

Appendix A

Statement of Commitments and Condition 13 of the Ministerial Decision Notice



Deputy Premier
Minister for Infrastructure, Local Government and Planning
and Minister for Trade and Investment

Our ref: MC15/4675

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100 George Street
PO Box 15009 City East
Queensland 4002 Australia
Telephone +61 7 3719 7100
Email deputy.premier@ministerial.qld.gov.au

18 DEC 2015

Mr Anil Nangia
Mount Emerald Wind Farm Pty Ltd
c/- Ratch-Australia Corporation
Level 4, 231 George Street
BRISBANE QLD 4000
Email: anil.nangia@ratchaustralia.com

Dear Mr Nangia

**Notice of Decision on Permissible Change Request
Changed approval (responsible entity) under Section 369 of the
*Sustainable Planning Act 2009***

Thank you for your letter of 25 August 2015, and for your email correspondence dated 10, 11, 14, 15 and 18 December 2015, on behalf of the applicant Mount Emerald Wind Farm Pty Ltd, requesting a permissible change to a development approval dated 24 April 2015, subject of a previous ministerial call in for the Mount Emerald Wind Farm at Arriga.

I acknowledge that the decision period for the request to change the development approval was extended until 24 December 2015 under section 375(5) of the *Sustainable Planning Act 2009* (the SPA) with your written agreement.

I am pleased to advise that I have approved the requested changes. The approved changes are shown in bold in the attached decision notice for the original application dated 24 April 2015.

Applicant details

Applicant name:	Mount Emerald Wind Farm Pty Ltd
Applicant contact details:	c/- Ratch-Australia Corporation Level 4, 231 George Street BRISBANE QLD 4000

Application details

Original assessment manager:	Mareeba Shire Council
Date application properly made:	29 March 2012
Original approval sought:	Development permit for a material change of use for a wind farm comprising a maximum of 75 turbines
Description of development:	Wind farm
Category of development:	Code assessment

Property details

Real property description: Lot 7 on SP235244, part of Lot 905 on CP896501 and Easement A in Lot 1, Easement C in Lot 2 and Easement E in Lot 3 on SP231871

Address of property: Springmount Road and Kippin Drive, Arriga

Ministerial call in details

Date call in notice given: 11 June 2014

Date of decision: 24 April 2015

Details of decision: Approved, subject to conditions

Type of approval: Development permit for a material change of use for a wind farm comprising a maximum of 63 turbines

Request to change approval

Date request was properly made: 31 August 2015

Description of requested changes:

1. amend conditions 3, 4, 5, 6 and 11 – to reference existing 'and approved' dwellings and sensitive land uses 'at the date of this approval'
2. amend conditions 4 and 5 - to amend acoustic requirements to clarify the intent of the condition
3. amend condition 6 - to facilitate compliance and monitoring of the acoustic requirements for the wind farm
4. amend condition 7 – to amend the modelling of the shadow flicker to '30 hours per annum and 30 minutes per day'
5. amend the numbering within condition 12
6. amend condition 14 – to amend the timing for the submission of the Community Engagement Strategy from three months prior to 'consultation' to 'five' months prior to 'construction'
7. amend the advice statement in relation to the Significant Species Management Plans to remove specific reference to the Mareeba Rock Wallaby.

Date of Decision: 18 December 2015

Details of decision: Approved

Nature of the changes

The nature of the approved changes are to:

1. Amend condition 3 (a) (ii) as follows:
 - ii. *All turbines must be setback a minimum of 1,500 metres from any existing and approved dwelling at the date of this approval;*
2. Amend condition 4 as follows:

The wind farm development must be designed and operated to ensure that:

 - (a) *The outdoor night-time equivalent noise level ($L_{Aeq, 10 \text{ minutes}}$) at during the night-time (10pm to 6am) at existing and approved sensitive land uses at the date of this approval, does not exceed the higher of:*
 - (i) *35dB(A); or*
 - (ii) *the background noise level (L_{A90}) plus 5dB(A);**and*
 - (b) *The outdoor day-time equivalent noise level ($L_{Aeq, 10 \text{ minutes}}$) at existing and approved sensitive land uses at the date of this approval, does not exceed the higher of:*
 - (i) *37dB(A); or*
 - (ii) *the background noise level (L_{A90}) plus 5dB(A).*
 - (c) *The equivalent noise levels (L_{Aeq}) are to be assessed at all existing and approved sensitive land uses at the date of this approval for all integer hub height wind speeds from cut-in to rated power of the wind turbine generator.*
 - (d) *Measurements of background noise or operational noise from wind turbine generators for the operation shall be in accordance with Australian Standard AS4959-2010 Acoustics – Measurement, prediction and assessment of noise from wind turbine generators (AS4959-2010) at any existing and approved sensitive land uses at the date of this approval. If an alternative standard or guideline to AS4959-2010 is to be followed for the assessment of Special Audible Characteristics, then reasons for the selection of the alternative are to be provided.*
3. Amend condition 5 as follows:

The wind farm development must be designed and operated to ensure that that the low frequency noise level does not exceed:

 - (a) *60dB(C) for the outdoor C-Weighted equivalent noise level ($L_{Ceq, 10 \text{ minutes}}$) during the outdoor night-time (10pm to 6am); and*
 - (b) *65dB(C) for the outdoor C-Weighted equivalent noise level ($L_{Ceq, 10 \text{ minutes}}$) during the day-time (6am to 10pm).*

The C-Weighted noise levels (L_{Ceq}) are to be assessed at all existing and approved sensitive land uses at the date of this approval for all integer hub height wind speeds from cut-in to rated power of the wind turbine generator.

Measurements operational noise from wind turbine generators for the operation shall be in accordance with Australian Standard AS4959-2010 Acoustics – Measurement, prediction and assessment of noise from wind turbine generators at any existing and approved sensitive land uses at the date of this approval.
4. Amend condition 6 as follows:
 - (a) *Submit to the chief executive administering SPA a revised noise assessment report, certified by a suitably qualified acoustic consultant, demonstrating that the proposed wind farm can meet the noise levels specified in conditions 4 and 5 of this approval. The report is to:*
 - (i) *Model the acoustic impacts of the wind farm based on the revised Turbine Location and Development Footprint Plan submitted in accordance with condition 2 of this approval.*

The noise modelling should take into account the varied topography between the turbine locations and existing and approved sensitive land use receptors at the date of this approval and any impacts that may have on predicted noise levels, and include an assessment of Special Audible Characteristics including tonality, impulsivity and amplitude modulation.

- (ii) *Identify any design specifications or operational restrictions that may be necessary to ensure compliance with the noise levels specified in conditions 4 and 5, such as turbine types or limitations on hours of operation of specific turbines.*
 - (b) *Submit to the chief executive administering SPA a compliance noise assessment report, certified by a suitably qualified acoustic consultant, demonstrating that the proposed wind farm meets the noise levels specified in conditions 4 and 5 of this approval. The report is to:*
 - (i) *Measure the acoustic impacts of the wind farm based on the final Turbine Location and Development Footprint Plan submitted in accordance with condition 2 of this approval.*
The noise measurements should take into account the turbine locations and any existing and approved sensitive land use receptors at the date of this approval; and include an assessment of Special Audible Characteristics including tonality, impulsivity and amplitude modulation. Assessment of Special Audible Characteristics should be carried out using an appropriate international standard or guideline. Reasons for selection of the standard or guideline are to be provided with the noise assessment report. The assessment should determine whether the Special Audible Characteristics are excessive and require an adverse character adjustment (adj) to specific measurement period.
5. Amend the timing of condition 6 as follows:
- (a) *Prior to the commencement of site / operational / building work*
 - (b) *Within twelve (12) months of the completion of construction and then to be maintained.*
6. Amend condition 7 as follows:
- (a) *Submit to the chief executive administering SPA a revised shadow flicker assessment report certified by a suitably qualified and experienced person demonstrating that the shadow flicker from the turbines will not exceed 10 hours per annum at any dwelling existing at the date of this approval.*
The report is to model the shadow flicker of the wind farm, based on the revised Turbine Location and Development Footprint Plan submitted in accordance with condition 2 of this approval.
 - (b) *The wind farm is to be constructed and operated in accordance with the revised shadow flicker assessment report required in part (a) of this condition. In particular any design specifications or operational restrictions required to ensure that shadow flicker from the constructed turbines does not exceed 30 hours per annum and 30 minutes per day at any dwelling existing at the date of this approval.*
7. Amend condition 11 as follows:
- (a) *Undertake an assessment of the television and radio reception strength in the area within 5 km of any proposed turbine and in which any existing and approved dwellings are located as at the date of this approval.*
The pre-construction assessment must be undertaken by a television and radio monitoring specialist, and include testing at selected locations to enable the average television and radio reception strength in the area within 5 km of the site to be determined. The specific locations of testing must be determined by a television and radio monitoring specialist.
 - (b) *If, following commencement of the operation of the wind farm, a complaint is received regarding the wind farm having an adverse effect on television or radio reception at any existing and approved dwelling within 5 km of the site which existed at the date of this approval, a post-construction assessment of the television and radio reception strength must be carried out at or in close proximity to any existing and approved dwelling at the date of this approval by a television and radio monitoring specialist.*
 - (c) *If the post-construction assessment establishes an unacceptable increase in interference to reception as a result of the wind farm, measures to restore the affected reception to pre-construction quality must be undertaken.*

- (d) *Provide to the chief executive administering SPA, on request, the results of the pre-construction assessment and any post-construction assessment carried out in response to a complaint and evidence that the appropriate restoration measures have been undertaken to address television and radio reception strength where required.*
8. Amend the numbering within condition 12(a) as follows:
- (i) *an existing conditions survey of Hansen Road, Springmount Road and Kippen Drive including details of the suitability, design, condition and construction standard of the relevant public roads;*
 - (ii) *the designation of all vehicle access points to the site from surrounding roads. Vehicle access points must be designed and located to ensure safe sight distances, turning movements, and avoid potential through traffic conflicts;*
 - (iii) *the designation of appropriate pre-construction, construction/decommissioning and transport vehicle routes to and from the site;*
 - (iv) *engineering plans demonstrating whether, and if so how, truck movements to and from the site can be accommodated on sealed roadways and turned without encroaching onto the incorrect side of the road;*
 - (v) *recommendations regarding the need for road and intersection upgrades to accommodate any additional traffic or site access requirements (whether temporary or ongoing). Where upgrades are required, the traffic management plan must include:*
 - (a) *detailed engineering plans showing the required works;*
 - (b) *the timing of when the works are to be undertaken;*
 - (c) *a program of regular inspections to be carried out during the construction of the wind farm to identify maintenance works necessary as a result of construction traffic;*
9. Amend the timing on condition 14 as follows:
- (a) *Five (5) months prior to construction commencing*
10. Amend aspects detailed in the advice statements – Attachment 1 – Components of the Environmental Management Plan, to read as follows:
- Significant species management plans**
Significant species management plans must:
- (a) *include plans for all wildlife species listed as Endangered, Vulnerable or Near Threatened under the provisions of the Nature Conservation Act 1992 that:*
 - (i) *are currently known to occur within or periodically utilise the site; or*
 - (ii) *are detected within the site during the conduct of further baseline, construction or operational monitoring pursuant to other conditions; and*
 - (iii) *are not the subject of an equivalent management plan prepared in satisfaction of an approval issued under the provisions of the Environment Protection and Biodiversity Conservation Act 1999 (Cth).*
 - (b) *set out key impact management strategies including:*
 - (i) *further baseline programs;*
 - (ii) *management targets;*
 - (iii) *design, construction and operational impact avoidance and mitigation measures and protocols;*
 - (iv) *quantitative performance indicators;*
 - (v) *monitoring and reporting regimes;*
 - (vi) *corrective actions;*
 - (vii) *timeframes for identified actions; and*
 - (viii) *applicant and stakeholder responsibilities.*

Referral Agencies

Section 372 of the SPA requires that when a person makes a request to change the development approval, the person must give a copy of the request to the original assessment manager and any concurrence agencies for the original development application as the relevant entities.

