of cheap,

reliable energy.☐

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[redacted]

Sent: Thursday, 22 June 2023 6:55 PM
To: Council Information General Email Account <info@sbrc.qld.gov.au>
Subject: [EXTERNAL] Material Change of Use of 341 Bowman Rd, Taromeo, Lot 2 SP155159

Please be cautious
This email originated outside of SBRC..

To the Assessment Manager
South Burnett Regional Council

I refer to the Material Change of Use – Renewable Energy Facility (Tumuruui Solar Farm) and Major Electricity Infrastructure (Battery Energy Storage System) – MCU22-0034.

We object to the Material Change of Use of 341 Bowman Rd, Taromeo, Lot 2 SP155159 to a Renewable Energy facility (proposed solar farm) and Battery Energy Storage System.

The reasons are as follows:

• Property Devaluation. We only bought our property 18 months ago and are in the process of planning to build. The solar farm makes us think building may be a waste of time and money. If we were to sell in the future, would anyone even want to buy our property (I know we would never buy next to a solar farm.)

• Visual Impact. We moved from Brisbane and bought this property to live in a rural setting not in an industrial estate. If set back of the panels is only going to be 20 metres from our boundary it will be very upsetting and disappointing as we have such a beautiful view currently. Why couldn't set back be 190m (or more) all the way around like it is on Emerson Rd. We really enjoy the cows coming up to the fence to say hello.

• Fire Risk. Is Blackbutt Fire Brigade up to the job to deal with a fire involving live electricity if there was to be a fire is this area. Our property is in a high risk fire zone. Also, I believe smoke from burning solar panels is toxic, they should not be anywhere near peoples properties.

• Water Drainage. Our property is on a downhill slope from the Tumuruu property. We already cop a lot of run off when it rains, I imagine it would only be worse with solar panels there to stop the water going to the ground as much.

• Noise. Currently it is very very quiet, this was definitely part of the appeal to buy here. How much and what sort of noise will there be from inverters, panels etc. I suffer from Vertigo and any vibration type of noise (doesn't have to be loud) sets it off.

• Health Risks. I don't think there is enough long term data as to whether there are any health risks related to being this close to the proposed amount of solar panels for extended periods of time (all day nearly every day).

An additional question is what happens to all the panels when they reach their end of life? Will they really get removed, or will they get left there to rust and look ugly forever?

We request that the South Burnett Regional Council reject the application for the proposed solar farm.

Signed:

[redacted]

Amanda Jane Soppa

[redacted]

Gregory James Harper

[redacted]

Sent from my Galaxy

[redacted]

Sent: Mon, 5 Jun 2023 21:18:40 +1000
To: "Council Information General Emaill Account" <info@sbrc.qld.gov.au>
Subject: [EXTERNAL] FW: Tumuruu Solar farm application - Renewable Energy Facility
Attachments: Solar Farm Letter.pdf, Solar1.jpeg, Solar2.jpeg
Categories: Rule-Recieved

Please be cautious
This email originated outside of SBRC.

Good day to you South Burnett Regional Council.

I agree with what Nigel has put forward below but also to expand this with regards to, at present I and family still have not officially been advised of this project by the owners of this property, you the council or anyone involved which is blatant ignorance and lies from promises they've publicly listed. I've had to subscribe twice now to their website to obtain so called updated information and rely on social media posts to understand what's happening.

To point out that my family's property is the largest Neighbouring property to this proposed development and will receive the most of any and all impacts being any visual, noise, hazard, waste pollution and all environmental issues, not to mention a far greater security risk to our property by it's development but also workers or locals wishing to gain un-authorised access by opportunistic people to our property.

Another point to mention is there has been NO planning with regards to impacts to Harper Road (Dirt Road with Cattle grid) or our property beyond it. Funny thing is we are paying council rates and fees which would entitled us to certain privileges, and we would hope a say in protection from developments such as this however, I note we are paying for a bin service to our property and have never been provided with a any bins nor a waste removal servite, maybe we should deduct these fees from our future payments.

