



Planning &  
Environment

**STATE SIGNIFICANT  
DEVELOPMENT ASSESSMENT  
*Jupiter Wind Farm*  
(SSD 6277)**



Assessment Report  
Section 89E of the  
*Environmental Planning and Assessment Act 1979*  
February 2018

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Published February 2018  
NSW Department of Planning and Environment  
[www.planning.nsw.gov.au](http://www.planning.nsw.gov.au)

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## TABLE OF CONTENTS

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EXECUTIVE SUMMARY .....	1
1. Project .....	5
2. Strategic Context.....	8
2.1 Renewable Energy .....	8
2.2 Regional and Local Population .....	11
2.3 Local Context .....	13
2.4 Key Infrastructure .....	16
3. Statutory Context.....	16
3.1 State Significant Development .....	16
3.2 Permissibility .....	16
3.3 Integrated and Other NSW Approvals.....	17
3.4 Commonwealth Approvals .....	17
4. Consultation .....	18
4.1 Department's Engagement .....	18
4.2 Exhibition .....	19
4.3 Response to Submissions.....	19
4.4 Summary of Submissions .....	20
4.5 Government Agencies.....	20
4.6 Community Submissions.....	22
4.7 Special Interest Group Submissions .....	25
5. Assessment.....	25
5.1 Submissions .....	26
5.2 Unacceptable Environmental Impacts.....	27
5.3 Environmental Planning Instruments .....	45
5.4 Public Interest.....	47
6. Conclusion.....	48
7. Recommendation .....	48

### Appendices

- Appendix A - Environmental Impact Statement
- Appendix B - Response to Submissions and amended DA
- Appendix C - Submissions
- Appendix D - Independent Peer Review - Landscape and Visual
- Appendix E - Agency comment on RTS and amended DA
- Appendix F - Department Correspondence - Rejection of 2015 DA
- Appendix G - Draft Instrument of Refusal

## EXECUTIVE SUMMARY

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Jupiter Wind Farm Pty Ltd (JWF), on behalf of EPYC Pty Ltd, proposes to develop the Jupiter Wind Farm (the project), located 5 kilometres south-east of Tarago and 18 kilometres east of Bungendore in the Southern Tablelands of NSW.

During the assessment process, JWF reduced the number of turbines proposed to be constructed from 88 to 54 to address visual and biodiversity impacts. The project now involves the installation, operation, maintenance and decommissioning of a wind farm of up to 54 turbines with a tip height of up to 173 metres located over two clusters (northern and central clusters).

The project also involves the development of associated ancillary infrastructure including an electricity substation, overhead and underground power lines, temporary construction compounds, concrete batching plants, internal access tracks, and an operation and maintenance facility.

The project is classified as State Significant Development under the *Environmental Planning and Assessment Act 1979* (EP&A Act), and the consent authority for the project is the NSW Minister for Planning. Under the Minister's delegation of 14 September 2011, the NSW Planning Assessment Commission must determine the development application for the project as it attracted more than 25 public objections, and both Queanbeyan-Palerang Regional Council and Goulburn Mulwaree Council objected to the project.

### **Consultation**

The Department exhibited the Environmental Impact Statement (EIS) for the project from 30 November 2016 until 1 March 2017 (92 days) and received 452 submissions, including 402 objections, primarily from residents living within 10 km of the project site.

During the assessment process, the Department visited the site and surrounds on several occasions, attended the project's Community Consultative Committee, held a Community Information Session, and consulted with local residents, community groups, Councils, key government agencies and JWF.

In total, the Department visited 32 properties around the site to gain an appreciation of the potential impacts of the project, particularly in regard to visual impacts. The site visits were undertaken with the Department's independent visual expert, and the Department also met with host landowners during the assessment process.

Both Queanbeyan-Palerang Regional Council and Goulburn Mulwaree Council objected to the original and amended development application, and consider that the potential visual impact of the project would be unacceptable in regard to both the public and private domains.

Both Councils also raised concerns about the noise and traffic impacts of the project, and the potential risks associated with bushfires and the ability to effectively deploy aerial firefighting assets in the vicinity of wind turbines. Goulburn Mulwaree Council also raised concerns about the potential impacts of the wind farm on the E3 – Environmental Management zone which covers around one third of the project area.

None of the other government agencies objected to the project, but raised concerns about some aspects of the proposed layout. In particular, the NSW Office of Environment and Heritage raised concerns about the impacts of the project on biodiversity, including on a number of Endangered Ecological Communities and threatened species, WaterNSW and the Division of Land and Water raised concerns about potential impacts on land and water resources, and the Division of Resources and Geoscience raised concerns about the sterilisation of mineral resources in an exploration area overlying the project site.

While a broad range of issues were raised in public submissions, the key concerns related to:

- loss of visual amenity;
- bushfire risk;
- noise impacts; and
- impacts on health and property values.

## Assessment

In assessing the merits of the project, the Department has considered the environmental, social and economic impacts of the project, submissions on the EIS, relevant environmental planning instruments, the suitability of the site for the project, and the public interest, in accordance with the requirements of the EP&A Act.

Based on this assessment, the Department considers that the site is not suitable for a large-scale wind farm, and that the project is not in the public interest, and **should not be approved**. The specific grounds for this recommendation are summarised below.

### Submissions

The project has generated significant opposition within the community, particularly from local residents in the vicinity of the wind farm.

The project received the largest number of objections for any wind farm in NSW with 402 objections, which is more than double the next most received for a wind farm project.

A significant proportion of directly affected residents and nearby members of the community objected to the project with more than 95% of the 270 submissions from residents within 10 km objecting to the project and raising visual impacts as the principal reason for their opposition.

Both Queanbeyan-Palerang and Goulburn Mulwaree Councils objected to the project, and it is the first wind farm that is not supported by the Australian Wind Alliance, which is a key advocacy group for the wind energy industry in Australia.

The Department acknowledges that while there are supporters of the project, the consultation and community engagement undertaken by the Department indicates strong and widespread opposition to the project from the local community.

### Visual Impacts

The project would result in unacceptable visual impacts on the landscape and the residences in the local area.

The distinctive feature of the landscape compared to sites for other wind farms is the local topography. The majority of wind farms in NSW position wind turbines on ridges and high plateaus to take advantage of the best wind resources with residences typically located in the lower valley floors.

However, in this case, the turbines would be located on slightly elevated land within a broad north-south valley surrounded on both sides by ridgelines. Many of the nearby residences are located on the slopes of these ridgelines in elevated positions to capture views of the valley and National Parks/Nature Reserves beyond.

The nature of the local topography significantly increases the potential visual impacts of the project compared to other wind farms, particularly for those properties on nearby elevated land which are located at a similar elevation to the turbine rotors.