Mareeba Shire Council and the Department of Infrastructure, Local Government and Planning, in its capacity as the State Assessment and Referral Agency, have provided responses as relevant entities to the request for the permissible change to the development approval.

Conditions of approval

The conditions of this approval are set out in the decision notice for the original application, with the approved changes shown in bold.

Appeal rights

A person may not appeal against the Minister's decision (section 427(5) of the SPA).

If you require any further information, I encourage you to contact Mr Adam Yem, Acting Executive Director, Planning Group, Department of Infrastructure, Local Government and Planning on 3452 7679 or Ministerial.Callin@dilgp.qld.gov.au.

Yours sincerely



**JACKIE TRAD MP
DEPUTY PREMIER
Minister for Infrastructure, Local Government and Planning
and Minister for Trade and Investment**

Enc (3)



Hon Jackie Trad MP

Deputy Premier

Minister for Transport, Minister for Infrastructure,
Local Government and Planning and Minister for Trade

Our ref: MBN14/753

24 April 2015

Mr Geoff Dutton
Mount Emerald Wind Farm Pty Ltd
c/- RATCH Australia
Level 4, 231 George Street
BRISBANE QLD 4000
Email: Geoff.Dutton@ratchaustralia.com

Dear Mr Dutton

DECISION NOTICE Ministerial Call In of Development Application Mount Emerald Wind Farm, Arriga

I refer to the then Deputy Premier, Minister for State Development, Infrastructure and Planning's decision on 11 June 2014 to exercise ministerial call in powers under the *Sustainable Planning Act 2009* (SPA) to call in the development application for the Mount Emerald Wind Farm, Arriga.

Please be advised that on 24 April 2015, I decided to approve the development application subject to conditions.

Applicant details	
Name of applicant:	Mount Emerald Wind Farm Pty Ltd
Address of applicant:	c/- RATCH Australia Level 4, 231 George Street BRISBANE QLD 4000
Application details	
Original assessment manager:	Mareeba Shire Council
Date application properly made:	29 March 2012
Approvals sought:	Development Permit for a Material Change of Use for a Wind Farm comprising a maximum of 63 turbines
Description of development:	Wind Farm comprising a maximum of 63 turbines and ancillary infrastructure
Category of development:	Code Assessment
Property details	
Real property description ("the site"):	Lot 7 on SP235244, part of Lot 905 on CP896501 and Easement A in Lot 1, Easement C in Lot 2 and Easement E in Lot 3 on SP231871
Address of property:	Springmount Road and Kippin Drive, Arriga

Level 12 Executive Building
100 George Street Brisbane
PO Box 15009 City East
Queensland 4002 Australia
Telephone +61 7 3719 7100
Email deputy.premier@ministerial.qld.gov.au

Ministerial call in details	
Date call in notice given:	11 June 2014
I assessed and decided the development application under the normal assessment and decision provisions under SPA.	
Date of decision:	24 April 2015
Details of decision:	Approved subject to conditions
Type of approval:	Development Permit for a Material Change of Use for a Wind Farm comprising a maximum of 63 turbines

Referral Agencies

The following agencies were referral agencies for the development application. As a result of the decision to call in the development application under section 425(1) of SPA, a concurrence agency for the development application is taken to be an advice agency until I give the decision notice (section 427(4) of SPA).

Referral agency name at the time of lodgement	Referral agency	Address	Advice or concurrence
Department of Environment and Resource Management	Department of Environment and Heritage Protection	GPO Box 2454 BRISBANE QLD 4001	Advice and Concurrence
	Department of Natural Resources and Mines	PO Box 15216 CITY EAST QLD 4002	Concurrence
Powerlink	Powerlink	PO Box 1193 VIRGINIA QLD 4014	Advice

Further to this, third party advice was also received from the following agencies:

Agency	Address
Queensland Health	GPO Box 48 BRISBANE QLD 4001
Mareeba Shire Council	PO Box 154 MAREEBA QLD 4880
Tablelands Regional Council	PO Box 573 ATHERTON QLD 4883

Approval despite conflict with the planning scheme

I consider that this decision conflicts with the Rural Zone Code in the *Mareeba Shire Planning Scheme 2004* and Overall Outcome (e) in the *Temporary Local Planning Instrument 01/11 (Wind Farms)* (TLPI 01/11).

However, there are sufficient grounds to approve the Mount Emerald Wind Farm development application despite the conflict. These grounds are:

- Parts of the Mareeba Shire Planning Scheme 2004 are out of date in regards to its policy position on wind farms. A shift in planning requirements, through the former TLPI 01/11 (Wind Farms) and TLPI 01/12 (Wind Farms), which is now included within the planning scheme as Amendment 01/11 – Wind Farms, expresses the revised policy position. The Mareeba Shire Planning Scheme 2004 has not yet incorporated all of the appropriate changes to align with these new requirements.
- The Far North Queensland Regional Plan 2009-2031 recognises wind farms as legitimate land use and emphasis is placed on promoting renewable energy. The Far North Queensland Regional Plan is not appropriately reflected in the Mareeba Planning Scheme and is a higher-order planning instrument.

I also consider that the conflict arises because of a conflict between two or more relevant instruments being the Mareeba Shire Planning Scheme and the TLPI 01/11 and later the Amendment 01/11 and the decision best achieves the purpose of the instrument.

Approval subject to conditions

The conditions of this approval are set out in Schedules 1 and 2, attached.

Other development permits and compliance permits

Listed below are other development permits and/or compliance permits that are necessary to allow the development to be carried out:

- building works
- plumbing and drainage works
- operational works.

Codes for self-assessable development

Nil.

Details of any compliance assessment required for documents or work in relation to the development

Nil.

Deemed approval of applications

As a result of the decision to call in and assess and decide the development application, chapter 6, part 5, division 3, subdivision 4 of SPA does not apply to the development application (section 427(7) of SPA).

The application is not taken to have been approved under section 331 of SPA.

When approval lapses if development not started

This development approval will lapse as per section 341 of SPA.

Referenced plans


Copies of the approved plans and documents are set out in Schedule 2.

Appeal rights

A person may not appeal against the Minister's decision (section 427(5) of SPA).

If you require any further assistance, please email: ministerial_call_in@dip.qld.gov.au.

Yours sincerely



**JACKIE TRAD MP
DEPUTY PREMIER
Minister for Transport, Minister for Infrastructure,
Local Government and Planning and Minister for Trade**

Enc (2)

Schedule 1: Conditions of Approval
Development Permit for a Material Change of Use - Code Assessment

Condition		Timing																		
General / Planning Requirements																				
1.	<p>Undertake the development generally in accordance with the approved plans and documents referred to in Table 1, as modified by the conditions of this approval.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">Table 1: Approved Plans and Documents</th> </tr> <tr> <th style="text-align: center;">Plan/Document number</th> <th style="text-align: center;">Plan/Document name</th> <th style="text-align: center;">Date</th> </tr> </thead> <tbody> <tr> <td>PR100246-170 Issue A</td> <td>Mount Emerald Wind Farm Turbine Location and Development Footprint</td> <td>18-11-2013</td> </tr> <tr> <td>Appendix A</td> <td>Statement of Commitments in RPS Development Application Material Change of Use Report</td> <td>March 2012</td> </tr> <tr> <td>PR100246/R72893</td> <td>Preliminary Environmental Management Plan</td> <td>November 2013</td> </tr> <tr> <td>CB24504 Rev 1</td> <td>Technical Note 2 - Traffic Impact Assessment Engineering Response prepared by Jacobs</td> <td>29/08/2014</td> </tr> </tbody> </table>	Table 1: Approved Plans and Documents			Plan/Document number	Plan/Document name	Date	PR100246-170 Issue A	Mount Emerald Wind Farm Turbine Location and Development Footprint	18-11-2013	Appendix A	Statement of Commitments in RPS Development Application Material Change of Use Report	March 2012	PR100246/R72893	Preliminary Environmental Management Plan	November 2013	CB24504 Rev 1	Technical Note 2 - Traffic Impact Assessment Engineering Response prepared by Jacobs	29/08/2014	<p>While site / operational / building work is occurring and then to be maintained</p>
Table 1: Approved Plans and Documents																				
Plan/Document number	Plan/Document name	Date																		
PR100246-170 Issue A	Mount Emerald Wind Farm Turbine Location and Development Footprint	18-11-2013																		
Appendix A	Statement of Commitments in RPS Development Application Material Change of Use Report	March 2012																		
PR100246/R72893	Preliminary Environmental Management Plan	November 2013																		
CB24504 Rev 1	Technical Note 2 - Traffic Impact Assessment Engineering Response prepared by Jacobs	29/08/2014																		

Location and Design		
2.	<p>Submit to the chief executive administering SPA, a revised Turbine Location and Development Footprint Plan identifying the final position of:</p> <ul style="list-style-type: none"> • all proposed turbines; and • the operations and maintenance depots <p><i>Note: Micro-siting of turbines, prior to the submission of the above mentioned reports, is permitted.</i></p> <p><i>Micro-siting means an alteration to the siting of a turbine by not more than 100 metres beyond the siting of turbines identified in approved plan Mount Emerald Wind Farm Turbine Location and Development Footprint PR100246-170 Issue A, dated 18-11-2013.</i></p>	<p>Prior to seeking approval for any site, operational or building work</p>
3.	<p>(a) The wind farm must be designed and constructed in accordance with the following:</p> <ul style="list-style-type: none"> i. The maximum number of turbines must not exceed 63; ii. All turbines must be setback a minimum of 1,500 metres from any existing and approved dwelling at the date of this approval; iii. All turbines and the operations and maintenance depot are to be located in accordance with the revised Turbine Location and Development Footprint Plan required by condition 2 of this approval; iv. The overall maximum height of any turbine (measured to the tip of the rotor blade at their highest point above ground level) must not exceed 1179.5 metres AHD; v. The hub height of any turbine must not exceed 90 metres above ground level; vi. All cabling must be provided underground, except where the approved Environmental Management Plan recommends an alternative method in environmentally sensitive locations. <p>(b) Submit certification to the chief executive administering SPA from an Registered Professional</p>	<p>(a) Prior to the commencement of use and then to be maintained</p> <p>(b) Prior to the commencement of use</p>