I have attached (again 3rd time now for council and sent to solar farm project also) a letter in which points out many issues that will arise specifically environmental and various pollution as mentioned above directly effecting our property and Harper Road. I suggest you re-read this attached letter pointing out the owners of this property live in Postcode 4017 with various GoDaddy hosted/templated websites and portray a belief of helping Australia however, the opposite is the truth as they obviously have no-care to decimating a rural grazing property and the ecology while they live in coastall Brisbane and planning to make millions with governmentall funds off such a project.

We request the South Burnett Regional Council reject the application for the Renewable Energy Facility / Solar Farm post-haste.

[redacted]

Dear South Burnett Regional Council Planning department, and affected Taromeo/Blackbutt residents,

We have received an updated project info document in our mail, and also an email from Plan C. There are huge inconsistencies between these documents and the information previously disseminated. It is a collection of conflicting statements, which makes us feel as if we can't believe anything they say. Both documents are attached. We seek answers and clarification to all of the points noted below from both the council and Tumuruu Plan C Solar Farm.

- Both the brochure and the emaill state 17 operational ongoing jobs. Further down in the emaill document, under the headline,Commissioning and Operation, it clearly states 6-10 roles.

- So are there going to be tracking panels, or not? Because in the mailed document, in the specialist studies section under noise, they are not having a tracking system because it would make noise; yet under glint and glare concerns, conveniently it is going to be tracking so as to avoid glare. They seem to be changing their story depending on what questions are being asked.

- Community funding - $4.8 million. If $100,000/yr over the lifetime of the scheme (30 years as per your project timeline)- doesn't that equal $3million?

- Bowman Rd needs to be seriously upgraded if they are putting that many trucks along it. It's not a designated haulage route, and is already badly damaged. Even though there will not be B double trucks along it, it will still have a significant increase in heavy truck movements. Will they be contributing to its upgrade, including a safe walking/cycling path alongside it to Blackbutt?

- Are we still debating how many residents are going to be affected by this? The emailled document states there are 11 dwellings within 1km of the project. Considering there are 50 or more properties immediately bordering this property, and about 90 more affected visually but not bordering the land, we can only assume that someone has just used a very old google maps to make this assumption. The development assessment submission and the subsequent information requested by council state they have assessed impacts on all dwellings (eg. Water, visual, noise) - were 11 dwellings assessed, or the 140 dwellings within 1km we found using a 2018 google earth image? There will be more now, 5 years later. And why only current dwellings, as the zoning is rural residential, so there is potential for more dwellings along the boundary. It doesnt matter that the dwellings are not yet constructed. The property owners of these blocks must also be affected.

- Even though a couple of us have had personal communication from Plan C regarding the insurance liability question, it would certainly help the affected community if Plan C was to openly discuss it with everyone. The fact is that we have taken legal advice on a class action for devaluation of property due to being unable to affordably insure our property because of the solar farm vicinity. We must all (every neighbouring property with potential to put a dwelling on) receive a lifetime indemnity for accidental damage to the solar farm and this must include every future owner. The information we received from Plan C on 15/5/23 was that the solar farms insurance would not be able to rely on adjacent landowners and entities 3rd party liability insurance to pay for damage.(this email attached) When do Plan C propose to discuss this with all the adjacent landowners, and their respective insurance brokers? How do they propose to legally protect the current and future adjacent landowners for the life of the project should there be a change of solar farm ownership and /or change of insurance company? A class action could be against South Burnett Council, State government, Tumuruu solar farm, Plan C, and consultants.

- The document discussing whether the solar farm would impact the value of our property - both studies mentioned applied to wind farms and the impact on rural properties used for agricultural purposes. We would just like to point out that they are not applying for a wind farm, they are applying for a solar farm, and the impacted neighbouring properties are not rural agricultural properties, they are zoned rural residential. The devaluation is not just the insurance issue, it's also the loss of visual amenity, noise, dust, water, nuisance value, and the fact that we are no longer living next to a rural property, but an industrial estate. We all believe that our properties valuations would be severely affected, and this too will go towards a class action. The precedent for winning this is the recent outcome of the class action of property devaluation around Defence Force properties.