There are approximately 110 residences within 3.4 km of the wind farm, which is the distance under the NSW Government's *Wind Energy: Visual Assessment Bulletin* within which 173 m turbines have the potential to result in significant visual magnitude impacts on residences.

Based on the advice of the Department's independent visual expert, the project is predicted to result in high or moderate/high visual impacts on 51 of these residences, which represents almost half the residences in proximity to the wind farm.

Given the nature and extent of the visual impacts, the Department considers that vegetation screening as a mitigation measure is unlikely to be effective or practical in reducing the visual impacts to acceptable levels, and the Department notes that JWF has only secured negotiated agreements to accept the visual impacts of the project with 6 of the 51 landowners predicted to experience high or moderate/high visual impacts.

Overall, the Department considers that the site and surrounds is fundamentally not suited to a large-scale wind farm, and that there are limited opportunities to effectively address the visual impacts of the project without removing large number of additional turbines, which would materially reduce the benefits of the project as a whole.

Ultimately, it is not the Department's role to design an 'acceptable' layout for the proponent, and given that the Jupiter Wind Farm has been under consideration for 5 years, the Department considers that it is in the interest of all stakeholders for a timely decision to be made on the current proposal rather than deliberating further on alternative layouts.

### Environmental Planning Instruments

The project is not consistent with the applicable land use zoning provisions.

Approximately 33% of the total site area (and the majority of the northern cluster) is located in an E3 – Environmental Management zone under the *Goulburn Mulwaree LEP 2009*, and JWF is proposing 20 of the 54 wind turbines along with ancillary infrastructure in this part of the site.

While the Planning Assessment Commission may still grant consent for a partially prohibited State Significant Development, it must also consider the compatibility of the proposed development with the statutory planning framework applying to the land.

In this case, the Department does not consider that allowing the development of a large-scale wind farm within the E3 zone is consistent with the aims and objectives of the applicable zoning and provisions of relevant Environmental Planning Instruments.

The Department considers that it is the clear objective of the *Goulburn Mulwaree LEP* to only allow a limited range of development within the E3 zone that does not have an adverse effect on the ecological, scientific, cultural or aesthetic values of the area.

This is supported by the fact that land within the E3 zone is also mapped as 'terrestrial biodiversity' under the LEP which aims to protect, maintain or improve the diversity of the native vegetation and biodiversity within the local government area.

The Department acknowledges that the portions of the E3 zone within the project area have less ecological sensitivity than some other parts of the zone. However, the construction of the project in this area would still involve clearing of native vegetation, including foraging areas for threatened bird species.

Consequently, the Department does not consider that the project is consistent with the objectives of the E3 - Environmental Management zone, and that the benefits of the project are not so significant or essential to the State that the consent authority should override the strategic planning intentions for this portion of the site.

Further, the Department notes that the *State Environmental Planning Policy (Infrastructure) 2007*, which is the key planning policy that regulates energy generation facilities in NSW, only seeks to override local planning provisions in rural, industrial, and special use zones where there is likely to be greater compatibility with existing land uses. The policy has specifically not included other zones where electricity generating works have the potential to result in unacceptable impacts with existing land uses such as residential, recreation, and environmental zones.

In this context, the Department considers that it would not be an appropriate planning outcome to allow a significant proportion of a large-scale wind farm to be developed on land where a State planning policy, designed to facilitate these types of developments, has not sought to provide this level of flexibility to consent authorities.

This is particularly the case where the impacts are significant, and there is limited justification from a broader public interest perspective for overriding the local planning controls, which the Department considers is the case for the Jupiter Wind Farm.

Overall, while the Department acknowledges that the planning regime allows partially prohibited State Significant Development to be granted consent under the EP&A Act, there are sound reasons why the consent authority should not exercise its discretion to grant consent in this case.

Public Interest

The project is not in the public interest.

The Department acknowledges that the Jupiter Wind Farm would generate a range of economic benefits in the local area and more broadly for NSW, including generating up to 240 MW of renewable energy, attracting up to \$300 million in capital investment, and creating jobs during construction and operations.

The project would also contribute to the Commonwealth Government's *Renewable Energy Target* and is broadly consistent with the NSW Government's *Renewable Energy Action Plan* and *Climate Change Policy Framework*.

While the NSW Government supports the development of a sustainable wind energy industry in NSW, the EP&A Act provides a merit based approach to consider the impacts of projects against applicable statutory and policy requirements. This is supported by the NSW Government's *Wind Energy Framework* which clearly recognises the need to balance attracting investment in renewable energy in NSW and providing sufficient protection to the community.

The Department considers there is a suite of renewable projects (including both wind and solar) either approved and not constructed or currently in the assessment process that also have the capacity to provide renewable energy in NSW. The number of approved and operational wind farms in the region demonstrates that there are wind farm sites in the region that can provide renewable energy, making efficient use of the region's significant wind resources without significant adverse impacts on the local community.

On balance, the Department considers that the Jupiter Wind Farm is a project where the impacts of the project on the local community significantly outweigh its potential benefits to the broader community of NSW.

# 1. PROJECT

Jupiter Wind Farm Pty Ltd (JWF), on behalf of EPYC Pty Ltd, proposes to develop the Jupiter Wind Project (the project), located five kilometres south-east of Tarago and 18 kilometres east of Bungendore in the Southern Tablelands of NSW (see Figure 1).

The site is located in the Queanbeyan-Palerang and Goulburn Mulwaree (the Councils) local government areas (LGAs).

The project involves the installation, operation, maintenance and decommissioning of a wind farm of up to 54 turbines with a tip height of up to 173 metres (m) and hub height of up to 110 m.

The project also involves the development of associated ancillary infrastructure including:

- 2 temporary construction compounds / concrete batching plants, and equipment storage areas; and
- permanent access tracks, an operation and maintenance facility, site offices and on-site electrical infrastructure, ultimately connecting to the grid through the existing Canberra to Capital Wind Farm 330 kV transmission line.

Following the exhibition of the Environmental Impact Statement (EIS) for the project, JWF formally amended its development application to reduce the number of turbines proposed from 88 to 54, including the removal of the entire southern cluster (comprising 13 turbines) and minor changes (up to 100 metres) to the location of 14 of the remaining wind turbines. A comparison of the key project changes is provided in Table 1.

The Environmental Impact Statement (EIS) considered the original project as two clusters being the 'northern' and 'southern' clusters. However, in its assessment, the Department has divided the original project into three clusters (northern, central and southern) with the southern cluster now being removed from the proposed layout (see Figure 1).