	<p>Engineer Queensland (RPEQ) that the wind farm as constructed complies with the design specifications indicated in part (a) of this condition.</p>	
Acoustic Amenity		
<p>4.</p>	<p>The wind farm development must be designed and operated to ensure that:</p> <p>(a) The outdoor night-time (10pm to 6am) equivalent noise level ($L_{Aeq,10 \text{ minutes}}$) at existing and approved sensitive land uses at the date of this approval, does not exceed the higher of:</p> <p style="padding-left: 40px;">(i) 35dB(A); or</p> <p style="padding-left: 40px;">(ii) the background noise level (L_{A90}) plus 5dB(A);</p> <p style="padding-left: 40px;">and</p> <p>(b) The outdoor day-time equivalent noise level ($L_{Aeq,10 \text{ minutes}}$) at existing and approved sensitive land uses at the date of this approval, does not exceed the higher of:</p> <p style="padding-left: 40px;">(i) 37dB(A) ; or</p> <p style="padding-left: 40px;">(ii) the background noise level (L_{A90}) plus 5dB(A).</p> <p>(c) The equivalent noise levels (L_{Aeq}) are to be assessed at all existing and approved sensitive land uses at the date of this approval for all integer hub height wind speeds from cut-in to rated power of the wind turbine generator.</p> <p>(d) Measurements of background noise or operational noise from wind turbine generators for the operation shall be in accordance with Australian Standard AS4959-2010 <i>Acoustics - Measurement, prediction and assessment of noise from wind turbine generators</i> (AS4959-2010) at any existing and approved sensitive land uses at the date of this approval. If an alternative standard or guideline to AS4959-2010 is to be followed for the assessment of Special Audible Characteristics, then reasons for the selection of the alternative are to be provided.</p>	<p>Prior to the commencement of use and then to be maintained</p>

<p>5.</p>	<p>The wind farm development must be designed and operated to ensure that that the low frequency noise level does not exceed:</p> <p>(a) 60dB(C) for the outdoor C-Weighted equivalent noise level ($L_{Ceq, 10 \text{ minutes}}$) during the outdoor night-time (10pm to 6am); and</p> <p>(b) 65dB(C) for the outdoor C-Weighted equivalent noise level ($L_{Ceq, 10 \text{ minutes}}$) during the day-time (6am to 10pm).</p> <p>The C-Weighted noise levels (L_{Ceq}) are to be assessed at all existing and approved sensitive land uses at the date of this approval for all integer hub height wind speeds from cut-in to rated power of the wind turbine generator.</p> <p>Measurements of operational noise from wind turbine generators for the operation shall be in accordance with Australian Standard AS4959-2010 <i>Acoustics - Measurement, prediction and assessment of noise from wind turbine generators</i> at any existing and approved sensitive land uses at the date of this approval.</p>	<p>Prior to the commencement of use and then to be maintained</p>
<p>6.</p>	<p>(a) Submit to the chief executive administering the SPA a revised noise assessment report, certified by a suitably qualified acoustic consultant, demonstrating that the proposed wind farm can meet the noise levels specified in conditions 4 and 5 of this approval. The report is to:</p> <p>i. Model the acoustic impacts of the wind farm based on the revised Turbine Location and Development Footprint Plan submitted in accordance with condition 2 of this approval.</p> <p>The noise modelling should take into account the varied topography between the turbine locations and existing and approved sensitive land use receptors at the date of this approval and any impacts that may have on predicted noise levels, and include an assessment of Special Audible Characteristics including tonality, impulsivity and amplitude modulation.</p> <p>ii. Identify any design specifications or operational restrictions that may be necessary to ensure compliance with the noise levels specified in conditions 4 and 5, such as turbine types or limitations on hours of operation of specific turbines.</p>	<p>(a) Prior to the commencement of site / operational / building work</p>

	<p>(b) Submit to the chief executive administering the SPA a compliance noise assessment report, certified by a suitably qualified acoustic consultant, demonstrating that the proposed wind farm meets the noise levels specified in conditions 4 and 5 of this approval. The report is to:</p> <p>i. Measure the acoustic impacts of the wind farm based on the final Turbine Location and Development Footprint Plan submitted in accordance with condition 2 of this approval.</p> <p>The noise measurements should take into account the turbine locations and any existing and approved sensitive land use receptors at the date of this approval; and include an assessment of Special Audible Characteristics including tonality, impulsivity and amplitude modulation. Assessment of Special Audible Characteristics should be carried out using an appropriate international standard or guideline. Reasons for selection of the standard or guideline are to be provided with the noise assessment report. The assessment should determine whether the Special Audible Characteristics are excessive and require an adverse character adjustment (adj) to specific measurement period.</p>	<p>(b) Within twelve (12) months of the completion of construction and then to be maintained</p>
Visual Amenity		
<p>7.</p>	<p>(a) Submit to the chief executive administering SPA a revised shadow flicker assessment report certified by a suitably qualified and experienced person demonstrating that the shadow flicker from the turbines will not exceed 10 hours per annum at any dwelling existing at the date of this approval.</p> <p>The report is to model the shadow flicker of the wind farm, based on the revised Turbine Location and Development Footprint Plan submitted in accordance with condition 2 of this approval.</p> <p>(b) The wind farm is to be constructed and operated in accordance with the revised shadow flicker assessment report required in part (a) of this condition. In particular, any design specifications or operational restrictions required to ensure that shadow flicker from the constructed turbines does not exceed 30 hours per annum and 30 minutes per day at any dwelling existing at the date of this approval.</p>	<p>(a) Prior to seeking approval for any site, operational or building work</p> <p>(b) Prior to the commencement of use and then to be maintained</p>

8.	The turbines and blades must have a low reflectivity finish.	Prior to the commencement of use and to be maintained
9.	<p>External lighting of infrastructure associated with the wind farm is not permitted other than:</p> <ul style="list-style-type: none"> (a) low-level, low-intensity security lighting; (b) aviation obstacle lighting where required by the Civil Aviation and Safety Authority; (c) lighting necessary in the case of an emergency or for operational call-outs at reasonable times. <p>Any external lighting, excluding aviation obstacle lights, is to comply with Australian Standard AS 4282-1993 <i>Control of the obtrusive effects of outdoor lighting</i>.</p>	Prior to the commencement of use and to be maintained
10.	<ul style="list-style-type: none"> (a) Submit to the chief executive administering the SPA an on-site landscaping plan prepared by a suitably qualified landscape architect. The plans must be fully dimensioned and drawn to a recognised scale. (b) The on-site landscaping plan must include but not limited to: <ul style="list-style-type: none"> (i) landscaping to screen the substation, switchyard and maintenance depots and other associated buildings (excluding the turbines); (ii) details of plant species proposed to be used in the landscaping, including height and spread at maturity; (iii) a timetable for implementation of all on-site landscaping works; (iv) a maintenance and monitoring program to ensure the ongoing health of the landscaping. (c) Carry out and maintain the development in accordance with the submitted on-site landscaping plan prepared in accordance with part (a) of this condition. (d) Submit certification to the chief executive from a suitably qualified landscape architect that the works have been carried out in accordance with part (a) of this condition. 	<ul style="list-style-type: none"> (a) Prior to the commencement of site / operational / building work (b) Prior to the commencement of use and to be maintained at all times (c) Prior to the commencement of use (d) Prior to the commencement of use

Television and Radio Reception

11.	<p>(a) Undertake an assessment of the television and radio reception strength in the area within 5 km of any proposed turbine and in which any existing and approved dwellings are located as at the date of this approval.</p> <p>The pre-construction assessment must be undertaken by a television and radio monitoring specialist, and include testing at selected locations to enable the average television and radio reception strength in the area within 5 km of the site to be determined. The specific locations of testing must be determined by a television and radio monitoring specialist.</p> <p>(b) If, following commencement of the operation of the wind farm, a complaint is received regarding the wind farm having an adverse effect on television or radio reception at any existing and approved dwelling within 5 km of the site which existed at the date of this approval, a post-construction assessment of the television and radio reception strength must be carried out at, or in close proximity to, any existing and approved dwelling at the date of this approval by a television and radio monitoring specialist.</p> <p>(c) If the post-construction assessment establishes an unacceptable increase in interference to reception as a result of the wind farm, measures to restore the affected reception to pre-construction quality must be undertaken.</p> <p>(d) Provide to the chief executive administering the SPA, on request, the results of the pre-construction assessment and any post-construction assessment carried out in response to a complaint and evidence that the appropriate restoration measures have been undertaken to address television and radio reception strength where required.</p>	<p>(a) Prior to the commencement of site / operational / building work</p> <p>(b) Within one (1) month of receiving a complaint</p> <p>(c) Within two (2) months of the post-construction assessment</p> <p>(d) Within (2) months of the post-construction assessment</p>
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Traffic Management

12.	<p>(a) Submit to the chief executive administering the SPA a Construction Traffic Management Plan (CTMP) prepared by an RPEQ and in consultation with the Department of Transport and Main Roads, Cairns Regional Council, Tablelands Regional Council and</p>	<p>(a) Prior to the commencement of site / operational / building work</p>
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Mareeba Shire Council.

The CTMP must relate to the roads proposed to be used in transporting material, personnel and equipment related to the construction and decommissioning of the wind farm.

The CTMP must include but not limited to:

- (i) an existing conditions survey of Hansen Road, Springmount Road and Kippen Drive including details of the suitability, design, condition and construction standard of the relevant public roads;**
- (ii) the designation of all vehicle access points to the site from surrounding roads. Vehicle access points must be designed and located to ensure safe sight distances, turning movements, and avoid potential through traffic conflicts;**
- (iii) the designation of appropriate pre-construction, construction/decommissioning and transport vehicle routes to and from the site;**
- (iv) engineering plans demonstrating whether, and if so how, truck movements to and from the site can be accommodated on sealed roadways and turned without encroaching onto the incorrect side of the road;**
- (v) recommendations regarding the need for road and intersection upgrades to accommodate any additional traffic or site access requirements (whether temporary or ongoing). Where upgrades are required, the traffic management plan must include:**
 - (a) detailed engineering plans showing the required works;**
 - (b) the timing of when the works are to be undertaken;**
 - (c) a program of regular inspections to be carried out during the construction of the wind farm to identify maintenance works necessary as a result of construction traffic;**
- (vi) measures to be taken to manage traffic impacts**

	<p>associated with the ongoing operation of the wind farm on the traffic volumes and flows on surrounding roads.</p> <p>This may include, as recommended in the “Technical Note 2 – Traffic Impact Assessment Engineering Response” prepared by Jacobs dated 29/08/14:</p> <ul style="list-style-type: none"> a) providing a 30 seat shuttle bus service for construction workers arriving and departing the site, servicing the key townships where the construction workers live; b) providing minimal or restricted on-site parking to discourage workers arriving to and departing the site via private vehicles <p>(vii) a program to rehabilitate Hansen Road, Springmount Road and Kippen Drive to the pre-construction condition identified by the surveys required under sub-section (a) of this condition, at the conclusion of the construction of the wind farm.</p> <p>(b) Carry out the development in accordance with the CTMP.</p> <p>(c) Submit to the chief executive administering SPA certification from an RPEQ that all works identified in the CTMP have been carried out in accordance with the CTMP.</p>	<p>(b) In accordance with the timeframes specified in the CTMP</p> <p>(c) Within three (3) months of the completion of construction</p>
Environmental Management		
13.	<ul style="list-style-type: none"> (a) Submit to the chief executive administering the SPA an Environmental Management Plan (EMP) prepared by a suitably qualified person(s). The EMP must: <ul style="list-style-type: none"> i. be generally in accordance with the Preliminary Environmental Management Plan prepared by RPS and dated November 2013 and the draft Statement of Commitments contained within Appendix A of the RPS Development Application Material Change of Use Report dated March 2012; 	<ul style="list-style-type: none"> (a) Prior to seeking approval for any site, operational or building work

