DA Form 1 – Development application details

Approved form (version 1.0 effective 3 July 2017) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving building work.

For a development application involving building work only, use DA Form 2 – Building work details.

For a development application involving **building work associated with any other type of assessable development**, use this form (*DA Form 1*) **and** parts 4 to 6 of *DA Form 2 – Building work details*.

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*. For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).

PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (individual or company full name)	DP Energy Australia Pty Ltd
Contact name (only applicable for companies)	Gabrielle Powell
Postal address (P.O. Box or street address)	4 Marshall Road
Suburb	Lake Barrine
State	QLD
Postcode	4884
Country	Australia
Contact number	(07) 4095 2877
Email address (non-mandatory)	gaby.powell@dpenergy.com
Mobile number (non-mandatory)	
Fax number (non-mandatory)	
Applicant's reference number(s) (if applicable)	

2) Owner's consent 2.1) Is written consent of the owner required for this development application? ☑ Yes – the written consent of the owner(s) is attached to this development application ☑ No – proceed to 3)



PART 2 – LOCATION DETAILS

3) Location of the premises (complete 3.1) or 3.2), and 3.3) as applicable) Note: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see <u>DA Forms</u> <u>Guide: Relevant plans.</u>						
3.1) St	reet addres	s and lot	on plan			
Str	eet address	AND lot	on plan (a	l lots must be liste	ed), Or	
but adjo	eet address ining or adjace	AND lot nt to land e	on plan fo .g. jetty, pon	r an adjoining (toon; all lots must	or adjacent property of the <i>be listed</i>).	e premises (appropriate for development in water
	Unit No.	Street N	lo. Stre	eet Name and	Туре	Suburb
			Mu	ligan Highway	,	Desailly
a)	Postcode	Lot No.	Pla	n Type and Nu	ımber (e.g. RP, SP)	Local Government Area(s)
		191	SP	284406		Mareeba Shire Council
	Unit No.	Street N	lo. Stre	et Name and	Туре	Suburb
L)						
D)	Postcode	Lot No.	Pla	n Type and Nu	ımber (e.g. RP, SP)	Local Government Area(s)
3.2) C	oordinates o dredaina in Ma	f premise	es (appropri	ate for developme	ent in remote areas, over part of	a lot or in water not adjoining or adjacent to land e.g.
Note: P	lace each set o	f coordinate	es in a sepai	ate row. Only one	set of coordinates is required fo	or this part.
Co	ordinates of	premises	s by longit	ude and latitud	le	
Longit	ude(s)		Latitude(s)	Datum	Local Government Area(s) (if applicable)
					WGS84	
					GDA94	
					Other:	
🛛 Co	ordinates of	premises	s by eastir	g and northing	3	
Eastin	g(s)	North	ing(s)	Zone Ref.	Datum	Local Government Area(s) (if applicable)
28136	6	81763	309	54	WGS84	
					GDA94	Mareeba Shire Council
2 2) 1	dditional pro	miago				
3.3) A			releventt	this develop	east application and their	deteile heve heer etteched in e echedule
to this	application	lises are	relevant t	o triis developr	nent application and their	details have been attached in a schedule
🛛 No	required					
4) Ider	ntify any of tl	ne followi	ing that ap	ply to the pren	nises and provide any rele	evant details
🛛 In d	or adjacent t	o a water	body or v	vatercourse or	in or above an aquifer	
Name of water body, watercourse or aquifer: Mitchell River, McLeod River, Desail Creek, Campbell Creek			Mitchell River, McLeod River, Desailly Creek, Campbell Creek			
On strategic port land under the <i>Transport Infrastructure Act</i> 1994						
Lot on plan description of strategic port land:						
Name of port authority for the lot:						
In a tidal area						
Name	of local gove	ernment	for the tida	al area <i>(if applica</i>	able):	
Name	of port auth	ority for ti	idal area (f applicable):		
On	airport land	under th	e Airport A	ssets (Restrue	cturing and Disposal) Act	2008
Name of airport:						
Listed on the Environmental Management Register (EMR) under the Environmental Protection Act 1994						

EMR site identification:				
Listed on the Contaminated Land Register (CLR) under the Environmental	Protection Act 1994			
CLR site identification:				
5) Are there any existing easements over the premises? Note: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see <u>DA Forms Guide.</u>				
 Yes – All easement locations, types and dimensions are included in plans application No 	submitted with this development			

PART 3 – DEVELOPMENT DETAILS

Section 1 – Aspects of development

6.1) Provide details about the first development aspect						
a) What is the type of development? (tick only one box)						
\boxtimes Material change of use	Reconfiguring a lot	Operational work	Building work			
b) What is the approval type? (tick	b) What is the approval type? (tick only one box)					
🛛 Development permit	Preliminary approval	Preliminary approval that	includes			
		a variation approval				
c) What is the level of assessmen	t?					
Code assessment	Impact assessment (requir	es public notification)				
d) Provide a brief description of the lots):	e proposal (e.g. 6 unit apartment b	uilding defined as multi-unit dwelling, re	econfiguration of 1 lot into 3			
Solar PV farm including battery st	orage and synchronous conde	nser facilities, and associated i	nfrastructure.			
e) Relevant plans <i>Note</i> : Relevant plans are required to be so <u>Relevant plans.</u>	ubmitted for all aspects of this develop	ment application. For further informatic	on, see <u>DA Forms guide:</u>			
Relevant plans of the propose	d development are attached to	the development application				
6.2) Provide details about the sec	ond development aspect					
a) What is the type of development	nt? (tick only one box)					
Material change of use	Reconfiguring a lot	Operational work	Building work			
b) What is the approval type? (tick	only one box)					
Development permit	Preliminary approval	Preliminary approval that approval	includes a variation			
c) What is the level of assessmen	t?					
Code assessment	Impact assessment (requir	es public notification)				
d) Provide a brief description of th	e proposal (e.g. 6 unit apartment b	uilding defined as multi-unit dwelling, re	econfiguration of 1 lot into 3 lots)			
e) Relevant plans <i>Note</i> : Relevant plans are required to be survey that the second se	ubmitted for all aspects of this develop	ment application. For further informatic	on, see <u>DA Forms Guide:</u>			
Relevant plans of the propose	d development are attached to	the development application				
6.3) Additional aspects of development						
Additional aspects of developm	nent are relevant to this develo	pment application and the deta	ils for these aspects			
that would be required under Part	3 Section 1 of this form have l	been attached to this developm	ent application			
	X Not required					

Section 2 – Further development details

7) Does the proposed development application involve any of the following?			
Material change of use	se Xes – complete division 1 if assessable against a local planning instrument		
Reconfiguring a lot	Yes – complete division 2		
Operational work	Yes – complete division 3		
Building work	Yes – complete DA Form 2 – Building work details		

Division 1 – Material change of use

Note: This division is only required to be completed if any part of the development application involves a material change of use assessable against a local planning instrument.

8.1) Describe the proposed material change of use					
Provide a general description of the proposed use	Provide the pl (include each def	anning scheme definition inition in a new row)	Number of dwelling units <i>(if applicable)</i>	Gross floor area (m²) (if applicable)	
Solar PV farm including battery storage and synchronous condenser facilities, and associated infrastructure.	Utility Installat	ion			
8.2) Does the proposed use involve the use of existing buildings on the premises?					
🗌 Yes					
No					

Division 2 – Reconfiguring a lot Note: This division is only required to be completed if any part of the development application involves reconfiguring a lot.

9.1) What is the total number of existing lots making up the premises?			
9.2) What is the nature of the lot reconfiguration? (tick all applicable boxes)			
Subdivision (complete 10))			
Boundary realignment (complete 12)) Creating or changing an easement giving access to a lot from a construction road (complete 13))			

10) Subdivision 10.1) For this development, how many lots are being created and what is the intended use of those lots:					
Intended use of lots created	Residential	Commercial	Industrial	Other, please specify:	
Number of lots created					
10.2) Will the subdivision be stag	10.2) Will the subdivision be staged?				
 Yes – provide additional details below No 					
How many stages will the works include?					
What stage(s) will this developm apply to?	ent application				

11) Dividing land into parts by agreement – how many parts are being created and what is the intended use of the parts?				
Intended use of parts created Residential Commercial Industrial Other, please spec			Other, please specify:	
Number of parts created				

12) Boundary realignment 12.1) What are the current and proposed areas for each lot comprising the premises?					
Curren	Current lot Proposed lot				
Lot on plan description	Area (m²)	Lot on plan description	Area (m²)		
12.2) What is the reason for the boundary realignment?					

13) What are the dimensions and nature of any existing easements being changed and/or any proposed easement? (attach schedule if there are more than two easements)				
Existing or proposed?	Width (m)	Length (m)	Purpose of the easement? (e.g. pedestrian access)	Identify the land/lot(s) benefitted by the easement

Division 3 – Operational work

Note: This division is only required to be completed if any part of the development application involves operational work.

14.1) What is the nature of the operational work?					
Road work	Stormwater	Water infrastructure			
Drainage work	Earthworks	Sewage infrastructure			
Landscaping	🗌 Signage	Clearing vegetation			
☐ Other – please specify:					
14.2) Is the operational work ne	cessary to facilitate the creation of	new lots? (e.g. subdivision)			
Yes – specify number of new	/ lots:				
□ No					
14.3) What is the monetary value of the proposed operational work? (include GST, materials and labour)					
\$					

PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application

Mareeba Shire Council

16) Has the local government agreed to apply a superseded planning scheme for this development application?

Yes – a copy of the decision notice is attached to this development application
 Local government is taken to have agreed to the superseded planning scheme request – relevant documents attached

🗌 No

PART 5 – REFERRAL DETAILS

17) Do any aspects of the proposed development require referral for any referral requirements? *Note:* A development application will require referral if prescribed by the Planning Regulation 2017.

□ No, there are no referral requirements relevant to any development aspects identified in this development application – proceed to Part 6

Matters requiring referral to the chief executive of the Planning Regulation 2017:

 \boxtimes Clearing native vegetation

Contaminated land (unexploded ordnance)

Fisheries – aquaculture Fisheries – declared fish hebitet erec
E Fisheries – declared lish habitat area
Fisheries – marine plants
Fisheries – waterway barrier works
Queensiand heritage place (on or near a Queensland heritage place)
Infrastructure – state transport corridors and future state transport corridors
Infrastructure – state-controlled transport tunnels and future state-controlled transport tunnels
SEQ regional landscape and rural production area or SEQ Rural living area – community activity
SEQ regional landscape and rural production area or SEQ Rural living area – indoor recreation
SEQ regional landscape and rural production area or SEQ Rural living area – residential development
SEQ regional landscape and rural production area or SEQ Rural living area – urban activity
I lidal works or works in a coastal management district
Water-related development – taking or interfering with water
Water-related development – removing quarry material (from a watercourse or lake)
Water-related development – referable dams
Water-related development – construction of new levees or modification of existing levees (category 2 or 3 levees only)
Wetland protection area
Matters requiring referral to the local government:
Matters requiring referral to the local government:
Matters requiring referral to the local government: Airport land Environmentally relevant activities (ERA) (only if the ERA have been devolved to local government)
Matters requiring referral to the local government: Airport land Environmentally relevant activities (ERA) (only if the ERA have been devolved to local government) Local heritage places
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Matters requiring referral to the local government: Airport land Environmentally relevant activities (ERA) (only if the ERA have been devolved to local government) Local heritage places Matters requiring referral to the chief executive of the distribution entity or transmission entity: Electricity infrastructure
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Matters requiring referral to the local government: Airport land Environmentally relevant activities (ERA) (only if the ERA have been devolved to local government) Local heritage places Matters requiring referral to the chief executive of the distribution entity or transmission entity: Electricity infrastructure Matters requiring referral to: • The chief executive of the holder of the licence, if not an individual • The holder of the licence, if the holder of the licence is an individual • Oil and gas infrastructure Matters requiring referral to the Brisbane City Council: Brisbane core port land Matters requiring referral to the Minister under the Transport Infrastructure Act 1994: Brisbane core port land
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Matters requiring referral to the local government: Airport land Environmentally relevant activities (ERA) (only if the ERA have been devolved to local government) Local heritage places Matters requiring referral to the chief executive of the distribution entity or transmission entity: Electricity infrastructure Matters requiring referral to: • The chief executive of the holder of the licence, if not an individual • The holder of the licence, if the holder of the licence is an individual • Oil and gas infrastructure Matters requiring referral to the Brisbane City Council: Brisbane core port land Matters requiring referral to the Minister under the Transport Infrastructure Act 1994: Brisbane core port land Matters requiring referral to the relevant port operator: Brisbane core port land
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Matters requiring referral to the local government: Airport land Environmentally relevant activities (ERA) (only if the ERA have been devolved to local government) Local heritage places Matters requiring referral to the chief executive of the distribution entity or transmission entity: Electricity infrastructure Matters requiring referral to: • The chief executive of the holder of the licence, if not an individual • The holder of the licence, if the holder of the licence is an individual • Oil and gas infrastructure Matters requiring referral to the Brisbane City Council: Brisbane core port land Matters requiring referral to the Minister under the Transport Infrastructure Act 1994: Brisbane core port land Matters requiring referral to the Minister under the Transport Infrastructure Act 1994: Brisbane core port land Matters requiring referral to the Minister under the Transport Infrastructure Act 1994: Brisbane core port land Matters requiring referral to the relevant port operator: Brisbane core port land Matters requiring referral to the chief executive of the relevant port authority: And within limits of another port
Matters requiring referral to the local government: Airport land Environmentally relevant activities (ERA) (only if the ERA have been devolved to local government) Local heritage places Matters requiring referral to the chief executive of the distribution entity or transmission entity: Electricity infrastructure Matters requiring referral to: • The chief executive of the holder of the licence, if not an individual • The holder of the licence, if the holder of the licence is an individual • Oil and gas infrastructure Matters requiring referral to the Brisbane City Council: Brisbane core port land Matters requiring referral to the Minister under the Transport Infrastructure Act 1994: Brisbane core port land Matters requiring referral to the relevant port operator: Brisbane core port land Matters requiring referral to the chief executive of the relevant port authority: Araters requiring referral to the chief executive of the relevant port authority: Brisbane core port land Matters requiring referral to the chief executive of the relevant port authority: Brisbane core port land (below high-water mark and within port limits) Matters requiring referral to the chief executive of the relevant port authority: Land within limits of another port
Matters requiring referral to the local government: Airport land Environmentally relevant activities (ERA) (only if the ERA have been devolved to local government) Local heritage places Matters requiring referral to the chief executive of the distribution entity or transmission entity: Electricity infrastructure Matters requiring referral to: • The chief executive of the holder of the licence, if not an individual • The holder of the licence, if the holder of the licence is an individual • Oil and gas infrastructure Matters requiring referral to the Brisbane City Council: Brisbane core port land Matters requiring referral to the Minister under the Transport Infrastructure Act 1994: Brisbane core port land Matters requiring referral to the relevant port operator: Brisbane core port land Matters requiring referral to the chief executive of the relevant port authority: Land within limits of another port Matters requiring referral to the chief executive of the relevant port authority: Land within limits of another port
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18) Has any referral agency provided a referral response for this development application?					
 ☐ Yes – referral response(s) received and listed below are attached to this development application ☑ No 					
Referral requirement Referral agency Date of referral response					
Identify and describe any changes made to the proposed development application that was the subject of the referral response and the development application the subject of this form, or include details in a schedule to this development application <i>(if applicable).</i>					

PART 6 – INFORMATION REQUEST

19) Information request under Part 3 of the DA Rules

I agree to receive an information request if determined necessary for this development application

I do not agree to accept an information request for this development application

Note: By not agreeing to accept an information request I, the applicant, acknowledge:

- that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties
- Part 3 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules.
- Further advice about information requests is contained in the DA Forms Guide.

PART 7 – FURTHER DETAILS

20) Are there any associated development applications or current approvals? (e.g. a preliminary approval)						
☐ Yes – provide details below or include details in a schedule to this development application						
🛛 No	No					
List of approval/development	List of approval/development Reference number Date Assessment manager					
application references						
Approval						
Development application						
Approval						
Development application						

21) Has the portable long service leave levy been paid? (only applicable to development applications involving building work or operational work)

Yes – the yellow local government/private certifier's copy of the receipted QLeave form is attached to this development application

No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid
 ☑ Not applicable

Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
\$		

22) Is this development application in response to a show cause notice or required as a result of an enforcement notice?

 \Box Yes – show cause or enforcement notice is attached \boxtimes No

23) Further legislative requirements
Environmentally relevant activities
23.1) Is this development application also taken to be an application for an environmental authority for an Environmentally Relevant Activity (ERA) under section 115 of the <i>Environmental Protection Act</i> 1994?
 Yes – the required attachment (form EM941) for an application for an environmental authority accompanies this development application, and details are provided in the table below No Note: Application for an environmental authority can be found by searching "EM941" at <u>www.gld.gov.au</u>. An ERA requires an environmental authority to operate. See <u>www.business.gld.gov.au</u> for further information.
Proposed ERA number: Proposed ERA threshold:
Proposed ERA name:
Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.
Hazardous chemical facilities
23.2) Is this development application for a hazardous chemical facility ?
 Yes – Form 69: Notification of a facility exceeding 10% of schedule 15 threshold is attached to this development application No Note: See <u>www.justice.gld.gov.au</u> for further information.
Clearing native vegetation
23.3) Does this development application involve clearing native vegetation that requires written confirmation the chief executive of the <i>Vegetation Management Act 1999</i> is satisfied the clearing is for a relevant purpose under section 22A of the <i>Vegetation Management Act 1999</i> ?
 Yes – this development application is accompanied by written confirmation from the chief executive of the Vegetation Management Act 1999 (s22A determination) No Note: See <u>www.gld.gov.au</u> for further information.
Environmental offsets
23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a prescribed environmental matter under the <i>Environmental Offsets Act 2014</i> ?
Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter
Note: The environmental offset section of the Queensland Government's website can be accessed at <u>www.qld.gov.au</u> for further information on environmental offsets.
<u>Koala conservation</u> 23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work within an assessable development area under Schedule 10, Part 10 of the Planning Regulation 2017?
Yes No Note: See guidance materials at <u>www.ehp.qld.gov.au</u> for further information.
Water resources
23.6) Does this development application involve taking or interfering with artesian or sub artesian water, taking or interfering with water in a watercourse, lake or spring, taking overland flow water or waterway barrier works?
Yes – the relevant template is completed and attached to this development application
Kote: DA templates are available from <u>www.dilgp.qld.gov.au</u> .
23.7) Does this application involve taking or interfering with artesian or sub artesian water, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the <i>Water Act 2000</i> ?

 Yes – I acknowledge that a relevant water authorisation under the Water Act 2000 may be required prior to commencing development No 	
Note: Contact the Department of Natural Resources and Mines at <u>www.dnrm.qld.gov.au</u> for further information.	
Marine activities	
23.8) Does this development application involve aquaculture, works within a declared fish habitat area or rem disturbance or destruction of marine plants?	ioval,
☐ Yes – an associated resource allocation authority is attached to this development application, if required under <i>Fisheries Act 1994</i>	the
NO Note: See guidance materials at www.daf.gld.gov.au for further information.	
Quarry materials from a watercourse or lake	
23.9) Does this development application involve the removal of quarry materials from a watercourse or lake u the <i>Water Act 2000?</i>	nder
☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing developme ⊠ No	ent
Note: Contact the Department of Natural Resources and Mines at <u>www.dnrm.qld.gov.au</u> for further information.	
Quarry materials from land under tidal waters	
23.10) Does this development application involve the removal of quarry materials from land under tidal water the <i>Coastal Protection and Management Act 1995?</i>	under
☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing developme ⊠ No	ent
Note: Contact the Department of Environment and Heritage Protection at <u>www.ehp.qld.gov.au</u> for further information.	
Referable dams	
23.11) Does this development application involve a referable dam required to be failure impact assessed under section 343 of the <i>Water Supply (Safety and Reliability) Act 2008</i> (the Water Supply Act)?	
 ☐ Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the Water Su Act is attached to this development application ☑ No 	pply
Note: See guidance materials at www.dews.qld.gov.au for further information.	
Tidal work or development within a coastal management district	
23.12) Does this development application involve tidal work or development in a coastal management district	?
Yes – the following is included with this development application:	
Evidence the proposal meets the code for assessable development that is prescribed tidal work (only require application involves prescribed tidal work) A certificate of title	red if
⊠ No	
Note: See guidance materials at www.ehp.qld.gov.au for further information.	
Queensland and local heritage places	
23.13) Does this development application propose development on or adjoining a place entered in the Queenslar heritage register or on a place entered in a local government's Local Heritage Register?	ıd
 Yes – details of the heritage place are provided in the table below No 	
Note: See guidance materials at <u>www.ehp.qld.gov.au</u> for information requirements regarding development of Queensland heritage places.	
Name of the heritage place: Place ID:	
Brothels	
23.14) Does this development application involve a material change of use for a brothel?	
Yes – this development application demonstrates how the proposal meets the code for a development application for a brothel under Schedule 3 of the <i>Prostitution Regulation 2014</i>	ion:

🛛 No

Decision under section 62 of the Transport Infrastructure Act 1994

23.15) Does this development application involve new or changed access to a state-controlled road?

Yes - this application will be taken to be an application for a decision under section 62 of the *Transport* Infrastructure Act 1994 (subject to the conditions in section 75 of the Transport Infrastructure Act 1994 being satisfied)

PART 8 – CHECKLIST AND APPLICANT DECLARATION

24) Development application checklist	
I have identified the assessment manager in question 15 and all relevant referral requirement(s) in question 17 <i>Note</i> : See the Planning Regulation 2017 for referral requirements	⊠ Yes
If building work is associated with the proposed development, Parts 4 to 6 of <i>Form 2</i> – <i>Building work details</i> have been completed and attached to this development application	☐ Yes ⊠ Not applicable
Supporting information addressing any applicable assessment benchmarks is with development application Note: This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see <u>DA</u> Forms Guide: Planning Report Template.	⊠ Yes
Relevant plans of the development are attached to this development application Note : Relevant plans are required to be submitted for all aspects of this development application. For further information, see <u>DA Forms Guide: Relevant plans.</u>	🛛 Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued <i>(see 21))</i>	☐ Yes ⊠ Not applicable

25) Applicant declaration

By making this development application, I declare that all information in this development application is true and correct

Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the Electronic Transactions Act 2001

Note: It is unlawful to intentionally provide false or misleading information.

Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website.

Personal information will not be disclosed for a purpose unrelated to the Planning Act 2016, Planning Regulation 2017 and the DA Rules except where:

- such disclosure is in accordance with the provisions about public access to documents contained in the Planning Act 2016 and the Planning Regulation 2017, and the access rules made under the Planning Act 2016 and Planning Regulation 2017; or
- required by other legislation (including the Right to Information Act 2009); or
- otherwise required by law.

This information may be stored in relevant databases. The information collected will be retained as required by the Public Records Act 2002.

PART 9 – FOR OFFICE USE ONLY

Date received: Reference numb	per(s):		
Notification of engagement of alternative assessment mar	nager		
Prescribed assessment manager			
Name of chosen assessment manager			
Date chosen assessment manager engaged			
Contact number of chosen assessment manager			
Relevant licence number(s) of chosen assessment manager			

QLeave notification and payment Note: For completion by assessment manager if applicable	
Description of the work	
QLeave project number	
Amount paid (\$)	
Date paid	
Date receipted form sighted by assessment manager	
Name of officer who sighted the form	

The Planning Act 2016, the Planning Regulation 2017 and the DA Rules are administered by the Department of Infrastructure, Local Government and Planning. This form and all other required development application materials should be sent to the assessment manager.

Individual owner's consent for making a development application under the Planning Act 2016

I, Malcolm McDougall

as owner of the premises identified as follows:

Lot 191 SP 284406

consent to the making of a development application under the Planning Act 2016 by:

DP Energy Australia Pty Ltd

on the premises described above for:

Material change of use for a solar PV farm including battery storage and synchronous condenser facilities, and associated infrastructure.

m to m Sougal

17 -12 -2017 [signature of owner and date signed]

The Planning Act 2016 is administered by the Department of Local Government, Infrastructure and Planning, Queensland Government.



65 Rankin Street PO Box 154 MAREEBA QLD 4880

P: 07 4086 4656 F: 07 4092 3323

W: www.msc.qld.gov.au E: info@msc.qld.gov.au

Council Ref: PreEnq/17/0019 Our Ref: BM:CE:nj

26 June 2017

DP Energy 4 Marshall Road LAKE BARRINE QLD 4884

Attn: Gabrielle Powell

Dear Madam,

NOTICE OF DECISION - REQUEST FOR APPLICATION OF SUPERSEDED PLANNING SCHEME MATERIAL CHANGE OF USE - UTILITY INSTALLATION (1 GIGA-WATT SOLAR FARM) LOT 191 ON SP284406 SITUATED AT 8579 MULLIGAN HIGHWAY, DESAILLY

I refer to your request dated 23 June 2017 for the application of the now superseded Mareeba Shire Planning Scheme 2004 (Amendment No. 01/11) for the assessment of a material change of use - utility installation (solar farm) on the abovementioned property.

In accordance with section 97 of the *Sustainable Planning Act 2009* (SPA) I wish to confirm that on 26 June 2017, Council, under delegated authority, has approved your request.

The development type and scale for which this approval applies is limited to that which is shown on the attached plan/s (**Attachment 1**) and does not constitute an approval of the application of the superseded planning scheme for any other form or scale of development on the property.

Furthermore, this approval is subject to the statutory timeframes included in sections 98, 99 and 100 of the *SPA*.

Should you require any further information, please contact Council's **Planning Officer, Carl Ewin** on the above telephone number.

Yours faithfully

BRIAN MILLARD SENIOR PLANNER

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ATTACHMENT 1



8

7







Desailly Renewable Energy Park

Development Application

Volume 1: Development Application Report

December 2017

DP Energy Australia Pty. Ltd. ABN: 16 140 516 196 4 Marshall Rd., Lake Barrine, QLD 4884, Australia T: +61 (0)7 4095 2877 F: +61 (0)7 4095 2977 Email: australia@dpenergy.com Web: <u>www.dpenergy.com</u>

Preface

This Development Application Report has been prepared by DP Energy Australia (DPEA) in support of an application for development approval for the construction and operation of Desailly Renewable Energy Park (the Project), a solar photovoltaic (PV) farm, battery energy storage and network support facilities to be located approximately 75km to the north-west of the town of Mareeba and 55km west of Port Douglas in North Queensland.

The Project is a solar photovoltaic (PV) farm with an installed capacity of up to 1000MW(AC), up to 400MW(AC) of battery energy storage via one or more energy storage facility(s) and up to 3000MW.s of synchronous condenser capacity via one or more synchronous condenser facilities.

The development application comprises:

- DA Form 1 including:
 - Written consent of the owner
 - $\circ~$ A copy of the decision notice applying superseded planning scheme for this development application
- Cover letter dated 20 December 2017
- This Development Application Report comprising
 - This development Application Report (Volume 1)
 - Relevant location and sites plans (Volume 2)
 - Planning Report (Volume 3)

Responsibility	Job Title	Name	Date	Signature
Prepared	Consents Manager	Gabrielle Powell	18/12/2017	Jell
Prepared	Regional Manager Australasia	David Blake	18/12/2017	ph.
Checked	Regional Manager Australasia	David Blake	18/12/2017	ph.
Approved	Chief Executive Officer (DP Energy)	Simon De Pietro	19/12/2017	Ð
Copyright:	DP Energy Limited ©	Document Reference:	Desailly Renev Park	vable Energy

It should be noted that the development application has been prepared by DPEA with significant input from external sub-consultants. A review process for quality assurance was conducted on all documents, whether produced by external consultants or internally by DPEA.

This report has been prepared by DPEA with all reasonable skill and care and whilst every effort has been made to ensure the accuracy of the material published in this and associated documents, DPEA will not be liable for any inaccuracies.

These documents remain the sole property of DPEA. They are submitted to the regulators and local authorities solely for their use in evaluating the Project. No part of this publication (hard copy or electronic) or any attachments, addenda and/or technical reports may be reproduced or copied in any form or by any means or otherwise disclosed to third parties without the express prior written permission of DPEA. Notwithstanding the above, permission is hereby granted to the regulators to evaluate this development application in accordance with statutory procedures, which may necessitate the reproduction of this response to provide additional copies strictly for internal use.

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Development Application Report

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1 Introduction

1.1 Overview

DP Energy Australia (DPEA), part of the DP group, has prepared this development application report in support of an application for development approval for the construction and operation of the Desailly Renewable Energy Park (the Project), a solar photovoltaic (PV) farm, battery energy storage (energy storage), and network support project to be located approximately 75km to the north-west of the town of Mareeba.

The Project is a solar photovoltaic (PV) farm with an installed capacity of up to 1000MW(AC), up to 400MW(AC) of energy storage via one or more energy storage facilities and up to 3000MW.s of synchronous condenser capacity via one or more synchronous condenser facilities.

Once operational, the solar PV farm will export power to the National Electricity Market (NEM) throughout its expected operational life of approximately 25 years, after which it will either be repowered or decommissioned.

This development application is for the Project as described in Section 2: Project Description.