- Fire risk. We understand there has been one meeting only with one member of the Taromeo rural volunteer fire brigade.The rural fire brigade will not be able to fight any fire within the perimeter of the solar farm due to live electricity. That would be a task for Queensland Fire and Rescue and there has been no consultation with the Blackbutt Queensland Fire and Rescue as to their capabilities, equipment and training for incidents at a solar farm. Have they considered providing individual adjoining properties with a firefighting trailer (pump, tank and hoses)? What systems and procedures will Tumuruu have in place to protect our properties from fire originating from the solar farm, also giving consideration to the fact that many of the adjoining properties are on no exit roads.

- In the community benefits section, a small mention of batteries was made. What are the intended battery sizes and locations, because that little map provided was too small to really see anything properly. In January 2023, it took 22000 litres to put out a Tesla car fire, so how much would our fire brigade need to put out a solar farm fire?

- What guarantees are there that if the application is approved, that the locations of the solar panels and facilities will not be expanded or moved in the future?

- Is there a bond payable by the solar farm sufficient to fully decommission the property if in the situation of the owning company declaring bankruptcy or similar, and walking away?

- Why is it that if we build a structure on our land, we must provide stormwater systems? How is it that the solar farm does not need to? 440 hectares is a very large impermeable surface with potential for a large volume of stormwater.

[redacted]

I Brett Stephenson am writing on behalf of myself and siblings Glen Stephenson, Brendan Stephenson and Jo-anne Sullivan, we are the owners of Lot 1 SP 155159 a 200 acre property situated on Harper Road Taromeo and is adjacent/Northwest of the Proposed Solar Development.

I wish to list out numerous points against this development.

Point 1, The location of our property sit's lower in regard to the proposed Solar development. Our property has Spring fed dams, which are home to animals including various and potentially endangered species of frogs, dragonfly's, Turtles, fish among other aquatic life.

Two of these spring fed dams receive constant overflow from the proposed property already and of recent inundations earlier in 2022 both these dams (normally crystal clear) were brown for many weeks due to the sediment/topsoil wash from this property into ours.

If developed into a Solar Farm with almost no vegetation to hold back topsoil on this proposed property, this will lead to ongoing degradation of our own property with more required upkeep of dam structures at an exurbanite expense to us, plus endangered wildlife but it won't end there – both these dams also feed river systems that run through our property and into surrounding property's and will only degrade the complete river and ecosystem where it flows.

Point 2, Our family have also seen on multiple occasions and very healthy I might add, the highly endangered Bilby, among various species of Lizards, Deer which roam the proposed and our property along with many Kangaroo's, Possums, Koala's, Birds with so many other forms of wildlife I could list.

It can easily be assumed the proposed development would also house Bilby's among other species and if developed would eradicate them all together.

We also run Cattle and at times bring our own horses to ride through the wilderness of our property however if developed these animals may no longer be able to graze due to visual, Sun and UV pollution, along with degradation of our own grasses and shelter of trees dwindling.

Point 3, Our House is located close to Harper Road with a balcony facing East directly towards the proposed property. There will be no ability for a developed Solar Farm to NOT be considered visual pollution, both day and at night and we will receive glare, reflections and potent UV rays which would further destroy our property vegetation and increase weathering of structures and night pollution of flooding security lights, what is normally a beautiful night sky with millions of stars and is black as black with no moon will be ambient with light pollution and distractive to anyone.

1 x of our family members also has a very rare blood disease Erythropoietic Protoporphyria we suggest you search it's full description. This family member already lives a life of seclusion to the point of wrapping themselves up in various hats, gloves and sun protection clothing just to walk out the door (especially in summer) preventing the Sun and UV rays penetrating their skin and cause various acute and painful reactions which can lead to hospitalisation and other harmful disorders.

Our property is the only place this family member can be free to sit on the balcony and gaze into the neighboring property's and or coverup without caring for opinions and nasty looks from others in public life.