**Table 1: Amendments to the Project during the Assessment Process**

<i>Detail</i>	<i>EIS October 2016</i>	<i>Amended DA/RTS September 2017</i>
<i>Project area</i>	4,999 hectares	4,135 hectares
<i>Total number of wind turbines</i>	88	54
<i>Number of clusters</i>	3	2
<i>Northern cluster turbines</i>	36	24
<i>Central cluster turbines</i>	39	30
<i>Southern cluster turbines</i>	13	0
<i>Maximum tip height</i>	173 m	173 m
<i>Number of temporary construction compounds</i>	3	2

The project would generate around 240 megawatts (MW), depending on the mix of turbine models chosen (which could be up to 4.5 MW per turbine). If all 54 of the proposed turbines are constructed, the project would generate up to 690 gigawatt hours (GWh) of electricity annually, which is enough to power at least 115,000 homes.

The project is described in full in the EIS (see Appendix A) as amended by the Response to Submissions (RTS) and Amended Development Application (see Appendix B). The major components of the project are summarised in Table 2 and shown on Figure 2.

JWF has proposed a neighbour benefit sharing program open to all landowners with a residence or approved dwelling within 3 km of a proposed wind turbine. At this stage, the Department has received confirmation that 10 landowners have entered into agreements with JWF to accept the impacts of the project as part of this program.

JWF has also proposed to establish a community enhancement fund of \$2,500 per constructed turbine (adjusted for CPI) paid annually to the relevant Councils under a voluntary planning agreement. However, at this stage, JWF has not made a formal offer to either Council.