This Development Application Report contains the information supporting the development application in three volumes:

- Volume 1: Development Application Report
- Volume 2: Figures
- Volume 3: Planning Report

1.2 The Applicant

This development application, supported by this report, is made by DP Energy Australia Pty Ltd although the Project will ultimately be funded, built, and operated utilising a Special Purpose Company (SPC) as is normal practice for project finance.

1.3 DP Energy Australia

DP Energy Australia Pty Ltd (DPEA) is a renewable energy company operating in Australia, and is one of a number of DP Energy companies under the DP group which operates worldwide to develop renewable energy projects which are both sustainable and environmentally benign. The various DP Energy companies operate in the field of renewable energy and sustainable development (principally onshore wind, solar PV and tidal energy) in Ireland, the United Kingdom, Canada and Australia.

To date DP Energy has delivered 324MW of built projects, and consented a further 490MW. Furthermore, DPE currently has approximately 1000MW of renewable energy sites currently under development around the world.

1.4 Site Location

The Project site is located approximately 75km to the north-west of the town of Mareeba and 55km west of Port Douglas in North Queensland as shown in Volume 2: Figures V2.01 and V2.02. The Project is divided into two parts lying to the north and south of the Mulligan Highway respectively. The project site is centred at approximately Easting 281366 and Northing 8176309 (UTM zone 55K, GDA94) or -16° 29' 05.9051" S/144° 57' 06.7934" E (GDA94).

The Project site lies on privately owned land known as Curraghmore Station which is located within the Rural Zone of the Mareeba Shire and is used primarily for livestock grazing.

1.5 Land Details

This application is being made over Lot 191 on SP284406 as shown in Volume 3: Figure V2.03.

1.6 Main Components of the Project

The main permanent components of the Project are as follows:

- approximately 10,000,000 solar PV modules;
- up to 1000 solar PV inverter/transformer stations;
- up to 20 solar PV interconnector substations containing switchgear and transformers;
- up to two main site substations containing transformers, protection equipment, switchgear, batteries and other related equipment;
- two storage/grid support locations comprising:
 - up to 400MW of energy storage with a maximum area of 8ha and a maximum height of 12m;
 - up to 3000MW.s of synchronous condenser capacity facilities with a maximum area of 8ha and a maximum height of 12m;
- approximately 180km of solar PV site tracks;
- electrical cabling (linking solar arrays);
- security fencing (nominally 2.4m high) around the solar PV sites;
- two access locations from the Mulligan Highway; and
- a viewing platform and visitor information facility.

The main temporary components of the Project comprise two temporary construction compounds including laydown areas. A detailed construction design will be developed post-development approval after geotechnical surveys have been completed, allowing the final layout to be defined.

1.7 Development Application

1.7.1 Development Application Form

A completed DA Form 1 – Development Application Details, is provided with this development application along with written consent of the owner and a copy of the decision notice applying superseded planning scheme for this development application.

1.7.2 Development Application Report

This Development Application Report contains the information supporting the development application in three volumes:

- Volume 1: Development Application Report
- Volume 2: Figures
- Volume 3: Planning Report

1.7.3 Timeframes

Under section 85 of the *Planning Act 2016* we request a currency period of six years for the development approval.

1.8 Planning Assessment

DP Energy engaged Cardno (QLD) Pty Ltd to undertake a planning assessment of the Project against the applicable planning framework in order to assess potential impacts and compliance of the proposed development with the relevant assessment criteria. The Planning Assessment Report is provided as Volume 3.

This assessment concluded that the proposed development is considered to be able to be approved due to compliance with the assessment benchmarks (as assessed within the Planning Assessment Report), and in respect of the merits of the proposed development (should Council consider that the proposed development does not in fact comply with some of the assessment benchmarks).

1.9 Rationale and benefits

1.9.1 Rationale

1.9.1.1 Strategic Policy

The Powering Queensland Plan sets down the overarching energy policy framework aimed at transitioning the Queensland electricity sector in an orderly, affordable and stable manner. With the retirement of ageing coal-fired generation and the recent increases in gas prices, the electricity market is facing unprecedented challenges which is impacting on the reliability, security and affordability of electricity supply in the state.

The Queensland Government has put renewable energy at the core of this policy with a commitment to a 50% renewable energy target by 2030. The Desailly Renewable Energy Park will not only make a significant contribution to meeting this target, but it will also aid in maintaining network stability and reliability through this transition period by virtue of its significant energy storage capacity and also its ability to provide physical inertia to the system through the deployment of synchronous condensers.

1.9.1.2 Site

The site has several unique factors that make it an attractive solar farm site, namely resource, proximity to the electricity network, geotechnical suitability and land use/value.

The coastal range to the east is significantly higher than the site. The prevailing south-easterly trade winds tend to be stripped of their moisture as they pass over the range, resulting in reduced cloud cover, and an attractive solar resource at the project site compared to adjacent coastal areas. Additionally, the coastal range also tends to provide protection from cyclones, resulting in lower construction cost and by extension lower levelised cost of energy (LCOE). In terms of electricity infrastructure, an Ergon Energy 132kV transmission line passes through the site. Whilst not of sufficient size to carry the full output of the project, the transmission line sits on a double-width easement, which can potentially be utilised to construct a second transmission line to carry the balance of the project's output.

The cost of utility-scale solar energy has fallen dramatically in recent years, partly due to cost reductions in the PV modules themselves, but also in large part due to reductions in balanceof-plant costs. One of the most important of these is the cost of installing the mounting structures. The lowest-cost installation method for solar PV farms relies on the use of percussive or screw-driven posts to support the solar arrays. These posts cannot be used where there are significant amounts of rock close to the surface. The site is located on a large flat plain formed by erosion of the surrounding mountains and is hence dominated by alluvial soils which are amenable to percussive/ screw-driven posts, hence assuring the lowest cost of construction and again the lowest LCOE.

Finally, one of the key factors in reducing overall project costs land use and land value. Much of the land suitable for solar PV farms in Queensland is used for intensive agriculture and is therefore of relatively high value. Curraghmore Station is of lower quality from a farming perspective and accordingly of lower value. Additionally, the solar farm will occupy less than 3% of the property and therefore have a very limited impact on its current land use.

1.9.2 Benefits

The first phase of the Project (100MW of Solar PV) is expected to produce approximately 245GWh of clean, renewable energy each year, equivalent to the annual consumption of 22,000 regional Queensland households,¹ contributing towards the National renewable energy target (RET) of 33,000GWh by 2020 and Queensland renewable energy target of 50% by 2030. From a climate change perspective, it is anticipated that the first phase of the Project would displace approximately 193,000 tonnes of greenhouse gas emissions each year.²

Employment benefits associated with the first phase of the Project include the creation of approximately 300 local/regional full-time equivalent jobs during construction and 4 full-time equivalent operational jobs over the life of the Project (approximately 25 years) as well as indirect economic benefits for local businesses throughout construction and operation

¹ Based on Regional Queensland household typical household annual electricity consumption of 10,950 kWh. Deloitte Access Economics Pty Ltd, RACQ: Cost of Living: Utilities, October 2016.

² Calculated on scope 2 Emission Factor of .79 for Queensland. National Greenhouse and Energy Reporting (Measurement) determination 2008) 1 July 2017, Schedule 1, Part 6.

through the sourcing of local products, materials and services (such as accommodation, food, fuel, and construction supplies and materials).

2 Project Description

2.1 Introduction

This section provides a detailed description of the Desailly Renewable Energy Park including the construction, operation and decommissioning phases of the solar photovoltaic (PV) farm, energy storage facility, synchronous condenser facility and associated infrastructure including substation(s).

This development application is for a solar farm occupying an area of up to 2500 hectares (ha), an energy storage facility, a synchronous condenser facility, and one or more electricity substations, each occupying an area of up to 4ha. A design envelope approach has been adopted for the Project which for the solar element is defined by the area occupied, which will not exceed the area defined above. The key defining permitting parameter of both the energy storage facility design and the synchronous condenser facility design is the volume occupied (defined maximum area and height), which will not exceed the volume specified in Table 2.4 and Table 2.5 respectively.

The layout illustrated in Volume 2: Figure V2.04 provides indicative locations of the first stage of the solar PV arrays, storage facility, synchronous condenser facility, substation(s) and other infrastructure. The final design will be subject to detailed engineering design and geotechnical investigations planned to be completed post-development approval.

2.2 Site Description

The site is situated on privately owned freehold land known as Curraghmore Station, a 64,100ha (approx.) cattle station wholly located within the Rural Zone of the Mareeba Shire Council.

The terrain ranges from generally flat land bound to the south by the Mitchell and McLeod Rivers and rising gently to the foothills of the Great Dividing Range to the east and the Desailly Range to the west and north. The site is bisected by Ergon Energy's 132kV transmission line which runs between the Yalkula Switching Station near Mt Molloy and the Lakeland Substation at Lakeland Downs approximately 47km south-west and 70km north of the project site respectively.

2.3 Project Description

As illustrated in Volume 2: Figure V2.04, the Project is a solar PV, energy storage, and synchronous condenser development with an installed capacity of up to 1000MW(AC) of PV arrays, up to 400MW(AC) of energy storage and up to 3000MW.s of synchronous condenser capacity.

The power generated by the solar PV development will be collected at one or more new main substations on the site and (subject to market forces and electricity network constraints) exported either:

- via the Ergon Energy transmission line bisecting the site; or
- via a new transmission line running from the site to the main transmission network via a new overhead route³; or
- some combination of the two

The energy storage and synchronous condenser facilities will be constructed adjacent to the substation(s). All access from the public road network will feature security barriers and the site will be contained within an approximately 2.4m high (nominal height) security fence.

The energy storage facility will allow the Project to store energy generated by the Project during times of low demand and release this energy at times of greater demand. This has several advantages: firstly, it provides a benefit to the electricity network, by providing dispatchable renewable energy at times of high demand, offsetting expensive peaking generation and secondly, it maximises the utilisation of existing grid infrastructure, resulting in lower overall levelised cost of energy (LCOE).

The synchronous condenser facility will allow the Project to provide network support services to the electricity system, thereby helping to maintain system stability and frequency, and improve system fault-recovery.

An illustrative construction scenario is summarised in Table 2.1 below. However, the final construction programme will be defined by the financing requirements, supply timeframes and any necessary offtake (power purchase) agreements.

Phase	Approximate Capacity	Technology	Forecast Operation Date
1	100MW	Energy Storage	Q4/18
2	3000MW.s	Synchronous Condenser	Q4/18
3	400MW	Solar PV	Q4/18
4	400MW	Solar PV	Q2/19
5	200MW	Solar PV	Q4/19
6	300MW	Energy Storage	Q4/20

 Table 2.1: Indicative Phased Project Programme

A detailed construction programme will be developed pre-construction. Once in commercial operation the Project will generate clean electricity for around 25 years prior to being either decommissioned or repowered.

³ The new transmission line envisaged here does not form part of this development application. Consent for this line will be sought under a separate, dedicated development application at an appropriate time.

2.3.1 Main Components of the Project

The main permanent components of the Project are as follows:

- approximately 10,000,000 solar PV modules;
- up to 1000 solar PV inverter/transformer stations;
- up to 20 solar PV interconnector substations containing switchgear and transformers;
- up to two main site substations containing transformers, protection equipment, switchgear, batteries and other related equipment;
- two storage/grid support locations comprising:
 - up to 400MW of energy storage with a maximum area of 8ha and a maximum height of 12m;
 - up to 3000MW.s of synchronous condenser capacity facilities with a maximum area of 8ha and a maximum height of 12m;
- approximately 180km of solar PV site tracks;
- electrical cabling (linking solar arrays);
- security fencing (nominally 2.4m high) around the solar PV sites;
- two access locations from the Mulligan Highway; and
- a viewing platform and visitor information facility.

The main temporary components of the Project comprise two temporary construction compounds including laydown areas. A detailed construction design will be developed post-development approval after geotechnical surveys have been completed, allowing the final layout to be defined.

It is most likely that solar PV, energy storage, synchronous condenser, substation(s) and other equipment will arrive via the ports of Cairns or Townsville and travel north along the Bruce, Kennedy and Mulligan Highways.

2.4 Solar Farm

2.4.1 Physical Characteristics

2.4.1.1 Array Mounting

The solar PV modules are mounted on metal frames commonly known as "racking tables". These racking tables are in turn mounted on vertical posts which are fixed into the ground. Depending on the ground conditions, the posts may be of the "screw pile" type, they may be percussively driven, or in the case of adverse ground conditions they may be set in concrete. The racking tables may be mounted to the posts in either a fixed or a tracking configuration.

2.4.1.2 Mounting Frames – Fixed Tilt

In fixed-tilt configuration the PV modules are mounted on racking tables in east-west oriented arrays with the tables tilted towards the north (in the southern hemisphere) at an angle (from the horizontal) approximately equal to the latitude of the solar PV farm as illustrated in Plate 2.1 below.



Plate 2.1: Fixed-tilt System

2.4.1.3 Mounting Frames – Single-axis Tracking

In single-axis tracking configuration the PV modules are mounted on racking tables in northsouth oriented arrays. The tables are hinged in such a way as to allow them to track the sun in its path from east to west each day thereby increasing total energy production by ensuring that the maximum area is exposed to the sun at all times. They are typically driven by a mechanical actuator such as a linear actuator as illustrated in Plate 2.2 below.



Plate 2.2: Single Axis Tracking Systems

2.4.2 Design Envelope

Single-axis tracking is rapidly becoming the default configuration for utility-scale solar farms thanks to superior energy yields and falling CAPEX costs. However, in order to maximise both design and commercial flexibility, the option of utilising fixed-tilt configurations must be retained. Recognising that irrespective of mounting methodology the Project will feature flat solar PV modules mounted on steel frames with a common set of generic design features, a "design envelope" approach has been adopted. Under this approach the key design parameters of the solar PV farm are specified, as shown in Table 2.2 below.

Component	Dimension (Approx.)			
Max Module Height Above Ground	<6.0m			
Min Module Height Above Ground	>0.5m			
Row Orientation (fixed-tilt)	East-West			
Row Orientation (single-axis tracking)	North-South			
Angle of Modules (fixed-tilt)	13 - 23 deg. (from horizontal, north facing)			
Angle of Modules (single-axis tracking)	+/- 55 deg. (from horizontal, east/west facing)			

Table 2.2: Typical Solar Array Design Parameters

The make and model of the solar PV module, and the mounting and racking systems, will be subject to detailed geotechnical surveys and selected through a competitive commercial tender process post-development approval.

2.4.3 Electrical Configuration

Solar PV cells are devices which can convert sunlight directly into electricity using semiconducting materials. Many different solar PV technologies are available commercially, but fall broadly into two classes; thin film and crystalline silicon. In thin film devices, the active semiconductor material is typically formed through a chemical deposition process, whereas in crystalline silicon devices the active semiconductor is physically cut into thin slices (called wafers). In either case, the active material is formed into *cells*, being either a discrete area in the case of thin-film devices, or wafers in the case of silicon devices. A single cell can provide only a very small amount of power. Individual cells can be connected together and fixed in a frame to form a *module*, which cumulatively produce more power. Modules can be connected together via *string combiners* to form an *array* to produce useful amounts of power, as shown in Figure 2.1 below.



Figure 2.1: Cell, Module, String, Array Hierarchy

Finally, arrays can be grouped to form a *field*. In power terms, the relationship between cells, modules, strings, arrays and fields is shown in Table 2.3 below.

Component	Dimension (Approx.)	Power (DC Approx.)			
Single PV Cell	0.15m ²	5W			
72 Cell Module	2m ²	360W			
28 Module String	150m ²	10kW			
282 String Array	4ha (with spacing)	2.8MW			
25 Array Field	100ha	70MW			

Table 2.3: Solar PV Power Production Hierarchy

2.4.3.1 Solar PV String Combiner

The string combiner is a device that combines the output of multiple strings of solar PV modules for connection to the inverter. The combiner commonly houses the input overcurrent protection fuse assemblies for several strings (from as few as three strings to as many as 52). In addition, they may also house several other components for the site, such as a DC disconnect, surge protective devices and, in some cases, string monitoring hardware. A typical combiner is shown in Plate 2.3 below.



Plate 2.3: PV String Combiner

2.4.3.2 Solar PV Inverter/Transformer

Solar modules produce direct current (DC) electricity which needs to be converted to alternating current (AC) for export to the electricity grid. This conversion is done by devices called *inverters*. Large scale solar PV plants generally utilise centralised inverters as these units have a relatively high capacity, typically in the range 1MW to 4MW.

The system inverters provide power output at low-voltage AC (LVAC) levels, typically of the order of 500VAC. In order to minimise losses through the onsite cable reticulation system the output of the inverters are connected to transformers which will convert the LVAC power to medium-voltage AC (MVAC) levels, typically between 6.6kV and 33kV. The inverter stations are located at various points throughout the site and are generally housed either in a weatherproof/acoustic enclosure, or on a skid mounted system as shown in Figure 2.2 below.



Figure 2.2: Typical Skid Mounted Inverter/Transformer Station

Depending on the DC capacity of each unit, and the capacity of each solar field, there will typically be one of these units per one, two or four solar arrays. It is therefore possible that up to 1000 of these units will be required. These inverters in turn may be connected to a transformer to increase the voltage of the electricity prior to connection to a PV Interconnector Substation (PVIS).

2.4.3.3 PV Interconnector Substations

Electricity generated from each solar field within the solar farm will typically be collected at a solar PVIS associated with that field. At these stations, the MVAC cables carrying the output of the individual fields will be combined and (depending on the reticulation voltage) potentially stepped up to a higher voltage ready for onward connection via underground cables to the main site substation(s). In addition to combination and transformation, each PVIS will house metering and protection equipment. Although final design details are unknown at this stage, a typical solar PVIS is shown in Plate 2.4 below.



Plate 2.4: Typical Solar PV Interconnector Substation

Finally, the solar PVISs are connected to the electricity network either directly, or via a main site substation(s). Figure 2.3 below illustrates a typical solar farm electrical configuration.



Figure 2.3: Typical Solar Farm Electrical Layout

2.4.4 Physical Layout

Based on the solar resource available at the Project location, it is estimated that approximately 2ha will be required for each MW (AC) of capacity (including additional infrastructure such as access tracks, cabling, inverters and switchgear). An indicative array is illustrated in Volume 2: Figure V2.05.

Whilst a fixed-tilt layout has been illustrated, the design envelope approach allows for the adoption tracking arrays. In this case, the arrays would be similar to those illustrated in Volume 2: Figure V2.05, but rotated 90 degrees.

A number of these arrays will typically be grouped together to form a field, and the power from each field will typically be collected at a PVIS, serving that field. An indicative field is illustrated in Volume 2: Figure V2.06. Included in the layouts are provision for temporary laydown facilities which will later be occupied by a solar PV field and/or PVIS.

The final layout of the solar farm will be the subject of a detailed design exercise and a competitive tendering process post-development approval.

2.5 Balance of Project

2.5.1 Introduction

The balance of the Project can be grouped into five categories:

- Energy Storage Facility
- Synchronous Condenser Facility
- Substation(s)
- Temporary Construction Compounds (TCCs)
- Export Connection

Employing again an overarching design envelope approach, two electrical/construction envelopes (one to the north of the Mulligan Highway and one to the south, of which either or both will be developed) of approximately 16ha have been defined each to contain energy storage facility, synchronous condenser facility, substation(s), and temporary construction compounds as illustrated on Volume 2: Figure V2.04. Options within the development approval are being sought to build within either or both electrical/construction envelopes, and to vary which elements are built within the individual envelopes.

Similarly, in terms of the export connection, there are several potential export options which cannot be explicitly defined at this point. Those components of the project which are external to the site boundary are explicitly excluded from this development application, as discussed in Section 2.5.4 below.

2.5.2 Energy Storage Development

2.5.2.1 *Physical Characteristics*

Whilst there are a large number of electrochemical and other battery technologies available on the market, the two most common technologies at scale are presently metal-ion based systems (typically lithium-ion) and flow battery based systems with metal/lithium-ion currently becoming the dominant technology at scale.

The electricity storage industry is presently undergoing a period of fast change and rapid advancement and a degree of flexibility is required within the development approval to ensure that the best technology can be utilized at the time of construction. Final technology choice therefore will be made post-development approval following a detailed optimization exercise and a competitive commercial tender process. For the purpose of the environmental assessment for the Project the storage technologies considered will be some form of metal/lithium-ion technology.

2.5.2.1.1 Lithium-Ion Batteries

The smallest working unit in a lithium-ion battery is the electrochemical cell, consisting of a cathode and an anode separated physically but connected electrically by an electrolyte. The electrolyte conducts positive ions but inhibits the flow of electrons between the anode and the cathode. In a charged state, the anode contains a high concentration of intercalated lithium while the cathode is depleted of lithium. During the discharge, a lithium ion leaves the anode and migrates through the electrolyte to the cathode while its associated electron is collected by the current collector and transported via an external circuit where it does work.

There are a great many different lithium-ion cell types on the market, however they can generally be distinguished in terms of their chemistries. Both the battery electrodes (which are inevitably solid-state materials), and the electrolytes (which may be liquid, gel, or solid-state) have a variety of chemistries, exhibiting different performance characteristics and costs. Individual cells are typically packaged into a module, which in turn are packaged together to make a battery pack. These packs are then coupled together to make a storage system of a scale suitable for use in utility-scale applications.

2.5.2.1.2 Construction Methodologies

Utility-scale battery storage facilities are typically constructed according to two design methodologies; modular systems and building-based systems. Modular systems can be housed in outdoor weatherproof enclosures such as shipping containers or weatherproof cabinets. Building-based systems are housed in standard commercial/industrial style buildings. The final methodology will be subject to post-development approval detailed design works following a competitive tendering process.

2.5.2.1.2.1 Modular Systems

One of the most common construction methodologies employed for utility-scale battery storage facilities is that of modular systems. These systems have a natural advantage by virtue of their inherent modularity. They typically consist of discrete "blocks" of storage, installed in shipping containers (as shown in Figure 2.4 below) or outdoor cabinet-style solutions (as shown in Figure 2.5 below).



Figure 2.4: Example Containerised Battery Storage Module



Figure 2.5: Example Cabinet-Based Storage Module

These systems have several advantages over building-based systems, namely:

- ease and cost of construction;
- scale flexibility; and
• re-useability.

Containerised systems are fast to construct. Site preparation civil works are minimal, with containers typically being mounted on pre-cast concrete plinths, mounted on point-foundations. Each battery module can be pre-assembled and tested in the factory, transported to site, connected to the site reticulation network and commissioned over very short timescales.

These features infer other advantages, being scale flexibility and re-useability. Electricity systems are undergoing significant change with the decline in conventional synchronous generation and the rise of intermittent, asynchronous renewable generation. This means that the need for network support is quite dynamic, both temporally and spatially. Containerised systems can be scaled up or down or moved to other locations on the network very quickly as the network dynamics change.

2.5.2.1.2.2 Building-based Systems

Building-based construction methodologies tend to be more bespoke and lack the flexibility and cost advantages of containerised methodologies, however under some circumstances, there may be inherent advantages to the use of building-based systems, for example when the storage system may be co-located with other project elements such as control, switching and welfare facilities, synchronous condenser facilities etc.

Buildings will typically be of the standard industrial/warehouse variety, constructed on concrete foundations. Plate 2.5 below shows a typical industrial building of the type that would be suitable for a large-scale battery storage system.



Plate 2.5: Example Energy Storage Building

2.5.2.2 Design Envelope

With the rapid advancements being seen in energy storage technologies, the choice of technology for the Project will be deferred until detailed economic and engineering studies have been undertaken. The final technology choice will then be made through a competitive commercial tendering process. Recognising however that any energy storage facility will be substantially similar to that described in Sections 2.5.2.1.2.1 above, a design envelope approach similar to that adopted for the solar PV element of the Project will again be adopted for the storage element of the Project. Detailed engineering designs will be developed post-development approval as part of the EPC (Engineer, Procure, Construct) tendering process. These designs will then be submitted for building approval prior to construction.

In the case of the energy storage facility, the design envelope is defined in terms of the maximum dimensions of the facility, as specified in Table 2.4 below.

Parameter	Dimension (Maximum)
Length	200m
Width	200m
Height	12m
Perimeter	1000m
Area	40000m ²
Volume	800000m ³

 Table 2.4: Energy Storage Facility Design Envelope

This volume is sufficient to house either: a containerised or weatherproof enclosure type storage facility, which might include control, welfare and maintenance buildings, switchgear, transformers etc.; or a building-based system, where many of these elements may be incorporated into the main building.

2.5.2.3 Electrical Configuration

For a generic large-scale Lithium-ion energy storage system, the components typically consist of:

- multiple battery sets;
- terminal boards;
- thermal management system;
- automatic fire control equipment;
- power control systems;
- inverters;
- transformers;
- switchgear;
- main controller; and
- SCADA system.

A block diagram of a generic (containerized) 1MW lithium-ion energy storage system is given in Figure 2.6 below.



Figure 2.6: Generic Containerised Lithium-Ion Storage System Schematic

2.5.2.4 Storage Facility Layout

The final internal layout of the storage facility will be subject to detailed design works and tendering post-development approval, as discussed in 2.5.2.2 above. Similarly, the final location of the storage facility will be subject to the detailed electrical design of the overall Project, specifically the location of the step-up transformer(s) required to convert the site reticulation voltage (typically 33kV) to the final export voltage at the main site substation(s). This issue is discussed at length in Section 2.5.4.2 below, but suffice to say the storage facility will be located adjacent to the main site substation(s), as shown in the indicative Project layout provided in Volume 2: Figure V2.04.

2.5.3 Synchronous Condenser Development

2.5.3.1 Physical Characteristics

Synchronous condensers have been in wide use in electricity grids for many years. Fundamentally, a synchronous condenser is simply a large generator similar to those found in thermal power plants, with the difference being that rather than being powered from an external source such as a gas or steam turbine, the generator can be operated as an electric motor. In this way, the synchronous condenser stores rotational energy (inertia). The synchronous condenser can therefore instantaneously absorb/deliver both real and reactive power from/to the grid in order to maintain grid stability. A typical synchronous condenser is shown in Plate 2.6 below.



Plate 2.6 Example (small scale outdoor-type) Synchronous Condenser⁴

Some synchronous condensers are designed to be installed outdoors and are typically located within substations, others are placed in containment buildings such as that shown in Figure 2.7 below.



Figure 2.7: Example Synchronous Condenser Building⁵

2.5.3.2 Design Envelope

The choice of synchronous condenser technology and number of units for the Project will be deferred until detailed economic and engineering studies have been undertaken. The final technology choice will then be made through a competitive commercial tendering process. Recognising however that any synchronous condenser facility will either be an outdoor-type unit or a building-based unit as discussed in Section 2.5.3.1 above, a design envelope approach similar to that adopted for the battery storage element of the Project will again be adopted for the synchronous condenser element of the Project. Detailed engineering designs will be developed post-development approval as part of the EPC tendering process. These designs will then be submitted for building approval prior to construction.

⁴ By Mriya - Photo taken by me., CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=41239527

⁵ Image courtesy Andritz Hydro

In the case of the synchronous condenser facility, the design envelope is defined in terms of the maximum dimensions of the facility, as specified in Table 2.5 below.

Fable 2.5: Synchronous Condenser Facility Design Envelope		
Parameter	Dimension (Maximum)	
Length	200m	
Width	200m	
Height	12m	
Perimeter	1000m	
Area	40000m ²	
Volume	800000m ³	

This volume is sufficient to house either an outdoor synchronous condenser facility, which might include control, welfare and maintenance buildings, switchgear, transformers etc., or a building-based system, where many of these elements may be incorporated into the main building.

2.5.3.3 Electrical Configuration

The final electrical configuration of the synchronous condenser facility will be subject to detailed design works and tendering post-development approval, as discussed in 2.5.2.2 above.

2.5.3.4 Synchronous Condenser Facility Layout

The final internal layout of the synchronous condenser facility will be subject to detailed design works and tendering post-development approval, as discussed in 2.5.2.2 above. Similarly, the final location of the synchronous condenser facility will be subject to the detailed electrical design of the overall Project but suffice to say the synchronous condenser facility will be located adjacent to one of the main site substation(s) as shown in the indicative Project layout provided in Volume 2: Figure V2.04. A schematic representation of a typical building-based "turbo" synchronous condenser facility is presented in Volume 2: Figure V2.07, and a typical "hydro" synchronous condenser facility is presented in Volume 2: Figure V2.08.

2.5.4 Export Connection

2.5.4.1 *Physical Characteristics*

The export connection of the Project comprises those components which (electrically speaking) form the interface between the site reticulation voltage and the final connection voltage (i.e. the network voltage). Typically, this includes some form of substation (or substations including transformers, switching, control and protection equipment), control, maintenance and welfare facilities etc.) and finally, some form of transmission line (overhead or underground) to connect the substation (or substations) to each other and to the wider electricity network.

The final electrical configuration of the Project's grid connection needs to retain flexibility in order to accommodate both the requirements of the network operator and any changes to the network and its operating standards which may occur between the granting of development approval and the commencement of construction. Elements of the configuration are unknown (and unknowable) at this stage of the development cycle and will be the subject of a detailed design exercise post-development approval.