	<p>ii. be based on the revised Turbine Location and Development Footprint Plan submitted in accordance with condition 2 of this approval;</p> <p>iii. include the following components, as further detailed in Attachment 1:</p> <ul style="list-style-type: none"> • a construction and work site operational management plan • a sediment, erosion and storm water management plan • a hydrocarbon and hazardous substances plan • a bushfire risk management plan and emergency evacuation plan • a significant species management plan • a weed and pest management plan • a rehabilitation plan • a habitat clearing and management plan • an ecological fire management plan • a cultural heritage management plan • an environmental management plan training program • an environmental management plan reporting program • an implementation plan <p>(b) The development must be carried out in accordance with the EMP.</p>	<p>(b) During site / operational / building work and to be maintained</p>
Community Engagement		
<p>14.</p>	<p>(a) Submit to the chief executive administering SPA a Community Engagement Strategy (CES) that includes at a minimum:</p> <p>(i) A Community Consultation Plan that demonstrates and includes:</p>	<p>(a) Five (5) months prior to construction commencing</p>

	<p>a. consultation methods</p> <p>b. consultation calendar that identifies activities that must be carried out at least on a quarterly basis and during:</p> <ul style="list-style-type: none"> • three (3) months prior to construction commencing • during construction • once operational for at least one year from the commencement of stage 1 <p>(ii) A Complaints Management Plan / Register (CMPR) that demonstrates and includes:</p> <p>a. how contact details will be communicated to the public</p> <p>b. a toll free telephone number and email contact for complaints and queries</p> <p>c. a register outlining complaint information for each complaint received</p> <p>d. the processes for investigation and actions undertaken to resolve the complaint</p> <p>(b) All community consultation and complaints must be managed in accordance with the CES.</p> <p>(c) Provide to the chief executive administering SPA and Council, on request, a copy of the CMPR, in particular the processes of investigation and actions undertaken to resolve the complaint.</p>	<p>(b) - (c) Prior to construction / during construction and once operational</p>
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Decommissioning and Rehabilitation

<p>15.</p>	<p>Submit to the chief executive administering SPA a decommissioning and rehabilitation plan prepared by a suitably qualified person(s).</p> <p>The decommissioning and rehabilitation plan must address the actions to be undertaken where any or all turbines have permanently ceased to generate electricity. The plan must include a program for:</p> <p>(a) removal of above ground non-operational equipment;</p> <p>(b) removal and clean up any residual contamination;</p> <p>(c) rehabilitation/revegetation of storage areas, construction areas, access tracks and other areas affected by the decommissioning of the turbines, if those areas are not otherwise useful to the on-going</p>	<p>Prior to decommissioning</p>
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	<p>use or decommissioning of the wind farm;</p> <p>(d) notification to the relevant authorities of the turbines ceasing operation. Such notification should be given no later than two months after the turbine(s) cease operation.</p>	
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General advice

a.	This development permit does not constitute an approval to commence operational works within Powerlink easements. Prior written approval is required from Powerlink before any additional operational work is undertaken within the easement areas. All additional operational works within the easements will require separate assessment and approval by Powerlink.
b.	Development must comply with the <i>Electrical Safety Act 2002</i> including any Code of Practice under that Act and the Electrical Safety Regulation 2002 including any safety exclusion zones defined in the Regulation.
c.	<p>In respect to this application the exclusion zone for untrained persons and for operating plant operated by untrained persons is 6 metres from the 275,000 volt wires and exposed electrical parts.</p> <p>Should any doubt exist in maintaining the prescribed clearance to the conductors and electrical infrastructure, then the applicant is obliged under the <i>Electrical Safety Act 2002</i> to seek advice from Powerlink.</p>
d.	Any works must comply with the easement terms and conditions as per easement Dealing 701758510 and 713030213
e.	Engagement must occur with Powerlink with regards to a connection to Powerlink's transmission line network. Further technical assessments regarding safe clearance between turbines and Powerlink infrastructure will have to be performed and must be submitted to Powerlink for approval.
f.	Works in the vicinity of Powerlink infrastructure must comply with the Management of Easement Co-Use Requests Guideline.
g.	<p>The site has slight residual risk of unexploded ordnance (UXO). In the event of identification of UXO, the Department of Defence recommends the following procedure:</p> <ul style="list-style-type: none"> • do not touch or disturb the object; • take action, where appropriate, to prevent it being disturbed by another person; • note its approximate dimensions and general appearance; • note the route to its location; and • advise the Police as soon as possible.

h.	<p>Copies of the final development plans must be provided to the following entities, to enable details of the development to be shown on aeronautical charts of the area:</p> <ul style="list-style-type: none"> • the Civil Aviation Safety Authority; • the Department of Defence (RAAF Aeronautical Information Service); • Airservices Australia; • any aerodrome operator within 15 km of the outside property boundaries of the site; • the Aerial Agriculture Association of Australia; • any organisation responsible for providing air ambulance services in the area.
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Attachment 1 – Components of the Environmental Management Plan

Construction and work site operational management plan

The environmental management plan must include a construction and work site operational management plan.

The construction and work site operational management plan must include:

- a) the identification of fuels, other hazardous materials and all other potential contaminants stored or used on site during the construction phase of the wind farm, and appropriate storage, construction and operational methods to control any identified contamination risks;
- b) procedures for managing potential spills and leaks and pollution incidents, including incorporation of appropriate pollution control;
- c) procedures to suppress dust emissions from construction-related activities. Appropriate measures may include water spraying of roads and stockpiles, stabilising surfaces, temporary screening and wind fences, modifying construction activities during periods of heightened winds and revegetating exposed areas as soon as practicable;
- d) procedures for managing noise emissions from construction-related activities;
- e) appropriate sanitary facilities to be provided for construction and maintenance staff;
- f) a timetable, where practicable, for the construction of turbine bases, access tracks and power cabling during warmer months, to minimise impacts on ephemeral

wetlands, local fauna and sediment mobilization;

- g) measures to minimise waste generation on site and maximising opportunities for recycling and reuse;
- h) measures for dust mitigation, control and monitoring dust gauges;
- i) procedures to ensure that construction vehicles and equipment use designated tracks and works areas to avoid impacts on native vegetation;
- j) procedures for covering trenches and holes at night, and filling trenches as soon as practical after excavation, to protect native fauna;
- k) the removal of works, buildings and staging areas on completion of the construction phase of the project.

Sediment, erosion and storm water management plan

The environmental management plan must include a sediment, erosion and storm water management plan.

The sediment, erosion and storm water management plan must include:

- a) identification of all construction and operational processes that could potentially lead to water contamination;
- b) procedures to ensure that silt from batters, cut-off drains, table drains and road works is retained on the site during and after construction and replaced as soon as possible. To this end:
 - (i) all land disturbances must be confined to a minimum practical working area;
 - (ii) soil to be removed must be stockpiled and separate soil horizons must be retained in separate stockpiles and not mixed, and soil must be replaced as soon as possible in sequence;
 - (iii) stockpiles must be located away from drainage lines;
- c) the installation of geo-textile silt fences (with sedimentation basins where appropriate) on all drainage lines from the site which are likely to receive run-off from disturbed areas;
- d) procedures for waste water discharge management;
- e) a process for overland flow management to prevent the concentration and diversion of waters onto steep or erosion prone slopes;
- f) pollution management measures for stored and stockpiled materials including

waste materials, litter, contaminated run-off and any other potential source of pollution to ground or surface waters;

- g) agreed program and appropriate capacity for annual inspection and regular maintenance of any on-site wastewater management system;
- h) a program of inspection and remediation of localised erosion within a specified response time.

Hydrocarbon and hazardous substances plan

The hydrocarbon and hazardous substances plan must include:

- (a) procedures for any on-site, permanent post-construction storage of fuels, lubricants, waste oil or other hazardous substances or potential contaminants to be in bunded areas;
- (b) contingency measures to ensure that any chemical or oil spills are contained on-site and cleaned up in accordance with the Council requirements.

Bushfire risk management plan and emergency evacuation plan

The bushfire risk management plan and emergency evacuation plan must include:

- (a) criteria for the provision of static water supply tanks solely for firefighting purposes, including minimum capacities, appropriate connections and signage;
- (b) procedures for vegetation management, fuel control and the provision of firefighting equipment during declared fire danger periods;
- (c) minimum standards for access roads and tracks to allow access for fire fighting vehicles, including criteria for access to static water supply tanks for fire fighting vehicles;
- (d) training of personnel of the organisations referred to above in relation to suppression of wind farm fires;
- (e) details of a lightning and earthing system to mitigate against the risk of bush-fires caused by direct lightning strikes on the turbines.

Significant species management plans

Significant species management plans must:

- (a) include plans for all wildlife species listed as Endangered, Vulnerable or Near Threatened under the provisions of the *Nature Conservation Act 1992* that:
 - i. are currently known to occur within or periodically utilise the site; or

- ii. are detected within the site during the conduct of further baseline, construction or operational monitoring pursuant to other conditions; and
- iii. are not the subject of an equivalent management plan prepared in satisfaction of an approval issued under the provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

(b) set out key impact management strategies including:

- i. further baseline programs;
- ii. management targets;
- iii. design, construction and operational impact avoidance and mitigation measures and protocols;
- iv. quantitative performance indicators;
- v. monitoring and reporting regimes;
- vi. corrective actions;
- vii. timeframes for identified actions; and
- viii. applicant and stakeholder responsibilities.

Weed and pest management plan

The weed and pest management plan must include:

- (a) protocols for the management of noxious environmental weed species on the site, with the objective of minimising the potential risk of introducing such weeds and pests.

Rehabilitation plan

The rehabilitation plan must include guidelines to incorporate appropriate landscape rehabilitation strategies and methods into the management of disturbed land.