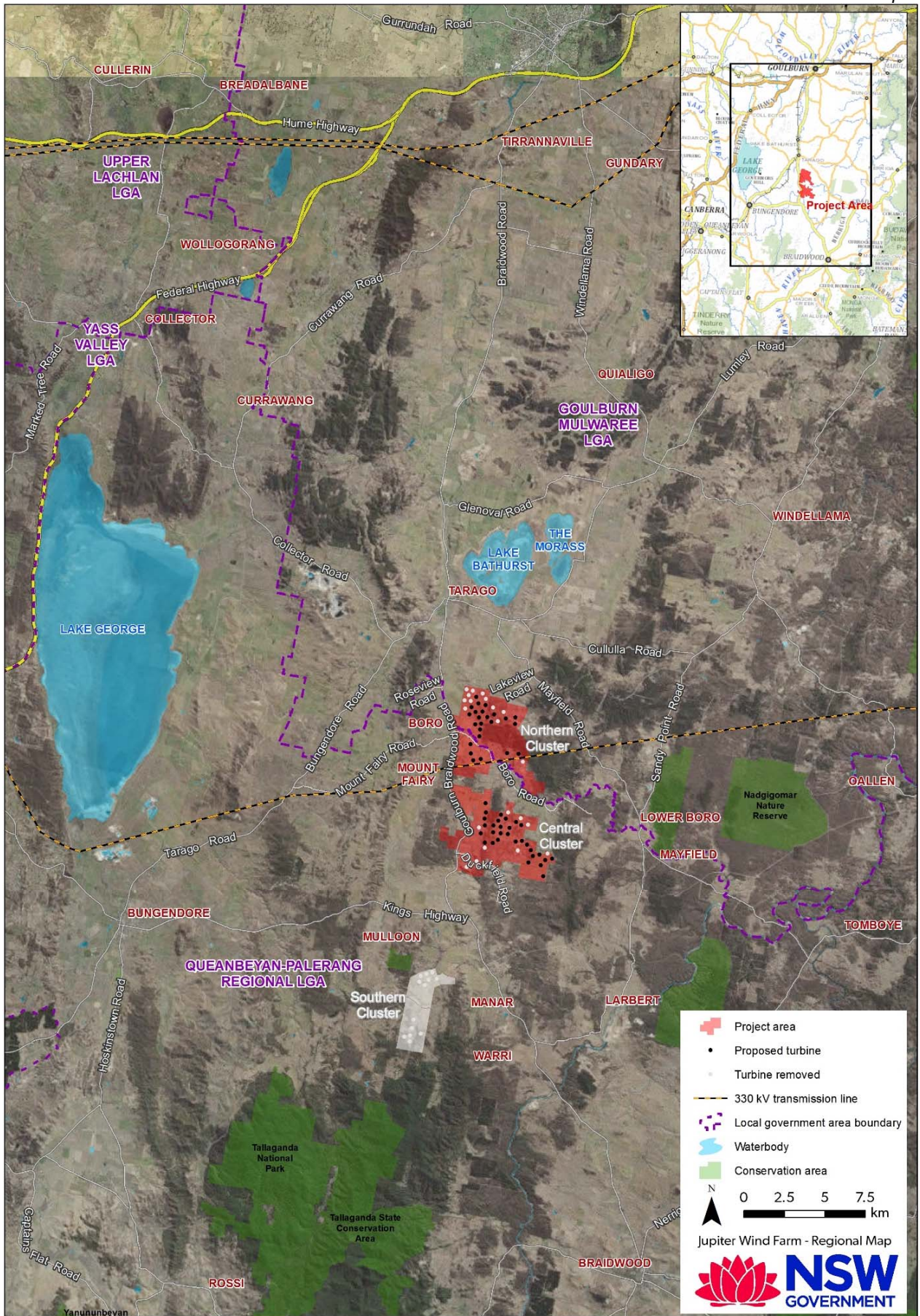


Figure 1: Project Location

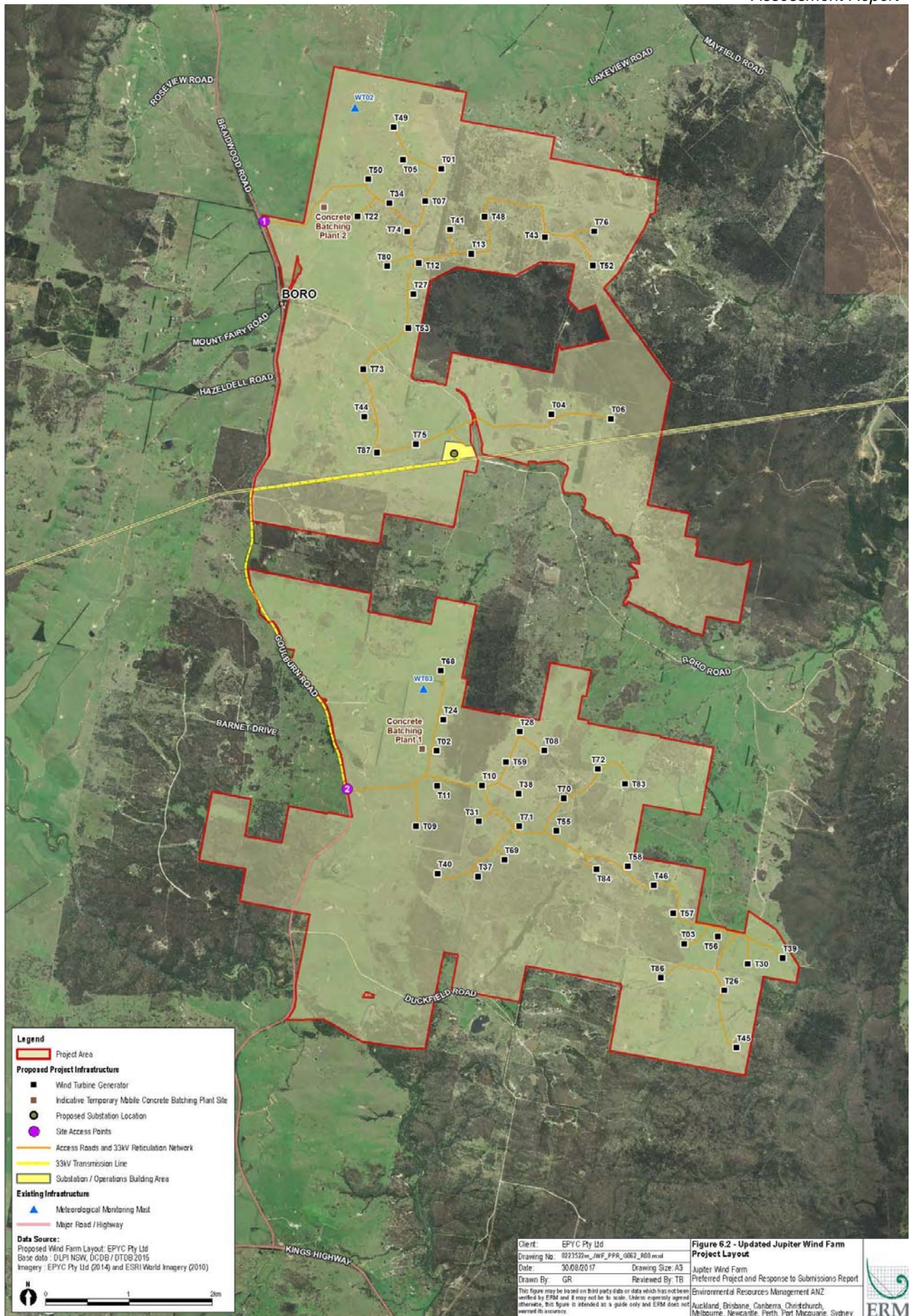


Figure 2: Project Layout (as amended)

**Table 2: Major Components of the Project**

<b>Aspect</b>	<b>Description</b>
<i>Project summary</i>	Development of a wind farm including: <ul style="list-style-type: none"> <li>• up to 54 turbines and associated infrastructure; and</li> <li>• temporary and permanent ancillary infrastructure on site to facilitate the construction and operation of the turbines.</li> </ul>
<i>Project area</i>	Approximately 4,135 hectares (ha)
<i>Disturbance area</i>	61.81 ha or 1% of the site
<i>Wind turbines</i>	<ul style="list-style-type: none"> <li>• 54 turbines and crane hard stand areas</li> <li>• Maximum height (to blade tip) - 173 m</li> <li>• Tower heights - approximately 110 m</li> <li>• Blade lengths - approximately 63 m</li> <li>• Capacity of up to 4.5MW<sup>1</sup></li> </ul>
<i>On-site ancillary infrastructure</i>	<ul style="list-style-type: none"> <li>• Electrical infrastructure, including: <ul style="list-style-type: none"> <li>• one 33/330 kV collection substation;</li> <li>• subdivision of the substation land to allow transfer to TransGrid;</li> <li>• 330 kV above ground power line to connect to existing high voltage network;</li> <li>• 33 kV underground or above ground power lines;</li> </ul> </li> <li>• Up to 2 temporary construction compounds / concrete batch plants;</li> <li>• Internal access tracks;</li> <li>• One permanent operation and maintenance facility; and</li> <li>• Up to 3 permanent meteorological masts.</li> </ul>
<i>Over-dimensional and heavy vehicle transport routes</i>	Hume Highway and Goulburn Braidwood Road
<i>Road Upgrades</i>	Minor modifications to accommodate the swept path requirements of the over-dimensional / over-mass vehicles.
<i>Employment</i>	<ul style="list-style-type: none"> <li>• Construction - up to 230 people</li> <li>• Operations - up to 22 people</li> </ul>
<i>Capital investment value</i>	Up to \$300 million
<i>Voluntary planning agreements</i>	\$2,500 per constructed turbine (adjusted for CPI for Sydney) paid annually on commissioning of the project until the end of the project life.

## 2. STRATEGIC CONTEXT

### 2.1 Renewable Energy

#### **Renewable Energy Policies**

In 2016, the vast majority of energy in NSW was derived from fossil fuels, including 80.4% from coal and gas, with only 19.6% derived from renewable energy sources. However, there are currently no plans for the development of new coal fired power stations in NSW, and the development of renewable energy sources, such as wind and solar, is experiencing rapid growth.

This is highlighted in the recently released *Independent Review into the Future Security of the National Electricity Market* (the Finkel Review), which outlines a strategic approach to ensuring an orderly transition from traditional coal and gas fired power generation to renewable energy with lower emissions. It notes that Australia is heading towards zero emissions in the second half of the century.

The *United Nations Framework Convention on Climate Change* (UNFCCC) has adopted the Paris Agreement, which aims to limit global warming to well below 2°C, with an aspirational goal of 1.5°C. Australia's contribution towards this target is a commitment to reduce greenhouse gas emissions by between 26% to 28% below 2005 levels by 2030.

One of the key initiatives to deliver on this commitment is the Commonwealth Government's *Renewable Energy Target* (RET). Under this target, more than 23.5% of Australia's electricity would come from renewable energy by 2020. It is estimated that an additional 5,400 MW of new renewable energy capacity will need to be built by 2020 to achieve the RET.

<sup>1</sup> The project may use a mix of turbine models across the site to better utilise the on-site wind resource profile.

The NSW Climate Change Policy Framework, released in November 2016, sets an aspirational objective for NSW to achieve net zero emissions by 2050. The NSW Government also has a *Renewable Energy Action Plan*, which promotes the development of renewable energy in NSW.

With a capacity to generate up to 690 GWh of electricity annually, the project would contribute to the Commonwealth's RET and NSW's *Renewable Energy Action Plan*.

However, the *NSW Renewable Energy Action Plan* recognises the need for engaging with affected communities early and effectively, and ensuring that the planning system appropriately balances the concerns of local residents with the need for renewable energy in NSW. It also points to the development of the wind energy planning framework (which has since been finalised) to guide land use planning and decision-making, as discussed further below.

### **Renewable Energy Projects in NSW**

The best wind resources in NSW are generally located along the Great Dividing Range and the Western Slopes, including the Southern and Central Tablelands. The site for the Jupiter Wind Farm project falls within this area and the EIS indicates the site has high average wind speeds.