A consequence of this is that there is insufficient information with which to seek owners consent for elements outside the project site (e.g. the Mulligan Highway). For this reason, those elements which lie outside the project boundary are explicitly excluded from this development application, and will be the subject of a separate, dedicated development application at an appropriate time in the future.

For those elements within the project boundary, same "design envelope" rationale that was applied to the description of the solar PV, energy storage and synchronous condenser elements will be adopted for the onsite export connection elements. This section describes the broad principles that will shape the final design of the export connection and hence determine the precise location and nature of the various elements of the Project's electrical components, including substations, transformers, underground and overhead electrical cabling, protection equipment, control and welfare facilities etc. Any references to offsite infrastructure are for completeness only and do not form part of this development application.

2.5.4.2 Electrical Configuration

Electrical energy generated by the solar element of the Project will need to be transformed from the medium voltage (MV) solar site reticulation voltage level to the final high voltage (HV) export level for onward connection to the broader electricity network. The final location of the storage element will be heavily influenced by the final design of the electrical export connection of the solar farm. This export connection could take one of several forms as discussed in Section 2.5.4.3 below.

2.5.4.2.1 Substation(s)

The substation(s) are expected to consist of one or more MV/HV transformers mounted outdoors in a switchyard and surrounded by a security fence (approximately 2.4m high). Each transformer will be mounted in a concrete bund capable of containing the full volume of transformer cooling oil (typically in excess of 110% volume). A facility is required to house the control, protection and metering equipment, control room, office facilities including communications, welfare facilities and a maintenance workshop containing front line spares.

The substation building located adjacent to the switchyard will house control and metering equipment and LV electrical switchgear. The building will also include protection and communication equipment with associated battery power supplies to enable disconnection of equipment and cables in the event of onsite power failure. An image of a typical twin 33/132kV transformer switchyard is shown in Plate 2.7 below with a general arrangement drawing of a combined switchyard and control building in Volume 2: Figure V2.09.



Plate 2.7: Image of a Typical Solar Farm Substation/Switchyard

2.5.4.3 Export Connection Options

The export connection could take several forms:

- export directly into the Ergon Energy transmission line traversing the site,
- export via a new overhead line, or
- some combination of the two.

The Project may be constructed in several stages, with the first stages utilising the existing transmission line and subsequent stages utilising a new transmission line or an upgrade to the existing one. Only the first option is explicitly envisaged under this development approval. Any new or upgraded transmission works will be the subject of a separate, dedicated development application (if required) at an appropriate time in the future. This includes any works connecting the northern and southern sections of the site.

2.5.4.3.1 Transmission Lines

The electricity produced by the Project will be transported from the substation(s) to the broader electricity network via overhead transmission lines, supported either by pole-type towers or lattice-type towers, typical examples of which are shown in Plate 2.8 below.



Plate 2.8: Example Pole-type and Lattice-type Overhead Transmission Lines

2.5.5 Temporary Construction Compounds (TCCs)

There will be a requirement for temporary compounds during the construction phase of the Project. Following handover to commercial operation these facilities will be removed and the areas reinstated unless permanent facilities are required at their location. The first construction activity will be the establishment of temporary access roads and temporary construction compounds (TCCs).

The site TCCs will be located either side of the Mulligan Highway and will be accessed from the highway. They will be located within the north and south site electrical/construction envelope as shown in Volume 2: Figure V2.04. These compounds will include the following facilities:

- temporary demountable-type structures to be used for site office, the monitoring of incoming vehicles and welfare facilities including toilets;
- parking for construction staff, visitors and construction vehicles;

- secure storage for tools and parts;
- tool store and workshop in lockable containers;
- receiving area for incoming vehicles;
- welfare facilities; and
- waste, refuelling, power, water supply and chemical/material storage.

Measuring approximately 200m x 200m a typical TCC layout is shown in Volume 2: Figure V2.10. Following completion of construction, the TCCs will be decommissioned and the area rehabilitated as discussed in Section 2.7.6.5.

2.6 Ancillary Elements

2.6.1 Site Entry and Exit Points

An access envelope has been defined, as illustrated in Volume 2: Figure V2.11. Entry and exit points to the north and south sites will be located somewhere within this envelope. The precise location of the access points is unknown at this stage and will be subject to detailed design, post development consent.

2.6.2 Water Supply

A permanent high-volume water supply will be required on both the north and south sites for the following:

- construction dust suppression (as required);
- wheel washing (minimal);
- concrete mixer wash down (minimal);
- welfare facilities (minimal);
- module cleaning; and
- firefighting.

A permanent water supply will be established and provide a high-volume water supply to both north and south sites. It is envisaged that water would be drawn from either the Mitchell River or the McLeod River or from one or more onsite bores⁶ and reticulated throughout the site via one or more on-site pumping stations, potentially including significant water storage capacity in the form of storage tanks or storage ponds or similar.

The final location of the abstraction points will be subject to detailed design and consultation with the Department of Natural Resources and Mines (DNRM) post development approval and prior to lodgement of a building approval application.

⁶ Appropriate water extraction permits will be sought from the DNRM following the detailed design process.

2.6.3 Construction Materials

2.6.3.1 Concrete

As discussed in Section 2.4.1.1, the preferred construction methodology for the solar farm involves the use of either screw or driven piles. Only under adverse geotechnical conditions would the use of concrete foundations be contemplated. It is therefore envisaged that there would be minimal need for concrete involved in the construction of the solar farm.

Construction of the energy storage facility, synchronous condenser facility and substation(s) will require concrete supply. It is envisaged that this concrete will be supplied by local concrete suppliers and transported to site by road (i.e. pre-mixed).

2.6.3.2 Stone

The construction of the solar farm will require approximately 180km of site tracks. Material for these tracks will be sourced from local quarry operators. The preferred option will be detailed fully in the Project's Construction Environmental Management Plan (CEMP) to be submitted as part of the building approval application in advance of the commencement of construction.

2.6.4 Permanent Site Office

Following completion of construction activities and handover to commercial operation, a permanent site office will be established. Details of a generic design layout are shown in Volume 2: Figure V2.09 in conjunction with the substation and control room details.

2.7 Construction, Operation & Decommissioning

2.7.1 Solar Farm

The following information is provided in the chronological order of the construction activity including operation and decommissioning to inform the detail activities required to construct the Project based on the illustrative phasing.

Operational and decommissioning activities have been grouped together reflecting the lowlevel activities required in operation and 'reverse of construction' activities in decommissioning.

2.7.1.1 Construction

Construction will occur in two phases, site preparation and installation.

2.7.1.2 Site Preparation

Site preparation is required to ensure that the site is in a condition which enables all equipment to be installed. This includes securing the site, establishing TCCs, establishing temporary access roads, levelling (if required), installation of site tracks and drainage

facilities, setup of construction staging areas, storm-water management works and preparation of land areas for array installation if required.

A construction water supply will be required on both the north and south sites for the following:

- construction dust suppression (as required);
- wheel washing (minimal);
- concrete mixer wash down (minimal); and
- welfare facilities (minimal).

As highlighted in Section 2.6.2, the Mitchell and McLeod Rivers border the site to the south. DPEA will seek consent from DNRM to abstract water from the river(s) for use during construction and operation.

Solar PV arrays require a relatively level and stable surface for installation. Topographic, geotechnical, and hydrological studies will be undertaken to determine if any levelling or compaction is necessary to ensure safe and efficient solar PV array installation although based on preliminary field and desk based studies it is considered that a large portion of the site will be able to accommodate solar PV arrays with limited ground preparation. However, it remains possible that grading and compaction may be required in selected areas.

Site grading if required will occur for the construction of the access track, solar module areas, temporary facilities, staging area, inverter foundations, and trenches for electrical cabling and instrumentation control. Grading involves the excavation and on-site stockpiling of topsoil at designated areas determined in consultation with the landowner. Topsoil will remain on site and will be used for site restoration following completion of construction activities.

2.7.1.3 Installation

Foundation construction for electrical equipment, substation(s), and oil containment basin comprises excavation and removal of in-situ material, placement of granular material, formwork, reinforcing steel, grounding, and placement of concrete. Solar PV modules will be securely mounted on a table structure supported by a driven pile foundation, helical pile, micro-pile, ground screw and/or CIDH (Cast-In-Drilled-Hole) pile depending on the soil conditions within the site. These underground support structures will be driven to a design depth, capable of supporting the structure as shown in Plate 2.9 below. Ready-mix concrete will be delivered by transit mixer truck from a local supplier if required.



Plate 2.9: Array Support Structures

Electrical cabling including DC cables from the modules to the inverter and AC cables from the inverter to the transformer will generally be trenched but may be routed over ground in cable trays or conduit. Where trenching is required they will have a sand base layer below and above the cabling, and will be backfilled with excavated or suitable imported material. The layout of the trenches will be such that it will have minimum impact on the existing drainage. Trenches will typically be 1m deep by 0.5m wide and will be excavated by using a 'ditch-witch' plough, or similar equipment.

The structural support for the system will comprise a steel and/or aluminium table structure supported by a pile foundation. This table structure will be assembled on site, and mounted on the piles. Modules will then be mounted on the structural support system as shown in Plate 2.10 below.



Plate 2.10: Installing Modules on Framework

Each inverter station site will be graded and compacted to an approximately level grade. Several cement pads will be constructed as foundations for electrical equipment and the remaining area will be gravelled. Electrical switchgear, dead end line structures, and related facilities will be present. There will also be trenching within the stations for grounding grid installation, buried power cables, and control cables.

Cables at this intermediate voltage will run underground to the solar PV interconnector substations.

Upon completion of construction, the solar farm will undergo a final system validation and commissioning process. The SCADA and monitoring systems are brought online, the equipment is tested, and operational readiness is verified. The Project will be brought online and connected to the grid sequentially, in increments.

2.7.1.4 Operation

Operation and maintenance requirements on solar PV farms are very low. If and when problems arise most faults will be electrical in nature requiring the minimum of personnel and equipment to resolve.

2.7.1.5 Decommissioning

All construction material, equipment, temporary facilities, and waste will be removed from the site. Topsoil will be backfilled where required, including landscaping to achieve proper drainage. Most of the major Original Equipment Manufacturers (OEMs) have commercial-scale recycling operations in place at their manufacturing facilities. Approximately 95% of the semiconductor material and 90% of the glass are usually recovered. The remaining materials (e.g. glass fines, dust) are collected and properly disposed of according to local regulations.

2.7.2 Energy Storage Facility

The energy storage facility build program, subject to financing and development approvals, is intended to align with the energisation of the first stage of solar PV capacity, enabling the exported power to be time managed from the outset. The energy storage facility will be located adjacent to the main site substation(s).

2.7.2.1 Construction

Construction of the energy storage facility will follow a general pattern of activities as follows:

- establishment of secure compound and facilities;
- earthworks and site preparation;
- electrical cable installation;
- foundation installation;
- construction of containments;
- electrical plant installation;
- commissioning of installations; and
- reinstatement of perimeter and removal of any temporary works.

2.7.2.2 Earthworks

The total footprint of the area will be set out and stripped of topsoil which will be stored in a temporary stockpile. In order to create a level flat construction platform, suitably graded aggregate will be placed in layers and compacted. This work will include provision for local patterns of drainage to be retained and drainage measures will be incorporated as required. Cable trenching and laying will be undertaken and building and/or module foundations will be excavated as defined by reinforcing, waterproofing and formwork to enable foundation concrete to be poured.

2.7.2.3 Electrical Cable Installation

The storage facility's internal (reticulation) and external (export) electrical cabling will be installed underground using standard trenching techniques as described in Section 2.7.5 below prior to the construction/installation of the storage containment building/module.

2.7.2.4 Containment Construction/Installation

Building-based systems will be constructed using normal industrial building construction techniques, for example, using brickwork, pre-form concrete or profiled steel cladding. Modular systems will be constructed offsite and installed on pre-prepared foundations.

2.7.2.5 Commissioning

Following completion of the works there will be a period of commissioning and testing.

2.7.2.6 Operation

The facility will typically not be constantly staffed and will operate semi-autonomously, controlled either from the substation control room or remotely by an Operation and Maintenance (O&M) contractor.

2.7.2.7 Decommissioning

All storage technologies have a limited lifespan and it is typical that components are replaced in a rolling maintenance program for the life of the Project. Depending on the prevailing market conditions at that time, the facility will either be refurbished, or it will be dismantled and the site re-instated. Any permanent buildings may remain for re-use for other purposes not envisaged under this development application.

2.7.3 Synchronous Condenser Facility

The synchronous condenser facility build program is also intended, subject to financing and development approvals, to align with the energisation of the Project. The synchronous condenser facility will be located adjacent to the substation(s) which will allow the facility to provide ancillary services to the network in the most electrically efficient manner.

2.7.3.1 Construction

Construction of the synchronous condenser facility will follow a general pattern of activities as follows:

- establishment of secure compound and facilities;
- earthworks and site preparation;
- electrical cable installation;
- construction of control/containment building;
- electrical plant installation;
- commissioning of installations; and
- reinstatement of perimeter and removal of any temporary works.

2.7.3.2 Earthworks

The total footprint of the area will be set out and stripped of topsoil which will be stored in a temporary stockpile. In order to create a level flat construction platform, suitably graded aggregate will be placed in layers and compacted. This work will include provision for local patterns of drainage to be retained and drainage measures will be incorporated as required. Cable trenching and laying will be undertaken and building and/or module foundations will be excavated as defined by reinforcing, waterproofing and formwork to enable foundation concrete to be poured.

2.7.3.3 Control Building

Building-based systems will be constructed using normal industrial building construction techniques, for example, using brickwork, pre-form concrete or profiled steel cladding. Outdoor systems would be installed on appropriate concrete foundations.

2.7.3.4 Electrical Plant and Cable Installation

The synchronous condenser facility's internal (reticulation) and external (export) electrical cabling will be installed underground using standard trenching techniques as described in Section 2.7.5 below prior to the construction/installation of the storage containment building/module.

2.7.3.5 *Commissioning*

Following completion of the works there will be a period of commissioning and testing.

2.7.3.6 Operation

The facility will typically not be constantly staffed and will operate semi-autonomously, controlled either from the substation control room or remotely by an Operation and Maintenance (O&M) contractor.

2.7.3.7 Decommissioning

The synchronous condenser facility would be decommissioned by removing the electrical and mechanical infrastructure and disposal/recycling of this equipment according to appropriate standards. Any equipment plinths will be removed to a depth of 0.5m including cables. Any permanent buildings may remain for re-use for other purposes not envisaged under this development application.

2.7.4 Substation(s)

2.7.4.1 Construction

Construction of the main substation(s) and PV Interconnector substations will all follow a similar pattern of activities as follows:

- earthworks and concrete base to form construction platform;
- construction of control building;
- electrical plant and cable installation;
- establishment of secure compound and facilities;
- commissioning of installations; and
- reinstatement of perimeter and removal of any temporary works.

2.7.4.2 Earthworks

The total footprint of the area will be set out and stripped of topsoil which will be stored in a temporary stockpile. The building foundations will be excavated as defined by reinforcing, waterproofing and formwork to enable foundation concrete to be poured as shown in Plate 2.11 below. In order to create a level flat construction platform, suitably graded aggregate will be placed in layers and compacted. This work will include provision for local patterns of drainage to be retained and drainage measures will be incorporated as required.



Plate 2.11: Typical Substation Foundations

2.7.4.3 Control Building

The control buildings will be single storey and constructed using normal construction techniques, for example, using brickwork, preform concrete or profiled steel cladding.

2.7.4.4 Electrical Plant and Cable Installation

The equipment forming the network within the compound including busbars, insulator supports and disconnectors will be delivered on normal heavy goods vehicle (HGVs) and will be assembled and prepared on the pre-cast foundations as required. The transformers will be delivered by specialist HGVs and located within the substation(s). The electrical connections within the substation(s) and switchyard will be completed using large diameter tubular conductors and cabling. The connections to the overhead lines on the strain gantries will be made to complete the required electrical connections.

Switchgear is normally installed in the control room and switchyard using a mobile crane before being connected, tested and commissioned prior to roof trusses and the main roof sections being installed. A typical switchyard under construction is shown in Plate 2.12 below.



Plate 2.12: Typical Switchyard Installation

2.7.4.5 Commissioning

Following completion of the works there will be a period of commissioning and testing.

2.7.4.6 Operation

The facility will be in constant use by site operators situated in the control room and operation and maintenance staff who will utilise the welfare area when on site. The area will also be available for main equipment contractors acting as a base for routine and unplanned servicing of equipment. Clear demarcation and permitting will be in place to ensure that only suitably trained and qualified personnel are allowed access to the HV and LV equipment.

2.7.4.7 Decommissioning

The substation(s) and associated control building(s) would be decommissioned by disconnecting and dismantling all the surface equipment. Buildings and equipment plinths will be removed to a depth of approximately 0.5m including cables. The transformers and other major electrical equipment would be decommissioned typically in the reverse order of installation, removed from site and either refurbished for future work or disposed of including oil residue in line with appropriate decommissioning requirements.

2.7.5 Electrical Reticulation Network

The reticulation cabling between the solar PV fields, storage facility and synchronous condenser facility and the main site substation(s) will be installed underground in trenches in flat configuration as shown in Plate 2.13 below.



Plate 2.13: Example Export Cable Trench

The trench is excavated using either conventional excavators or special trenching machines as shown in Plate 2.14 below.



Plate 2.14: Underground Reticulation Cable Trenching Machine

Exposed material and spoil would be either re-used or disposed of in accordance with appropriate guidelines to be detailed in the Project's CEMP.

Horizontal directional drilling (HDD) may be used to lay cable where it crosses other services.

2.7.6 Electrical Export Connection

As discussed in Section 2.5.4, detailed specification of the export connection configuration is unknown at this point in the development cycle. Several options are available and a detailed design and construction methodology will be developed as part of the overall design package in conjunction with the Transmission Connection Agreement (TCA) with either Ergon Energy or Powerlink. Whichever option is chosen, all activities will be compliant with all relevant legislation or guidelines. Options currently under consideration include:

- a single or multiple circuit overhead cable;
- multiple cables carried underground installed by conventional trenching techniques;
- multiple cables carried underground in multiple conduits installed by HDD techniques;
- a single cable with triple cores carried underground in a single conduit installed by conventional trenching techniques;
- a single cable with triple cores carried underground in a single conduit installed by HDD; and
- combinations of the above.

2.7.6.1 Construction – Overhead Line

Access for construction requires an area at least $600m^2$ (nominally $30m \times 20m$) at pole sites (to be fenced off/demarcated to limit construction activities to this area) and an approximately 5m wide swathe under the conductors along the route, whilst conductor stringing is in progress. Where required this area will be locally levelled to allow installation of the poles.

The erection of poles requires excavation (typically $3m^2$ and 2m deep) to allow the pole brace blocks and/or steel foundation braces to be positioned in place. Each support's earth mat is installed, comprising two earth conductors laid at the base of the pole in an 'X' arrangement horizontally, about 600mm deep. Earth rods are inserted vertically along the route of these conductors.

The excavation is then backfilled and consolidated in layers, normally with the original materials. Topsoil is reserved for the top layer and any surplus subsoil or rock is removed from the site. Any turf or similar vegetative covering will have been carefully removed and stored for the duration of the works and will be used to complete the reinstatement. Where required the poles are stayed using galvanised wires located with earth anchors or "dead men" as appropriate to the ground conditions.

Once all poles within the section of line under construction have been erected, all poles are fitted with insulator supports. Running blocks are fitted to the top of the insulator support and the conductors are fitted using the following techniques.

Drums of conductor and a tensioner with a hydraulic brake are located in a working area at one end of the line section, with the pulling winch at the other. The conductor is joined to a single, heavy-duty pilot wire and drawn through the section, one conductor at a time, under constant tension. During stringing, radio communication is maintained between the operators of the pulling winch, the tensioner, hydraulic brake and intermediate observation points so the pulling can be stopped if problems arise. By using the 'Continuous Tension Stringing' method the conductors are held aloft at all times and do not touch the ground or any other structures.

2.7.6.2 Construction – Conventional Trenching

Where possible, conventional trenching techniques similar to those described in Section 2.7.5 for inter-array cabling will be used to connect the sites. This could involve controlled traffic movement or temporary diversion of traffic to one side of the road where required. The road will be re-instated to the original condition with no change in the level and serviceability of the road once the cable installation is completed. The developer will consult and liaise with Mareeba Shire Council Infrastructure and Operation staff and/or the Department of Transport and Main Roads to ensure roads are reinstated to appropriate specifications.

2.7.6.3 Construction – Horizontal Directional Drilling (HDD)

Routing single or multiple cables under existing infrastructure would likely require HDD to be undertaken to link the north and south sites.

The principle of HDD is straight forward:

- from the entry point at one side of the crossing a steerable drill bit is pushed through the ground to the exit point on the other side of the obstacle;
- the pilot bore is then enlarged with one or more reaming passes until the bore hole has reached its required diameter;

- a pre-prepared conduit pipe is pulled back by the drill rig to case the hole; and
- power and communications cables are drawn through the conduit as required.

On both sides of the crossing a limited area is defined as the "rig side" where the drill rig will be installed and the "pipe side" where the conduit will be pulled back.

On the drill side a small entry pit approximately 2m deep is excavated and adjacent a larger storage pit for the drilling suspension is excavated. A separation plant, buffer tank, mixing unit for the lubricant, pump and power packs, pipe skid and control cabin complete the equipment required which is delivered in standard containers as shown in Figure 2.8 below.



Figure 2.8: Schematic of Drill Side Equipment Requirements

Trailer mounted drill rigs are ideal for this application with the rig mounted in position and bolted to an anchor plate as shown in Figure 2.9 below.



Figure 2.9: Drill Rig in Position

When drilling straight the drill bit rotates and the lubricant pumped through the drill string to the nozzles hydraulically cutting the soil in front. Drilling mud mixed with soil flows back into the entry pit where the cuttings and slurry are separated to enable the cleaned fluid to be reused in a closed loop cycle as shown in Figure 2.10 below.



Figure 2.10: Removal and Separation of Lubricant

Similar separation equipment is required on the pipe side. In order to enlarge the pilot hole a series of reamers is pulled back through the pilot hole by the drill rig. The final operation uses a "pull back" assembly consisting of swivels, shackles, reamers, U joint and conduit to pull back though the predrilled hole as shown in Figure 2.11 below.



Figure 2.11: Conduit Being Drawn Back Through Hole

Once lined the equipment is removed including drill cuttings and soil from the drill process.

2.7.6.4 Operation

There are no operational issues associated with the cable installation.

2.7.6.5 Decommissioning

As part of the decommissioning process a decommissioning plan would be agreed with relevant consultees and the landowner prior to works commencing. However, it is expected that if no longer required, the cable ends would be excavated and cut before being backfilled. Concrete markers would be removed.





Desailly Renewable Energy Park

Development Application

Volume 3: Planning Assessment Report

December 2017

DP Energy Australia Pty. Ltd. ABN: 16 140 516 196 4 Marshall Rd., Lake Barrine, QLD 4884, Australia T: +61 (0)7 4095 2877 F: +61 (0)7 4095 2977 Email: australia@dpenergy.com Web: <u>www.dpenergy.com</u>

Planning Assessment Report

Desailly Renewable Energy Park

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Contact Information

Document Information

Cardno (QId) Pty Ltd	Prepared for	DP Energy Australia Pty Ltd
ABN 57 051 074 992	Project Name	Desailly Renewable Energy
15 Scott Street		Park
Parramatta Park	File Reference	Planning Assessment
Cairns QLD 4870		Report
Australia		
	Job Reference	Q174158
www.cardno.com		
Phone +61 7 4034 0500	Date	20 December 2017
Fax +61 7 4051 0133	Version Number	003

Author(s):

UAMISO-

Urbi Musso	Effective Date	20/12/2017
Planner		
Approved By:		
Dominic Hammersley	Date Approved	20/12/2017
Business Unit Manager – Northern Australia /		
Principal, Planning		

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Appendices

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- Appendix B SPP Code Responses
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Tables

Table 2-1 Overlays



1 Background

This planning assessment report ('the Report') accompanies a development application seeking a development permit for Material Change of Use (Utility Installation) that has regard to land located at Lot 191 on SP284406, located in Desailly, Queensland ('the site').

On 23 June 2017, a request to assess and decide the proposed development under a superseded planning scheme (specifically the *Mareeba Shire Planning Scheme* ('the superseded Planning Scheme')) was lodged with Mareeba Shire Council ('Council'), pursuant to section 95(1)(b) of the *Sustainable Planning Act 2009* ('the SPA') (referred to hereafter as 'the Request').

On 26 June 2017, Council resolved to approve the Request in accordance with section 96 of the SPA. The Decision Notice for the request was provided on 26 June 2017.

Pursuant to section 29(9) of the *Planning Act 2016* ('the PA', following repeal of the SPA on 3 July 2017), the development application (under the superseded Planning Scheme) must be made within 6 months after the local government gives a decision notice to the person who made the request or is taken to have agreed to the request.

The superseded Planning Scheme requires that a code assessable development application is to be made in this instance. Section 45(3) of the PA and Section 26 of the *Planning Regulation 2017* ('the PR') prescribe the requirements for code assessment.

The following sections of this Report identify the applicable town planning framework (**Chapter 2**) and provide an assessment of the proposed development against this framework (**Chapter 3**), before identifying the merits of the development (**Chapter 4**) and providing a conclusion and recommendations with respect to the assessment (**Chapter 5**).



2 Statutory Town Planning Framework

2.1 Introduction

This section of the Report explains the applicable components of the statutory town planning framework and their relevance to the proposed development.

2.2 Sustainable Planning Act 2009

The Sustainable Planning Act 2009 ('the SPA') was the statutory instrument for the State of Queensland under which, amongst other matters, development applications were assessed by local governments prior to the commencement of the Planning Act 2016 ('the PA') on 3 July 2017.

2.3 Request for application of superseded planning scheme

As identified in Chapter 1 of this Report, a request to assess and decide the proposed development application under a superseded planning scheme, pursuant to section 95(1)(b) of the SPA, preceded this development application. The Request was approved by Council on 26 June 2017, in accordance with section 96 of the SPA.

The Decision Notice for the request was provided 26 June 2017.

2.4 Planning Act 2016

The *Planning Act 2016* ('the PA') is the current statutory instrument for the State of Queensland under which, amongst other matters, development applications are assessed by local governments. The PA is supported by the *Planning Regulation 2017* ('the PR').

The following sections of this Report discuss the parts of the PA and PR applicable to the assessment of a development application.

2.4.1 Transitional provisions

Chapter 8 of the PA details the transitional provisions for repeal of the SPA.

Section 286 of the PA prescribes that a notice under the old Act, section 97, about a request to apply a superseded planning scheme is a 'decision notice under section 29(7)' of the PA.

Section 29(9)(a) identifies that:

'(9) If the local government decides to agree, or is taken to have agreed, to a request under subsection (4)(a)—

(a) the superseded planning scheme application must be made within 6 months after the local government—

(i) gives a decision notice to the person who made the request; or(ii) is taken to have agreed to the request; and...'

2.4.2 Approval and Development

Pursuant to sections 49, 50 and 51 of the PA, the development application seeks a Development Permit for Material Change of Use (Utility Installation).

2.4.3 Application

The proposed development is:

- development that is located completely in a single local government area; and
- development made assessable under a local categorising instrument, as discussed in Section 2.5.

In accordance with Section 48 of the PA and Section 21 and Schedule 8, Table 2, Item 1 of the PR, the development application is required to be made to the applicable local government, in this instance being Mareeba Shire Council.



2.4.4 Referral

Section 52(2) of the PA and Section 22 and Schedules 9 and 10 of the PR provide for the identification of the jurisdiction of referral agencies, to which a copy of the development application must be provided.

The development application is required to be referred to the Chief Executive with respect to the following matters:

- Regulated Vegetation: Schedule 10, Part 3, Table 3
- State Controlled Road: Schedule 10, Part 9, Division 4, Subdivision 2, Table 4

2.4.5 Public Notification

Section 53(1) of the PA provides that an applicant must give notice of a development application where any part is subject to impact assessment or where it is an application which includes a variation request.

The development application is subject to code assessment (pursuant to Section 1.15 of the superseded Planning Scheme) and does not include a variation request. Notice of the development application is therefore not required in this instance.

2.4.6 Assessment Framework

As discussed in Section 1.2 of this Report, a code assessable development application is required in this instance. Section 45(3) of the PA provides that:

- "(3) A code assessment is an assessment that must be carried out only—
 - (a) against the assessment benchmarks in a categorising instrument for the development; and
 - (b) having regard to any matters prescribed by regulation for this paragraph."