I myself suffer from, at times acute Asthma, if a solar farm is to be developed it will cause excess dust storms and potential hospitalisation or worse of myself.

2 x of our family members are also diagnosed with various spectrums of Autism, if a Solar Farm is developed this will cause utter chaos to these family members by way of light reflections off panels to constant humming of electrical equipment involved.

Researching your multiple websites hosted by GoDaddy, A TAB "Community Engagement" lists comments whereby you are currently including letters to neighbors – however neither of us have received any notification to date with regards to your development plans.

Another TAB "ABOUT US"

"Australian Solar Enterprises was founded in 2021 by two passionate individuals who want to help Queensland achieve its climate goals.

"Australian Solar Enterprises understand that development can create impacts on surrounding areas, and we will work with the community to ensure impacts are mitigated wherever possible, and benefits are shared among the community, the surrounding area, Queensland and the nation through renewable energy generation.

We are proposing a low-profile, high density solar solution that will limit visual impact and conserve agricultural land whilst delivering benefits to the community. "

It's clear you wish to portray an amount of care and vision for the future development of said property working with locals and to "conserve agricultural land" however if developed, the property diversity, ecology, habitat, vegetation, endangered species will be destroyed, along with impacts to all neighboring properties and owners, especially ours receiving all problems.

It's clear these owners & company's involved with the proposed development have no-concern with the immense biodiversity it will eradicate based on making an easy and potentially massive profit to yourselves while saying "helping QLD".

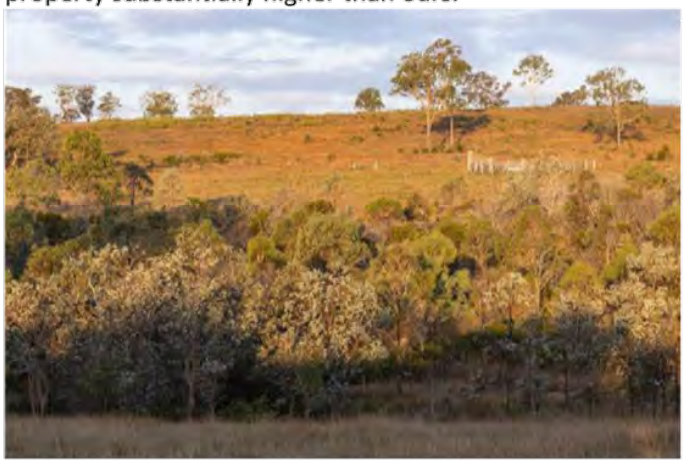
May I remind you that every person who owns property in and around Blackbutt, Benarkin, Taromeo areas do so because of the land itself, the seclusion, the openness of nature, wild animals frolicking and an un-developed scenery that comes with it, many times Blackbutt and areas have been marked as a great place to visit and even better place to live, this will change if you develop your Solar Farm, some neighbors are already attempting to sell in hopes buyers pay big now. If developed values will drop dramatically.

Below I have included various images from our property with explanations.

Outline of our property, notice we are predominantly Harper Road where most of our property faces the potential development site with Two Spring Dams close to Harper Road.

View from our Balcony looking towards proposed solar farm property.

Closer view from Balcony showing cattle crush against Harper Road and other proposed property substantially higher than ours.



View from our rear house yard with horse stable-looking towards cattle crush and other property

Night view with flash looking towards other property at very high exposure capturing distant light pollution, this light pollution will only increase exponentially with flooded security lights

Night view showing Milky way and the side of our house shed lit up by a small fireplace, however the night sky will not be so visible if security lighting is installed.

Saving a Turtle from Harper Road and put into our small spring dam that runs off Harper Road and the proposed property runs into it.

Small spring Dam where Turtle was placed, notice this faces directly towards Harper Road and the proposed property again higher than ours.

Large Spring Dam which also catches water from proposed property and flows through to our river streams, waterfalls and other properties in all directions.

Part of river system

Another part of our river system leading towards waterfalls

This is 1 of the highest points of our property at the rear (North West) looking towards our house (South East) and over to the proposed Property. There is no-where we will be able to escape any visual pollution if developed.