As a consequence of the region's superior wind resources and proximity to major electricity transmission lines, there are 7 operational and approved wind farms within approximately 50 km of the site (see Table 3 and Figure 3). The closest is the operational Woodlawn Wind Farm which is located 7 km to the northwest of the site.

**Table 3: Other Wind Farms in the Region**

<b>Wind farm</b>	<b>Approximate distance from project</b>	<b>Status</b>	<b>Number of turbines</b>	<b>Tip height</b>
<i>Woodlawn</i>	7 km northwest	Operational	23	124 m
<i>Capital 1</i>	8 km west	Operational	67	124 m
<i>Capital 2</i>	8 km west	Approved	41	157 m
<i>Collector</i>	33 km northwest	Approved	55	150 m
<i>Cullerin</i>	41 km northwest	Operational	15	126 m
<i>Gullen Range</i>	49 km northwest	Operational	73	135 m
<i>Gunning</i>	51 km northwest	Operational	31	121 m

In addition to wind energy projects, there has been a significant increase in solar energy with 49 operational, approved and proposed large-scale solar farms in NSW.

In total, if all projects are developed, there would be up to 13,000 MW of renewable generation capacity from large-scale projects in the NSW energy system in the next 5 to 10 years (with around 7,000 MW of wind energy and 6,000 MW of solar energy).

The Department recognises that there is a competitive market for offtake agreements into the National Electricity Market, and that many of these projects may not proceed. It is also recognised that it is not up to the Department to interfere in the market by determining which projects should proceed at the expense of others. However, the Department considers that there is considerable depth in the renewable energy market and that there are a broad range of potential alternatives which would enable NSW and Commonwealth Governments to achieve their short and longer term renewable energy and greenhouse emission objectives if the Jupiter Wind Farm does not proceed.

### **NSW Wind Energy Framework**

The number of operational, approved and proposed wind farms in NSW, has given rise to growing community concerns about the cumulative impacts of wind energy development, and in particular, the visual impacts of these projects on the broader landscape in the Southern Tablelands and South West Slopes.

In December 2016, the Department released the new *Wind Energy Framework* (the Framework).

The Framework replaces the draft wind farm planning guidelines, which were exhibited in 2011, and seeks to provide greater clarity, consistency and transparency for industry and the community regarding both assessment and decision-making on wind energy projects.

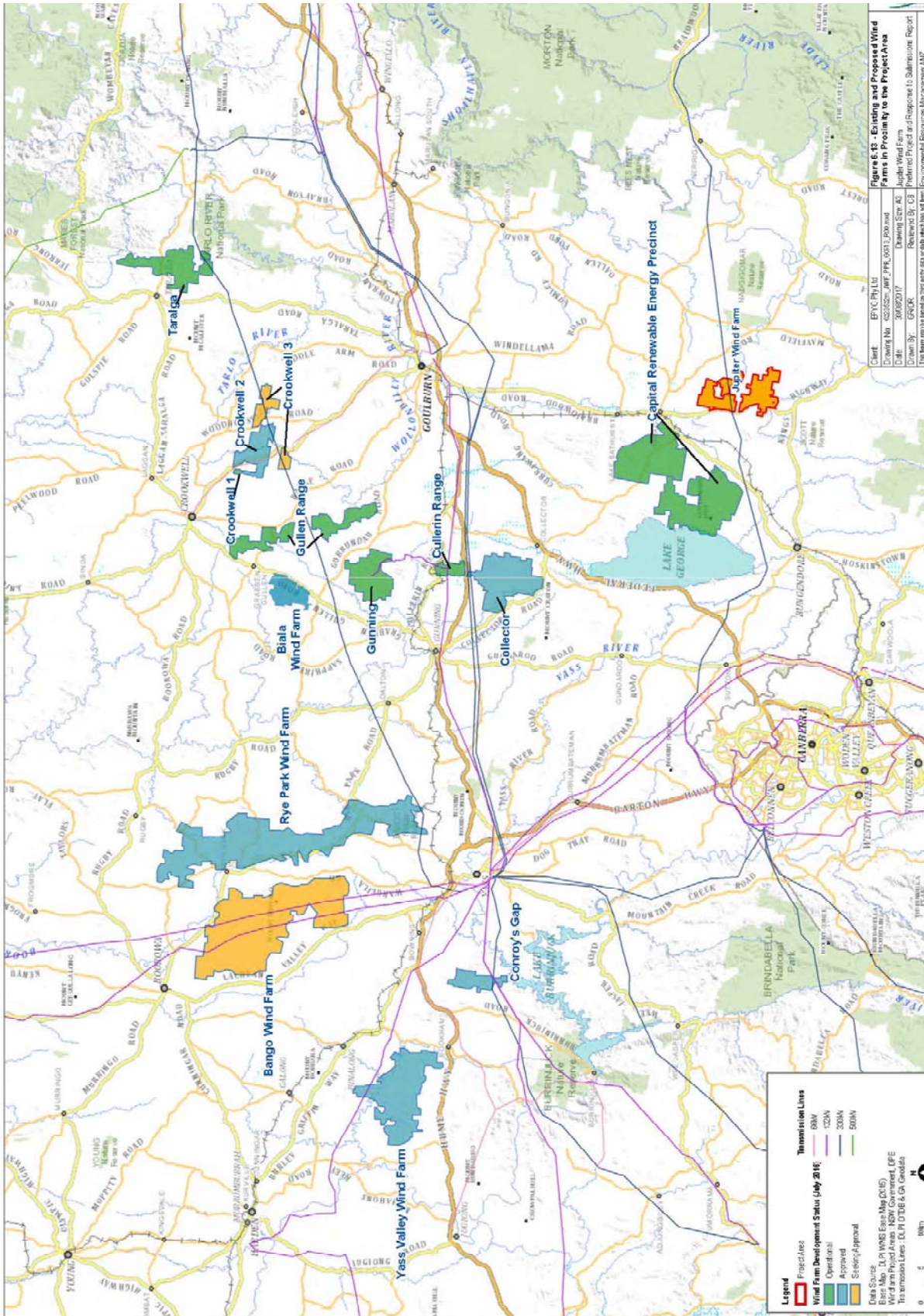


Figure 3: Other Wind Farms in the Region

The Wind Energy Framework provides a merit-based approach to the assessment of wind energy projects, which is focused on the issues unique to wind energy, particularly noise and visual impacts. The key documents comprising the Framework include:

- *Wind Energy Guideline*;
- *Visual Assessment Bulletin*;
- *Noise Assessment Bulletin*; and
- *Standard Secretary's Environmental Assessment Requirements (SEARs)*.

However, it is important to note that the Framework only applies to new large-scale wind energy projects where environmental assessment requirements have been issued after the date the Framework was published (i.e. December 2016). As the assessment requirements for the Jupiter Wind Farm were originally issued in 2014 (and revised in March 2016), the Framework does not apply.