Section 43(2) of the PA states:

"(2) An assessment benchmark does not include—

(c) for code assessment—a strategic outcome under section 16(1)(a); or …"

Section 26 of the PR provides the following assessment benchmarks for the purposes of Section 45(3)(a) of the PA:

- (1) For section 45(3)(a) of the Act, the code assessment must be carried out against the assessment benchmarks for the development stated in schedules 9 and 10.
- (2) Also, if the prescribed assessment manager is the local government, the code assessment must be carried out against the following assessment benchmarks—
 - (a) the assessment benchmarks stated in-
 - (i) the regional plan for a region, to the extent the regional plan is not identified in the planning scheme as being appropriately integrated in the planning scheme; and
 - (ii) the State Planning Policy, part E, to the extent part E is not identified in the planning scheme as being appropriately integrated in the planning scheme; and
 - (iii) any temporary State planning policy applying to the premises;
 - (b) if the local government is an infrastructure provider—the local government's LGIP.
- (3) However, an assessment manager may, in assessing development requiring code assessment, consider an assessment benchmark only to the extent the assessment benchmark is relevant to the development."

Section 27 of the PR provides matters for the purposes of Section 45(3)(b) of the PA:

- (1) For section 45(3)(b) of the Act, the code assessment must be carried out having regard to—
 (a) the matters stated in schedules 9 and 10 for the development; and
 - (d) if the prescribed assessment manager is a person other than the chief executive—
 - (i) the regional plan for a region, to the extent the regional plan is not identified in the



- planning scheme as being appropriately integrated in the planning scheme; and
- (ii) the State Planning Policy, to the extent the State Planning Policy is not identified in the planning scheme as being appropriately integrated in the planning scheme; and
- (iii) for designated premises—the designation for the premises; and
- (e) any temporary State planning policy applying to the premises; and
- (f) any development approval for, and any lawful use of, the premises or adjacent premises; and
- (g) the common material.

(2) However-

- (a) an assessment manager may, in assessing development requiring code assessment, consider a matter mentioned in subsection (1) only to the extent the assessment manager considers the matter is relevant to the development; and
- (b) if an assessment manager is required to carry out code assessment against assessment benchmarks in an instrument stated in subsection (1), this section does not require the assessment manager to also have regard to the assessment benchmarks.

The following sections of this Report discuss the applicable assessment benchmarks and applicable matters in further detail.

2.4.7 Schedules 9 and 10 of the Planning Regulation 2017

Schedules 9 and 10 of the PR do not prescribe any applicable assessment benchmarks. Schedule 10 of the PR provides matters for referral agencies which are discussed in Section 2.4.4 of this Report.

2.4.8 Far North Queensland Regional Plan 2009-2031

The *Far North Queensland Regional Plan 2009 - 2031* ('the Regional Plan') is intended to guide and manage the region's development and to address key regional environmental, social, economic and urban objectives. The site is located within the area to which the Regional Plan applies.

The Regional Plan is not reflected in the superseded Planning Scheme and is therefore applicable to the assessment of the development application. The Regional Plan designates the site within the Regional Landscape and Rural Production Area (RLRPA).

An assessment of the proposal against the relevant Desired Regional Outcomes (DROs) of the Regional Plan is provided in **Chapter 3 – Assessment of Compliance**.

2.4.9 State Planning Policy

The State Planning Policy ('the SPP') was released on 2 December 2013 and replaced all previous State Planning Policies. The SPP has since been revised, with new versions released on 2 July 2014, 29 April 2016 and 3 July 2017.

The superseded Planning Scheme does not appropriately integrate the SPP as commenced 3 July 2017.

Accordingly, assessment of the proposed development against the relevant aspects of the SPP is required to be undertaken.

The following matters of state interest are mapped as applying to the site:

- > Agriculture: Stock Route Network
- Biodiversity: Matters of State Environmental Significance (MSES) (Protected areas (estate and nature refuge), Wildlife Habitat, Regulated Vegetation (category B, essential habitat and intersecting a watercourse) and High Ecological Significance Wetlands
- Natural hazards risk and resilience: Flood Hazard Area Level 1 Queensland floodplain assessment overlay, Bushfire Prone Area (refer Figure 1).
- > Energy and water supply: Major Electricity Infrastructure
- > **Transport infrastructure:** State-controlled Road.

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An assessment of the proposed development against the relevant aspects of the SPP is provided in **Chapter 3 – Assessment of Compliance**.



Figure 1 Flood Hazard Area extent

2.4.10 Temporary State Planning Policies

There are currently no temporary State Planning Policies in effect in Queensland.

2.5 Mareeba Shire Planning Scheme

The superseded Planning Scheme took effect on 10 January 2005. The superseded Planning Scheme was replaced by the *Mareeba Shire Planning Scheme 2016* on 1 July 2016. As discussed in Section 2.3 of this Report, Council has agreed to assess the development application against the superseded Planning Scheme. Provisions of the superseded Planning Scheme relevant to the site and the proposed development are detailed below.

2.5.1 Zone

The site is wholly located within the Rural Zone.

2.5.2 Overlays

Table 2-1 identifies the overlays applicable to the site.

Table 2-1 Overlays

Overlay	Sub-category
Natural and Cultural	Granted Pipeline Lease ¹
Heritage Features Overlay	Mining Claim ²
	Waterway (Mitchell / McLeod Rivers)
Natural Hazard -	Medium Bushfire Hazard ³
Bushfire Overlay	High Bushfire Hazard

¹ Development is not proposed on land identified as containing the Granted Pipeline Lease on the Natural and Cultural Heritage Features Overlay.

² It is understood that this feature is no longer an 'active' feature of the Natural and Cultural Heritage Features Overlay.

³ Development is proposed on land identified as comprising Medium Bushfire Hazard only.



Overlay	Sub-category
Heavy Vehicle Routes in Mareeba Shire	 Peninsula Developmental Road (now Mulligan Highway) is identified as being a road facilitating Type 1 road trains, 23 metre and 25 metre B-doubles only.

2.5.3 Land Use Definition

The proposed land use is considered to constitute a 'Utility Installation' under the superseded Planning Scheme, which is defined as (emphasis added):

"Utility installation means the use of premises for the purpose of carrying out any undertaking in relation to: (a) road, air transport, wharf or river undertakings, (b) the provision of sewerage or drainage services, (c) <u>the supply of</u> water, sewerage treatment, hydraulic power, <u>electricity</u> or gas."

It is noted that the superseded Planning Scheme does not provide a separate nor explicit definition for a 'solar farm'; on the basis that the proposed development seeks to provide for the supply of electricity, Utility Installation is considered to be the most appropriate land use under the superseded Planning Scheme.

2.5.4 Level of Assessment

Division 13 of the superseded Planning Scheme provides the assessment tables for the Rural Zone. Table 13 identifies that making a Material Change of Use for Utility Installation is subject to Self Assessment.

Notwithstanding, Table 25 of Division 1 of the superseded Planning Scheme (Assessment Tables for Natural and Cultural Heritage Features Overlay) identifies that all development, except for Agriculture – Intensive, is code assessable development if (emphasis added):

"(f) the site **incorporates** or is within 500 metres of a Mining Interest as identified on Planning Scheme Maps M1 to M5..."

It is noted that superseded Planning Scheme Map M2 identifies that the site incorporates Mining Interests; the level of assessment is therefore elevated to Code Assessment pursuant to Division 1 of the superseded Planning Scheme.

Further, having regard to the Natural Disaster - Bushfire Overlay, Table 32 of Division 7 identifies that all development (except single dwelling houses on existing lot in a Rural Zone) is code assessable development, if the use constitutes a type of development to which the code applies (as defined in Division 8, Section 5.23(2)4) and where located in the Medium or High Bushfire Hazard area.

On the basis that the proposed development will increase the number of people working at the site, as detailed in Section 5.23(2)4(i), the proposed development is considered to constitute development that is regulated by the Natural Disaster - Bushfire Overlay.

Accordingly, the level of assessment is also elevated to Code Assessment pursuant to Division 7 of the superseded Planning Scheme.

2.5.5 Applicable Development Codes

Table 13 (Rural Zone), Table 25 (Natural and Cultural Heritage Features Overlay) and Table 32 (Natural Disaster – Bushfire Overlay) of the superseded Planning Scheme identify that the following codes ('the Assessment Benchmarks') are applicable to the proposed development:

- > Rural Zone Code (Part 4 Division 14)
- > Natural and Cultural Heritage Features Overlay (Part 5, Division 8)
- > Natural Disaster Bushfire Overlay Code (Part 5, Division 8).

A discussion of the proposed development's compliance with the applicable assessment benchmarks is provided in **Chapter 3 – Assessment of Compliance** of this Report.



3 Assessment of Compliance

3.1 State Development Assessment Provisions

A detailed assessment of the proposed development against the applicable codes of the State Development Assessment Provisions (SDAP), which are prescribed in Schedule 10 of the PR as matters the referral agency's assessment are to be against, is provided in **Appendix A** to this Report.

3.2 Regional Plan

3.2.1 Regional Landscape and Rural Production Area

As discussed in Section 2.4.8 of this Report, the site is located in the RLRPA under the Regional Plan. The intent of the RLRPA is to protect land that has **regional landscape**, **rural protection** or other **non-urban values** from encroachment by inappropriate development, particularly urban or rural residential development.

Page 31 of the Regional Plan identifies (emphasis added) that the "...RLRPA includes land with one or more of the following values:

- > good quality agricultural land and other productive rural areas
- > natural resources such as mineral and extractive resources and native and plantation forests
- > water catchment and groundwater areas
- > areas of ecological significance, including
- > endangered and of concern regional ecosystems
- > Wet Tropics World Heritage Area and protected area tenures
- > essential wildlife habitat of the southern cassowary and mahogany glider
- > wetlands
- > beaches, islands and other coastal areas
- > outdoor recreation and regional open space areas
- > inter-urban breaks."

It is acknowledged that Lot 191 contains areas of environmental significance, as indicated by the presence of Regulated Vegetation (intersecting a watercourse, 'least concern' regional ecosystem and 'of concern' regional ecosystem) and High Risk areas as regulated by the *Nature Conservation Act 1992* ('the NCA'). Notwithstanding that SPP mapping identifies Regulated Vegetation (intersecting a watercourse) occurring within the project site (being the only mapped matter of environmental significance within the project site), the layout of the proposed development has been designed to avoid mapped regulated vegetation (intersecting a watercourse), thereby minimising the impact of development on environmental values as held by the site. To be clear, development is not proposed within (or within 100 metres of) High Risk areas.

Mining leases have previously been, and are currently, registered in the far north of the site. The site (known as 'Curraghmore Station') is primarily utilised for livestock grazing (Animal Husbandry – General).

Regional landscape values are identified as including:

- > areas of high ecological significance
- > areas of good quality agricultural land
- > areas of high scenic amenity
- > extractive and mineral resource areas
- > potential renewable energy resource areas
- > cultural heritage areas
- > outdoor recreation areas
- > areas that form inter-urban breaks
- > water catchment areas
- > coastal waters and foreshores.



The site is considered to hold both regional landscape (in the form of high scenic amenity, extractive and mineral resource areas and be a potential renewable energy resource area⁴⁵) and rural production values.

With respect to regional landscape values, section 2.1 (Regional landscape values) of the Regional Plan, states that:

"Awareness of the value of the **region's rural** and open **spaces** in **addressing climate change impacts** and in **reducing greenhouse gas emissions** through **renewable energy production** or carbon sequestration in forested areas is now **growing**"

Land Use Policy 2.1.1 under section 2.1 of the Regional Plan prescribes that:

"The value of the landscape for nature conservation, primary production, renewable energy resource areas, priority carbon sequestration, cultural heritage, outdoor recreation and scenic amenity is given appropriate recognition in land use planning and development assessment."

The establishment of a Utility Installation (Solar Farm) on land within the RLRPA designation is therefore considered to be in accordance with the relevant provisions of the Regional Plan, particularly with respect to facilitating renewable energy production on rural land.

It is further noted that the proposed development does not seek to further fragment land holdings (through Reconfiguring a Lot development) and does not represent urban, residential development associated with tourist accommodation or rural residential development, being forms of development that are sought to be restricted within the RLRPA. Further, development is not proposed on land under a mining lease.

The development avoids identified High Risk areas (under the NCA) and regional ecosystems (under the *Vegetation Management Act 1999* ('the VMA'). Further, an ecological assessment has been undertaken to ascertain the ecological values of the site.

Accordingly, the proposed development is not considered to represent 'inappropriate development' within the RLRPA, which is identified to hold value with respect to containing potential renewable energy resource areas.

3.2.2 Energy

The Regional Plan also identifies that security of electricity supply and internal distribution of high voltage electricity are critical electricity issues facing the region. Accordingly, it is an objective of the Regional Plan to provide and maintain sustainable energy generation, transmission and distribution capacity, using viable alternative energy sources where practicable, to service existing and future settlement patterns and meet the needs of a growing population and industry.

Land Use Policy 6.3.1 of the Regional Plan states (emphasis added):

Viable renewable energy source generation, including sugar mill, landfill, hydro, **solar** and wind farm generators, are recognised as acceptable land uses and supported for their contribution to reducing greenhouse emissions.

The proposed development, being for a Utility Installation (Solar Farm) is therefore considered to address objectives relating to Energy as detailed within the Regional Plan, specifically by addressing identified electricity issues facing the region and in progressing the Queensland Government's intent to achieve greenhouse gas emissions targets.

3.3 State Planning Policy

As identified in Section 2.4.6, Section 26 of the PR prescribes that assessment must be carried out against the State Planning Policy, Part E, to the extent Part E is not identified in the superseded planning scheme as being appropriately integrated in the planning scheme.

⁴ Potential renewable energy resource areas are not defined within the Regional Plan.

⁵ Note: The site is understood to contain 'terrestrial areas of general ecological significance' (and not 'terrestrial areas of high ecological significance') as mapped within the Regional Plan.



On the basis that the superseded Planning Scheme does not appropriately integrate the SPP, the proposed development is required to be assessed against Part E of the SPP, to the extent that the SPP is not appropriately integrated.

As identified in Section 2.4.9 of this Report, the following matters of state interest are mapped as being relevant to the site:

- > Agriculture: Stock Route Network
- Biodiversity: Matters of State Environmental Significance (MSES) (Protected areas (estate and nature refuge), Wildlife Habitat, Regulated Vegetation (category B, essential habitat and intersecting a watercourse) and High Ecological Significance Wetlands
- Natural hazards risk and resilience: Flood Hazard Area Level 1 Queensland floodplain assessment overlay, Bushfire Prone Area
- > Energy and water supply: Major Electricity Infrastructure
- > **Transport infrastructure:** State-controlled Road.

An assessment of the proposed development against Part E of the SPP is provided at **Appendix B** to this Report.

In summary, the proposed development is considered to comply with the relevant provisions of the SPP.

3.4 Mareeba Shire Planning Scheme 2004

A detailed assessment of the proposed development against the applicable codes of the superseded Planning Scheme is provided at **Appendix C** to this Report. The following sections provide a summary of the assessment undertaken.

3.4.1 Rural Zone Code

An Alternative Solution is proposed with respect to Performance Solution (PS) 4.1 (vegetation clearing).

The Alternative Solution proposed demonstrates that the proposed development can achieve compliance with the corresponding Specific Outcome (SO) (SO4). Therefore, the proposed development is taken to comply with the Rural Zone Code.

3.4.2 Natural and Cultural Heritage Features Overlay Code

Alternative solutions are only proposed where no Probable Solutions are provided. The Alternative Solutions proposed demonstrate that the proposed development can achieve compliance with the corresponding Specific Outcomes; on this basis, the proposed development is considered to achieve compliance with the applicable Specific Outcomes of the Natural and Cultural Heritage Features Overlay Code and therefore complies with the Natural and Cultural Heritage Features Overlay Code.

3.4.3 Natural Disaster – Bushfire Overlay Code

Alternative Solutions are proposed in respect of PS1.5 (firebreaks), PS1.6 (road design) and PS1.7 and PS2 (Bushfire Management Plan).

Alternative Solutions proposed demonstrate that the proposed development can achieve compliance with the corresponding Specific Outcomes; on this basis, the proposed development is considered to achieve compliance with the applicable Specific Outcomes of the Natural Disaster – Bushfire Overlay Code and therefore complies with the Natural Disaster – Bushfire Overlay Code.


4 Assessment Discussion

The planning assessment undertaken and detailed herein identifies that the proposed development complies with the applicable assessment benchmarks to the extent relevant.

Notwithstanding, this assessment discussion is provided pursuant to section 60(2)(b) of the PA, which prescribes that the assessment manager, after carrying out the assessment, may decide to approve the application even if the development does not comply with some of the assessment benchmarks (i.e. sufficient grounds are not required under the PA to justify a decision that conflicts with a relevant instrument as formerly required under the SPA).

In that the assessment manager "*may decide to approve the application even if the development does not comply with some of the assessment benchmarks*" (indicating that additional matters may be considered during assessment, and in the event that development is taken *not* to comply with some of the assessment benchmarks), additional considerations, which could be considered to be the 'merits' of the proposed development (within the context of the applicable assessment framework), are discussed below.

4.1 Regional Plan - Electricity Supply

The Regional Plan identifies that security of electricity supply and internal distribution of high voltage electricity are critical electricity issues facing the region. Accordingly, it is an objective of the Regional Plan to provide and maintain sustainable energy generation, transmission and distribution capacity, using viable alternative energy sources where practicable, to service existing and future settlement patterns and meet the needs of a growing population and industry.

Land Use Policy 6.3.1 of the Regional Plan states (emphasis added):

Viable renewable energy source generation, including sugar mill, landfill, hydro, **solar** and wind farm generators, are recognised as acceptable land uses and supported for their contribution to reducing greenhouse emissions.

The proposed development, being for a Utility Installation (Solar Farm) is therefore considered to address objectives relating to Energy as detailed within the Regional Plan, specifically by addressing identified electricity issues facing the region and in progressing the Queensland Government's intent to achieve greenhouse gas emissions targets.

With respect to Council's assessment of the proposed development in consideration of the provisions of the Regional Plan, it is noted that the repeal of the Far North Queensland Regional Plan 2009-2031 State Planning Regulatory Provisions ('the Regional Plan SPRP') on 26 October 2012 provides for local interpretation of the Regional Plan, as detailed within the factsheet produced by the Queensland Government regarding repeal of the Regional Plan SPRP, which states:

"The removal of the SPRP will return decision-making power to local governments so they may determine if a development proposal is an appropriate outcome for their area."

On the basis of the above, the repeal of the Regional Plan SPRP was undertaken in order to allow greater flexibility in the implementation of the Regional Plan in development assessment, to reflect local circumstances, as determined by local governments.

4.2 Summary

In accordance with the discussion provided herein, and pursuant to section 60(2)(b) of the PA, the proposed development is considered to be able to be approved:

- a) Due to compliance with the assessment benchmarks as assessed herein; and
- b) In respect of the merits of the proposed development (should Council consider that the proposed development does not in fact comply with some of the assessment benchmarks).



5 Conclusion and Recommendations

This Report accompanies a development application by DP Energy Australia Pty Ltd, seeking a Development Permit for Material Change of Use (Utility Installation).

This application is lodged pursuant to sections 49, 50 and 51 of the PA, following Council's resolve to assess and decide the proposed development under the superseded Planning Scheme.

Assessment of the proposed development against the applicable planning framework has been undertaken in order to assess potential impacts and compliance of the proposed development with the relevant assessment criteria.

The information provided in this Report (and accompanying appendices) demonstrates that the proposed development complies with the applicable provisions of the relevant planning framework; should conflicts have the potential to be perceived to exist, discussion regarding the merits of the proposed development are provided to support approval of the development application.

Pursuant to section 60(2) of the PA:

"(2) To the extent the application involves development that requires code assessment, and subject to section 62, the assessment manager, after carrying out the assessment—

(a) must decide to approve the application to the extent the development complies with all of the assessment benchmarks for the development; and

(b) may decide to approve the application even if the development does not comply with some of the assessment benchmarks; and

(c) may impose development conditions on an approval; and (d) may, to the extent the development does not comply with some or all the assessment benchmarks, decide to refuse the application only if compliance can not be achieved by imposing development conditions. ..."

In accordance with the above, it is considered that the proposed development can be approved, subject to reasonable and relevant conditions.

Yours faithfully,

amo -

URBI MUSSO Planner for CARDNO

DOMINIC HAMMERSLEY

Business Unit Manager – Northern Australia / Principal, Planning

for CARDNO

Desailly Renewable Energy Park

APPENDIX



SDAP CODE RESPONSES



Statement of Code Compliance		
State D	evelopment Assessment Provisions – State Codes	
1	State Code 1: Development in a state-controlled road environment	
2	State Code 16: Native Vegetation Clearing	

1. State Code 1: Development in a State-controlled road

Table 1.2.1: Development in a state-controlled road environment

Performance outcomes	Acceptable outcomes	Response
Puildings and structures		
Buildings and structures		
PO1 The location of buildings, structures, infrastructure, services and utilities does not create a safety hazard in a state-controlled road, or cause damage to, or obstruct road transport infrastructure	AO1.1 Buildings, structures, infrastructure, services and utilities are not located in a state-controlled road. AND	 R1.1 Alternative Solution Infrastructure will be required to cross Mulligan Highway ('the state-controlled road') in the location of the Infrastructure Crossing Envelope (either above ground or below ground). Notwithstanding the infrastructure will be located so as not to create a safety hazard (including obstruction) within the state controlled road, or cause damage to road transport infrastructure.
	AO1.2 Buildings, structures, infrastructure, services and utilities can be maintained without requiring access to a state-controlled road.	R1.2 Alternative SolutionInfrastructure will be required to cross the state-controlledroad in the location of the Infrastructure Crossing Envelope(either above ground or below ground), which will require tobe accessed via the state-controlled road.Notwithstanding the infrastructure will be located so as notto create a safety hazard (including obstruction) within thestate controlled road, or cause damage to road transportinfrastructure.
PO2 The design and construction of Buildings and structures does not create a safety hazard by distracting users of a state-controlled road.	AO2.1 Facades of buildings and structures facing a state- controlled road are made of non-reflective materials. OR	 R2.1 Will Comply Buildings and structures will be setback greater than 50 metres from the centre line of the State-controlled road fronting the site. Further, in order to achieve maximum light to electricity conversion efficiency, solar modules (as proposed) by their nature are designed to absorb rather than reflect light. For this reason, anti-reflective coatings are often employed. The location and material of the proposed development is not considered to create a safety hazard by distracting users of the State-controlled road

	AO2.2 Facades of buildings and structures do not reflect point light sources into the face of oncoming traffic on a state-controlled road. AND	 R2.2 Will Comply Buildings and structures will be setback greater than 50 metres from the centre line of the State-controlled road fronting the site. Further, in order to achieve maximum light to electricity conversion efficiency, solar modules (as proposed) by their nature are designed to absorb rather than reflect light. For this reason, anti-reflective coatings are often employed. The location and material of the proposed development is not considered to create a safety hazard by distracting users of the State-controlled road.
	AO2.3 External lighting of buildings and structures is not directed into the face of oncoming traffic on a state- controlled road and does not involve flashing or laser lights. AND	R2.3 Will Comply On the basis that buildings and structures will be located greater than 50 metres from the centreline of the State- controlled road, external lighting of buildings and structures is not expected to be directed into the face of oncoming traffic on a state-controlled road and will not involve flashing or laser lights.
	AO2.4 Advertising devices visible from a state-controlled road are located and designed in accordance with the Roadside advertising guide, Department of Transport and Main Roads, 2013.	R2.4 Not Applicable No advertising devices are proposed.
PO3 Road, pedestrian and bikeway bridges over a state-controlled road are designed and constructed to prevent projectiles from being thrown onto a state-controlled road.	AO3.1 Road, pedestrian and bikeway bridges over a state- controlled road include throw protection screens in accordance with section 4.9.3 of the Design criteria for bridges and other structures manual, Department of Transport and Main Roads, 2014.	R3.1 Not Applicable No bridges over the state-controlled road are proposed.
Filling, excavation and retaining structures		
PO4 Filling and excavation does not interfere with, or result in damage to, infrastructure or services in a state-controlled road.	No acceptable outcome is prescribed.	R4 Not Applicable Excavation and filling required to facilitate the proposed development will be detailed at future Operational Work / Building Work stages of development.
Note: Information on the location of services and public utility plants in a state-controlled road can be obtained from the Dial Before You Dig service.		
Where development will impact on an existing or future service or public utility plant in a state-controlled road such that the service or public utility plant will need to be relocated, the alternative alignment must comply		

with the standards and design specifications of the		
relevant service or public utility provider, and any costs		
of relocation are to be borne by the developer.		
PO5 Filling, excavation, building foundations and	No acceptable outcome is prescribed.	R5 Not Applicable
retaining structures do not undermine, or cause		Excavation and filling required to facilitate the proposed
subsidence of, a state-controlled road.		development will be detailed at future Operational Work /
		Building Work stages of development.
Note: To demonstrate compliance with this		
performance outcome, it is recommended an RPEQ		
certified geotechnical assessment, prepared in		
Design Manual 2nd edition, Department of Transport		
and Main Poads 2016 is provided		
PO6 Filling exception building foundations and	No acceptable outcome is prescribed	R6 Not Applicable
retaining structures do not cause ground water	No acceptable outcome is prescribed.	Excavation and filling required to facilitate the proposed
disturbance in a state-controlled road.		development will be detailed at future Operational Work /
		Building Work stages of development.
Note: To demonstrate compliance with this		
performance outcome, it is recommended an RPEQ		
certified geotechnical assessment, prepared in		
accordance with Volume 3 of the Road planning and		
design manual 2 nd edition, Department of Transport and		
Main Roads, 2016, is provided.		
PO7 Excavation, boring, piling, blasting or fill	No acceptable outcome is prescribed.	R7 Not Applicable
compaction during construction of a development does		Excavation and filling required to facilitate the proposed
not result in ground movement or vibration impacts		development will be detailed at future Operational Work /
that would cause damage or nuisance to a state-		Building Work stages of development.
controlled road, road transport infrastructure or road		
WOIKS.		
Note: To demonstrate compliance with this		
performance outcome, it is recommended an RPFQ		
certified geotechnical assessment, prepared in		
accordance with Volume 3 of the Road Planning And		
Design Manual 2 nd edition, Department of Transport and		
Main Roads, 2016, is provided.		
PO8 Development involving the haulage of fill,	AO8.1 Fill, extracted material and spoil material is not	R8.1 Not Applicable
extracted material or excavated spoil material	transported to or from the development site on a state-	Haulage of fill exceeding 10,000 tonnes per year will not be
exceeding 10,000 tonnes per year does not damage the	controlled road.	required or facilitated as a result of the proposed
pavement of a state-controlled road.		development.
Note: It is recommended a pavement impact		
assessment is provided in accordance with the Guide		

to Traffic Impact Assessment, Department of Transport and Main Roads, 2017.		
PO9 Filling and excavation associated with the construction of vehicular access to a development does not compromise the operation or capacity of existing drainage infrastructure for a state-controlled road.	No acceptable outcome is prescribed.	R9 Not Applicable Excavation and filling required to facilitate the proposed development will be detailed at future Operational Work / Building Work stages of development.
PO10 Fill material used on a development site does not result in contamination of a state-controlled road.	AO10.1 Fill material is free of contaminants including acid sulfate content. Note: Soils and rocks should be tested in accordance with AS 1289.0 – Methods of testing soils for engineering purposes and AS 4133.0-2005 – Methods of testing rocks for engineering purposes. AND	R10.1 Not Applicable Excavation and filling required to facilitate the proposed development will be detailed at future Operational Work / Building Work stages of development.
	AO10.2 Compaction of fill is carried out in accordance with the requirements of AS 1289.0 2000 – Methods of testing soils for engineering purposes.	R10.2 Not Applicable Excavation and filling required to facilitate the proposed development will be detailed at future Operational Work / Building Work stages of development.
PO11 Filling and excavation does not cause wind- blown dust nuisance in a state-controlled road.	AO11.1 Compaction of fill is carried out in accordance with the requirements of AS 1289.0 2000 – Methods of testing soils for engineering purposes. AND	R11.1 Not Applicable Excavation and filling required to facilitate the proposed development will be detailed at future Operational Work / Building Work stages of development.
	AO11.2 Dust suppression measures are used during filling and excavation activities such as wind breaks or barriers and dampening of ground surfaces.	R11.2 Not Applicable Excavation and filling required to facilitate the proposed development will be detailed at future Operational Work / Building Work stages of development.
Stormwater and drainage		
PO12 Development does not result in an actionable nuisance, or worsening of, stormwater, flooding or drainage impacts in a state-controlled road.	No acceptable outcome is prescribed.	R12 Alternative Solution (No acceptable outcome is prescribed) A Hydrological Assessment has been undertaken to identify overland flow paths and inform a Stormwater Management Plan to manage stormwater over the site, to ensure that development does not result in an actionable nuisance, or worsening of, stormwater, flooding or drainage impacts in a state-controlled road.
PO13 Run-off from the development site is not unlawfully discharged to a state-controlled road.	AO13.1 Development does not create any new points of discharge to a state-controlled road. AND	R13.1 Will Comply Stormwater is expected to continue to be discharged via existing lawful points of discharge.
	AO13.2 Stormwater run-off is discharged to a lawful point of discharge.	R13.2 Will Comply

	Note: Section 3.4 of the Queensland Urban Drainage Manual, Department of Energy and Water Supply, 2013, provides further information on lawful points of discharge. AND	Stormwater is expected to continue to be discharged via existing lawful points of discharge.
	AO13.3 Development does not worsen the condition of an existing lawful point of discharge to the state-controlled road.	R13.3 Alternative SolutionA Hydrological Assessment has been undertaken to identify overland flow paths and inform a Stormwater ManagementPlan to manage stormwater over the site.Stormwater is expected to continue to be discharged via existing lawful points of discharge.
PO14 Run-off from the development site during construction does not cause siltation of stormwater infrastructure affecting a state-controlled road.	AO14.1 Run-off from the development site during construction is not discharged to stormwater infrastructure for a state-controlled road.	R14 Not Applicable Run-off from the development will be managed in accordance with the Stormwater Management Plan at future
Vehicular access to a state-controlled road		
PO15 Vehicular access to a state-controlled road that is a limited access road is consistent with government policy for the management of limited access roads.	AO15.1 Development does not require new or changed access to a limited access road. Note: Limited access roads are declared by the transport chief executive under section 54 of the <i>Transport Infrastructure Act 1994</i> and are identified in the DA mapping system. OR	R15.1 Not Applicable Mulligan Highway, where fronting the site, is not understood to be a limited access road.
	AO15.2 A new or changed access to a limited access road is consistent with the limited access policy for the state- controlled road. Note: Limited access policies for limited access roads declared under the <i>Transport Infrastructure Act 1994</i> can be obtained by contacting the relevant Department of Transport and Main Roads regional office. AND	R15.2 Not Applicable Mulligan Highway, where fronting the site, is not understood to be a limited access road.
	AO15.3 Where a new or changed access is for a service centre, access is consistent with the Service centre policy, Department of Transport and Main Roads, 2013 and the Access policy for roadside service centre facilities on limited access roads, Department of Transport and Main Roads, 2013, and the Service centre strategy for the state- controlled road.	R15.3 Not Applicable A new or changed access is not proposed for a service centre.