As you may now notice, there is absolutely no ability for the Proposed Solar Farm to be un-seen, from practically all of our usable property.

There is no-way visual pollution can be ignored either day or night.
There is no-way to prevent degradation of our property, dams and structures.
There is no-way to counteract the decline of all animals and of endangered species and an abundant ecosystem on all properties adjoining the proposed site, including itself.
There will be decline of all surrounding properties values

In final I wish to advise a personal note; our property was purchased by our Father while undergoing treatments for Pancreatic Cancer as a gift to his children and grandchildren to cherish and keep his legacy well into the future, may He Now Rest In Peace.

We have vowed this property is for our collective families to enjoy as a getaway from everyday life, a secluded peaceful retreat, to be safe and happy, a place for ourselves, our children and our children's children to explore, learn, grow and keep as a magnificent ecosystem which is contrary to what the Owners and businesses of the proposed development will accomplish, to say we are devastated is an extreme understatement.

You have my direct contact email and phone number below if you want me to clarify anything further.

Regards

[redacted]

Proposed Development

Make a submission from **02 June to 23 June 2023**

- **RENEWABLE ENERGY FACILITY (TUMURUU SOLAR FARM)**
- **BATTERY STORAGE FACILITY**
- **APPROX. 400MW (635Gwh)**

Where: 341 Bowman Road, Taromeo QLD 4314

On: Lot 2 SP155159

Approval sought: Development Permit for a Material Change of Use

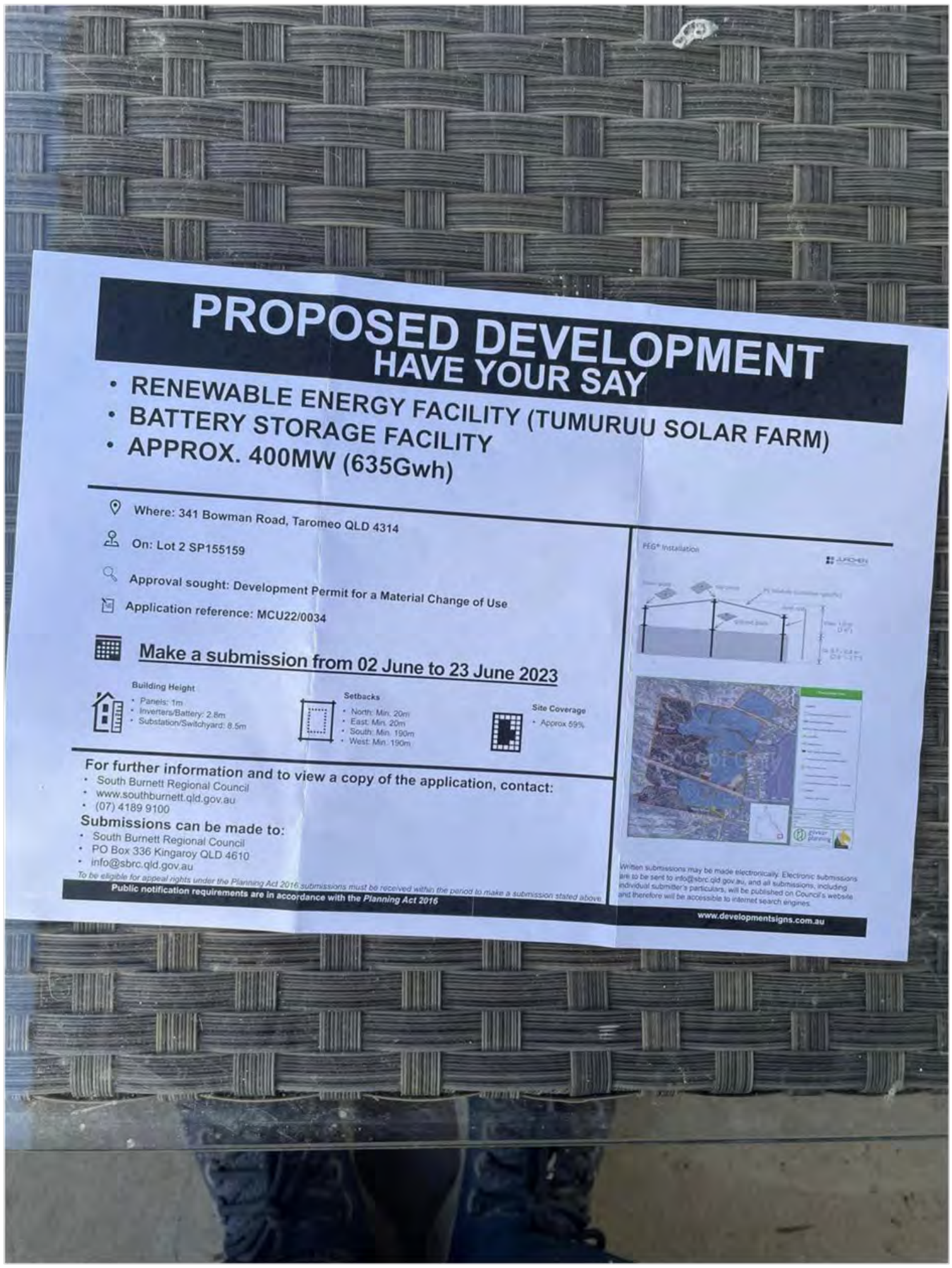
Application ref: MCU22/0034

You may obtain a copy of the application and make a submission to:
South Burnett Regional Council
PO Box 336 Kingaroy QLD 4610
info@sbrc.qld.gov.au
(07) 4189 9100
www.southburnett.qld.gov.au

Written submissions may be made electronically. Electronic submissions are to be sent to info@sbrc.qld.gov.au, and all submissions, including individual submitter's particulars, will be published on Council's website and therefore will be accessible to internet search engines.