Nonetheless, the Framework provides relevant guidance to decision-makers about the NSW Government's current policy position for assessing key impacts of wind energy developments, including in regard to visual and noise impacts on local communities.

## 2.2 Regional and Local Population

### **Associated Landowners**

The project has 23 host or 'associated' landowners, who own land on the project site or are part of the original project site. They have entered into commercial agreements with JWF to facilitate the development of the project, including accepting the impacts of the project.

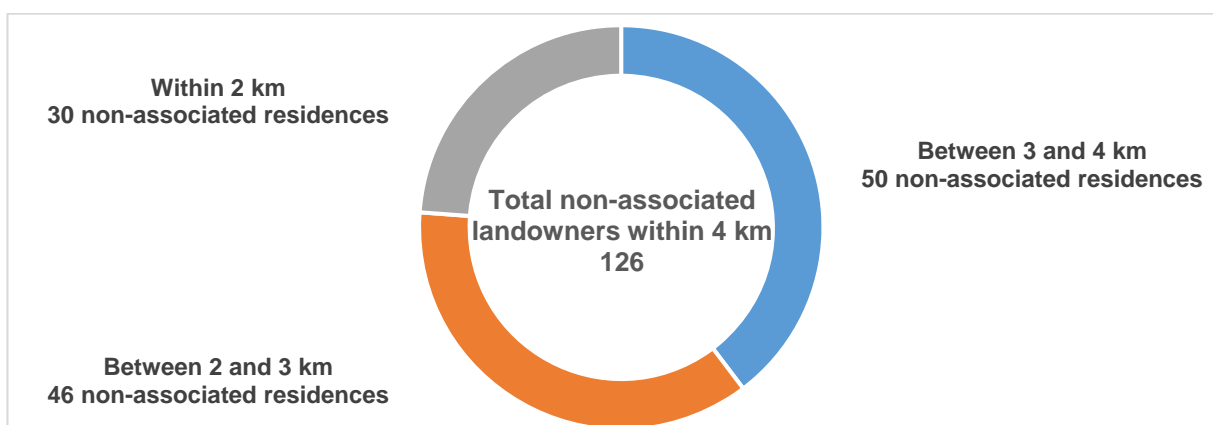
As mentioned above, JWF has proposed a neighbour benefit sharing program open to all landowners with a residence or approved dwelling within 3 km of a proposed wind turbine. At this stage, the Department has received confirmation that 10 landowners have entered into agreements with JWF to accept the impacts of the project as part of this program.

For the purposes of its assessment, the Department has considered these residences to be 'associated' with the project.

### **Non-Associated Landowners**

Although the area is predominantly zoned rural, there are a large number of residences in close proximity to the project site. In particular, there are 126 non-associated residences within 4 km of the site including (see Figure 4):

- 30 residences within 2 km;
- 46 residences between 2 km and 3 km; and
- 50 residences between 3 km and 4 km.



**Figure 4: Number of Non-Associated Residences**

The majority of the nearby residences (almost 100) are located in 6 subdivisions comprising smaller lifestyle lots (between around 30 and 100 hectares) which essentially surround the proposed wind farm site, except to the east of the site (see Figure 5). However, as shown on Figure 5, there are also a large number of residences beyond these subdivisions (i.e. within 5 km) which have the potential to be impacted by the project to some extent.

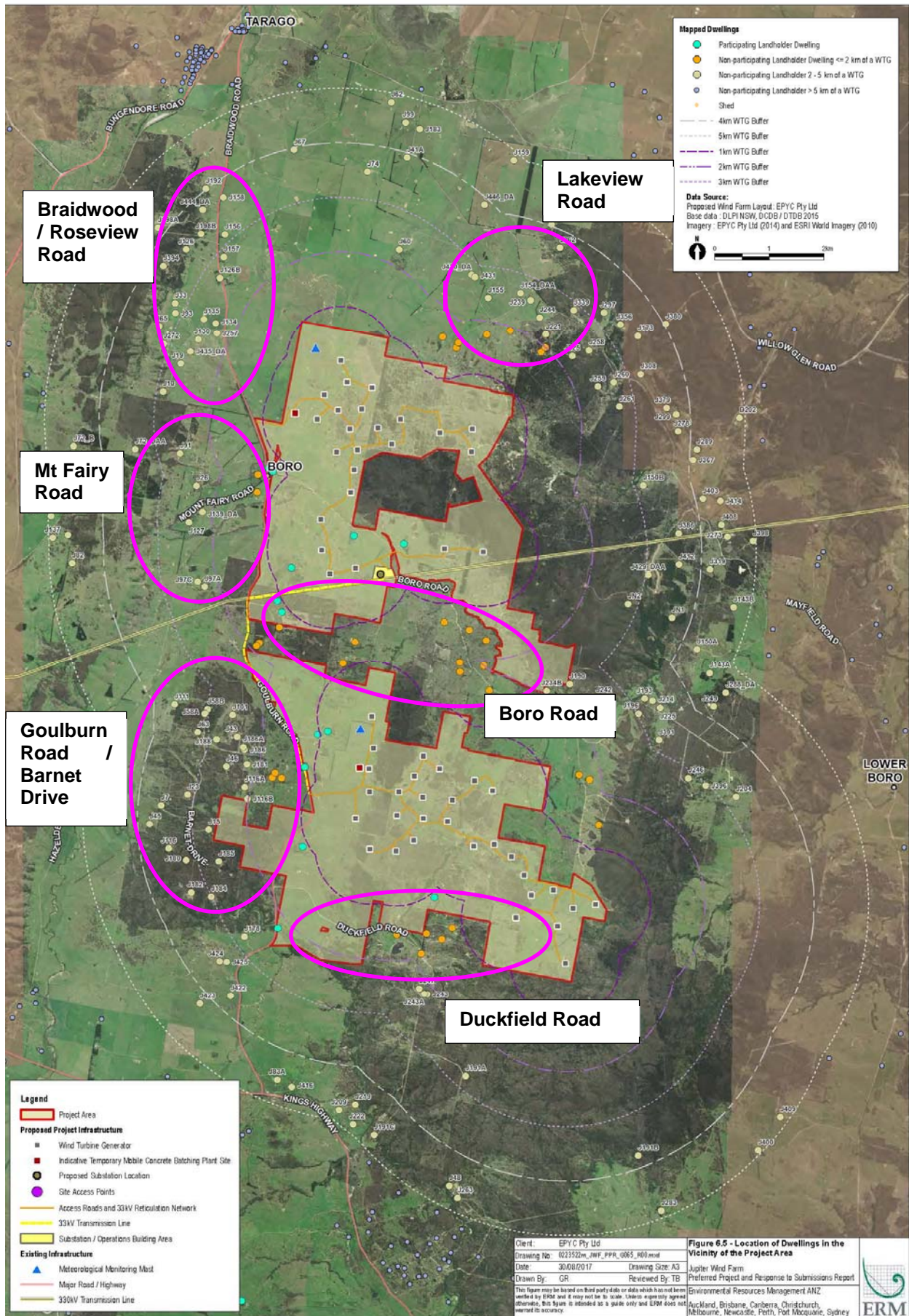


Figure 5: Location of Non-Associated Residences

## Regional Centres

The closest village to the project site is Tarago which is located 5 km northeast of the project site with a population of around 400. There would be some distant views of the wind farm from residences in Tarago although these would be limited to the edges of residential areas and the newly created sub-division behind the town (Sherwins Ridge Estate).