PO16 The location and design of vehicular access to a	Note: The Service centre policy, Department of Transport and Main Roads, 2013, Access policy for roadside service centre facilities, Department of Transport and Main Roads, 2013 and the relevant Service centre strategy for a state- controlled road can be accessed by contacting the relevant Department of Transport and Main Roads regional office. AO16.1 Vehicular access is provided from a local road.	R16.1 Not Applicable
state-controlled road (including access to a limited access road) does not create a safety hazard for users of a state-controlled road or result in a worsening of operating conditions on a state-controlled road. Note: Where a new or changed access between the premises and a state-controlled road is proposed, the Department of Transport and Main Roads will need to	OR all of the following acceptable outcomes apply: AO16.2 Vehicular access for the development is consistent with the function and design of the state-controlled road. AND	The site is fronted only by the state-controlled road. R16.2 Expected to Comply Vehicular access to the state-controlled road will be designed at future stages of development; notwithstanding, it is expected that vehicular access as required for the development will be consistent with the function and design of the state-controlled road. P46.2 Alternative Solution
assess the proposal to determine if the vehicular access for the development is safe. An assessment can be made by Department of Transport and Main Roads as part of the development assessment process and a decision under section 62 of <i>Transport Infrastructure</i> <i>Act 1994</i> issued.	AO16.3 Development does not require new or changed access between the premises and the state-controlled road. Note: A decision under section 62 of the <i>Transport</i> <i>Infrastructure Act 1994</i> outlines the approved conditions for use of an existing vehicular access to a state-controlled road. Current section 62 decisions can be obtained from the relevant Department of Transport and Main Roads regional office. AND	Vehicular access to the state-controlled road will be designed at future stages of development; notwithstanding, it is expected that the vehicular access points as required will be located and designed in consideration of safety of use of the road.
	AO16.4 Use of any existing vehicular access to the development is consistent with a decision under section 62 of the <i>Transport Infrastructure Act 1994</i> . Note: The development which is the subject of the application must be of an equivalent use and intensity for which the section 62 approval was issued and the section 62 approval must have been granted no more than 5 years prior to the lodgement of the application. AND	R16.4 Not Applicable Two (2) new access points to the site from the state- controlled road are proposed.
	AO16.5 Onsite vehicle circulation is designed to give priority to entering vehicles at all times so vehicles do not queue in a road intersection or on the state-controlled road.	R16.5 Expected to Comply The internal site tracks will be designed and constructed at future stages of development; notwithstanding, it is expected that the internal site tracks will facilitate onsite vehicle circulation that mitigates queuing on the state- controlled road.
PO17 Vehicular access to a state-controlled road or local road (and associated road access works) are located and designed to not damage or interfere with	AO17.1 Vehicular access and associated road access works are not located within 5 metres of existing public passenger transport infrastructure.	R17.1 Not Applicable The site is not located within proximity to public passenger transport infrastructure.

public passenger transport infrastructure, public	AND	
passenger services or pedestrian or cycle access to	AO17.2 The location and design of vehicular access for a	R17.2 Not Applicable
public passenger transport infrastructure and public	development does not necessitate the relocation of existing	Refer response to R17.1 above.
passenger services.	public passenger transport infrastructure.	
	AND	
	AO17.3 On-site vehicle circulation is designed to give	R17.3 Not Applicable
	priority to entering vehicles at all times so vehicles using a	Refer response to R17.1 above.
	vehicular access do not obstruct public passenger transport	
	infrastructure and public passenger services or obstruct	
	pedestrian or cycle access to public passenger transport	
	infrastructure and public passenger services.	
	AND	
	AO17.4 The normal operation of public passenger transport	R17.4 Not Applicable
	infrastructure or public passenger services is not interrupted	Refer response to R17.1 above.
	during construction of the development.	
Vehicular access to local roads within 100 metres of an in	ntersection with a state-controlled road	
PO18 The location and design of vehicular access to a	AO18.1 Vehicular access is located as far as possible from	R18.1 Not Applicable
local road within 100 metres of an intersection with a	the state-controlled road intersection.	Vehicular access to the site will not occur via a local road.
state-controlled road does not create a safety hazard	AND	
for users of a state-controlled road.	AO18.2 Vehicular access is in accordance with volume 3,	R18.2 Not Applicable
	parts, 3, 4 and 4A of the Road Planning And Design	Refer response to R18.1 above.
	Manual, 2nd edition, Department of Transport and Main	
	Roads, 2016.	
	AND	
	AO18.3 Onsite vehicle circulation is designed to give priority	R18.3 Not Applicable
	to entering vehicles at all times so vehicles do not queue in	Refer response to R18.1 above.
	the intersection or on the state-controlled road.	
Planned upgrades		
PO19 Development does not impede delivery of	AO19.1 Development is not located on land identified by the	R19.1 Not Applicable
planned upgrades of state-controlled roads.	Department of Transport and Main Roads as land required	Planned upgrades to the state-controlled where fronting the
	for the planned upgrade of a state-controlled road.	site are not known of.
	Note: Land required for the planned upgrade of a state-	
	controlled road is identified in the <u>DA mapping system</u> .	
	AU19.2 Development is sited and designed so that	R19.2 Not Applicable
	permanent buildings, structures, intrastructure, services or	Keier response to R19.1 above.
	utilities are not located on land identified by the Department	
	of i ransport and Main Roads as land required for the	
	planned upgrade of a state-controlled road.	
	OR all of the following acceptable outcomes apply:	
		Keter response to R19.1 above.

	AO19.3 Structures and infrastructure located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of a state- controlled road are able to be readily relocated or removed without materially affecting the viability or functionality of the development. AND AO19.4 Vehicular access for the development is consistent with the function and design of the planned upgrade of the state-controlled road.	R19.4 Not Applicable Refer response to R19.1 above.
	AND AO19.5 Development does not involve filling and excavation of, or material changes to, land required for a planned upgrade to a state-controlled road. AND	R19.5 Not Applicable Refer response to R19.1 above.
	AO19.6 Land is able to be reinstated to the pre-	R19.6 Not Applicable
Network impacts	development condition at the completion of the use.	Refer response to RT9.1 above.
PO20 Development does not result in a worsening of operating conditions on the state-controlled road <u>network.</u> Note: To demonstrate compliance with this performance outcome, it is recommended that an RPEQ certified traffic impact assessment is provided, prepared in accordance with the Guide to Traffic Impact Assessment, Department of Transport and Main Roads, 2017.	No acceptable outcome is prescribed.	R20 Alternative Solution (No acceptable outcome is prescribed) The proposed development (being for a solar farm) is not expected to generate traffic to an extent that will result in a worsening of operating conditions on the state-controlled road network.
PO21 Development does not impose traffic loadings on a state-controlled road which could be accommodated on the local road network.	AO21.1 The layout and design of the development directs traffic generated by the development to the local road network.	R21.1 Not Applicable The site is not fronted by a local road network.
PO22 Upgrade works on, or associated with, a <u>state-controlled road</u> are built in accordance with Queensland road design standards.	AO22.1 Upgrade works required as a result of the development are designed and constructed in accordance with the <i>Road planning and design manual</i> , 2 nd edition, Department of Transport and Main Roads, 2016. Note: Road works in a state-controlled road require approval under section 33 of the <i>Transport Infrastructure Act 1994</i> before the works commence.	R22.1 Can Comply Any upgrade works required as a result of the proposed development can be designed and constructed in accordance with the relevant standards.

Table 1.2.2: Environmental emissions

Performance outcomes	Acceptable outcomes	Response
Noise		
Accommodation activities		
PO23 Development involving an accommodation activity or land for a future accommodation activity minimises noise intrusion from a state-controlled road or type 1 multi-modal corridor in habitable rooms.	 AO23.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria at all facades of the building envelope: a. ≤60 dB(A) L₁₀ (18 hour) façade corrected (measured L₉₀ (8 hour) free field between 10pm and 6am ≤40 dB(A)) b. ≤63 dB(A) L₁₀ (18 hour) façade corrected (measured L₉₀ (8 hour) free field between 10pm and 6am >40 dB(A)) c. in accordance with chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Department of Transport and Main Roads, 2013. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report is provided, prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013. If the building envelope is unknown, the deemed-to-comply setback distances for buildings stipulated by the local planning instrument or relevant building regulations should be used. In some instances the design of noise barriers and mounds to achieve the noise criteria above the ground floor may not be reasonable or practicable. In these instances, any relaxation of the criteria is at the discretion of the Danades 	R23.1 Not Applicable The proposed development is not for Accommodation Activities.
	OR all of the following acceptable outcomes apply:	R23.2 Not Applicable Refer to response R23.1 above.
	AO23.2 Buildings which include a habitable room are	
	setback the maximum distance possible from a state- controlled road or type 1 multi-modal corridor.	

	AND	
	AO23.3 Buildings are designed and oriented so that	R23.3 Not Applicable
	habitable rooms are located furthest from a state-controlled	Refer to response R23.1 above.
	road or type 1 multi-modal corridor	
	AND	
	AO23.4 Buildings (other than a relevant residential building	R23 4 Not Applicable
	or relocated building) are designed and constructed using	Refer to response P23.1 above
	materials which ansure that habitable rooms must the	
	following internal pains criteria	
	Tonowing internal noise chiena. $(4 + 2)$ (a subscription between 0.4	
	1. \leq 35 dB(A) Leq (1 nour) (maximum nour over 24 nours).	
	Statutory note: Noise levels from a state-controlled road or	
	type 1 multi-modal corridor are to be measured in	
	accordance with AS1055.1–1997 Acoustics – Description	
	and measurement of environmental noise.	
	Note: To demonstrate compliance with the acceptable	
	outcome, it is recommended that a RPEQ certified noise	
	assessment report is provided, prepared in accordance with	
	the State Development Assessment Provisions Supporting	
	Information – Community Amenity (Noise), Department of	
	Transport and Main Roads, 2013.	
	Habitable rooms of relevant residential buildings located	
	within a transport noise corridor must comply with the	
	Queensland Development Code MP4.4 Buildings in a	
	transport noise corridor, Queensland Government, 2015.	
	Transport noise corridors are mapped on the DA mapping	
	system.	
PO24 Development involving an accommodation	AO24.1 A noise barrier or earth mound is provided which is	R24.1 Not Applicable
activity or land for a future accommodation activity	designed, sited and constructed:	Refer to response R23.1 above.
minimises noise intrusion from a state-controlled road	1. to meet the following external noise criteria in outdoor	
or type 1 multi-modal corridor in outdoor spaces for	spaces for passive recreation:	
passive recreation.	a. \leq 57 dB(A) L ₁₀ (18 hour) free field (measured L ₉₀	
	(18 hour) free field between 6am and 12 midnight	
	≤45 dB(A))	
	b. $\leq 60 \text{ dB}(A) \mid_{10} (18 \text{ hour}) \text{ free field (measured L so})$	
	(18 hour) free field between 6am and 12 midnight	
	>45 dB(A))	
	2 in accordance with chapter 7 integrated poise barrier	
	design of the Transport Noise Management Code of	
	Practice – Volume 1 Road Traffic Noise Department of	
	Transport and Main Poade 2012	
		1

	Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report is provided, prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013. OR	
	AO24.2 Each dwelling has access to an outdoor space for passive recreation which is shielded from a state-controlled road or type 1 multi-modal corridor by a building, solid gap- free fence, or other solid gap-free structure. AND	R24.2 Not Applicable Refer to response R23.1 above.
	AO24.3 Each dwelling with a balcony directly exposed to noise from a state-controlled road or type 1 multi-modal corridor has a continuous solid gap-free balustrade (other than gaps required for drainage purposes to comply with the Building Code of Australia).	R24.3 Not Applicable Refer to response R23.1 above.
Child care centres		
 PO25 Development involving a: 1. child care centre; or 2. educational establishment minimises noise intrusion from a state-controlled road or type 1 multi-modal corridor in indoor education areas and indoor play areas. 	 AO25.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria at all facades of the building envelope: a. ≤58 dB(A) L₁₀ (1 hour) façade corrected (maximum hour during normal opening hours) 2. in accordance with chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Department of Transport and Main Roads, 2013. Note: To demonstrate compliance with the acceptable 	R25.1 Not Applicable The proposed development is not for a Child Care Centre.
	outcome, it is recommended that a RPEQ certified noise assessment report is provided, prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013. If the building envelope is unknown, the deemed-to-comply setback distances for buildings stipulated by the local planning instrument or relevant building regulations should be used.	
	OR all of the following acceptable outcomes apply:	R25.2 Not Applicable

		1
	AO25.2 Buildings which include indoor education areas and indoor play areas are setback the maximum distance possible from a state-controlled road or type 1 multi-modal corridor. AND AO25.3 Buildings are designed and oriented so that indoor	Refer to response R25.1 above.
	education areas and indoor play areas are located furthest from the state-controlled road or type 1 multi-modal corridor. AND	Refer to response R25.1 above.
	 AO25.4 Buildings are designed and constructed using materials which ensure indoor education areas and indoor play areas meet the following internal noise criteria: 1. ≤35 dB(A) Leq (1 hour) (maximum hour during opening hours). 	R25.4 Not Applicable Refer to response R25.1 above.
	Statutory note: Noise levels from a state-controlled road or type 1 multi-modal corridor are to be measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise.	
	Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report, prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013, is provided.	
 PO26 Development involving a: 1. child care centre; or 2. educational establishment minimises noise intrusion from a state-controlled road or type 1 multi-modal corridor in outdoor education areas and outdoor play areas. 	 AO26.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria in each outdoor education area or outdoor play area: a. ≤63 dB(A) L₁₀ (12 hour) free field (between 6am and 6pm) 2. in accordance with chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Department of Transport and Main Roads, 2013. 	R26.1 Not Applicable The proposed development is not for a Child Care Centre or Educational Establishment.
	Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report is provided, prepared in accordance with the State Development Assessment Provisions Supporting	

	Information – Community Amenity (Noise), Department of	
	Transport and Main Roads, 2013.	
	OR	
	AO26.2 Each outdoor education area and outdoor play area	R26.2 Not Applicable
	is shielded from noise generated from a state-controlled	Refer to response R26.1 above.
	road or type 1 multi-modal corridor by a building, solid gap-	
l le en itele	Tree fence, of other solid gap-free structure.	
Hospitals		
PO27 Development involving a hospital minimises	AO27.1 Hospitals are designed and constructed using	R27.1 Not Applicable
multi-modal corridor in patient care areas	following internal noise criteria:	The proposed development is not for a hospital.
multi-modal corridor in patient care aleas.	1 < 35 dB(A) Leg (1 hour) (maximum hour during opening	
	hours)	
	10010).	
	Statutory note: Noise levels from a state-controlled road or	
	type 1 multi-modal corridor are to be measured in	
	accordance with AS1055.1–1997 Acoustics – Description	
	and measurement of environmental noise.	
	Note: To demonstrate compliance with the acceptable	
	outcome, it is recommended that a RPEQ certilled holse	
	the State Development Assessment Provisions Supporting	
	Information – Community Amenity (Noise) Department of	
	Transport and Main Roads, 2013.	
Vibration		
Hospitals		
PO28 Development involving a hospital minimises	AO28.1 Hospitals are designed and constructed to ensure	R28.1 Not Applicable
vibration impacts from vehicles using a state-controlled	vibration in the treatment area of a patient care area does	Refer to response R27.1 above.
road or type 1 multi-modal corridor in patient care	not exceed a vibration dose value of 0.1m/s ^{1.75} .	
areas.	AND	
	AO28.2 Hospitals are designed and constructed to ensure	R28.1 Not Applicable
	vibration in the ward area of a patient care area does not exceed a vibration does value of $0.4 \text{m/s}^{1.75}$	Refer to response R27.1 above.
	Note: To demonstrate compliance with the acceptable	
	outcome, it is recommended that a RPEQ certified vibration	
	assessment report is provided.	
Air and light	· · ·	
PO29 Development involving an accommodation	AO29.1 Each dwelling has access to an outdoor space for	R29.1 Not Applicable
activity minimises air quality impacts from a state-	passive recreation which is shielded from a state-controlled	

controlled road or type 1 multi-modal corridor in	road or type 1 multi-modal corridor by a building, solid gap-	The proposed development is not for an Accommodation
outdoor spaces for passive recreation.	free fence, or other solid gap-free structure.	Activity.
PO30 Development involving a:	AO30.1 Each outdoor education area and outdoor play area	R30.1 Not Applicable
1. child care centre; or	is shielded from a state-controlled road or type 1 multi-	The proposed development is not for a Child Care Centre or
2. educational establishment	modal corridor by a building, solid gap-free fence, or other	Educational Establishment.
minimises air quality impacts from a state-controlled	solid gap-free structure.	
road or type 1 multi-modal corridor in outdoor		
education areas and outdoor play areas.		
PO31 Development involving an accommodation	AO31.1 Buildings for an accommodation activity or hospital	R31.1 Not Applicable
activity or hospital minimises lighting impacts from a	are designed to minimise the number of windows or	The proposed development is not for an Accommodation
state-controlled road or type 1 multi-modal corridor.	transparent/translucent panels facing a state-controlled road	Activity or Hospital.
	or type 1 multi-modal corridor.	
	OR	
	AO31.2 Windows facing a state-controlled road or type 1	R31.2 Not Applicable
	multi-modal corridor include treatments to block light from a	The proposed development is not for an Accommodation
	state-controlled road or type 1 multi-modal corridor.	Activity or Hospital.

 Table 1.2.3: Development in a future state-controlled road environment

Not Applicable – Development is not proposed in a future state-controlled road environment.

2. State Code 16: Native Vegetation Clearing

State Code 16: Native vegetation clearing Table 16.2.2: General

Performance outcomes	Acceptable outcomes	Response	
Clearing avoids or minimises impacts			
Performance outcomes Clearing avoids or minimises impacts PO1 Clearing and adverse impacts of clearing do not occur unless the application has demonstrated that the clearing and the adverse impacts of clearing have been: 1. reasonably avoided; or 2. reasonably minimised where it cannot be reasonably avoided.	Acceptable outcomes	Response Complies with PO1 Australia's renewable energy target is for >20% of electricity supply to come from renewable energy sources by 2020. In Queensland, solar power generation is a vital part of achieving this target. There is a demonstrated need for the proposed development given the growing demand for renewable energy in Queensland. The identified impacts of clearing would include the clearing of potentially up to 2,500ha of open woodland vegetation (subject to final design). Clearing has been reasonably minimised as to only occur where the development requires infrastructure to be constructed, including the required setback under the Mareeba Shire Planning Scheme 2004 - Natural Disaster- Bushfire Overlay Code to achieve radiant heat flux levels suitable for a vulnerable use, such as energy generation, storage, and distribution that form the proposed development. The siting of the proposed development is located on the portion of the Lot with the largest Category X area and containing Category C areas. The impact of biodiversity loss has, in part, been minimised by locating the proposed development on Regional Ecosystems classed as 'Least concern'	
		It is anticipated that the land on which the solar array is constructed will be allowed to return to natural grass cover. Land degradation will be mitigated through the production and implementation of an overarching Project Construction Environmental Management Plan and an Erosion and Sediment Control Plan in accordance with Best Practice Erosion and Sediment Control Document, IECA, 2008.	
		Adverse impacts of clearing across the Site have been minimised by locating the clearing for solar arrays and associated infrastructure on relatively flat land with existing impacts from cattle grazing. Major watercourses of Desailly Creek and Campbell Creek that intersect the Site have been avoided to be maintain connectivity as corridors and habitat	

Performance outcomes	Acceptable outcomes	Response
		linkages between the Mitchell River, Mount Desailly, Mount Elephant, and the Mount Windsor National Park.
		While the vegetation clearing will contribute CO2-e greenhouse gas emissions, the proposed development is a solar energy project with the purpose of generating and distributing energy to the grid as an alternative to high emissions intensity generation. The 1000MW generation capacity is approximately 60% of the coal-fired Stanwell Power Station's capacity, and with negligible comparative emissions.
Clearing on land in particular circumstances	-	
PO2 Clearing is consistent with any notice requiring	No acceptable outcome is prescribed	Complies with PO2
compliance on the land subject to the development application, unless a better environmental outcome can be achieved.		The land on which the proposed development is located is not subject to a notice of compliance.
Note: The discharge of the vegetation management requirements under the notice requiring compliance can only occur in conjunction with the better environmental outcome being legally secured.		
Further guidance on meeting the requirements of a better environmental outcome can be found in State code 16: Native vegetation clearing guidance material.		
PO3 Clearing is consistent with vegetation management	No acceptable outcome is prescribed	Complies with PO3
better environmental outcome can be achieved.		The land on which the proposed development is located is not covered by a particular regulated area
Note: The discharge of the vegetation management requirements under the notice requiring compliance can only occur in conjunction with the better environmental outcome being legally secured.		
Further guidance on meeting the requirements of a better environmental outcome can be found in State code 16: Native vegetation clearing guidance material.		

Performance outcomes	Acceptable outcomes	Response
PO4 Clearing of a legally secured offset area:	No acceptable outcome is prescribed	Complies with PO4
 is consistent with the offset delivery plan; or agreement for the offset area on the land subject to the development application; or 		The land on which the proposed development is located is not a legally secured offset area.
2. only occurs if an additional offset is provided that is consistent with the <i>Environmental</i> <i>Offsets Act 2014</i> and the relevant policy in the Queensland Environmental Offsets Policy, Department of Environment and Heritage Protection, 2014.		
Note: Reference to 'agreement' above includes the 'agreed delivery arrangement' for the offset area as well as instruments associated with the legally secured offset area. Clearing should be consistent with any agreement however described.		
Clearing of vegetation as a result of the material chan	ge of use or reconfiguration of a lot	
PO5 Clearing as a result of a material change of use, or clearing as a result of reconfiguring a lot does not occur.	No acceptable outcome is prescribed.	n/a
Clearing that could already be done under an exempt	ion	
PO6 Clearing does not occur unless it is clearing that could be done under an exemption for the purpose of the development (as prescribed under Schedule 21 of the Planning Regulation 2017) prior to the material change of use or reconfiguring a lot application being approved.	No acceptable outcome is prescribed.	n/a

State Code 16: Native Vegetation Clearing Table 16.2.3: Specific

Performance outcomes	Acceptable outcomes	Response	
Clearing associated with wetlands (public safety and infrastructure, a coordinated project, extractive industry, high value agriculture clearing, and irrigated high value agriculture clearing)			
PO7 Clearing maintains the current extent of vegetation associated with any natural wetland to protect:	AO7.1 Clearing does not occur in a natural wetland or within 100 metres of the defining bank of any natural wetland.	Complies with AO7.1	
	OR	within 100 metres of the defining bank of any	
1. bank stability by protecting against bank erosion	A07.2 Clearing within 100 metres of any natural wetland:	natural wetland	
 water quality by filtering sediments, nutrients and other pollutants 	 does not occur within 50 metres of the defining bank of any natural wetland; and 		
3. aquatic habitat; and	2. does not exceed widths in table 16.3.1 in this code.		
4. terrestrial habitat.			
		-	
	A07.3 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, an offset is provided for any acceptable significant residual impact from clearing of vegetation associated with a natural wetland (matter of state environmental significance).		
Clearing associated with wetlands (necessary	to control non-native plants or declared pests, encroachment, thinn	ing, fodder harvesting)	
PO8 Clearing maintains vegetation associated with a natural wetland to protect:	Clearing necessary to control non-native plants or declared pests:	PO8 Not applicable	
1. bank stability by protecting against bank erosion	AO8.1 Where clearing is necessary to control non-native plants or		
 water quality by filtering sediments, nutrients and other pollutants 	declared pests, mechanical clearing does not occur within 5 metres of a natural wetland.		
3. aquatic habitat; and	AND		
4. terrestrial habitat.	AO8.2 Clearing only occurs:		
	 within a 1.5 metre radius from the base of the stem of individual non-native or declared plants; or 		

Performance outcomes	Acceptable outcomes	Response
	2. to the extent necessary to provide access for the control of the non-native plants or declared pests.	
	AND	
	AO8.3 Clearing for access tracks running parallel to a natural wetland is not to be located within 10 metres of the natural wetland.	
	AND	
	Clearing for thinning:	
	AO8.4 Where the clearing is for thinning, mechanical clearing does not occur within 20 metres of a natural wetland.	
	AND	
	Clearing for encroachment.	
	AO8.5 Where the clearing is for encroachment, mechanical clearing:	
	1. does not occur within 20 metres of the defining bank of a natural wetland; and	
	2. does not include the application of soil applied broad spectrum herbicides within 50 metres of the defining bank of a natural wetland or within the distance specified from a wetland in the directions for use on the label for the product, whichever is the greater.	
	AND	
	Clearing for fodder harvesting:	

Performance outcomes	Acceptable outcomes	Response
	 AO8.6 Mechanical clearing does not occur within 20 metres of any natural wetland. AND AO8.7 Strip harvesting or block harvesting does not occur within 100 metres of any natural wetland. 	
Clearing associated with wetlands (necessary	environmental clearing – land restoration and natural disaster prepa	aration)
PO9 Clearing maintains vegetation associated with any natural wetland or rehabilitates the cleared area to protect:	AO9.1 Clearing does not occur in, or within 100 metres of, any natural wetland.	PO9 Not applicable
	OR	
1. water quality by filtering sediments, nutrients and other pollutants	A09.2 Clearing within 100 metres of any natural wetland and:	
2. aquatic habitat; and	1. does not occur within 50 metres of the natural wetland; and	
3. terrestrial habitat.	2. does not exceed the widths in table 16.3.1 of this code.	
	OR	
	AO9.3 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, the cleared area is rehabilitated.	
Clearing associated with wetlands (necessary	environmental clearing - natural channel diversion and contaminant	s removal)
PO10 Clearing maintains the current extent of vegetation associated with any natural wetland or rehabilitates the cleared area to protect:	AO10.1 Clearing does not occur in, or within 100 metres of the defining bank of any natural wetland.	PO10 Not applicable
4 hould stability by protosting a spin stability	OR	
1. bank stability by protecting against bank erosion	AO10.2 Clearing within 100 metres of any natural wetland and:	
water quality by filtering sediments, nutrients and other pollutants	1. does not occur within 50 metres of the defining bank of any natural wetland; and	
3. aquatic habitat; and	2. does not exceed the widths in table 16.3.1 of this code.	
	OR	

Performance outcomes	Acceptable outcomes	Response
4. terrestrial habitat.	AO10.3 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, the cleared area is rehabilitated.	
	OR	
	AO10.4 Where clearing is for natural channel diversion or contaminants removal, and clearing cannot be reasonably avoided, and:	
	1. clearing has been reasonably minimised; and	
	2. the cleared area cannot be reasonably rehabilitated an offset is provided for any acceptable significant residual impact from clearing of vegetation associated with a natural wetland (a matter of state environmental significance).	
Clearing associated with watercourses and d value agriculture clearing, irrigated high value	rainage features (public safety and relevant infrastructure activities, agriculture clearing)	coordinated project, extractive industry, high
PO11 Clearing maintains the current extent of vegetation associated with any watercourse or drainage feature to protect:	AO11.1 Clearing does not occur in any watercourse or drainage feature, or within the relevant distance of the defining bank of any watercourse or drainage feature in table 16.3.2 of this code.	Complies with AO11.2 Clearing does not occur within the mapped
1. bank stability by protecting against bank	OR	table 16.3.2 of this code as follows:
erosion 2. water quality by filtering sediments, nutrients and other pollutants	AO11.2 Clearing within any watercourse or drainage feature, or within the relevant distance of the defining bank of any watercourse or drainage feature in table 16.3.2 of this code:	 > Stream order 1 or 2 – 25m buffer > Stream order 3 or 4 – 50m buffer
3. aquatic habitat; and	1. does not exceed the widths in table 16.3.1 of this code: and	> Stream order 5 or greater – 100m buffer.
4. terrestrial habitat.	 does not occur within 5 metres of the defining bank, unless clearing is required into or across the watercourse or drainage feature. OR 	Cleared breaks of 17 metres width from retained hazardous vegetation within the development (i.e. the above waterway corridors and other retained vegetation) are required and will allow burning of sections and access for bushfire response.
	AO11.3 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, an offset is provided for any acceptable significant residual impact from clearing of vegetation	· ·

Performance outcomes	Acceptable outcomes	Response
	associated with any watercourse or drainage feature (a matter of state environmental significance).	
Clearing associated with watercourses and dr	ainage features (necessary environmental clearing - land restoration	and natural disaster preparation)
PO12 Clearing maintains vegetation associated with any watercourse or drainage feature or rehabilitates the cleared area to protect:	AO12.1 Clearing does not occur within any watercourse or drainage feature or within the relevant distances from each defining bank of any watercourse or drainage feature in table 16.3.2 of this code.	PO12 Not applicable
1. bank stability by protecting against bank	OR	
erosion 2. water quality by filtering sediments, nutrients and other pollutants	AO12.2 Clearing in any watercourse or drainage feature, or within the relevant distance of the defining bank of any watercourse or drainage feature in table 16.3.2 of this	
3. aqualic habitat	code:	
4. lenesmanabilal.	 does not exceed the widths in table 16.3.1 of this code; and does not occur within 5 metres of the defining bank, unless clearing is required into or across the watercourse or drainage feature. OR	
	AO12.3 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, the cleared area is rehabilitated.	
Clearing associated with watercourses and dr	ainage features (necessary environmental clearing – natural channe	I diversion, and contaminants removal)
PO13 Clearing maintains the current extent of vegetation associated with any watercourse or drainage feature or rehabilitates the cleared area to protect:	AO13.1 Clearing does not occur within any watercourse or drainage feature or within the relevant distances from each defining bank of any watercourse or drainage feature in table 16.3.2 of this code.	PO13 Not applicable
 bank stability by protecting against bank erosion water quality by filtering sediments, nutrients and other pollutants 	 AO13.2 Clearing in any watercourse or drainage feature, or within the relevant distance of the defining bank of any watercourse or drainage feature in table 16.3.2 of this code: 1. does not exceed the widths in table 16.3.1 of this code; and 	

Performance outcomes	Acceptable outcomes	Response
 aquatic habitat; and terrestrial habitat. 	 does not occur within five metres of the defining bank, unless clearing is required into or across the watercourse or drainage feature. 	
	OR	
	AO13.3 Where clearing cannot be reasonably avoided, and:	
	 clearing has been reasonably minimised; and the cleared area cannot be reasonably rehabilitated, an offset is provided for any acceptable significant residual impact from clearing of vegetation associated with a watercourse or drainage feature (a matter of state environmental significance). 	
Clearing associated with watercourses or drai	nage features (necessary to control non-native plants or declared pe	ests, thinning, fodder harvesting)
PO14 Clearing maintains vegetation associated with any watercourse or drainage feature to protect:	Clearing necessary to control non-native plants or declared pests:	PO14 Not applicable
 bank stability by protecting against bank erosion water quality by filtering sediments, nutrients and other pollutants 	AO14.1 Mechanical clearing does not occur within 20 metres of the defining bank of a watercourse or drainage feature.	
3. aquatic habitats; and	A014.2 Clearing only occurs:	
4. terrestrial habitats.	 within a 1.5 metre radius from the base of the stem of individual non-native or declared plants; or to the extent necessary to provide access for the control of the non-native plant or declared pest. 	
	AND	
	AO14.3 Clearing for access tracks running parallel to a watercourse or drainage feature is not to be located within 10 metres of the defining bank of the watercourse or drainage feature.	