Habitat clearing and management plan

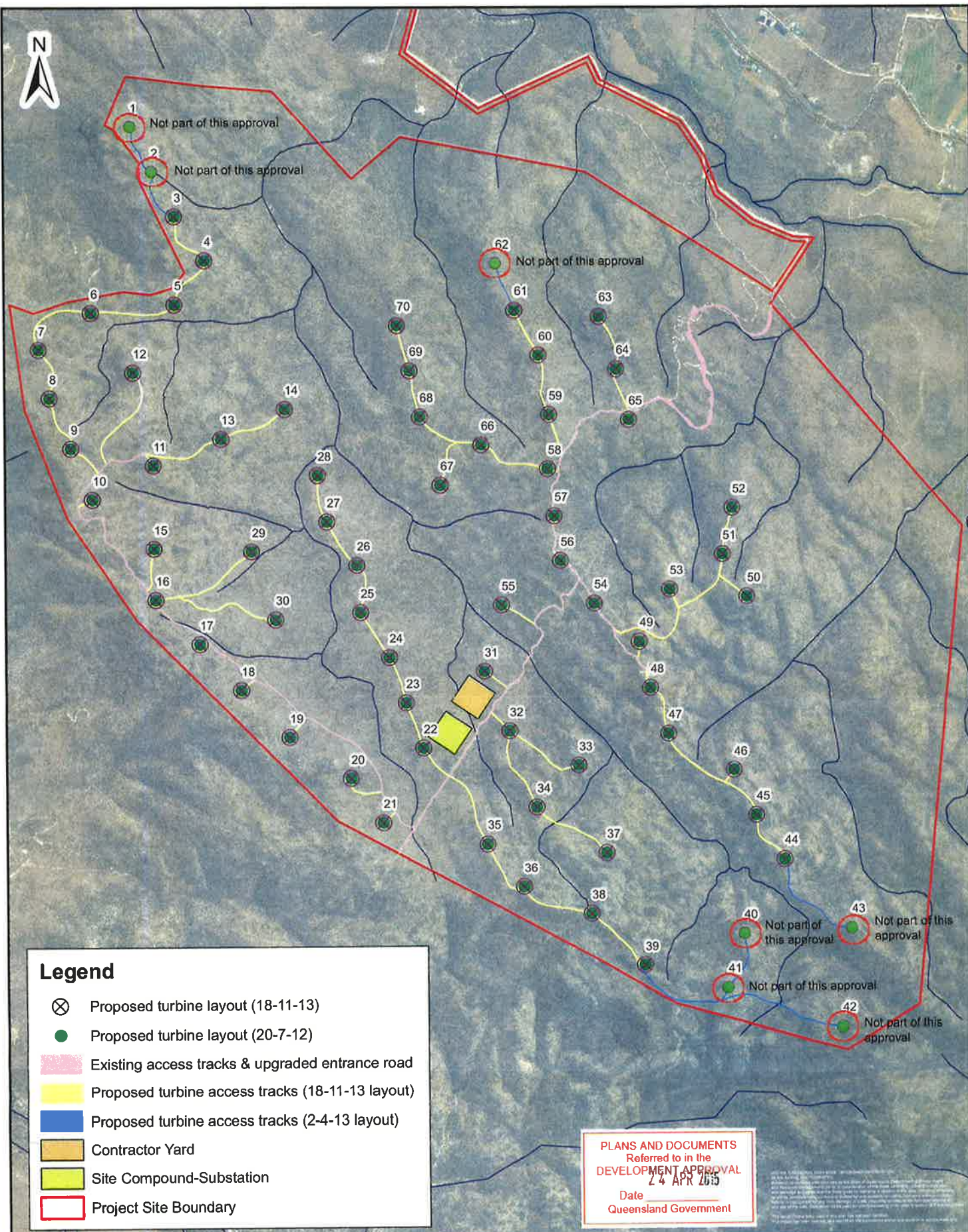
The habitat clearing and management plan must include management strategies involved in mitigating impacts of habitat clearing on susceptible fauna, including the induction of workers and for wildlife spotters and catchers involved in habitat clearing.

Ecological fire management plan









The ecological fire management plan must include management strategies to be implemented in order to maintain an appropriate fire regime for the various faunal

and flora habitats represented on site.
<p><u>Cultural heritage management plan</u></p> <p>The cultural heritage management plan must include the procedures to be followed for impact avoidance and mitigation of impacts upon Aboriginal heritage.</p>
<p><u>Environmental management plan training program</u></p> <p>The environmental management plan must include a training program for construction workers and permanent employees or contractors at the site, including a site induction program relating to the range of issues addressed by the environmental management plan.</p>
<p><u>Environmental management plan reporting program</u></p> <p>The environmental management plan must include a program for reporting environmental incidents, including:</p> <ul style="list-style-type: none"> (a) a register of environmental incidents, non-conformances and complaints, together with corrective actions taken in response to such incidents, non-conformances or complaints; (b) identification of the person to whom reports of environmental incidents, non-conformances and complaints should be made.
<p><u>Implementation plan</u></p> <p>The environmental management plan must include a timetable for implementation of all programs and works referred to in sections above.</p>

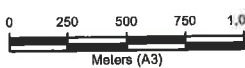
Schedule 2:
Approved plans and documents



Legend

-  Proposed turbine layout (18-11-13)
-  Proposed turbine layout (20-7-12)
-  Existing access tracks & upgraded entrance road
-  Proposed turbine access tracks (18-11-13 layout)
-  Proposed turbine access tracks (2-4-13 layout)
-  Contractor Yard
-  Site Compound-Substation
-  Project Site Boundary

PLANS AND DOCUMENTS
Referred to in the
DEVELOPMENT APPROVAL
24 APR 2015
Date
Queensland Government



Project Manager
M. Jess
Compiled by
J. Middleton
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Client
RACL
Title
**Mount Emerald Wind Farm
Turbine locations and development footprint**



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Statement of Commitments

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Document Status

Version	Purpose of Document	Orig	Review	Review Date
A		MJ		

Approval for Issue

Name	Signature	Date

Contents

1.0	ENVIRONMENTAL MANAGEMENT.....	1
1.1	Project Environmental Management Plan	1
1.2	Construction Environmental Management Plan	1
1.3	Operation Environmental Management Plan	3
1.1	Statement of Commitments	3

Tables

Table 1	Draft Statement of Commitments	4
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I.0 Environmental Management

The following Statement of Commitments (SoC) for Mt Emerald Wind Farm Pty Ltd provides the terms of environmental management and monitoring to mitigate potential adverse environmental impacts and gain a net environmental benefit from the establishment of the Mt Emerald Wind Farm (MEWF). The draft SoC is a compilation of the various mitigation measures developed from the detailed Environmental Impact Assessment (EIS) undertaken on identified key environmental issues. The SoC is presented as a set of measures arranged according to environmental issues by project phases, with the desired environmental outcomes, and responsibilities for implementation clearly identified.

This SoC will inform the preparation of the Project Environmental Management Plan (PEMP); Construction Environmental Management Plan (CEMP); Operational Environmental Management Plan (OEMP); and associated sub-plans that provide more site and project phase-specific details regarding the environmental management and monitoring measures to be implemented.

The Preliminary Environmental Management Plan which forms the basis of the Plans referred to here is detailed in the EIS in **Chapter 20** and **Appendix 31**.

I.1 Project Environmental Management Plan

The Project EMP is a management document prepared by the Proponent that expands on the final SoC and other project approval conditions into more detailed outcomes. The PEMP will provide the basis for:

- Meeting all environmental requirements;
- Assignment of environmental management responsibilities between the Proponent and contractors;
- Inclusion of environmental requirements into tender documents; and
- Continuing management and evaluation of the environmental performance of the project.

The PEMP will be an integral element of the detailed design phase and will form part of any contractual requirements. The PEMP will identify or describe:

- Processes for the environmental evaluation of the proposal;
- Environmental risks which may be managed respectively by the Proponent and the contractor;
- The promotion of environmental awareness among employees, contractors and the community;
- The requirements for review and/or audit of environmental documents such as contractors' Environmental Management Plans.

I.2 Construction Environmental Management Plan

The CEMP will be prepared by the primary contractor, in consultation with the Proponent, based on the former's proposed work methods and the environmental outcomes required for the Proposal.

The main aim of the CEMP will be to avoid, minimise and manage any potential environmental impacts arising from construction activities for the Proposal. It will describe in a more detailed and site-specific manner the management measures to be carried out for the activities at various stages of construction. This will include the definition and allotment of responsibilities among the Proponent, the primary contractor and its sub-contractors. It will also cover the conduct of ongoing stakeholder engagement, system of notification and complaints management during construction.

The CEMP will contain a suite of sub-plans to describe detailed management procedures for key environmental issues. Among the sub-plans projected for development for the construction phase are the following:

Threatened Species Management Plan (TSMP) – this plan will describe measures to minimise the impacts on threatened species of flora and fauna, including identification and marking of exclusion zones on site;

Weed and Pest Management Plan (WPMP) – This plan will detail the protocols for the management of noxious and environmental weed species on the site, with the objective of minimising the potential of risk of introducing such weeds and pests into the site or spreading them across and/or beyond the development footprint;

Rehabilitation Plan – this plan will provide guidelines to integrate appropriate landscape rehabilitation strategies and methods into the management of disturbed land. The Rehabilitation Plan will complement the WPMP (above), and outline recommendations for incorporating rare and threatened plants and the reinstatement of groundlayer and other fauna habitats.

Habitat Clearing and Management Plan – this plan will provide management strategies involved in mitigating the impacts of habitat clearing on susceptible fauna, including the induction of all workers and for wildlife spotters and catchers in involved in habitat clearing

Cultural Heritage Management Plan – this plan documents the procedures to be followed for impact avoidance or mitigation, and will be developed in consultation with an archaeologist, and the traditional owners of the land, being the Bar Barrum People and Muluridji People.

Traffic Management Plan (TMP) – the TMP, to be prepared in consultation with Department of Transport and Main Roads, will outline traffic movements to and from the site as well as within the construction zones. The TMP will describe measures that promote traffic safety for local and regional traffic, construction personnel and landowners who may need to access the project site. The TMP will also establish protocols for construction deliveries, especially of large loads (e.g. cranes, turbine infrastructure);

Bushfire Risk Management Plan – this plan, to be prepared in consultation with the Queensland Fire and Rescue Service and will identify and manage bushfire risks which may arise due to construction activities on site, and will describe protocols for responding to a fire during the construction phase. The plan will also identify regulatory requirements relating to fire safety in accordance with the relevant Workplace Health and Safety Requirements (e.g. relevant specifications for chemical storage and refuelling) and will be based upon the draft Fire Management Plan submitted with the Development Application;

Ecological Fire Management Plan – this plan will detail the management strategies to be implemented in order to maintain an appropriate fire regime (extent, intensity, frequency) for the various fauna and flora habitats represented on the site.

Emergency Evacuation Plan (EEP) – this plan will outline site protocols in the event of an emergency (e.g. chemical spill), including lines of communications among construction personnel and affected residents, safe evacuation routes and muster points, and coordination procedures with State Emergency Response personnel who may respond on site.

Erosion and Sediment Control Plan (ESCP) – prepared in accordance with the Institute of Engineers Australia Queensland ESC Guidelines, the ESCP will describe temporary and permanent sediment control procedures and methods to minimise erosion during the construction of the project, covering discrete construction areas and which will account for the changing surface configuration at various stages of construction

Construction Waste Management Plan (CWMP) – this plan will describe measures to minimise waste generation onsite and maximising opportunities for recycling and reuse.

Construction Dust Management Plan – this plan will describe measures for dust mitigation, control and monitoring using dust gauges.

Stormwater Management Plan (SWMP) – related to Erosion and Sediment Control Plan, the SWMP will be prepared in accordance with Queensland Urban Drainage Manual, with specific reference to waterway crossings and stormwater outlets for all turbine pads and access tracks (where applicable) to ensure water quality is maintained.

1.3 Operation Environmental Management Plan

An Operational Environmental Management Plan (OEMP) will be prepared by the Proponent to describe the environmental management measures to be implemented during the operational phase of the project. This plan will cover not only the operational and maintenance requirements of the wind farm but will also address ongoing monitoring and maintenance of the project site to minimise ecological impacts and to promptly respond to potential community amenity issues.

The OEMP will include the following:

- key operational and maintenance activities;
- identification of statutory obligations and planning approval commitments;
- description of the roles and responsibility of site personnel and visiting contractors;
- monitoring of the following key environmental issues;
 - » noise;
 - » fauna impacts;
 - » flora and vegetation impacts;
 - » dust emissions (from bare ground within the development footprint);
 - » stormwater quality and sedimentation
 - » fire risks; and
 - » operational traffic impacts.

The OEMP will be prepared and submitted for approval to the Council no later than one month prior to the commencement of operation of the wind farm.

1.1 Statement of Commitments

The Proponent has voluntarily prepared a draft Statement of Commitments (SoC) outlining the suite of mitigation measures to avoid, minimise and manage potential environmental impacts resulting from the construction (C), operation (O) and decommissioning (D) of the Proposal.