The nearest regional centres include Bungendore (20 km to the southwest of the site), Goulburn (40 km to the north of the site) and Canberra (40 km to the southwest of the site). Due to the distance from the site and the intervening topography, these regional centres would not experience any visual or noise impacts as a result of the project.

## 2.3 Local Context

Apart from the large number of residences in close proximity to the site, the other distinctive feature of the area compared to sites for other wind farms is the local topography. The majority of wind farms in NSW position wind turbines on ridges and high plateaus to take advantage of the best wind resources with residences typically located in the lower valley floors.

However, in this case, the turbines would be located on slightly elevated land within a broad north-south valley surrounded on both sides by ridgelines (see Figure 6). As shown on Figure 6, many of the nearby residences are located on the slopes of these ridgelines in elevated positions to capture views of the valley and National Parks/Nature Reserves beyond.

The nature of the local topography significantly increases the potential visual impacts of the project compared to other wind farms, particularly for those properties on nearby elevated land which are located at a similar elevation to the turbine rotors. This is discussed further in Section 5.2.

The site itself is generally characterised by cleared agricultural grazing land comprising undulating hills with scattered remnant vegetation. However, there are some more significant areas of remnant vegetation within and adjacent to the site which provide local habitat corridors and connections to larger reserves to the south and east.

There are a number of important conservation areas in the vicinity, including the Nadgigomar Nature Reserve (approximately 6 km to the east), Scott Nature Reserve (8 km southwest), and Tallaganda National Park and State Conservation Area (18 km southwest). These reserves form the backdrop for views from a number of local residences, particularly those on elevated land to the west of the site.

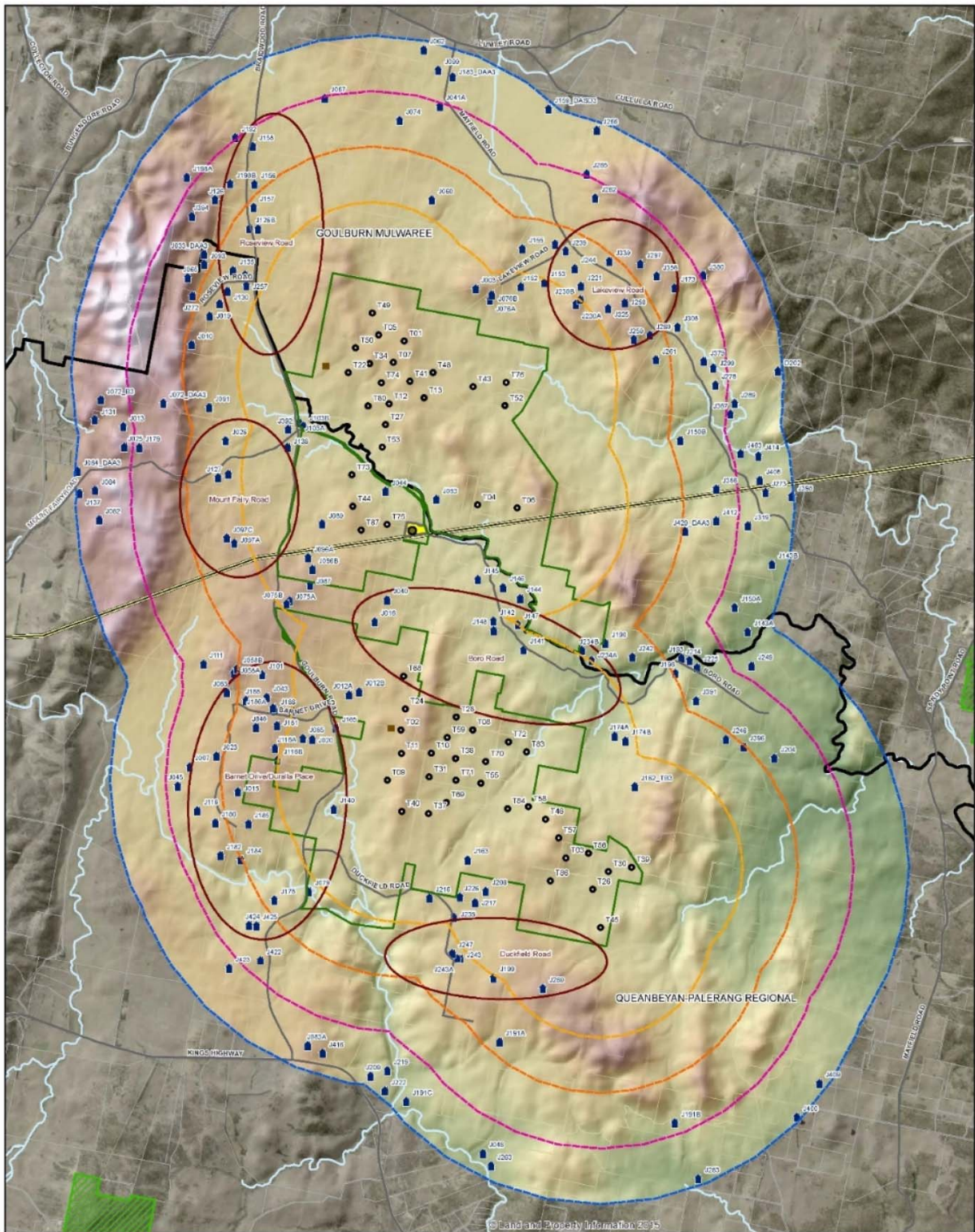
Approximately 5.5 km north of the site is Lake Bathurst and associated wetlands, known as 'The Morass'. This is recognised as an important regional wetland as it provides habitat and breeding areas for waterbirds, including threatened species, and is listed in the *Directory of Important Wetlands in Australia* (Commonwealth DoE).

Under the *Goulburn Mulwaree Local Environmental Plan 2009* the entire area between Lake Bathurst and The Morass is zoned E3 – Environmental Management (see Figure 7). This includes a significant proportion of the project site (33%), including 20 out of the 24 turbines in the northern cluster of the proposed layout.