Performance outcomes	Acceptable outcomes	Response		
	Clearing is for thinning:			
	AO14.4 Mechanical clearing does not occur within 20 metres of the			
	defining bank of a watercourse or drainage feature.			
	Clearing for fodder harvesting:			
	AO14.5 Mechanical clearing does not occur within 20 metres from the			
	defining bank of any watercourse or drainage feature.			
	AND			
	AO14.6 Strip harvesting or block harvesting does not occur within 100			
1	metres of the defining bank of any watercourse or drainage feature.			
Clearing associated with watercourses or drain	Clearing associated with watercourses or drainage features (encroachment)			
PO15 Clearing of encroachment maintains:	AO15.1 Mechanical clearing:	PO15 Not applicable		
1 bank stability by protecting against bank	1 does not occur within 20 metres of the defining bank of a			
erosion	watercourse or drainage feature; and			
2. water quality by filtering sediments,	2. does not include the application of soil applied broad spectrum			
nutrients and other pollutants	herbicides within 50 metres of the defining bank of a watercourse or drainage feature or within the distance			
3. aquatic habitat; and	specified from a wetland in the directions for use on the label for the product, whichever is the greater.			
4. terrestrial habitat.				
Maintaining connectivity (public safety and relevant infrastructure activities, extractive industry, high value agriculture clearing, irrigated high value agriculture clearing)				
PO16 In consideration of vegetation on the land	AO16.1 Clearing occurs in accordance with table 16.3.3 in this code.	Complies with AO16.1		
subject to the development application and on				
adjacent land, sufficient vegetation is retained to		Clearing does not:		
the landscape despite threatening processes.				

Performance outcomes	Acceptable outcomes	Response	
		 occur in areas of vegetation that are less than 50 hectares 	
		 reduce the extent of vegetation to less than 50 hectares 	
		 occur in areas of vegetation less than 200 metres wide 	
		 reduce the width of vegetation to less than 200 metres; and 	
		occur where the extent of vegetation on the subject	
		 lot(s) is reduced to, or less than, 30 percent of the total area of the lot(s). 	
Connectivity areas (coordinated project)			
PO17 In consideration of vegetation on the land subject to the development application and on adjacent land:	AO17.1 Clearing occurs in accordance with table 16.3.3 of this code.	PO17 Not applicable	
 sufficient vegetation is retained to maintain ecological processes and remains in the landscape despite threatening processes; or 	AO17.2 Where clearing cannot be reasonably avoided; and clearing has been reasonably minimised; an offset is provided for any acceptable significant residual impact from clearing on vegetation that forms a connectivity area (a matter of state environmental significance)		
2. where this not reasonably possible, the applicant provides an offset.			
Maintaining connectivity (necessary environmental clearing - land restoration and natural disaster preparation)			
PO18 In consideration of vegetation on the land subject to the development application and on	AO18.1 Clearing occurs in accordance with table 16.3.3 of this code.	PO18 Not applicable	
adjacent land, sufficient vegetation is retained to	OR		
the landscape despite threatening processes, or where this is not reasonably possible, the cleared area is rehabilitated.	AO18.2 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, the cleared area is rehabilitated.		
Connectivity areas (necessary environmental	clearing - natural channel diversion and contaminants removal)		

Performance outcomes	Acceptable outcomes	Response	
PO19 In consideration of vegetation on the land subject to the development application and on adjacent land:	AO19.1 Clearing occurs in accordance with table 16.3.3 of this code. OR	PO19 Not applicable	
 sufficient vegetation is retained to maintain ecological processes and remains in the landscape despite threatening processes; or where this is not reasonably possible, the applicant rehabilitates the cleared area; or where this not reasonably possible, the applicant provides an offset. 	 AO19.2 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, the cleared area is rehabilitated. OR AO19.3 Where clearing cannot be reasonably avoided, and 1. clearing has been reasonably minimised; and 2. the cleared area cannot be reasonably rehabilitated 3. an offset is provided for any acceptable significant residual impact from clearing of vegetation that forms a connectivity area (a matter of state environmental significance). 		
Soil erosion (public safety and relevant infrastructure activities, coordinated project, high value agriculture clearing, irrigated high value agriculture clearing, necessary environmental clearing)			
 PO20 Clearing does not result in: 1. accelerated soil erosion including, but not limited to – mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion, or scalding; and 2. any associated loss of chemical, physical or biological fertility – including, but not limited to water holding capacity, soil structure, organic matter, soil biology, and nutrients, within or outside the land the subject of the development application. 	 AO20.1 Clearing is undertaken in accordance with a sediment and erosion control plan, which includes measures to ensure the rates of soil loss and sediment movement are the same or less than those prior to the proposed development. OR AO20.2 The local government is the assessment manager for the development application. Note: For guidance on developing a sediment and erosion control plan, please refer to the Best Practice Erosion and Sediment Control Document, IECA, 2008. 	Complies with AO2.2 The local government is the assessment manager for the development application. An Erosion and Sediment Control Plan can be developed in accordance with a condition of approval and Best Practice Erosion and Sediment Control Document, IECA, 2008. This will be implemented throughout the Project construction and operation phase in conjunction with an Overarching Construction Environmental Management Plan.	
Soil erosion (necessary to control non-native plants or declared pests, thinning, encroachment, fodder harvesting)			

Ре	rformance outcomes	Acceptable outcomes	Response
PC	21 Clearing does not result in:	Clearing necessary to control non-native plants or declared pests:	PO21 Not applicable
1.	accelerated soil erosion – including, but not limited to - mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion, or scalding; and	AO21.1 Mechanical clearing retains 50 percent of the ground cover (dead or alive) in each 50 by 50 metre (0.25 hectare) area.	
2.	any associated loss of chemical, physical or biological fertility – including, but not limited	AND	
to to vit de	water holding capacity, soil structure, rganic matter, soil biology and nutrients, ithin or outside the land subject of the evelopment application.	AO21.2 New access tracks to gain access to a weed infestation do not exceed 5 metres in width or de-stabilise the banks of any watercourse or drainage feature as a result of crossing, construction or use.	
		Cloaring for thinning:	
		AO21.3 Mechanical clearing must:	
		 retain 50 percent of the ground cover (dead or alive) in each 50 by 50 metre (0.25 hectare) area; and 	
		2. not occur on slopes in excess of 10 percent.	
		AND	
		Clearing for encroachment:	
		AO21.4 Mechanical clearing:	
		1. is limited to slopes less than 5 percent; and	
		2. retains 50 percent of the ground cover (dead or alive) in each 50 by 50 metre (0.25 hectare) area.	

Performance outcomes	Acceptable outcomes	Response	
	AND		
	Clearing for fodder harvesting:		
	AO21 5 Strip baryesting or block baryesting does not occur on a slope		
	that exceeds 5 percent, and is aligned across the slope.		
	OR		
	AO21.6 Harvesting occurs using selective harvesting or breaker		
	harvesting methods.		
Salinity (public safety and relevant intrastructure activities, coordinated project, extractive industry, high value agriculture clearing, irrigated high value agriculture clearing, irrigated high value agriculture clearing, irrigated high value agriculture clearing.			
PO22 Clearing does not contribute to or	No acceptable outcome is prescribed.	Complies with PO22	
accelerate land degradation through			
waterlogging, or through the salinisation of groundwater surface water or soil		The proposed development seeks to retain	
		vegetation in areas outside the proposed solar array and associated infrastructure footprint in	
		addition to required bushfire setbacks.	
		Earthworks across the Site will retain the existing relatively consistent grade and not interfere with	
		the major watercourses of Campbell Creek and	
		Desailly Creek, as to not create an environment	
		where wateriogging is allowed to occur.	
		It is anticipated that the land on which the solar	
		array is constructed will be allowed to return to	
		natural grass cover throughout.	
		According to the "Salinity in the Northern Gulf	
		Region Condition report for the Northern Gulf	
		Webb, 2004), the Site is predominantly located	
		within a Low Salinity Hazard Area with no areas	
		of High Hazard prevailing.	

Performance outcomes	Acceptable outcomes	Response	
Conserving endangered and of concern regional ecosystems (public safety and relevant infrastructure activities, coordinated project, extractive industry, high value agriculture clearing, irrigated high value agriculture clearing)			
PO23 Clearing maintains the current extent of endangered regional ecosystems and of concern	AO23.1 Clearing does not occur in an endangered regional ecosystem or an of concern regional ecosystem.	Complies with AO23.1 Clearing does not occur in an endangered regional ecosystem or an of concern regional	
regional ecosystems.	OR		
	AO23.2 Clearing in an endangered regional ecosystem or in an of concern regional ecosystem does not exceed the width or area prescribed in table 16.3.1 of this code.	ecosystem.	
	OR		
	AO23.3 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, an offset is provided for any acceptable significant residual impact from clearing of endangered regional ecosystems and of concern regional ecosystems (a matter of state environmental significance).		
Essential habitat (public safety and relevant infrastructure activities, coordinated project, extractive industry, high value agriculture clearing and irrigated high value agriculture clearing, fodder harvesting)			
PO24 Clearing maintains the current extent of essential habitat.	AO24.1 Clearing does not occur in essential habitat.	Complies with AO24.1	
	OR	Clearing does not occur in essential habitat.	
	AO24.2 Clearing in essential habitat does not exceed the widths or areas prescribed in table 16.3.1 of this code.		
	OR		
	AO24.3 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, an offset is provided for any acceptable significant residual impact from clearing of essential habitat (a matter of state environmental significance).		
Essential habitat (necessary environmental cle	earing – land restoration and natural disaster preparation)		
PO25 Clearing does not occur in essential habitat, or where this is not reasonably possible, the applicant rehabilitates the cleared area.	AO25.1 Clearing does not occur in essential habitat.	PO25 Not applicable	

Performance outcomes	Acceptable outcomes	Response	
	AO25.2 Clearing in essential habitat does not exceed the widths or areas prescribed in table 16.3.1 of this code.		
	OR		
	AO25.3 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, the cleared area is rehabilitated.		
Essential habitat (necessary environmental cle	earing – natural channel diversion and contaminants removal)		
PO26 Clearing does not occur in essential	AO26.1 Clearing does not occur in essential habitat.	PO26 Not applicable	
the applicant rehabilitates the cleared area, or	OR		
maintains the current extent of essential habitat.	AO26.2 Clearing in essential habitat does not exceed the widths or areas prescribed in table 16.3.1 of this code.		
	OR		
	AO26.3 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, the cleared area is rehabilitated.		
	OR		
	AO26.4 Where clearing cannot be reasonably avoided, and:		
	1. clearing has been reasonably minimised; and		
	2. the cleared area cannot be reasonably rehabilitated		
	3. an offset is provided for any acceptable significant residual impact from clearing of essential habitat (a matter of state environmental significance).		
Acid sulfate soils (public safety and relevant infrastructure activities, coordinated project, extractive industry, high value agriculture clearing, irrigated high value			
agriculture clearing, necessary environmental clearing, necessary to control non-native plants or declared pests, thinning, encroachment)			
PO27 Clearing does not result in, or accelerate, disturbance of acid sulfate soils or changes to the	AO27.1 Clearing does not occur in land zone 1, land zone 2 or land zone 3.	Complies with AO27.3	
	OR	The local government is the assessment manager for the development application.	

Performance outcomes	Acceptable outcomes	Response	
hydrology of the location that will result in either of the following:	AO27.2 Clearing in land zone 1, land zone 2 or land zone 3 in areas below the 5 metre Australian Height Datum only occurs where:		
1. aeration of horizons containing iron sulphides; or	1. it does not involve mechanical clearing; and		
2. mobilisation of acid or metals.	2. acid sulfate soils are managed consistent with the State Planning Policy, Department of State Development, Infrastructure and Planning, 2014, Department of State Development, Infrastructure and Planning, 2014 and with the Soil Management Guidelines in the Queensland Acid Sulfate Soil Technical Manual, Department of Science Information Technology Innovation and the Arts, 2014.		
	OR		
	AO27.3 The local government is the assessment manager for the development application		
Clearing is staged (extractive industry)			
PO28 Clearing:	No acceptable outcome is prescribed.	PO28 Not applicable	
 is staged in line with operational needs that restrict clearing to the current operational area 			
 only occurs in the area from which material will be extracted, and any reasonably associated infrastructure, within the term of the development approval; and 			
 does not occur without required permits. 			
Clearing for agriculture (coordinated project, high value agriculture clearing, irrigated high value agriculture clearing)			
PO29 Clearing only occurs where the land is suitable for agriculture having regard to topography, climate and soil attributes.	No acceptable outcome is prescribed.	PO29 Not applicable	

Performance outcomes	Acceptable outcomes	Response	
Note: Guidance for determining land suitability is provided in the Guidelines for meeting the land suitability and economic viability requirements for high value and irrigated high value agriculture applications, Department of Natural Resources and Mines, 2015.			
PO30 Clearing only occurs where there is no alternative area on the land subject to the development application for the clearing.	No acceptable outcome is prescribed.	PO30 Not applicable	
PO31 For applications for irrigated high value agriculture clearing, the owner of the land is an eligible owner who has, or may have, access to enough water for establishing, cultivating and harvesting the crops to which the clearing relates.	No acceptable outcome is prescribed.	PO31 Not applicable	
Clearing for necessary environmental clearing	- land restoration and natural disaster preparation		
PO32 Clearing does not occur, or where this is not reasonably possible, the applicant rehabilitates the cleared area.	AO32.1 Clearing does not occur. OR AO32.2 Clearing maintains the natural floristic composition and range of sizes across the application area.	PO32 Not applicable	
	OR AO32.3 Clearing does not exceed the widths or areas prescribed in table 16.3.1 of this code. OR AO32.4 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, the cleared area is rehabilitated.		
Clearing for necessary environmental clearing - natural channel diversion and contaminants removal			
PO33 Clearing does not occur, or where this is not reasonably possible, the applicant	AO33.1 Clearing does not occur.	PO33 Not applicable	
Performance outcomes	Acceptable outcomes	Response	
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rehabilitates the cleared area or maintains the current extent of vegetation.	AO33.2 Clearing maintains the natural floristic composition and range of sizes across the application area.		
	OR		
	AO33.3 Clearing does not exceed the widths or areas prescribed in table 16.3.1 of this code.		
	OR		
	AO33.4 Where clearing cannot be reasonably avoided, and clearing has been reasonably minimised, the endangered regional ecosystems and of concern regional ecosystems are rehabilitated.		
	OR		
	AO33.5 Where clearing an endangered regional ecosystem or of concern regional ecosystem cannot be reasonably avoided, minimised or rehabilitated, an offset is provided for any acceptable significant residual impact from clearing of an endangered regional ecosystem or of concern regional ecosystem (a matter of state environmental significance).		
Conserving vegetation (thinning)			
PO36 Clearing activities:	AO36.1 Thinning retains mature trees and habitat trees.	PO36 Not applicable	
1. maintain the natural floristic composition and	AND		
range of sizes of each species of the regional ecosystem evenly spaced across the application area; and	AO36.2 Thinning retains immature trees to:		
2. retain habitat trees.	1. return the immature tree density to a more typical level		
	2. retain representatives of all the species that occur in the regional ecosystem in about the proportion to what would normally exist		
	3. retain the range of tree sizes that would normally occur; and		
	4. space immature trees as evenly as possible across the thinned area.		
	AND		

Performance outcomes	Acceptable outcomes	Response
	AO36.3 Thinning is not undertaken by ground application of soil applied broad spectrum herbicides, or aerial application of any herbicides. Note: The Department of Science, Information Technology and Innovation publishes technical descriptions (http://www.qld.gov.au/environment/plants- animals/plants/ecosystems/technical-descriptions/) which provide a detailed description of the normal range in structure and floristic composition of remnant regional ecosystems and their component vegetation communities. They should be used in conjunction with the fields from the Regional Ecosystem Description Database (REDD) (http://www.qld.gov.au/environment/plants- animals/plants/ecosystems/download) for a normal description of the	
	regional ecosystem.	
Clearing limited to specific regional ecosystem	ns (thinning)	
PO37 Clearing does not occur in the regional ecosystems listed in Table 16.3.6 of this code, except where clearing is solely for removing native plants not naturally occurring within the regional ecosystem.	No acceptable outcome is prescribed.	PO37 Not applicable
Retained vegetation density (thinning)		
PO38 Clearing does not occur unless the density of vegetation that is retained is consistent with the natural floristic composition of the regional ecosystem.	AO38.1 The vegetation density is consistent with a representative reference site of the same regional ecosystem.	PO38 Not applicable
	AO38.2 The vegetation density is consistent with the natural floristic composition of the regional ecosystem as demonstrated by BioCondition benchmarks for regional ecosystem condition assessment, and the Regional ecosystem description database.	
	(http://www.qld.gov.au/environment/plants- animals/plants/ecosystems/technical-descriptions) which provide a	

Performance outcomes		Acceptable outcomes	Response	
		detailed description of the normal range in structure and floristic		
		vegetation communities. They should be used in conjunction with the		
		fields from the <u>Regional Ecosystem Description Database (REDD)</u>		
		(http://www.qld.gov.au/environment/plants-		
		animals/plants/ecosystems/download) for a normal description of the		
Cle	earing is limited to specific regional ecosyst	rems (encroachment)		
	20 Clearing of energeshment does not easur	Ne appartable outcome is preserihed	PO20 Net applicable	
oth	er than in the regional ecosystems listed in	no acceptable outcome is prescribed.	PO39 Not applicable	
tab	le 16.3.7 of this code.			
Re	tained trees (encroachment)			
РО	40 Clearing of encroachment:	No acceptable outcome is prescribed.	PO40 Not applicable	
1.	results in the restoration of the regional ecosystem			
2.	retains mature trees and habitat trees			
3.	retains all woody vegetation within a grove; and			
4.	retains representatives of all immature, non- encroaching species in a natural pattern.			
Limits to clearing for fodder harvesting (fodder harvesting)				
РО	41 Clearing occurs only in the following areas:	No acceptable outcome is prescribed.	PO41 Not applicable	
1.	Balonne Shire Council			
2.	Barcaldine Shire Council			
3.	Barcoo Shire Council			
4.	Blackall Tambo Regional Council			
5.	Bulloo Shire Council			
6.	Diamantina Shire Council			

Performance outcomes	Acceptable outcomes	Response
7. Goondiwindi Regional Council		
 Longreach Regional Council Maranoa Regional Council Murweh Shire Council Paroo Shire Council Quilpie Shire Council Western Downs Regional Council 		
14. Winton Shire Council.		
PO42 Clearing is limited to the extent necessary to provide fodder for stock.	No acceptable outcome is prescribed.	PO42 Not applicable
PO43 Clearing only occurs in regional ecosystems listed in table 16.3.8 or table 16.3.9 of this code.	No acceptable outcome is prescribed.	PO43 Not applicable
PO44 Clearing consists predominantly of fodder species.	No acceptable outcome is prescribed.	PO44 Not applicable
Conserving vegetation (fodder harvesting)		
PO45 Clearing retains at least:	AO45.1 Selective harvesting does not:	PO45 Not applicable
 50 percent of the predominant canopy cover of the vegetation over each 300 metre by 300 metre (9 hectare) area when selective harvesting or narrow strip harvesting; and 55 percent of the predominant canopy cover of the vegetation over each 300 metre by 300 metre (9 hectare) area when block harvesting or wide strip 	 harvest more than 5 in 10 individual fodder trees in any given area remove non-fodder species beyond that needed to provide access for harvesting; and involve mechanical clearing within 50 metres of a scarp or an area of instability, in the following regional ecosystems 6.7.1, 6.7.6, 6.7.14, 6.7.15, 6.7.16, 11.7.1, 11.7.2 and 11.7.5. AND AO45.2 Block harvesting: 	

Performance outcomes	Acceptable outcomes	Response
harvesting maintains the range of species of the regional ecosystem at the locality.	1. is limited to the harvesting area and width of retained vegetation listed in table 16.3.10	
	2. retains non-fodder species with height of four metres or more within the harvested area	
	3. does not occur in fodder regional ecosystems that are less than 10 hectares in area or 500 metres in width	
	4. ensures tracks between blocks are limited to a width of 10 metres; and	
	5. only occurs in regional ecosystems listed in table 16.3.8 of this code.	
	AND	
	AO45.3 Wide strip harvesting:	
	1. occurs where the harvested strip is 70 metres – 135 metres in width	
	2. retains a minimum of 165 metres wide strip of retained vegetation on either side of the cleared strip	
	3. only occurs for an 800 metre length with the retention of a 200 metre wide patch of vegetation at the end of each length	
	4. does not occur in fodder regional ecosystems that are less than 10 hectares in area or 500 metres in width; and	
	5. only occurs in regional ecosystems listed in table 16.3.8 of this code.	
	AND	
	AO45.4 Narrow strip harvesting:	
	1. occurs where the harvested strip is 20 to 50 metres in width	
	2. retains vegetation on either side of the strip a width at least equal to the width of the harvested strip	

Performance outcomes	Acceptable outcomes	Response
	3. does not occur in fodder regional ecosystems listed in table 16.3.8 and table 16.3.9 of this code that are less than 10 hectares in area or 500 metres in width; and	
	4. only occurs in regional ecosystems listed in table 16.3.8 of this code.	
Conserving endangered regional ecosystems	and of concern regional ecosystems (fodder harvesting)	
PO46 Clearing:	No acceptable outcome is prescribed.	PO46 Not applicable
1. does not occur in vegetation that contains endangered regional ecosystems; and		
 is limited to vegetation that contains of concern regional ecosystems 6.5.3, 11.5.13, 6.5.5 and 4.7.3, and by selective harvesting where it does not remove more than three in 10 fodder trees. 		
Cleared vegetation (fodder harvesting)		
PO47 Cleared vegetation is not moved from where it falls.	No acceptable outcome is prescribed.	PO47 Not applicable
Conserving the fodder resource (fodder harvesting)		
PO48 Clearing does not reduce the total extent of the fodder species in the regional ecosystem listed in table 16.3.8 and table 16.3.9 of this code on a lot to below 50 percent of its current extent	AO48.1 Clearing is limited to the regional ecosystems and harvesting methods listed in table 16.3.8 and table 16.3.9 of this code.	PO48 Not applicable
within any 10 year period.	AO48.2 Clearing is limited to areas that have not been harvested in the past 10 years.	
	AND	
	AO48.3 Retained vegetation is not harvested within 10 years of the harvesting of an adjacent area which has been subject to either strip harvesting or block harvesting.	

Desailly Renewable Energy Park

SPP CODE RESPONSES



Statement of Code Compliance	
State Planning Policy	
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

1. Planning for Liveable Communities and Housing

Outcome	Response
Housing Supply and Diversity	
(1) Land for housing development and redevelopment in areas that are accessible and well-connected to services, employment and infrastructure are identified.	Not Applicable The outcome is not applicable to the assessment of a development application.
(2) The development of residential land is facilitated to address and cater for all groups in the current and projected demographic, economic and social profile of the local government area, including households on low to moderate incomes	Not Applicable The proposed development does not have regard to residential development and is not proposed on land located within a residential zone.
 (3) A diverse, affordable and comprehensive range of housing options in accessible and well-serviced locations, is facilitated through: (a) appropriate, responsive and proactive zoning (b) supporting an appropriate mix of lot sizes and dwelling types, including housing for seniors and people requiring assisted living (c) considering incentives to promote affordable and social housing outcomes, particularly in areas in close proximity to services and amenities. 	Not Applicable The proposed development does not have regard to residential development and is not proposed on land located within a residential zone.
(4) Best practice, innovative, and adaptable housing design and siting is provided for and encouraged.	Not Applicable The proposed development does not have regard to residential development and is not proposed on land located within a residential zone.
(5) Sufficient land for housing is provided in appropriate locations to support the projected non-resident workforce population associated with approved largescale mining, agriculture, industry or infrastructure projects.	Not Applicable The outcome is not applicable to the assessment of a development application.
Liveable Communities	
 Built and natural environment: (1) High quality urban design and place making outcomes are facilitated and promote: (a) affordable living and sustainable and complete communities (b) attractive, adaptable, accessible and inclusive built environments (c) personal safety and security (d) functional, accessible, legible and connected spaces (e) community identity through considering local features, character, needs and aspirations. 	Not applicable The proposed development is for a Utility Installation on land located within the Rural Zone – the proposed development will not contribute to the built environment as referenced by Item 1.