The elements of the Proponent's draft SoC which have been described throughout the EIS and the Development Application, after the detailed assessment of the key issues are compiled in **Table 1**.

Table 1 Draft Statement of Commitments

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
					PC	C	O	D
1.0	Visual & Landscape							
1.01	Visual impact from contrast between turbines and rural landscape	Reduce visual contrast	An off-white or grey colour for the structures will be considered to reduce visual contrast between turbines and the viewing background (this is subject to final turbine selection).	Proponent			✓	
1.02	Visual impact	Provide screening through landscape planting	The Proponent will undertake landscape planting where screening is deemed appropriate and in accordance with the outcomes of the assessment process and in consultation with landowners, taking into consideration that the location and design of screen planting used as a mitigation measure is very site specific and requires detailed analysis of potential views,	Proponent			✓	
1.03	Visual impact from scarring of landscape	Reduce occurrences and extent of landscape scarring	<ul style="list-style-type: none"> ▪ Disturbed soil areas will be reinstated immediately after completion of construction, including re-contouring and re-seeding with appropriate plant species. ▪ Tracks have been designed to follow contour lines and existing roads will be used as much as possible, which will minimise cut-and-fill and the potential landscape scarring. ▪ Revegetation and offset planting will be undertaken on site in consultation and agreement with landholders. 	Contractor and Proponent	✓	✓	✓	
1.04	Visual impact from construction activities	Reduce visibility of construction activities from outside the site.	<ul style="list-style-type: none"> ▪ Safeguards will be enforced to minimise dust emissions during construction. ▪ Height of stockpiles will be restricted. 	Contractor	✓	✓		
1.05	Visual impact from night-time lighting	Minimise light spill from project site	Activities (such as aviation lighting) that may require night-time lighting will be minimised and, if necessary, low lux (intensity) lighting designed to be mounted with the light inwards to the site will be used to minimise glare.	Proponent	✓	✓	✓	
1.06	Visual impact from contrast between site infrastructure and the rural landscape	Site infrastructure sympathetically with the nature of the locality	<p>Substation and other ancillary infrastructure will be sited sympathetically with the nature of the locality and away from major roads and residences where possible to mitigate visual impact.</p> <p>The majority of electrical connections within the site (i.e. cables between the turbines) have been designed to be located underground (where possible), in order to further reduce potential visual impacts.</p>	Proponent	✓	✓	✓	

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
1.07	Visual impact from contrast between site infrastructure and the rural landscape	Select appropriate materials and colours	Appropriate materials and colours, together with consideration of their reflective properties, will be selected for ancillary structures and built elements associated with the Proposal.	Proponent	✓	✓		
2.0	Noise							
2.01	Construction Noise	Minimise noise impact on receivers	<p>Construction and decommissioning activities will be carried out within the following periods only:</p> <ul style="list-style-type: none"> ▪ Monday – Saturday– 6am to 6pm, ▪ No work or deliveries will be carried out on Sundays and public holidays, except for the following activities, associated with the construction and decommissioning, which may need to occur outside standard working hours such as: <ul style="list-style-type: none"> - delivery of oversize loads or materials as requested by Police or other authorities for safety reasons; - completion of concrete pouring past the standard hours of work due to climatic considerations; - Any works that do not cause a noise nuisance at nearby dwellings; - Emergency work to avoid injury, property damage and/or to prevent environmental harm. 	Contractor	✓	✓		✓
2.02	Construction Noise	Minimise noise impact on receivers	In accordance with the, <i>Environmental Protection Policy (Noise) 2008</i> and relevant Local Laws; all the feasible and reasonable standard work practices would be employed to minimise construction noise impacts	Contractor	✓	✓		✓
2.03	Construction Noise	Minimise noise impact on receivers	Notification and ongoing consultation with potentially affected receivers will be carried out, especially where potentially noisy works are anticipated.	Proponent and Contractor	✓	✓		✓
2.04	Noise from Construction Traffic	Minimise noise impact on receivers	The timing of deliveries will be regulated and notification to residents carried out when deliveries of large loads are scheduled.	Proponent and Contractor	✓	✓		✓
2.05	Construction Noise	Minimise risk	Construction plant will be selected on the basis of low inherent potential to generate noise and vibration. Regular and ongoing maintenance of plant equipment and machinery will be undertaken to ensure operational noise do not exceed typical levels.	Contractor	✓	✓		✓

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
2.06	Construction Noise	Minimise noise emission from construction plant	Construction vehicles will be fitted with mufflers and low noise emission reversing alarms.	Contractor	✓	✓		✓
2.07	Construction and Operational Noise	Management of Noise Impacts	Establishment of Complaints Hotline to allow affected residents to register noise complaints and response within reasonable timeframe	Proponent	✓	✓	✓	✓
2.08	Construction Noise	Monitoring of noise levels at affected receivers	When noise complaints are received, the affected resident will be contacted to identify the source of noise and any remedial measures that may be required.	Proponent and Contractor	✓	✓		✓
2.09	Operational Noise	Manage noise impact on specific Receiver/s	Augment existing buildings to alleviate noise and ensure compliance with relevant noise policy base criterion (if required)	Proponent			✓	
2.10	Operational Noise	Reduction of turbine numbers as required to ensure compliance with noise criteria	The wind farm layout will be determined by the chosen turbine model. Turbine locations will be removed from the layout in the vicinity of any residence where necessary to achieve compliance with the relevant noise policy base criterion if required.	Proponent	✓	✓	✓	
2.11	Operational Noise	Monitor compliance with noise criteria	Within the first twelve months of operation, monitoring of wind farm noise emissions would be undertaken at representative residences including the closest non-involved residences to assess compliance with noise criteria. The monitoring will cover all prevailing wind conditions.	Proponent			✓	
2.12	Operational Noise	Address any non-compliance with noise criteria	Where operational noise monitoring indicates the Proposal exceeds noise limits set in the development approval conditions, the following noise mitigation measures shall be implemented: <ul style="list-style-type: none"> ▪ using active noise control functions of turbines; ▪ rectify any manufacturing defects or control settings so that noise can be reduced to be in accordance with the contracted specifications; or ▪ if excesses still occur, acoustic treatment of non-involved receiver dwellings. 	Proponent			✓	
2.13	Operational Noise	Monitoring the effectiveness of operational noise mitigation measures	Should any of the measures in item 2.12 be adopted, their effectiveness will be verified through noise monitoring during the first 12 months of operation.				✓	

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase				
3.0	Flora and Fauna								
3.01	Bare – rumbed Sheathtail bat Turbine Collision & Barotrauma	Turbine operation curtailment (increased cut-in speed & targeted turbine shut-down during high risk conditions or detected collision mortality)	<ol style="list-style-type: none"> 1) Continue and expand ultrasonic call surveys; sample within Rotor Swept Area (RSA) (higher towers & balloons) 2) Collect weather and insect abundance/height data 3) Identify high-risk conditions/times and seasons 4) Conduct radar utilisation at call survey locations sampling at RSA; quantify abundance and flight heights 5) Conduct numerical risk modelling (for <i>S. saccolaimus</i> only or for entire microchiropteran bat community – depending on radar data quality) <p>Output: Microchiropteran Bat Management Plan.</p>	External Ecologist / Specialist (inc. Biostatistician)	x				
3.02	Spectacled Flying-fox / Grey-headed Flying Fox - Turbine Collision	Turbine curtailment during high-risk conditions (active) or excessive mortality events (reactive)	<ol style="list-style-type: none"> 1) Conduct radar utilisation surveys 2) Support CSIRO researchers to conduct satellite telemetry of more individuals from nearest colonies to site (Mareeba and Tolga Scrub) 3) Conduct numerical collision risk modelling (using radar/telemetry data) <p>Output: Flying Fox Management Plan</p>	External Ecological Specialist	/	✓			
3.03	Northern Quoll Habitat Loss	Avoid clearing high-quality denning and foraging habitats	<ol style="list-style-type: none"> 1) Undertake additional telemetry studies on the project site to determine whether proposed turbine ridge habitats are used preferentially, particularly females with young; and offsite, to collect data on dispersion rates to refine the PVA (to assess the significance of potential impacts) 2) Redesign infrastructure layout to avoid high quality foraging or maternal denning habitat and/or inform Quoll Management Plan 	External Ecological Specialist	/	✓			
3.04	Northern Quoll Habitat Degradation (late dry season wild fires and weed invasion)	<ol style="list-style-type: none"> 1) Weed monitoring and control 2) Implementation of Ecological Fire Management (to avoid extensive wild fire in late dry season) 	<ol style="list-style-type: none"> 1) Fire-scale mapping using Landsat imagery 2) Control of existing weed infestations (especially invasive grasses along Kippen Drive and access tracks) <p>Output: Weed Management Plan and Fire Management Plan</p>	External Ecological/Specialist		✓			

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
3.05	Sarus Crane-Turbine Collision	Turbine curtailment during high-risk conditions (active) or excessive mortality events (reactive)	1) Conduct radar utilisation surveys 2) Support CSIRO researchers to conduct satellite telemetry of more individuals from nearest colonies flocks 3) Conduct numerical collision risk modelling (using radar/telemetry data) – updated from EIS Output: Bird Adaptive Management Plan	External Ecological/ Specialist	✓			
3.06	Clearing of Conservation Significant Plants	Avoidance and micro-siting of turbines.	Avoidance of disturbance to key plant habitats (see next point). Detailed plant survey of south-west montane heath habitat - GPS mapping of avoidance patches. Micro positioning of turbines to minimise clearing and disturbance to conservation significant plants and important vegetation types. Presence of Botanical advisor in pre clearance team. Instigate site-based seed and propagule collection for future rehabilitation work. Output: Final site-based floristic records. Records of seed collections as per Rehabilitation Plan. Conservation Significant Plant Management Plan	External Botanist	✓	✓	X	
3.07	Clearing of Conservation Significant Plants	Translocation and revegetation strategies	Prepare Significant Plant Management Plans including : Research propagation of Homoranthus porteri, Melaleuca uxorum, Plectranthus amoenus and Grevillea glossadenia. Conduct Revegetation trials. Investigate plant successional traits. Output: Conservation Significant Plant Management Plan Annual Revegetation Trial report	External Botanist	✓	✓	X	
3.08	Aquatic Flora and Fauna - reduced downstream water quality	Maintenance of downstream water quality through water monitoring and management in accordance with a detailed Erosion and Sediment Control Plan	Conduct preconstruction water quality monitoring to inform construction water quality targets Prepare Detailed Erosion And Sediment Control Plan (ESCP)	Pre-construction - External Specialist Construction-Environmental Officer	✓	✓	X 1 st yr	