Public notification requirements are in accordance with the Planning Act 2016

www.developmentsigns.com.au


PROPOSED DEVELOPMENT
HAVE YOUR SAY
• RENEWABLE ENERGY FACILITY (TUMURUU SOLAR FARM)
• BATTERY STORAGE FACILITY
• APPROX. 400MW (635Gwh)
Where: 341 Bowman Road, Taromeo QLD 4314
On: Lot 2 SP155159
Approval sought: Development Permit for a Material Change of Use
Application reference: MCU22/0034
Make a submission from 02 June to 23 June 2023
Building Height
• Panels: 1m
• Inverters/Battery: 2.8m
• Substation/Switchyard: 8.5m
Setbacks
• North: Min. 20m
• East: Min. 20m
• South: Min. 190m
• West: Min. 190m
Site Coverage
• Approx 59%
For further information and to view a copy of the application, contact:
• South Burnett Regional Council
• www.southburnett.qld.gov.au
• (07) 4189 9100
Submissions can be made to:
• South Burnett Regional Council
• PO Box 336 Kingaroy QLD 4610
• info@sbrc.qld.gov.au
To be eligible for appeal rights under the Planning Act 2016 submissions must be received within the period to make a submission stated above.
Public notification requirements are in accordance with the Planning Act 2016
PEG* Installation
Written submissions may be made electronically. Electronic submissions are to be sent to info@sbrc.qld.gov.au, and all submissions, including individual submitter's particulars, will be published on Council's website and therefore will be accessible to internet search engines.
www.developmentsigns.com.au

From: [redacted]
Sent: Tue, 6 Jun 2023 13:39:33 +1000
To: "Council Information General Email Account" <info@sbrc.qld.gov.au>
Subject: [EXTERNAL] Renewable Energy Facility (Tumuruu Solar Farm) and Major Electricity Infrastructure (Battery Energy Storage System) MCU22/0034
Attachments: Letter to South Burnett Regional Council dated 6 June 2023.docx
Categories: Rule-Recieved

Please be cautious
This email originated outside of SBRC.

Dear Sir/Madam,

Please see **attached** submission in relation to the above mentioned Proposed Development.

Kind Regards,
Darryl Hewitt and Christine Figg
[redacted]