Outcome	Response
 (2) Vibrant places and spaces, and diverse communities that meet lifestyle needs are facilitated by: (a) good neighbourhood planning and centre design (b) a mix of land uses that meet the diverse demographic, social, cultural, economic and lifestyle needs of the community (c) consolidating urban development in and around existing settlements (d) higher density development in accessible and well-serviced locations (e) efficient use of established infrastructure and services (f) supporting a range of formal and informal sporting, recreational and community activities. 	Not Applicable The proposed development is for a Utility Installation on land located within the Rural Zone – the proposed development will not contribute to the built environment as referenced by Item 2.
(3) Development is designed to:	Complies
 (a) value and nurture local landscape character and the natural environment (b) maintain or enhance important cultural landscapes and areas of high scenic amenity, including important views and vistas that contribute to natural and visual amenity (c) maintain or enhance opportunities for public access and use of the natural environment. 	The proposed development has been designed in consideration of the ecological values of the site, by avoiding all mapped matters of state interest. An ecological assessment has been undertaken, to identify the ecological values on-site.
	It is noted that regional landscape values within the RLRPA (under the regional plan) are identified to include values with respect to potential renewable energy resource areas and scenic amenity. The proposed development therefore contributes to the value of the local landscape character (as defined within the Regional Plan) with respect to being a potential renewable energy resource area.
	With respect to item 3(b), the proposed development will provide visual interest to the natural landscape and therefore enhance the landscape character in this regard. Further, it is noted that development is proposed on flat land (i.e. development is not proposed to be located on ridgelines or hillslopes). Vegetation will be retained on the site outside of the identified proposed development area, thereby screening the proposed development from the Mulligan Highway.
	It is also noted that the proposed development complies with the applicable Planning Scheme provisions in relation to the scale of the development within the Rural Zone (being less than three (3) stories and 12 metres in height and setback greater than 50 metres from the road).
	Regarding item 3(c), it is noted that the site is located on private land that is utilised as a working station, which does not facilitate opportunities for public access to the natural environment at this location. Notwithstanding, the Mulligan Highway traverses the site, providing for public access through the site.
Infrastructure and services:	Not Applicable
(4) Connected pedestrian, cycling and public transport infrastructure networks are facilitated and provided.	The proposed development is for a Utility Installation on land located within the Rural Zone – pedestrian, cycling and public transport infrastructure networks are not required to form part of the proposed development.

Outcome	Response
(5) Community facilities and services, including education facilities (state and non-state providers),	Not Applicable
health facilities, emergency services, arts and cultural infrastructure, and sport, recreation and cultural facilities are well-located, cost-effective and multi-functional.	The proposed development is for a Utility Installation and does not seek to establish community facilities or services.
(6) Connection to fibre-optic telecommunications infrastructure (e.g. broadband) is supported in	Not Applicable
greenfield areas.	The site is not identified as a greenfield area.
(7) All development accessed by common private title is provided with appropriate fire hydrant	Not Applicable
infrastructure and has unimpeded access for emergency service vehicles to protect people, property and the environment.	The proposed development does not involve the creation of common private title.
Assessment Benchmarks	
(1) Development ensures fire hydrants are installed and located to enable fire services to access water	Not Applicable
safely, effectively and efficiently.	The assessment benchmarks do not apply to the proposed development;
(2) Road widths, and construction within the development, are adequate for fire emergency vehicles to	Not Applicable
gain access to a safe working area close to buildings and near water supplies whether or not on-street parking spaces are occupied.	The assessment benchmarks do not apply to the proposed development;
(3) Fire hydrants are suitably identified so that fire services can locate them at all hours.	Not Applicable
	The assessment benchmarks do not apply to the proposed development;

2. Planning for Economic Growth

Outcome	Response
Agriculture	
(1) Agriculture and agricultural development opportunities are promoted and enhanced in important agricultural areas (IAAs).	Not Applicable The site is not located in an Important Agricultural Area.
(2) Agricultural Land Classification (ALC) Class A and Class B land is protected for sustainable agricultural use by:	Not Applicable The site is not designated as Agricultural Land Classification (ALC) Class A
(a) avoiding fragmentation of ALC Class A or Class B land into lot sizes inconsistent with the current or potential use of the land for agriculture	or Class B.
(b) avoiding development that will have an irreversible impact on, or adjacent to, ALC Class A or Class B land	
(c) maintaining or enhancing land conditions and the biophysical resources underpinning ALC Class A or Class B land.	
(3) Fisheries resources are protected from development that compromises long-term fisheries	Complies
productivity, sustainability and accessibility.	The proposed development has been sited to avoid waterway buffer areas. Impacts to waterways (and therefore potential impacts to fisheries resources) will be identified at the detailed design stages of development. Should any waterway barrier works be required to be undertaken, further assessment will be required to be undertaken by the Applicant at future stages of development.
(4) Growth in agricultural production and a strong agriculture industry is facilitated by:	Complies
(a) promoting hard to locate intensive agricultural land uses, such as intensive animal industries, aquaculture, and intensive horticulture in appropriate locations	The site is currently utilised primarily for livestock grazing, which will continue on the balance of the site following establishment of the solar farm.
(b) protecting existing intensive agricultural land uses, such as intensive animal industries, aquaculture, and intensive horticulture, from encroachment by development that is incompatible and/or would compromise the safe and effective operation of the existing activity	Further, the proposed development does not impact upon utilisation of the mapped stock route network, which transects the site (Mulligan Highway).
(c) locating new development (such as sensitive land uses or land uses that present biosecurity risks for agriculture) in areas that avoid or minimise potential for conflict with existing agricultural uses through the provision of adequate separation areas or other measures	
(d) facilitating opportunities for co-existence with development that is complementary to agricultural uses that do not reduce agricultural productivity (e.g. on-farm processing, farm gate sales, agricultural tourism etc)	
(e) considering the provision of infrastructure and services necessary to support a strong agriculture industry and associated agricultural supply chains	
(f) ensuring development on, or adjacent to, the stock route network does not compromise the network's primary use for moving stock on foot, and other uses and values including grazing, environmental, recreational, cultural heritage, and tourism values.	

Outcome	Response
Development and Construction	
(1) A sufficient supply of suitable land for residential, retail, commercial, industrial and mixed use development is identified that considers:	Not Applicable The outcome is not applicable to the assessment of a development
(a) existing and anticipated demand	application.
(b) the physical constraints of the land	
(c) surrounding land uses	
(d) the availability of, and proximity to, essential infrastructure required to service and support such development.	
(2) Appropriate infrastructure required to support all land uses is planned for and provided.	Complies
	Appropriate infrastructure required in association with the proposed development will be provided.
(3) Mixed use development is achieved by appropriately zoning the land.	Not Applicable
	The outcome is not applicable to the assessment of a development application.
(4) An appropriate mix of lot sizes and configurations for residential, retail, commercial, mixed use and	Not Applicable
industrial development is provided for in response to the diverse needs of these uses and ancillary activities.	The proposed development does not involve Reconfiguring a Lot.
(5) Efficient delivery of development is facilitated by the adoption of the lowest appropriate level of	Not Applicable
assessment for development that is consistent with the purpose of the zone.	The outcome is not applicable to the assessment of a development application.
(6) Land uses are consistent with the purpose of the zone.	Complies
	The proposed development, being for a Utility Installation (Solar Farm) does not represent a land use that conflicts with the overall outcomes (the purpose) sought for the Rural Zone.
(7) State development areas and Priority Development Areas are:	Not Applicable
(a) identified and appropriately considered in terms of their planning intent	The site is not located in a State Development Area or a Priority
(b) supported by compatible and complementary land uses and services on surrounding land.	Development Area.
(8) Public benefit outcomes on state-owned land are achieved by appropriately zoning the land.	Not Applicable
	The site is not state-owned land.
Mining and Extractive Resources	
Extractive resources:	Not Applicable
(1) Key resource areas (KRAs) are identified, including the resource/processing area, separation area, transport route and transport route separation area.	The outcome is not applicable to the assessment of a development application.

Outcome	Response
(2) KRAs are protected by:	Not Applicable
(a) maintaining the long-term availability of the extractive resource and access to the KRA	The site is not located within the vicinity of a Key Resource Area.
(b) avoiding new sensitive land	
uses and other incompatible land uses within the resource/processing area and the related separation area of a KRA that could impede the extraction of the resource	
(c) avoiding land uses along the transport route and transport route separation area of a KRA that are likely to compromise the ongoing use of the route for the haulage of extractive materials	
(d) avoiding new development adjacent to the transport route that is likely to adversely affect the safe and efficient transportation of the extractive resource.	
Mineral, coal, petroleum and gas resources:	Complies
(3) The importance of areas identified as having valuable minerals, coal, petroleum and gas resources, and areas of mining and resource tenures are considered.	A Granted Pipeline Lease (understood to be the only active mining interest over the site) is located in the north of the site, which will not be impacted by the proposed development.
(4) Opportunities for mutually beneficial co-existence between coal, minerals, petroleum and gas resource development operations and other land uses are facilitated.	Complies
	The proposed development is able to co-exist near to the existing Granted Pipeline Lease located in the north of the site.
(5) The location of specified petroleum infrastructure is considered.	Not Applicable
	The proposed development does not require the consideration of petroleum infrastructure.
Assessment Benchmarks	
(1) Development within a resource/processing area of a KRA will not impede the undertaking of an existing or future extractive industry development.	Not Applicable
	The assessment benchmarks do not apply to the proposed development.
(2) Development of sensitive land uses and other potentially incompatible land uses is avoided within the separation area for a resource/processing area of a KRA, if it could impede the extraction of the resource.	Not Applicable
	The assessment benchmarks do not apply to the proposed development.
(3) Development not associated with extractive industry in the transport route separation area of a KRA does not increase the number of people working or residing in the transport route separation area unless the development mitigates the impacts of noise, dust and vibration generated by the haulage of extractive materials along the transport route.	Not Applicable
	The assessment benchmarks do not apply to the proposed development.
(4) Development adjacent to the transport route does not adversely affect the safe and efficient use of	Not Applicable
the transport route by vehicles transporting extractive resources.	The assessment benchmarks do not apply to the proposed development.
Tourism	

Response
Not Applicable
The outcome is not applicable to the assessment of a development application.
Not Applicable
The outcome is not applicable to the assessment of a development application.
Not Applicable
The proposed development is not for sustainable tourism development.
Not Applicable
The proposed development is not for sustainable tourism development.

3. Planning for the Environment and Heritage

Outcome	Response
Biodiversity	
(1) Development is located in areas to avoid significant impacts on matters of national environmental significance and considers the requirements of the <i>Environment Protection and Biodiversity Conservation Act 1999.</i>	Complies The proposed development has been designed in consideration of the ecological values of the site, by avoiding all mapped matters of state interest. An environmental assessment has been undertaken to ensure that development is cognisant of matters of national environmental significance and considers the requirements of the <i>Environment Protection and</i> <i>Biodiversity Conservation Act 1999</i> as required.
(2) Matters of state environmental significance are identified and development is located in areas that	Complies
avoid adverse impacts; where adverse impacts cannot be reasonably avoided, they are minimised.	The proposed development has been designed in consideration of the ecological values of the site, by avoiding all mapped matters of state interest but for Regulated vegetation (where intersecting a watercourse).
	An environmental assessment has been undertaken to ensure that matters of state environmental significance are identified and development can be located in areas so as to avoid / mitigate adverse impacts, if required.
(3) Matters of local environmental significance are identified and development is located in areas that	Complies
avoid adverse impacts; where adverse impacts cannot be reasonably avoided, they are minimised.	The proposed development has been designed in consideration of the ecological values of the site, by avoiding all mapped matters of state interest but for Regulated vegetation (where intersecting a watercourse).
	An environmental assessment has been undertaken to ensure that matters of local environmental significance are identified and development can be located in areas so as to avoid / mitigate adverse impacts, if required.
(4) Ecological processes and connectivity is maintained or enhanced by avoiding fragmentation of	Complies
matters of environmental significance.	The proposed development has been designed in consideration of the ecological values of the site, by avoiding all mapped matters of state interest but for Regulated vegetation (where intersecting a watercourse). On the basis that development will be limited to the area identified on the Indicative Project Layout, ecological processes and connectivity will be maintained via the vegetation to be retained on-site.
	An environmental assessment has been undertaken to ensure that ecological processes and connectivity linkages are identified and can be maintained by avoiding fragmentation of matters of environmental significance to the greatest extent practicable and if required.
(5) Viable koala populations in South East Queensland are protected by conserving and enhancing koala habitat extent and condition.	Not Applicable
	The proposed development is not located in South East Queensland.

Outcome	Response
Coastal Environment	
Protection of the coastal environment:	Not Applicable
(1) Coastal processes and coastal resources statewide, including in the Great Barrier Reef catchment, are protected by:	The proposed development is not located in the coastal environment.
(a) concentrating future development in existing urban areas through infill and redevelopment	
(b) conserving the natural state of landforms, wetlands and native vegetation in the coastal management district	
(c) maintaining or enhancing the scenic amenity and aesthetic values of important natural coastal landscapes, views and vistas	
(2) Development of canals, dry land marinas, artificial waterways or marine infrastructure avoids	Not Applicable
adverse impacts on coastal resources and processes.	The proposed development is not located in the coastal environment.
(3) Reclamation of land under tidal water is avoided other than for the purpose of:	Not Applicable
 (a) coastal-dependent development, public marine development or community infrastructure, where there is no reasonable alternative; or 	The proposed development is not located in the coastal environment.
(b) strategic ports, priority ports, boat harbours or strategic airports and aviation facilities in accordance with a statutory land use plan, or statutory master plan; or	
(c) coastal protection works or work necessary to protect coastal resources or coastal processes.	
Development in the coastal environment:	Not Applicable
(4) Coastal-dependent development in areas adjoining tidal water is facilitated in preference to other types of development.	The proposed development is not located in the coastal environment.
(5) Opportunities for public use of and access to, and along, state coastal land is maintained or	Not Applicable
enhanced in a way that protects or enhances public safety and coastal resources.	The proposed development is not located in the coastal environment.
Cultural Heritage	
Aboriginal and Torres Strait Islander cultural heritage:	Can Comply
(1) Matters of Aboriginal cultural heritage and Torres Strait Islander cultural heritage are appropriately conserved and considered to support the requirements of the <i>Aboriginal Cultural Heritage Act 2003</i> and the <i>Torres Strait Islander Cultural Heritage Act 2003</i> .	The proposed development will be established in consideration of the obligations of the applicant under the <i>Aboriginal Cultural Heritage Act 2003</i> and the <i>Torres Strait Islander Cultural Heritage Act 2003</i> .
World and national cultural heritage:	Complies
(2) Adverse impacts on the cultural heritage significance of world heritage properties and national heritage places prescribed under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> are avoided.	Development is not proposed on a world nor national heritage place. The proposed development will be established in consideration of the obligations of the applicant under the <i>Aboriginal Cultural Heritage Act 2003</i> and the <i>Torres Strait Islander Cultural Heritage Act 2003</i> .
State cultural heritage:	Complies
(3) Adverse impacts on the cultural heritage significance of state heritage places are avoided.	The site is not located within the vicinity of a Queensland Heritage Place.

Outcome	Response
Local cultural heritage:	Not Applicable
(4) Local heritage places and local heritage areas important to the history of the local government area are identified, including a statement of the local cultural heritage significance of the place or area.	The outcome is not applicable to the assessment of a development application.
(5) Development of local heritage places or local heritage areas does not compromise the cultural heritage significance of the place or area by:	Not Applicable The site is not a Local Heritage Place and is not located within the vicinity of
(a) avoiding adverse impacts on the cultural heritage significance of the place or area; or	a Local Heritage Place.
(b) minimising and mitigating unavoidable adverse impacts on the cultural heritage significance of the place or area.	
(6) The conservation and adaptive reuse of local heritage places and local heritage areas are	Not Applicable
facilitated so that the cultural heritage significance is retained.	The site is not a Local Heritage Place and is not located within the vicinity of a Local Heritage Place.
Water Quality	
(1) Development facilitates the protection or enhancement of environmental values and the	Will Comply
achievement of water quality objectives for Queensland waters.	An environmental assessment has been undertaken to ensure that environmental values are identified to facilitate their protection if required.
	A hydrological assessment has been undertaken to identify major flow paths and inform a Stormwater Management Plan, in order to manage stormwater conveyance over the site in seeking to achieving the relevant water quality objectives.
(2) Land zoned for urban purposes is located in areas that avoid or minimise the disturbance to:	Not Applicable
(a) high risk soils	The outcome is not applicable to the assessment of a development
(b) high ecological value aquatic ecosystems	application. The site is not located within an 'urban' zone.
(c) groundwater dependent ecosystems	
(d) natural drainage lines and landform features.	
(3) Development is located, designed, constructed and operated to avoid or minimise adverse impacts	Will Comply
on environmental values of receiving waters arising from:	A hydrological assessment has been undertaken to identify major flow paths
(a) altered stormwater quality and hydrology	and inform a Stormwater Management Plan, in order to manage stormwater
(b) waste water (other than contaminated stormwater and sewage)	objectives.
(c) the creation or expansion of non-tidal artificial waterways	·····
(d) the release and mobilisation of nutrients and sediments.	

(a) A the construction phase, development achieves the applicable stormwater management design objectives in table A (appendix 2). Septend to Comply (b) between in table A (appendix 2). Anydrological assessment has been undertaken to identify major flow manage stormwater (any objectives). Further detail will be provided at future Operational Work / Building Work stages of development is expected to be designed and constructed in consideration of the relevant water quality objectives. (b) Achieves ne applicable stormwater management design objectives on-site, as identified in table B (appendix 2). Septend to Comply (c) Achieves na alternative locally appropriate solution off-site that achieves an equivalent or improved 2. Feptend to Comply (a) achieves na alternative locally appropriate solution off-site that achieves an equivalent or improved 2. Feptend to Comply (b) achieves na differentiate stormwater stormwater management design objectives in table B (appendix 2). Feptend to Comply (b) achieves and groundwaters to protect drinking water supply environmental alvalues or erievant water quality objectives. Further detail will be provided at future Operational Work / Building Work stages of development is expected to be designed and constructed in a form a Stormwater Management Plan, in order to manage stormwater and inform a Stormwater Management Plan, in order to manage stormwater Management Plan, in order to manag	Outcome	Response
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(a) achieves the applicable stormwater management design objectives on-site, as identified in table B The proposed development is expected to be designed and constructed in consideration of the relevant water quality objectives. (b) achieves an alternative locally appropriate solution off-site that achieves an equivalent or improved if future Operational Work / Building Work / Bu	(5) At the post-construction phase, development:	Expected to Comply
(b) achieves an alternative locally appropriate solution off-site that achieves an equivalent or improved water quality outcome to the relevant stormwater management design objectives in table B (appendix 2). Further detail will be provided at future Operational Work / Building Work stages of development. (6) Development in water resource catchments and water supply buffer areas avoids potential adverse impacts on surface waters and groundwaters to protect drinking water supply environmental values. Expected to Comply A hydrological assessment has been undertaken to identify major flow paths and inform a Stormwater Management Han, in order to manage stormwater conveyance over the site in seeking to achieving the relevant water quality objectives. Further detail will be provided at future Operational Work / Building Work stages of development is expected to be designed and constructed in consideration of the relevant water quality objectives. Further detail will be provided at future operational Work / Building Work stages of development is expected to be designed and constructed in consideration of the relevant water quality objectives. Further detail will be provided at future Operational Work / Building Work stages of development. A hydrological assessment Banchmarks WIII Comply (1) Development is located, designed, constructed and operated to avoid or minimise adverse impacts on environmental values arising from: WIII Comply (a) altered stormwater quality and hydrology A hydrological assessment has been undertaken to inform development, particularly in ensuring that the proposed development mitigates adverse impacts arising from altered stormwater quality. (b) waste water (c) the creatio	(a) achieves the applicable stormwater management design objectives on-site, as identified in table B (appendix 2); or	The proposed development is expected to be designed and constructed in consideration of the relevant water quality objectives.
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(3) Development in a water supply buffer area avoids adverse impacts on drinking water supply environmental values. Not Applicable The site is not located within a water supply buffer area		Further detail will be provided at future Operational Work / Building Work stages of development.
environmental values. The site is not located within a water supply buffer area	(3) Development in a water supply buffer area avoids adverse impacts on drinking water supply	Not Applicable
	environmental values.	The site is not located within a water supply buffer area

4. Planning for Safety and Resilience to Hazards

Outcome	Response
Emissions and Hazardous Activities	
Protection from emissions and hazardous activities:	Not Applicable
(1) Industrial development, major gas, waste and sewerage infrastructure, and sport and recreation activities are located, designed and managed to avoid or mitigate adverse impacts of emissions on sensitive land uses and the natural environment.	The proposed development does not involve industrial development, major gas, waste and sewerage infrastructure, or sport and recreation activities.
(2) Activities involving the use, storage and disposal of hazardous materials and prescribed hazardous	Will Comply
chemicals, dangerous goods, and flammable or combustible substances are located and managed to minimise the health and safety risks to communities and individuals.	Energy storage associated with the proposed development will be designed and constructed in accordance with the relevant standards, which safeguard health and safety risks to communities and individuals.
(3) Prescribed hazardous chemicals, stored in a flood hazard area (where exceeding the hazardous	Will Comply
chemicals flood hazard threshold), are located to minimise the risk of inundation and dispersion.	Energy storage associated with the proposed development will be designed and constructed in accordance with the relevant standards, which will ensure that hazardous chemicals are stored appropriately.
(4) Sensitive land uses are protected from the impacts of previous activities that may cause risk to	Not Applicable
people or property including:	The proposal does not involve a sensitive land use.
(a) former mining activities and related hazards (e.g. disused underground mines, tunnels and shafts)	
(b) former landfill and refuse sites	
(c) contaminated land.	
Protection of industrial development, major infrastructure, and sport and recreation facilities from encroachment:	Complies The proposed development, being for a Utility Installation (Solar Farm) is
(5) Protect the following existing and approved land uses or areas from encroachment by development that would compromise the ability of the land use to function safely and effectively:	appropriately separated from existing and approved land uses described in outcome 5.
(a) Medium-impact, high-impact and special industries.	
(b) Extractive industries.	
(c) Hazardous chemical facilities.	
(d) Explosives facilities and explosives reserves.	
(e) High pressure gas pipelines.	
(f) Waste management facilities.	
(g) Sewage treatment plants.	
(h) Industrial land in a state development area, or an enterprise opportunity area or employment opportunity area identified in a regional plan.	
(i) Major sport, recreation and entertainment facilities.	
(j) Shooting facilities.	
(k) Motor sport facilities.	

Outcome	Response
Mitigation of adverse impacts from emissions and hazardous activities:	Not applicable
(6) Development that is incompatible with the existing and approved land uses or areas included in policy 5 above, is located to avoid adverse impacts of environmental emissions, or health and safety risks, and where the impacts cannot be practicably avoided, development is designed to minimise the impacts.	The proposed development is not considered to be considered incompatible with existing and approved land uses located near to the site.
Acid sulfate soil affected areas:	Not Applicable
(7) Protect the natural and built environment, and human health from potential adverse impacts of acid sulfate soils by:	The site is not located in an Acid Sulfate Soil affected area.
(a) identifying areas with high probability of containing acid sulfate soils	
(b) providing preference to land uses that will avoid, or where avoidance is not practicable, minimise the disturbance of acid sulfate soils	
(c) including requirements for managing the disturbance of acid sulfate soils to avoid or minimise the mobilization and release of acid, iron or other contaminants.	
Natural Hazards, Risk and Resilience	
(1) Natural hazard areas are identified, including:	Not Applicable
(a) bushfire prone areas	The outcome is not applicable to the assessment of a development
(b) flood hazard areas	application.
(c) landslide hazard areas	
(d) storm tide inundation areas	
(e) erosion prone areas.	
(2) A fit-for-purpose risk assessment is undertaken to identify and achieve an acceptable or tolerable	Complies
level of risk for personal safety and property in natural hazard areas.	The site is identified as being within a Bushfire Prone Area and partly contains land identified as Flood Hazard Area.
	A bushfire assessment has been undertaken to accompany the development application, to confirm vegetation communities and bushfire risk. Setbacks from hazardous vegetation will be provided as required by the SPP code. Further, permanent high volume water supply will be provided with sufficient capacity for fire fighting purposes, providing an acceptable level of risk for personal safety and property in this regard.
	A review of SPP mapping indicates that buildings associated with the proposed development (to be located within the electrical / construction envelope) will not be located on land identified as being a Flood Hazard Area, thus minimising risk to personal safety. The final location of the balance solar infrastructure will be determined at detailed design stages, in consideration of flood risk, to mitigate damage to property.
Bushfire, flood, landslide, storm tide inundation, and erosion prone areas:	Not Applicable
(3) Land in an erosion prone area is not to be used for urban purposes,	The site is not located in an Erosion Prone Area.

Outcome	Response
unless the land is located in:	
(b) an urban footprint identified in a regional plan.	
 (4) Development in bushfire, flood, landslide, storm tide inundation or erosion prone natural hazard areas: (a) avoids the natural hazard area; or (b) where it is not possible to avoid the natural hazard area, development mitigates the risks to people and property to an acceptable or tolerable level. 	Complies A bushfire assessment has been undertaken to accompany the development application, to confirm vegetation communities and bushfire risk. Setbacks from hazardous vegetation will be provided as required by the SPP code. Further, permanent high volume water supply will be provided with sufficient capacity for fire fighting purposes, providing an acceptable level of risk for personal safety and property in this regard. A review of SPP mapping indicates that buildings associated with the proposed development (to be located within the electrical / construction envelope) will not be located on land identified as being a Flood Hazard Area, thus minimising risk to personal safety. The final location of the balance solar infrastructure will be determined at detailed design stages, in consideration of flood risk, to mitigate damage to property
 (5) Development in natural hazard areas: (a) supports, and does not hinder disaster management capacity and capabilities (b) directly, indirectly and cumulatively avoids an increase in the exposure or severity of the natural hazard and the potential for damage on the site or to other properties (c) avoids risks to public safety and the environment from the location of the storage of hazardous materials and the release of these materials as a result of a natural hazard (d) maintains or enhances the protective function of landforms and vegetation that can mitigate risks associated with the natural hazard. 	 Will Comply The proposed development will be designed and sited to: Avoid the siting of buildings within defined Flood Hazard Areas; Site the balance solar infrastructure so as to mitigate damage to property from flood; Ensure that disaster management capacity is not hindered (the sites area, internal site tracks and frontage to the Mulligan Highway will assist disaster management); Consider bushfire hazard assessment findings to avoid a worsening of the severity of natural hazards (as a result of the proposed development) and the potential for damage both on the site or to other properties; and Consider bushfire hazard assessment findings to mitigate risk to public safety and the environment with respect to the storage of hazardous materials and their potential release as a result of a natural hazard. The landform is not considered to hold protective function with respect to bushfire and flood (river) risk.
(6) Community infrastructure is located and designed to maintain the required level of functionality during and immediately after a natural hazard event.	Not Applicable The proposed development does not involve community infrastructure.

Outcome	Response
(7) Coastal protection work in an erosion prone area is undertaken only as a last resort where coastal erosion or inundation presents an imminent threat to public safety or existing buildings and structures, and all of the following apply:	Not Applicable The site not located in an Erosion Prone Area.
(a) The building or structure cannot reasonably be relocated or abandoned.	
(b) Any erosion control structure is located as far landward as practicable and on the lot containing the property to the maximum extent reasonable.	
(c) Any increase in coastal hazard risk for adjacent areas from the coastal protection work is mitigated.	
Erosion prone areas within a coastal management district:	Not Applicable
(8) Development does not occur unless the development cannot feasibly be located elsewhere and is:(a) coastal-dependent development; or	The site not located in an Erosion Prone Area of a Coastal Management District.
(b) temporary, readily relocatable or able to be abandoned development; or	
(c) essential community infrastructure; or	
(d) minor redevelopment6 of an existing permanent building or structure that cannot be relocated or abandoned.	
(9) Development permitted in policy 8 above, mitigates the risks to people and property to an	Not Applicable
acceptable or tolerable level.	The site not located in an Erosion Prone Area of a Coastal Management District.
Assessment Benchmarks	
Erosion prone areas within a coastal management district:	Not Applicable
(1) Development does not occur in an erosion prone area within a coastal management district unless the development cannot feasibly be located elsewhere and is:	The site not located in an Erosion Prone Area of a Coastal Management District.
(a) coastal-dependent development; or	
(b) temporary, readily relocatable or able to be abandoned development; or	
(c) essential community infrastructure; or	
(d) minor redevelopment9 of an existing permanent building or structure that cannot be relocated or abandoned.	
(2) Development permitted in (1) above, mitigates the risks to people and property to an acceptable or	Not Applicable
tolerable level.	The site not located in an Erosion Prone Area of a Coastal Management District.
Bushfire, flood, landslide, storm tide inundation, and erosion prone areas outside the coastal	Complies
management district:	As detailed in Section 3.4.1 of the Bushfire Hazard Assessment, the
(3) Development other than that assessed against (1) above, avoids natural hazard areas, or where it is not possible to avoid the natural hazard area, development mitigates the risks to people and	proposed development will constitute development within a bushfire hazard area.
property to an acceptable or tolerable level.	As detailed in Section 3.4.3 of the Bushfire Hazard Assessment, a range of bushfire hazard and risk mitigation and management responses are

Outcome	Response
	proposed to ensure that the risk of harm to people and property is maintained at an acceptable level.
All natural hazard areas:	Complies
(4) Development supports and does not hinder disaster management response or recovery capacity and capabilities.	Provided that the proposed bushfire hazard and risk mitigation and management measures detailed in Section 3.4.3 of the Bushfire Hazard Assessment are implemented, there would be no undue burden placed on bushfire management response or recovery capacity and capabilities.
(5) Development directly, indirectly and cumulatively avoids an increase in the severity of the natural	Complies
hazard and the potential for damage on the site or to other properties.	The development is consistent with this requirement in that it would:
	 reduce the extent of potentially hazardous vegetation within the vicinity of the planned urban development and the associated severity of local bushfires through management measures outlined in Section 3.4.3; and
	 b) improve the capacity of bushfire management personnel to respond to a bushfire in the general locality via the extension of the formed road and reticulated water network.
(6) Risks to public safety and the environment from the location of hazardous materials and the release of these materials as a result of a natural hazard are avoided.	Will Comply
	Any hazardous materials stored and handled at the proposed development site will be stored and handled in accordance with applicable regulatory requirements and the specifications of the applicable safety data sheet (SDS) – therefore resulting in compliance with item (6).
(7) The natural processes and the protective function of landforms and the vegetation that can mitigate	Expected to Comply
risks associated with the natural hazard are maintained or enhanced.	It is anticipated that the proposed development will maintain features of the landscape that mitigate bushfire hazard, such as permanent and ephemeral watercourses, and granite outcrops, outside the proposed 17metres infrastructure setback from hazardous vegetation.
	While it is expected that vegetation clearing will occur over the extent of the development layout, the final layout and extent of works will be subject to detailed engineering design and geotechnical investigations planned to be completed post-development approval.