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
4.0	Indigenous Heritage							
4.01	Damage or disturbance to sites or items of Indigenous heritage significance	Minimisation of potential impacts on sites or items of potential indigenous heritage significance	While no sites have been found to occur to date within the project area, the assessment of likely occurrence is moderate and as such, a strategy of avoidance of impacts will be adopted. In regard to the previously recorded Aboriginal objects identified in previous studies which are located within the study area, but outside areas of proposed impact, these areas will be avoided during construction, operation and decommissioning of the wind farm. Steps will be taken to ensure that inadvertent impacts to these locales do not occur.	Proponent and contractor in consultation with technical specialists and the local Aboriginal Community	✓			
4.02	Damage or disturbance to sites or items of Indigenous heritage significance	Minimisation of potential impacts on sites or items of potential indigenous heritage significance	Ground disturbance impacts associated with the Proposal will be kept to a minimum and that areas of work will be defined so as to ensure as little impact as possible to objects of Aboriginal cultural and heritage value which may occur on site.	Proponent and Contractor	✓	✓		
4.03	Damage or disturbance to sites or items of Indigenous heritage significance	Assess the potential Indigenous heritage impacts in development areas which have not been previously assessed	Additional archaeological assessment will be conducted in any areas proposed to be disturbed which have not been surveyed during the assessment completed to date prior to work commencing.	Proponent in consultation with Technical Specialists	✓	✓		
4.04	Damage or disturbance to sites or items of Indigenous heritage significance	Minimisation of potential impacts on sites or items of potential indigenous heritage significance	In consultation with an archaeologist, the relevant Aboriginal communities, an Indigenous Heritage Management Plan (IHMP) will be prepared as a component of the CHMP to document the procedures to be followed for impact avoidance or mitigation to ensure that all recorded Aboriginal objects identified in previous studies, which are located in the development envelope, but outside areas of proposed impact, are avoided during construction and operation of the wind farm.	Proponent in consultation with Technical Specialists	✓	✓	✓	
4.05	Damage or disturb areas/items of Indigenous Heritage	Management of undiscovered items of Aboriginal and/or archaeological significance	If during the course of the construction works any items of aboriginal cultural heritage or significance (i.e. archaeological items) are uncovered, works shall cease (within vicinity to the item) and DERM notified of the findings. An appropriate assessment and salvage strategy will be determined and implemented prior to the recommencement of construction works within the area. Should human remains be found during the proposed earthworks works will cease and the police notified immediately.	Contractor in consultation with the Proponent and DECCW	✓	✓		✓

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
4.06	Damage or disturb areas/items of Indigenous Heritage	Management of Aboriginal Cultural Heritage	Personnel involved in the construction management phases of the project will be trained in procedures to implement recommendations relating to cultural heritage where necessary.	Proponent and Contractor	✓	✓		
5.0 European Heritage								
4.07	Damage or disturb areas/items potentially involving unexploded Ordnance	Management of European History (specifically World War II)	<ul style="list-style-type: none"> ▪ Prior to construction, undertake an investigation of presence of unexploded ordnance within the project site in accordance with Department of Defence and DERM requirements ▪ Undertake remediation measures in accordance with findings of the investigation report ▪ Personnel involved in the construction phase of the project will be trained in appropriate procedures to report findings of UXO which include: <ul style="list-style-type: none"> - Ensuring the object is left in situ; - Marking the general area to ensure no further disturbance can occur; - Note appearance, dimensions and location of object; - Notify the police immediately. 	Proponent and Contractor	✓	✓		
	Damage or disturbance to sites and areas of European Cultural Heritage	Minimisation of potential impacts on sites or items of potential European heritage significance	Ground disturbance impacts associated with the proposal will be kept to a minimum and that areas of work will be defined so as to ensure as little impact as possible to objects of European cultural and heritage value which may occur on site.	Proponent and Contractor	✓	✓		
	Damage or disturbance to sites or items of European heritage significance	Assess the potential Indigenous heritage impacts in development areas which have not been previously assessed	Additional archaeological assessment will be conducted in any areas proposed to be disturbed which have not been surveyed during the assessment completed to date prior to work commencing.	Proponent in consultation with Technical Specialists	✓	✓		
	Damage or disturbance to sites or items of European heritage significance	Minimisation of potential impacts on sites or items of potential indigenous heritage significance	Prepare CHMP to document the procedures to be followed for impact avoidance or mitigation to ensure that European objects found during investigations are avoided during construction and operation of the wind farm.	Proponent in consultation with Technical Specialists	✓	✓	✓	

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
	Damage or disturb areas/items of European Heritage	Management of undiscovered European Cultural Heritage	If during the course of the construction works any items of European cultural heritage or significance (i.e. archaeological items) are uncovered, works shall cease (within vicinity to the item) and DERM notified of the findings. An appropriate assessment and salvage strategy will be determined and implemented prior to the recommencement of construction works within the area.		✓	✓		
5.0 Traffic and Transport								
5.01	Adverse impact on local and regional traffic during the construction and decommissioning phases	Minimisation of impact to local and regional traffic	<p>Large oversize materials would be transported overnight to reduce impacts on road network (subject to DTMR approval).</p> <p>No oversize or large trucks associated with the construction would operate on the Kennedy Highway or Channel/Springmount Roads during the school bus hours of 7:30am and 8:50am, and between 2:30pm and 4:30pm on school days.</p> <p>Once more detail is known about the exact type of transport vehicles and routing for the delivery of turbine components to site, more detailed swept path analysis would be undertaken along the truck route to identify any road widening and road furniture relocation works that may be required.</p>	Contractor in consultation with Traffic Management Specialists, RTA and ULSC	✓	✓		✓
5.02	Traffic safety risks from construction vehicles	Minimise traffic safety risks from movement of construction vehicles	<p>Upgrade Kippen Drive and Springmount Road intersection, to accommodate oversize vehicles during the construction phase.</p> <p>Upgrade of Kippen Drive to a standard required to accommodate expected vehicle types, including sealing to reduce dust and noise at nearby properties.</p> <p>Traffic controllers on Kippen Drive and Springmount/Channel Road intersection will be provided to help assist large trucks exiting the site and manage any safety risks. Advance warning signs would be placed on each approach, 200 metres from the access road with "Prepare to stop" warnings when traffic controllers are present;</p> <p>A relatively significant increase of traffic volume on Kippen Drive, Channel and Springmount Roads could increase the risk of accidents with vehicles. Therefore, lower speed limits would be enforced on Springmount and Channel Roads and internal access roads at all times during construction.</p>	Proponent and Contractor	✓	✓		

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
5.03	Damage to existing road infrastructure	Protect existing road infrastructure	<p>Road and intersection conditions would be established by the use of field surveys and regular site inspections. When required, rehabilitation of the pavement and/or edges of seal, shoulders and verges would be carried out. At the completion of the works the access roads would be in the same or superior condition than at the commencement of the works;</p> <p>Regular road dilapidation surveys will be carried out during construction and decommissioning;</p> <p>Internal roads and turns in the project site are required to be widened up to 10m in order to transport the construction materials and the large turbines to the desired location, and will require surfacing upgrade through grading; and</p> <p>A procedure will be established to ensure the ongoing maintenance of access roads during the operation phase.</p>	Proponent Contractor /	✓	✓	✓	✓
5.04	Amenity impacts from construction and operation traffic	Minimise potential amenity impacts from traffic from the Proposal	Procedures will be established to monitor traffic impacts on public and internal access tracks during construction, including noise, dust and travel times, and to implement modified work methods to reduce such impacts where possible.	Proponent, Contractor and Technical Specialists	✓	✓	✓	✓
5.05	Loss of internal access roads	Retain and handover internal access roads	Internal access roads will be retained and handed over to the landowners after decommissioning.					✓
6.0	Aeronautical							
6.01	Disruption of flight paths and local aeronautical activities	Minimise risk	<p>Prior to the commencement of construction and operation the following information shall be provided to the CASA and DoD:</p> <ul style="list-style-type: none"> ▪ as constructed coordinates in latitude and longitude of each WTG (WGS84 or MGA94); ▪ final height of each WTG in mAHD; and ▪ elevation at the base of each WTG in mAHD. 	Proponent in consultation with technical specialists	✓	✓		
6.02	Disruption of aerial agricultural activities	Minimise risk	Agreed shutdown protocols with aerial operators when conditions and proximity of aerial spraying operations	Proponent in consultation with local operators			X	

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
7.0 Telecommunications								
7.01	Potential interference	Minimise potential of Proposal infrastructure to interfere with existing telecommunications facilities	Once the final models and locations of wind turbines are known, the locations of communications towers and requirements of licence holders will be confirmed and input into the micro-siting of individual turbines to minimise potential for telecommunications interference.	Proponent and Contractor	✓	✓		
7.02	Prolonged Interference or disturbance of communication links	Manage and minimise impacts	At the commencement of operation, the Proponent shall offer to undertake a monitoring program of houses within 5km of the wind farm to determine any loss in television signal strength. If loss of signal occurs and the source of interference can be reasonably attributed to the Proposal, the Proponent shall put in place mitigation measures at each of the affected receivers in consultation and agreement with the landowners.	Proponent			✓	
8.0 Fire and Bushfire								
8.01	Bushfire risk during construction	Manage bushfire risk	<p>A Bushfire Risk Management Plan will be prepared in consultation with the Rural Fire Service and QLD Fire and Rescue Service. The mitigation measures will include:</p> <ul style="list-style-type: none"> Construction personnel will be inducted on bushfire risk management and other fire risks that could be present at the project site. On total fire ban days, restrictions will be placed on certain activities with the potential to cause fires. Basic fire fighting equipment at each active site will be provided, including fire extinguishers, knapsacks and other equipment suitable for initial response actions with a minimum of one trained person on-site. 	Contractor	✓	✓	✓	✓
8.02	Bushfire risk during construction	Maintain coordination with RFS	The QFRS will be provided with the final wind turbine locations, ancillary infrastructure, construction work schedule and locations of additional water supplies for construction, potential landing pads for fire fighting aircrafts and helicopters and access gates for fire fighting services.	Proponent and Contractor	✓	✓		

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
8.03	Ignition of fire due to mechanical malfunction	Minimise risk	<ul style="list-style-type: none"> Dedicated monitoring systems (e.g. SCADA) enable wind turbines to be automatically shut down if ambient temperatures exceed the safe operating range, or if components overheat. Other remote alarming and maintenance procedures are required for electrical faults, which can still occur within the tower or nacelle and create a fire. Wind turbines will be shut down if directed by the QFRS in the event of nearby wildfire. 	Turbine Manufacturer			✓	
8.04	Spreading of fire away from wind farm infrastructure	Minimise risk	<ul style="list-style-type: none"> The substation would be surrounded by a gravel and concrete area free of vegetation to prevent the spread of fire from the substation and to reduce the impact of any bushfire on the structure. An Asset Protection Zone (APZ) would be maintained around the control room and substation buildings, compliant with the RFS guidelines. Areas around each WTG will be managed for fire risk (e.g. regular vegetation clearing and reduction of any fuel loads). 	Proponent and Contractor			✓	
8.05	Ignition of fire due to lightning strike on turbines	Minimise risk	Lightening arresters will be built into each of the turbines to minimise the potential impacts of fire caused by lightening.	Turbine Manufacture			✓	
8.06	Restricted movement of fire response vehicles and personnel	Manage fire vehicle movement	Access roads will be constructed and maintained with suitable width and specifications for the movement of fire management vehicles.	Proponent and Contractor	✓	✓	✓	✓
9.0	Health and Safety							
9.01	Wind farm noise	Manage community concerns with respect to wind farm noise	The Proponent will establish a complaints management system to be implemented prior to the construction phase and maintained throughout the operation phase of the development to register noise and other health complaints and concerns about the Proposal from the community.	Proponent			✓	