5. Planning for Infrastructure

Outcome	Response
Energy and Water Supply	
(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 Development as proposed will be designed and constructed in consideration of the 'Major electricity infrastructure' located within the project site; the proposed development is intended to co-exist with the Major electricity infrastructure and will not compromise the integrity of the infrastructure nor the efficient delivery and functioning of the infrastructure.
(2) Major electricity infrastructure and bulk water supply infrastructure such as pump stations, water	Complies
quality facilities and electricity substations, are protected from encroachment by sensitive land uses where practicable.	Sensitive development is not proposed within proximity to Major electricity infrastructure.
(3) Development of major electricity infrastructure and bulk water supply infrastructure avoids or	Not Applicable
otherwise minimises adverse impacts on surrounding land uses and the natural environment.	The proposed development does not relate to Major electricity infrastructure or bulk water supply infrastructure.
(4) The development and supply of renewable energy at the regional, local and individual scale is	Complies
enabled in appropriate locations.	The proposed development has regard to the establishment of a Utility Installation (Solar Farm) within the RLRPA (under the Regional Plan). On the basis that the regional landscape (of which the RLRPA seeks to protect) is identified to hold value with respect to is potential renewable energy areas, the proposed development is considered to be located in an appropriate location, under the Regional Plan. Additional discussion regarding the establishment of a Solar Farm where proposed is provided in Chapter 4 – Assessment Discussion .
Infrastructure Integration	
(1) The outcomes of significant infrastructure plans and initiatives by all levels of government are	Not Applicable
considered and reflected, where relevant.	The outcome is not applicable to the assessment of a development application.
(2) Development achieves a high level of integration with infrastructure planning to:	Will Comply
(a) promote the most efficient, effective and flexible use of existing and planned infrastructure	The proposed development will integrate to existing infrastructure to the
(b) realise multiple economic, social and environmental benefits from infrastructure investment	greatest extent possible and as effectively as possible, noting that the site is
(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.	
(3) Development occurs:	Complies
(a) in areas currently serviced by state and/or local infrastructure and associated services; or	

Outcome	Response	
(b) in a logical and orderly location, form and sequence to enable the cost effective delivery of state and local infrastructure to service development.	The proposed development will utilise existing road infrastructure and electrical infrastructure.	
(4) Existing and planned infrastructure is protected from development that would compromise the	Complies	
ability of infrastructure and associated services to operate safely and efficiently.	The proposed development will be designed so as not to impact upon the safety nor operation of existing infrastructure. Planned infrastructure is not known to exist within proximity to the site.	
Transport Infrastructure		
All transport infrastructure:	Complies	
(1) Transport infrastructure and existing and future transport corridors are reflected and supported through compatible land uses.	The proposed development will utilise existing road infrastructure. The proposed development is not incompatible with existing road infrastructure. Future transport is not known to exist within proximity to the site.	
(2) Development is located in areas currently serviced by transport infrastructure, and where this	Complies	
cannot be achieved, development is facilitated in a logical and orderly location, form and sequence to enable cost-effective delivery of new transport infrastructure to service development.	The proposed development will utilise existing road infrastructure.	
(3) Development achieves a high level of integration with transport infrastructure and supports public	Complies	
passenger transport and active transport as attractive alternatives to private transport.	The proposed development gains access via existing road infrastructure, which transects the site.	
(4) Development is located and designed to mitigate adverse impacts on development from	Complies	
environmental emissions generated by transport infrastructure.	The proposed development (being for a Utility Installation) is not expected to be impacted by emissions generated by existing transport infrastructure, particularly considering the location of the site and the nature of the development.	
(5) A road hierarchy is identified that reflects the role of each category of road and effectively manages	Not Applicable	
all types of traffic.	The proposed development does not involve the provision of any new roads or alteration to the established road hierarchy.	
State transport infrastructure:	Expected to Comply	
(6) Development in areas surrounding state transport infrastructure, and existing and future state transport corridors, is compatible with, or support the most efficient use of, the infrastructure and transport network.	The Mulligan Highway, a State-controlled road, transects the site. In order to access the site, the proposed development will require augmentation to the Mulligan Highway where access is proposed. Notwithstanding, such augmentation will be designed in consultation with DTMR (to DTMR requirements) and constructed to the relevant standards and hence, development as proposed is considered to be compatible with the state transport infrastructure.	
(7) The safety and efficiency of existing and future state transport infrastructure, corridors, and networks is not adversely affected by development.	Complies	

Outcome	Response
	Access to the proposed development will be designed so as to mitigate adverse impacts upon the safety and operation of existing infrastructure. Planned infrastructure is not known to exist within proximity to the site.
Strategic Airports and Aviation Facilities	
(1) Strategic airports and aviation facilities are identified, including the associated Australian Noise Exposure Forecast (ANEF) contours, obstacle limitation surfaces or height restriction zones, public safety areas, lighting area buffers, light restriction zones, wildlife hazard buffer zones, and building restricted areas.	Not Applicable The outcome is not applicable to the assessment of a development application.
(2) The safety, efficiency and operational integrity of strategic airports are protected.	Complies
Development and associated activities:	The proposed development is not located within the vicinity of a strategic
(a) do not create incompatible intrusions, or compromise aircraft safety, in operational airspace	airport / aviation facility.
(b) avoid increasing risk to public safety in a public safety area	
(c) are compatible with forecast levels of aircraft noise within the 20 ANEF contour or greater [as defined by Australian Standard 2021–2015: Acoustics—Aircraft noise intrusion—Building siting and construction (AS 2021), adopted 12 February 2015] and mitigate adverse impacts of aircraft noise.	
(3) Development complements the role of a strategic airport as an economic, freight and logistics hub,	Not Applicable
and enhances the economic opportunities that are available in proximity to a strategic airport.	The proposed development is not located within the vicinity of a strategic airport / aviation facility.
(4) Aviation facilities are protected by avoiding development and associated activities within building restricted areas that may affect the functioning of the aviation facilities.	Complies
	The proposed development is not located within the vicinity of an aviation facility.
(5) Key transport corridors (passenger and freight) linking strategic airports to the broader transport	Not Applicable
network are identified and protected.	The proposed development is not located within the vicinity of a strategic airport / aviation facility.
Assessment Benchmarks	
(1) Development and associated activities do not create a permanent or temporary physical or	Not Applicable
transient intrusion into a strategic airport's operational airspace, unless the intrusion is approved in accordance with the relevant federal legislation.	The assessment benchmarks do not apply to the proposed development.
(2) Development and associated activities do not include light sources or reflective surfaces that could	Not Applicable
istract or confuse pilots within a light restriction zone or lighting area buffer.	The assessment benchmarks do not apply to the proposed development.
(3) Emissions do not significantly increase air turbulence, reduce visibility or compromise the operation	Not Applicable
of aircraft engines in a strategic airport's operational airspace.	The assessment benchmarks do not apply to the proposed development.
(4) Development and associated activities do not attract wildlife or increase wildlife hazards within a	Not Applicable
wildlife hazard buffer zone.	The assessment benchmarks do not apply to the proposed development.

Outcome	Response
(5) Development and associated activities within a building restricted area do not interfere with the	Not Applicable
function of aviation facilities.	The assessment benchmarks do not apply to the proposed development.
(6) Development does not increase the risk to public safety within a public safety area.	Not Applicable
	The assessment benchmarks do not apply to the proposed development.
(7) Development within the 20 ANEF contour or greater is appropriately located and designed to	Not Applicable
prevent adverse impacts from aircraft noise.	The assessment benchmarks do not apply to the proposed development.

Outcome	Response	
Strategic Ports		
All strategic ports:	Not Applicable	
(1) Strategic ports, and associated strategic port land and core port land, are identified.	The outcome is not applicable to the assessment of a development application.	
(2) Development complements the role of a strategic port as an economic, freight and logistics hub,	Not Applicable	
and enhances the economic opportunities that are available in proximity to a strategic port.	The site is not located within the vicinity of a strategic port.	
(3) Strategic ports are protected from development that may adversely affect the safety, viability or	Not Applicable	
efficiency of existing and future port operations.	The site is not located within the vicinity of a strategic port.	
(4) Development is located and designed to mitigate adverse impacts on the development from	Not Applicable	
environmental emissions generated by port operations.	The site is not located within the vicinity of a strategic port.	
(5) Key transport corridors (including freight corridors) linking strategic ports to the broader transport	Not Applicable	
network are identified and protected.	The site is not located within the vicinity of a strategic port.	
(6) Statutory land use plans for strategic ports and the findings of planning and environmental	Not Applicable	
investigations undertaken in relation to strategic ports are considered.	The site is not located within the vicinity of a strategic port.	
Priority ports:	Not Applicable	
(7) For priority ports, development is also consistent with the requirements of priority port master plans and priority port overlays as these are approved under the <i>Sustainable Ports Development Act 2015</i> .	The site is not located within the vicinity of a strategic port.	

Desailly Renewable Energy Park

APPENDIX



PLANNING SCHEME CODE RESPONSES



State	ement of Code Compliance
Mare	eba Shire Planning Scheme 2004
1	Rural Zone Code
2	Natural and Cultural Heritage Features Overlay Code
3	Natural Disaster – Bushfire Overlay Code

1. Rural Zone Code

4.78 Building Siting, Scale and Amenity

Specific Outcomes	Probable Solutions	Applicant response
For Self Assessable and Code Assessable Development	nt	
S1 New development is consistent in scale with existing buildings and structures in the vicinity and does not detrimentally impact on road transport infrastructure and adjoining uses.	 PS1.1 Any building or structure does not exceed 12 metres and three storeys in height; and PS1.2 Any building or structure is located at least: i. 50 metres from the centre line of the existing 	R1.1 Complies Buildings and structures forming part of the Desailly Renewable Energy Park sought to be established under this development application are less than 12 meters and three (3) stories in height.
	Kennedy Highway, Peninsula Developmental Road. Mareeba-Dimbulah Road or other State	R1.2 Complies
	controlled road (Main Road Marked Route) as identified on Maps R1 and R2, and	Buildings and structures forming part of the Desailly Renewable Energy Park sought to be established under
	ii. 6 metres from any other road; and	this development application will be located greater than 50 metres from the centre line of the State-controlled
	iii. 10 metres from any common boundary of allotments; and	road fronting the site (the Mulligan Highway).
	PS1.3 Buildings and other structures are located at least	R1.3 Complies
	25 metres from any Railway corridor land.	The site is not located within proximity to Railway corridor land.
S2 Agricultural activities are protected from incompatible	Agricultural activities are protected from incompatible PS2.1 Where a site in the Rural zone is not already used	
land uses.	for agriculture or agriculture – intensive and it adjoins any other zone, a separation distance of 300 metres is to be maintained between any new agricultural or	Development for new agricultural land uses is not proposed.
	agriculture - intensive use and the boundary of the adjoining zone/s.	R2.2 Complies
	PS2.2 Non agriculture or agriculture – intensive uses which adjoin any agriculture or agriculture – intensive uses are protected from spray drifts by the maintenance of a separation distance of 300 metres between the agriculture or agriculture – intensive uses and the non agriculture or agriculture – intensive uses.	A non-agricultural land use is proposed to be established (Utility Installation), which is located greater than 300 metres from agriculture (the site and nearby land is utilized for livestock grazing). Further, the proposed development is not required to be protected from spray drifts from adjoining agriculture.

Specific Outcomes	Probable Solutions	Applicant response
S3 Functional, safe and convenient vehicular access and movement to the site for the particular activity.	PS3 Access to the site is provided in accordance with Planning Scheme Policy 4 – Development Manual Section D1.30.	R3 Will Comply Access to the site will be designed and constructed in accordance with the relevant standards.
S4 Clearing of vegetation does not destabilise soil resources, result in a reduction in water quality or fragmentation of wildlife corridors (wildlife corridors are identified as Category B of Planning Scheme Maps V1 and V2)	For Lots with areas of two (2) hectares or above: PS4.1 Vegetation is retained within fifty (50) metres from the high bank of waterways and wetlands as indicated on any Planning Scheme Map; and	 R4.1 Alternative Solution Whilst the extent of clearing required to facilitate the proposed development is yet to be determined in certainty, the proposed development has been setback from the defined location of the mapped waterway in order to mitigate impacts to water quality arising from the development. Development is not proposed on land mapped (under the Planning Scheme) as comprising wildlife corridors. Clearing to be undertaken to facilitate the proposed development will be determined at the detailed design stage, which will be informed by technical assessments accompanying this application, in consideration of hydrologic values.
		A hydrological assessment is provided, which identifies major flow paths and incorporates a Stormwater Management Plan, in order to manage water quality impacts associated with development.
	For Lots below two (2) hectares in area:	R4.2 Not Applicable
	PS4.2 Vegetation is retained within ten (10) metres from the high bank of waterways and wetlands as indicated on any Planning Scheme Map; and	The site is greater than two hectares.
	For all Lots:	R4.3 Expected to Comply
	PS4.3 Vegetation is retained on land with a slope of 15% or greater.	The proposed development has been designed and sited to be located on the lower lying, relatively flat parts of the site; development is not expected to occur (and therefore require the clearing of vegetation) on land with a slope of 15% or greater.
For Code Assessable Development		
S5 Buildings are protected from adverse flooding and	PS5.1 Buildings are designed and located as not to be	R5 Will Comply
does not interfere with the passage or storage of stormwater.	 within an subject to flooding, unless: i. the floor level of all habitable rooms is at least 300mm clear of the Q100 flood level; and 	A review of SPP mapping indicates that buildings associated with the proposed development (to be located within the identified building envelopes) will not be located within a Flood Hazard Area.
		Further, a hydrological assessment has been undertaken to identify major flow paths and inform a Stormwater

Specific Outcomes		Proba	able Solutions	Applicant response
		ii.	the building is elevated and the area below the building is not enclosed or otherwise does not impede the passage of stormwater.	Management Plan, in order to manage stormwater conveyance over the site.
For th the Si S6 Ut i. ii. iii.	The Southedge Potential Tourist Area as identified on trategic Framework Maps SP1 & SP2 ility services are provided which are: Cost effective over their life cycle; and Minimise potential adverse environmental impacts in the short and long term; and Do not pose a risk to human health or the amenity of the locality; and Provided equitably.	PS6 [appro econo	Development occurs in accordance with an oved plan which adequately addresses social, omic, environmental and regional considerations.	R6 Not applicable The site is not within the Southedge Potential Tourist Area on Maps SP1 or SP2.
For M Prefe. S7 Ut i. ii. iii.	Iona Mona Reserve as identified on Map Z10 as rred Area No 2 ility services are provided which are: Cost effective over their life cycle; and Minimise potential adverse environmental impacts in the short and long term; and Do not pose a risk to human health or the amenity of the locality; and Provided equitably.	PS7 [Plan o Suppl 2001)	Development is carried out in accordance with a of Development and Land Management and the lementary Table of zones, (as amended on 13 June a, approved by Council on 19 June 2001.	R7 Not applicable The site is not identified within the Preferred Area No 2 on Map Z10.
For C Z10 a S8 La on Ma term t Regio	Iohesy River Area identified on Maps Z8, Z9 and s Preferred Area No 3 nd situated within Preferred Area No 3 (as shown aps Z8, Z9 and Z10) is protected for future long urban development as identified by the FNQ nal Plan.	PS8 N comp devel	New development within Preferred No 3 does not romise its potential for future long term urban opment.	R8 Not applicable The site is not identified within the Preferred Area No 3 on Maps Z8, Z9 or Z10.
S9 To landso i. ii.	without impacting on the attributes of the site; and with proximity to infrastructure and services adequate to meet the-day to-day needs of the tourist population likely to be generated by development on the site; and	PS9 N	No probable solution prescribed.	R9 Not applicable The proposed development is not a tourism use.

Spec	ific Outcomes	Probable Solutions	Applicant response
iii.	that contains land suitable in its physical characteristics to accommodate the form, scale and intensity of development; and		
iv.	without impact upon the visual and landscape setting of the Shire.		
S10 L land a	Jses not dependent upon good quality agricultural are not located on Good Quality Agricultural Land	PS10 No probable solution prescribed.	R10 Alternative solution (No probable solution provided)
identi unles sites.	fied on Agricultural Land Quality Maps S2 to S5, s there is an overriding need and no alternative		The site is not identified on Agricultural Land Quality Maps S2 to S5.

4.79 Gravel Pits, Resource Reserves and Mining Leases

Specific Outcomes	Probable Solutions	Applicant response		
For Self Assessable and Code Assessable Development				
S1 The continuing or new use of gravel pits, resource	PS1.1 New dwelling houses and tourist facilities (not	R1.1 Not Applicable		
reserves, mining lease areas and other areas of mineral interests identified on Maps M1 to M5 is not significantly	located on the same site as the mining interest) are not constructed within 500 metres of Mining Interests	The proposed development is not for Dwelling Houses nor Tourist Facilities.		
constrained by the sitting of incompatible uses of works.	identified on Maps Mill to Mb, and	R1.2 Not Applicable		
	PS1.2 New dwelling houses and tourist facilities (not located on the same site as the mining interest) are not constructed within 1 km from Mining Interests (as identified on Maps M1 to M5) involving blasting and crushing of material.	The proposed development is not for Dwelling Houses nor Tourist Facilities.		
For Code Assessable Development				
S2 Development of new extractive industries ensures	PS2 No probable solution prescribed.	R2 Not Applicable		
neighbouring activities are not impacted upon.		The proposed development is not for new extractive industries.		

4.80 Reconfiguring a Lot

Not Applicable – The proposed development is not for Reconfiguring a Lot.

2. Natural and Cultural Heritage Features Overlay Code

Specific Outcomes	Probable Solutions	Response
S1 Cultural Heritage Places	PS1 No probable solution provided.	R1 Not Applicable
(a) significant elements of the mining history of Mareeba Shire are conserved; and		The site does not contain a cultural heritage place.
(b) buildings, structures and operational works which demonstrate significant historical periods in the development of the Shire are conserved; and		
(c) known natural features which are significant to the indigenous cultural heritage of the Shire are protected.		
S2 Areas under the Nature Conservation Act 1992	PS2 No probable solution provided.	R2 Not Applicable
Development within 100 metres of an identified area under the <i>Nature Conservation Act 1992</i> which has rare and threatened species recognised by the Act, has no significant adverse effects on the area, including those		The project site is not identified on Planning Scheme mapping as containing any natural or cultural heritage features with respect to areas under the <i>Nature Conservation Act 1992</i> .
related to: (a) management of fire risk, including the use of natural firebreaks; or		Further, a detailed Environmental Assessment has been undertaken to ensure that the proposed development is cognizant of species protected under relevant
(b) changes to natural drainage; or		environmental legislation that occur on-site, in order to
(c) unmanaged public access; or		be able to mitigate significant adverse effects to such colonies if required
(d) effluent disposal; or		
(e) changes to natural activities of animals with respect to the location and effects of uses, fencing, lighting and the like.		
S3 Wetlands and Waterways	PS3 No probable solution provided.	R3 Alternative Solution (as No Probable Solution is
(a) There are no significant adverse effects on identified wetlands and identified waterways in terms of:		provided) The proposed development has been designed to be
(i) habitat; or		cated to the north of the Mitchell and McLeod Rivers
(ii) water quality; or		(mapped as 'waterways' on Planning Scheme mapping).
(iii) landscape quality.		undertaken to ensure that the proposed development is
(b) For intensive agriculture, a buffer is maintained from the high bank of a waterway having regard to:		cognizant of species protected under relevant environmental legislation that occur on-site, in order to
(i) water quality, and		be able to mitigate significant adverse effects to such
(ii) fauna habitat corridor, and		colonies, if required.
(iii) the retention of undisturbed vegetation , or		identify major flow paths and inform a Stormwater
(iv) revegetation of appropriate areas with local endemic specifies.		
Specific Outcomes	Probable Solutions	Response
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		Management Plan, in order to manage stormwater conveyance over the site.
S4 Conservation of Buildings and Places of Local Heritage Significance	PS4 No probable solution provided.	R4 Not Applicable
(i) Original in situ building fabric are preserved and restored; and		The site does not contain a local heritage place.
 (ii) material which is damaged or altered from its original state are repaired and replaced with contemporary materials consistent with existing built fabric; and 		
(iii) The curtilage and setting of the building are protected from development which conflicts with the character or scale of the existing building/s.		
S5 Respect for Form and Appearance of Natural	PS5 No probable solution provided.	R5 Not Applicable
Development affecting Natural Heritage Features and Cultural Heritage Features does not adversely impact upon buildings and structures of historic significance.		The site does not contain any natural heritage features or cultural heritage features.
S6 Retention of Natural Heritage Features and	PS6 No probable solution provided.	R6 Not Applicable
Buildings or structures within a Natural Heritage Feature or Cultural Heritage Feature are retained in an undamaged state or are enhanced through conservation of building fabric or structures.		The site does not contain any natural heritage features or cultural heritage features.
S7 Mineral Resources are protected	PS7 No probable solution provided.	R7 Not Applicable
Mineral Resources are protected from conflicting land uses which may constrain the current or future utilisation of such resources.		A Pipeline Lease (Granted) is identified as being located in the far north of the site, which is greater than 10 kilometres from the site of the proposed development (i.e. the proposed development is not located within proximity to the Granted Pipeline Lease). A Granted Mining Claim is identified as being located on land near to where development is proposed, however it is understood that this feature is no longer an 'active' feature of the Natural and Cultural Heritage Features Overlay. Further, development is not proposed on this land.
		The proposed development (which may be decommissioned after the identified operation period of approximately 25 years) is not considered to conflict nor constrain the current or future utilisation of Mining resources.

3. Natural Disaster – Bushfire Overlay Code

Specific Outcomes

S1 Development maintains the safety of people and property by mitigating the risk through:

- lot design and the siting of buildings; and
- including firebreaks that provide adequate:
 - setbacks between buildings/structures and hazardous vegetation, and
 - access for firefighting/other emergency vehicles;
- providing adequate road access for firefighting/other emergency vehicles and safe evacuation; and
- providing an adequate and accessible water supply for firefighting purposes.

Pro	bak	ble	So	luti	ons	

For Self Assessment

- PS1.1 Buildings and structures:
 - (a) on lots greater than 2,500m²:
 - are sited in locations of lowest hazard within the lot; and
 - achieve setbacks from hazardous vegetation16 of at least 15 metres; and
 - (b) on lots less than or equal to 2,500m²:
 - are sited in locations of lowest hazard within the lot; and
 - achieve setbacks from hazardous vegetation of at least 5 metres.

For Code Assessment:

PS1.2 Buildings and structures:

- (a) on lots greater than $2,500m^2$:
 - are sited in locations of lowest hazard within the lot; and
 - achieve setbacks from hazardous vegetation18 of 1.5 times the predominant mature canopy tree height or 10 metres, whichever is the greater; and
 - are located a minimum of 10 metres from any retained vegetation strips or small areas of vegetation; and
 - are sited so that elements of the development least susceptible to fire are sited closest to the bushfire hazard.
- (b) on lots less than or equal to 2,500m², maximise setbacks from hazardous vegetation.

Applicant response

PS1.1 Not Applicable

The proposed development is code-assessable

PS1.2 Will Comply

The proposed development is located in areas mapped as 'Medium Potential Bushfire Intensity' on the Bushfire Hazard Overlay map, (i.e. the lowest hazard within the Lot where a hazard rating is applied).

While the clearing extent is yet to be confirmed, setbacks of 17m (calculated using the determined Vegetation Hazard Classification in **Section 3.4.1**) from hazardous vegetation will be required around all structures and buildings as per the Draft SPP Bushfire hazard code requirements for vulnerable uses (i.e. substations and major electricity infrastructure). The Draft SPP Bushfire hazard code outlines requirements for a maximum radiant heat flux of 10kWm² to be achieved at buildings or envelopes deemed a vulnerable use. This separation distance is sufficient to achieve a Bushfire Attack Level of BAL-12.5 under AS 3959-2009 Australian Standard – Construction of buildings in bushfire-prone areas and a radiant heat flux of 9.72kW/m².

Probable Solutions

Applicant response

As such, construction of buildings at the minimum setback distance of 17m are required to be constructed at BAL-12.5 minimum standard.

For Self Assessment and Code Assessment:

PS1.3 For uses involving new or existing buildings with a gross floor area greater than 50m², each lot has:

 a reliable reticulated water supply that has sufficient flow and pressure characteristics for fire fighting purposes at all times (minimum pressure and flow is 10 litres a second at 200 kPa);

OR

 an on-site water storage of not less than 5,000 litres (eg accessible dam or tank with fire brigade tank fittings, swimming pool).

For Code Assessment only:

PS1.4 Lots are designed so that their size and shape allow for:

 (a) efficient emergency access to buildings for fire-fighting appliances (e.g. by avoiding long narrow lots with long access drives to buildings);

AND

(b) setbacks and building siting in accordance with PS1.2 above.

For Code Assessment only:

PS1.5 Firebreaks are provided by:

- (a) a perimeter road that separates lots from areas of bushfire hazard and that road has:
 - a minimum cleared width of 20 metres; and
 - a constructed road width and weather standard complying with local government standards.

PS1.3 Will Comply Development will pro

Development will provide a permanent high-volume water supply in both the north and the south of the Site. Following the approval of extraction permits from DNRM, water would be drawn from the Mitchell River, McLeod River, or from one or more onsite bores. Water will be reticulated through the Site through the construction of an on-site pumping station. This may be associated with significant water storage capacity, either tanks, ponds, or similar. The final design will be subject to detailed engineering design and geotechnical investigations planned to be completed post-development approval.

PS1.4 Not Applicable

No new lots are proposed.

PS1.5 Alternative Solution

The final perimeter road and internal track design will be subject to detailed engineering design and geotechnical investigations planned to be completed post-development approval.

As stated in PS1.2, cleared breaks of 17 metres width from retained hazardous vegetation within the development (e.g. creek corridors and other retained vegetation) will allow burning of sections and access for bushfire response.

Specific Outcomes	Probable Solutions	Applicant response
	OR (b) where it is not practicable to comply with PS1.5 (a), fire maintenance trails are located as close as possible to the boundaries of the lots and the adjoining bushland hazard, and the fire/maintenance trails:	
	 have a minimum cleared width of 6 metres; AND have a formed width and gradient, and erosion control devices to local government standards; 	
	 AND have vehicular access at each end; and provide passing bays and turning areas for fire-fighting appliances; AND are either located on public land, or within an access easement that is granted in favour of the local government 	
	and Queensland Fire & Rescue Service. AND (C) sufficient cleared breaks of 6 metres minimum width in retained bushland within the development (eg creek corridors and other retained vegetation) to allow burning of	
	sections and access for bushfire response.	
	For Code Assessment only: PS1.6 Roads are designed and constructed in accordance with applicable local government and State government standards and: (a) have a maximum gradient of 12.5%; and	PS1.6 Alternative Solution The final road design and construction form will be subject to detailed engineering design and geotechnical investigations planned to be completed post- development approval.
	 (b) exclude cul-de-sacs, except where a perimeter road isolates the development from hazardous vegetation or the cul-de-sacs are provided with an alternative access 	

Specific Outcomes	Probable Solutions	Applicant response
	linking the cul-de-sacs to other through roads.	
	For Code Assessment only:	PS1.7 Alternative Solution
	PS1.7 Development complies with a Bushfire Management Plan for the premises.	Given that the final layout will be subject to detailed engineering design and geotechnical investigations planned to be completed post-development approval, a Bushfire Management Plan will be developed in accordance with final layout and design.
For Code Assessment only:	For Code Assessment only:	PS2 Alternative Solution
S2 Public safety and the environment are not adversely affected by the detrimental impacts of bushfire on hazardous materials manufactured or stored in bulk.	PS2 Development complies with a Bushfire Management Plan for the premises.	Given that the final layout will be subject to detailed engineering design and geotechnical investigations planned to be completed post-development approval, A Bushfire Management Plan will be developed in accordance with final layout and design.
		While the clearing extent is yet to be confirmed, setbacks of 17m (calculated to satisfy the Draft SPP Bushfire hazard code requirements for vulnerable uses) from hazardous vegetation will be achieved around all structures and buildings (including any hazardous materials stored in bulk).