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase				
10.0	Electromagnetic Fields								
10.01	Exposure to EMF	Minimise unnecessary exposure to EMF	<p>To ensure there would be no unnecessary exposure to EMF from the Proposal, the following mitigation and management measures will be implemented:</p> <ul style="list-style-type: none"> ▪ electrical cables will be placed below ground where possible to shield electrical fields; ▪ wires will be bundled where possible to reduce the magnetic field emissions; ▪ appropriate security will be placed around emitting structures (e.g. substation) to restrict public access and limit potential exposure; and ▪ non-staff that need to go near the emitting structures will be accompanied by a trained and qualified staff member. 	Proponent and Contractor				✓	
11.0	Water Quality								
11.01	Pollution contamination of aquifers	Minimisation of pollution or contamination risk to surface and ground water quality	<p>An Erosion and Sediment Control Plan and Stormwater Management Plan will be prepared in line with the FNQROC Development Manual, Institute of Engineers Australia Queensland ESC Guidelines and Queensland Urban Drainage Manual, as part of the CEMP. Both the ESCP and SWMP will address the requirements for:</p> <ul style="list-style-type: none"> ▪ water retardation and diversion devices around construction areas, including devices to manage surface runoff from hardstand areas and surfaced access tracks; ▪ design of appropriately sized sedimentation basins to capture and treat runoff from construction areas; and ▪ monitoring and maintenance procedures for erosion and sediment control structures. 	Proponent and Contractor	✓	✓			
11.02	Pollution contamination of local water ways and aquifers	Minimising risk to groundwater quality and wind farm infrastructure	<ul style="list-style-type: none"> ▪ Where rock anchor foundations are the first choice solution but the resulting risks posed to groundwater could be too high as may be shown in detailed geotechnical studies, alternative footings such as gravity foundations will be designed and implemented. ▪ Suitable perimeter protection and bunding will be provided to the substation transformers to minimise the risk of transformer oil leaks or spills during operation and maintenance. 	Proponent in consultation with technical specialists, Contractors and Turbine Manufacturer	✓	✓	✓		

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
11.03	Pollution of local water ways and aquifers	Minimising risk to groundwater quality	<p>In the instance that belowground infrastructure intercepts the groundwater table, a suitable protective casing (for example a plastic pipe sleeve) would be used to pass through the ground water zone. This sleeve would allow the foundation/pile material to pass through and form a solid foundation without affecting the groundwater zone.</p> <p>Spill kits will be provided at or near the location of oil and fuel storage to contain potential spills and leaks.</p> <p>Concrete and cement carrying vehicles will only be washed out in appropriate wash down facilities.</p> <p>Hazardous material, waste and sewage will be managed in accordance with regulatory requirements.</p> <p>Wastewater produced from temporary on site toilets during construction will be disposed off site.</p>	Contractor and Proponent	✓	✓	✓	✓
11.04	Alteration to local hydrology	Minimising adverse impacts on local hydrology	<p>The construction of hardstands and sealed roads may cause minor alterations to drainage patterns due to localised reduction in infiltration resulting in increased runoff. The appropriate drainage structures and erosion controls will be incorporated in hardstands, access roads and tracks to manage run-off and reduce the risk erosion and scour from concentrated flows.</p> <p>Outlet structures will be designed in accordance with the DERM guidelines to minimise construction and operation impacts on watercourse and riparian corridors. Considerations include, but are not limited to:</p> <ul style="list-style-type: none"> any stormwater outlets should aim to be 'natural', yet provide a stable transition from a constructed drainage system to a natural flow regime; All ancillary drainage infrastructure, e.g. sediment and litter traps, should be located outside the riparian corridor. Runoff should be of an appropriate water quality and quantity before discharge into a riparian corridor or watercourse is allowed; Discharge from an outlet should not cause bed or bank instability. 	Proponent, designers and Contractor	✓	✓	✓	✓

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
11.05	Pollution or contamination of local water ways	Minimising pollution or contamination risk to surface water quality	<ul style="list-style-type: none"> ▪ Except for drainage line crossings of access tracks and cable trenches, ground disturbance activities, including road construction and track upgrades and the excavation of footings for turbines, crane pads, control buildings and substation, would be located away from natural drainage features where possible. ▪ The storage of oils, fuels and other hazardous chemicals will be appropriately banded and located away from watercourses. ▪ All trenching works will be rehabilitated immediately following completion and works within drainage lines will be confined to a minimal timeframe to reduce the risk of release of discharge of and accidental spills of oil or fuel from construction plant. ▪ Any spoil stockpiles from foundation excavation and access road construction will be located away from drainage lines, natural watercourses, road surfaces and trees, Stockpiles will be protected against erosion and sedimentation until the material is carted away for reuse or offsite disposal. Stockpiles to be retained longer than four weeks on site will be stabilised. ▪ The extra width of construction roads not required for operational phase access will be stabilised and rehabilitated to reduce the extent of bare ground. ▪ Sediment and erosion controls during various phases of construction will be developed in accordance with the requirements of the Institute of Engineers Australia Queensland ESC Guidelines. ▪ Water quality and erosion and sedimentation control devices will be regularly inspected and maintained to ensure functionality. If erosion is detected as a result of inadequate maintenance of drainage control devices, remedial action will be carried out immediately to avoid reoccurrence of the event. 	Contractor	✓	✓	✓	✓
11.06	Pollution of local water ways	Manage the disturbance of riparian vegetation throughout the site	Any access tracks (with the exception of creek crossings) and all other works and disturbances will avoid any core riparian zone to avoid impacting on the integrity of the riparian corridors.	Proponent and Contractor	✓	✓		✓

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
12.0 Soils and Landform								
12.01	Ground disturbance	Minimise alteration to soils and landform especially where beneficial land use post-decommissioning may be restricted	<p>Detailed geotechnical investigations would be undertaken to assess ground conditions and determine the most suitable foundation design for the turbine sites.</p> <p>The foundation design will consider the volume of excavation spoil that would be generated and any opportunities for reuse of the spoil in the construction of other site infrastructure and any constraints in stockpiling the material.</p> <p>Soil compaction resulting from vehicle access and laying of materials will be remediated after construction activities have been completed in the affected area.</p> <p>Where possible, access routes and tracks would be confined to already disturbed areas.</p>	Proponent and Contractor	✓	✓		✓
12.02	Creation of unstable landforms and loss of topsoil from construction activities and infrastructure layout	Stabilise steep slopes	<p>Subsoil would be separated from topsoil for reinstatement purposes. On steep slopes, topsoil would be stabilised;</p> <p>Any spoil stockpiles from foundation excavation and access road construction will be protected against erosion and sedimentation until the material is carted away for reuse or offsite disposal. Stockpiles to be retained longer than four weeks on site will be stabilised.</p>	Contractor	✓	✓		
12.03	Soil Contamination	Manage any contaminated material from past land uses	<p>The involved property owners will be consulted to identify any potential areas of contamination resulting from past land use.</p> <p>An unexpected finds protocol will be prepared to outline the procedures to manage any contamination identified or disturbed during excavation works.</p>	Contractor and Proponent	✓	✓		
13.0 Waste								
13.01	Inefficient resource use and waste generation	Promote waste hierarchy	<p>Waste will be managed according to a Waste Management Plan based on the hierarchy principles of resource management as follows:</p> <ul style="list-style-type: none"> ▪ as a priority, unnecessary resource consumption will be avoided; ▪ avoidance will be followed by resource recovery (including reuse of materials, reprocessing, recycling, and energy recovery); and ▪ disposal will be undertaken as a last resort. 	Contractor and Proponent	✓	✓	✓	

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
13.02	Inefficient resource use	Promote efficient use of water and energy	Energy and water conservation will be promoted through training and use of appropriate signage.	Contractor and Proponent	✓	✓	✓	
13.03	Missed opportunities for recycling and reuse	Maximise opportunities for recycling and reuse	Purchasing decisions will be made in consideration of recycled content and increased opportunities for reuse (for example, refillable printer cartridges). Cleared vegetation will be chipped and used as mulch for revegetation works where practical. Bins will be provided in construction and office areas for the collection and segregation at source of wastes and recyclables.	Contractor and Proponent	✓	✓	✓	
13.04	Potential contamination and OHS risk from improper disposal of waste	Control waste disposal procedures	Liquid and solid waste generated from the wind farm will be classified and disposed of in accordance with a construction waste management plan. Any hazardous waste, including unwashed empty containers will be stored in appropriate containers on site prior to collection by licensed contractors for disposal to a licensed facility. All noxious weeds and exotic plant species removed would be disposed of at a licensed facility.	Contractor and Proponent	✓	✓	✓	
13.05	Loss of amenity and potential contamination from waste generation	Minimise risks from waste generation and waste handling	All working areas will be kept free of rubbish and cleaned up at the end of each work day. Any contaminated waste will be contained then disposed of according to regulatory requirements. Waste generated outside of the project site will not be stored, treated, processed or disposed in the project site.	Proponent and Contractor	✓	✓	✓	
14.0	Community							
14.01	Regional community impacts as a result of the wind farm development, operation and decommissioning.	Community enhancement and benefit	The Proponent is proposing to establish a Community Investment Fund and contribute to the fund each year. The fund would be maintained throughout the operational life of the project for investment in community infrastructure and services, sustainability initiatives, local economic and tourist developments, community groups and events etc.	Proponent			✓	
14.02	Community information and project knowledge	Dissemination of project information	With the exception of confidential documents, the Proponent will make all documents under this EA available for public inspection on request.	Proponent	✓	✓	✓	✓

Item	Impact	Objectives	Mitigation Task	Responsibility	Project Phase			
14.03	Community information and project knowledge	Dissemination of project information	Regular newsletters and newspaper articles will be disseminated to all relevant parties (including those who have registered as part of our community information sessions), together with website information regarding the progress of the application through to construction	Proponent	✓	✓	✓	✓
14.04	Community information and project knowledge	Dissemination of project information	The Proponent will issue newsletters on a quarterly basis throughout the planning approvals and design phase providing information regarding the progression of the project. Detailed newsletters will also be prepared throughout the duration of the construction period up to the operational phase.	Proponent	✓	✓	✓	
15.0	Land Use							
15.03	Risk of degradation of previously inaccessible environmentally sensitive areas	Minimise degradation of environmentally sensitive areas	Access to previously inaccessible environmentally sensitive locations will be restricted to landowners and authorised personnel only through measures such as the installation of lockable gates on access tracks.	Proponent in coordination with landowners	✓	✓	✓	
15.04	Impact on amenity of residents and visitors to the area	Minimise visual, noise and traffic impacts	The design, construction, operation and decommissioning of the Proposal will incorporate the mitigation measures recommended in the visual, noise and other technical assessments so as to minimise any potential impacts on local amenity.	Proponent and Contractor	✓	✓	✓	✓
16.0	Air Quality							
	Generation of fugitive dust	Monitor and minimise the generation of dust from ground disturbance, spoil stockpiles and construction traffic	<p>A Construction Dust Management Plan (CDMP) will be prepared as part of the CEMP.</p> <p>Dust deposition gauges will be installed to monitor dust emissions and ensure emissions do not exceed 4 grams per metre squared per month, in accordance with DERM and WPH&S guidelines.</p> <p>Dust levels will be visually monitored dust suppression (e.g., water sprays) would be implemented if required.</p> <p>During dry and windy conditions a water cart or alternative chemical dust suppression will be made available and applied to access tracks and ground disturbance areas.</p> <p>Set appropriate speed limits for construction traffic on internal roads.</p>	Proponent and Contractor	✓	✓		✓