The area is mapped as containing 'terrestrial biodiversity' under the Local Environmental Plan and the *Goulburn Mulwaree Biodiversity Strategy 2007* also identifies areas of high conservation value within the E3 zone.

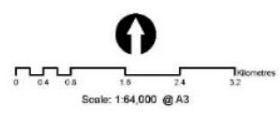
All of these strategic planning documents seek to protect the biodiversity values of the area, and wind farms are a prohibited land use in the E3 zone, as discussed further in Section 3 and Section 5.3 below.





- Legend**
- Dwelling Location
  - Turbine Location
  - Indicative Temporary Mobile Concrete Batching Plant Site
  - Proposed Substation Location
  - Road
  - Water Course\*
  - 330kV Transmission Line

- Project Boundary
  - Substations/Operations Building Area
  - Residence Cluster
  - Nature Reserve
  - LGA Boundary
  - Cadastre
- Turbine Proximity**
- 2km
  - 3km
  - 4km
  - 5km
- Elevation**
- 520m
  - 565m



**Jupiter Wind Farm**  
Digital Elevation Model: 5km proximity area

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**Figure 6: Local Topography**

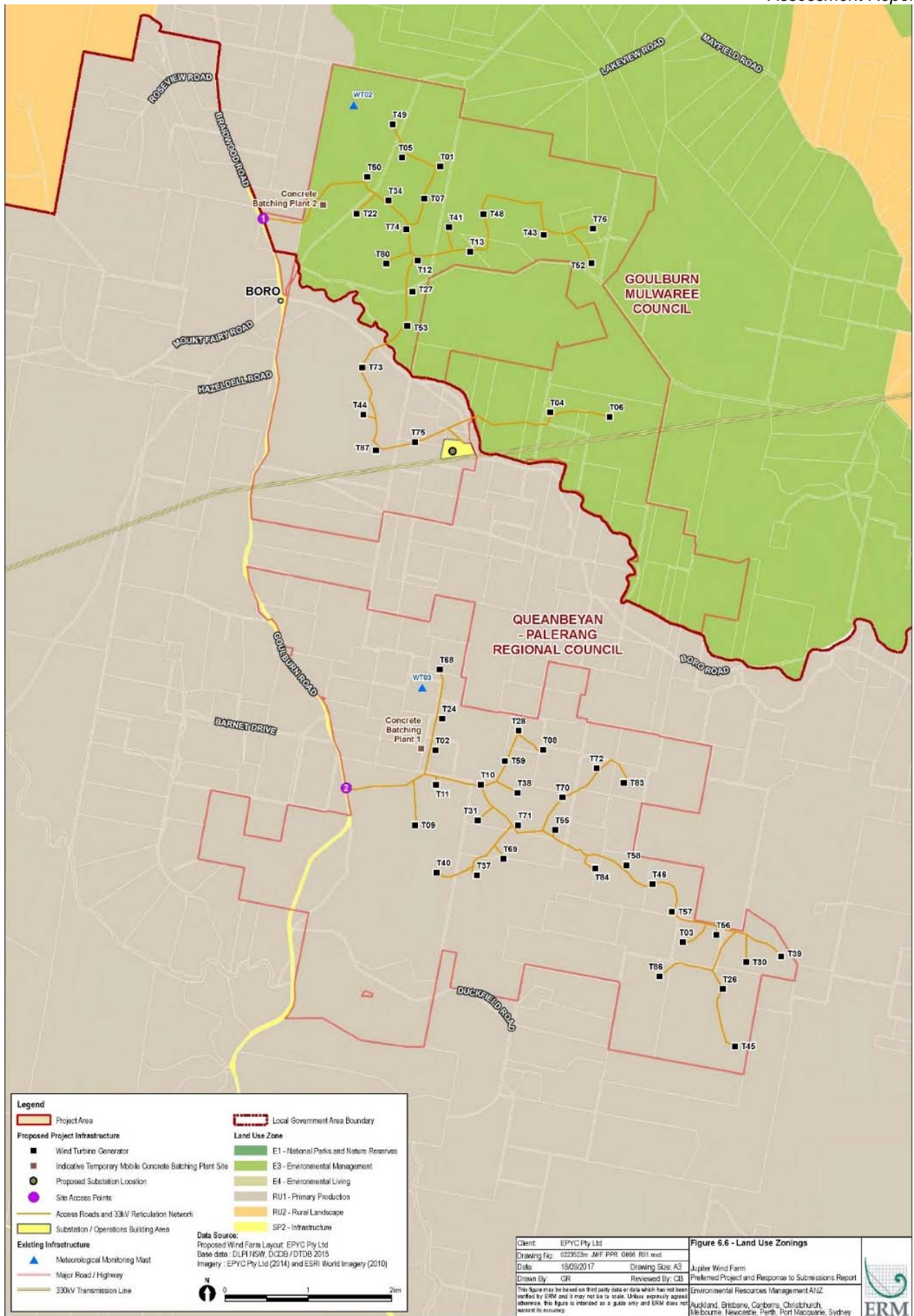


Figure 7: Land Use Zoning

## 2.4 Key Infrastructure

The project site is located in proximity to Goulburn-Braidwood Road, a State road and freight route connecting Goulburn and the Kings Highway immediately to the west of the site, and the Canberra to Sydney Railway Line which passes through Tarago also to the west of the site (see Figures 1 and 2).

There are also a number of local roads in the vicinity of the site, including Boro Road which runs east-west through the centre of the site and is controlled by Queanbeyan-Palerang Council.

The designated over-dimensional and heavy vehicle route uses the Hume Highway and Goulburn-Braidwood Road, with vehicles accessing the site directly from Goulburn-Braidwood Road via two proposed access points.

Vehicles accessing the site would not be required to use local roads, however internal access roads servicing the northern part of the site would cross over Lower Boro Road. A new intersection for this crossing point would be required, with traffic on Lower Boro Road continuing to have priority over cross traffic.

The project would connect directly into the Canberra to Capital Wind Farm 330 kV transmission line, which traverses the project site, via a new substation located in the northern part of the site near Boro Road (see Figure 2).

## 3. STATUTORY CONTEXT

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### 3.1 State Significant Development

The project is classified as State Significant Development (SSD) under Section 89C of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as it triggers the criteria in Clause 20 of Schedule 1 to *State Environmental Planning Policy (State and Regional Development) 2011*, being development for the purpose of electricity generating works using wind power that has a capital investment value of more than \$30 million.

Consequently, the Minister for Planning is the consent authority for the development. However, under the Minister's delegation dated 14 September 2011, the independent Planning Assessment Commission must determine the development application for the project as there were more than 25 public objections, and both Queanbeyan-Palerang Regional Council and Goulburn Mulwaree Council objected to the project.

### 3.2 Permissibility

The project is located across the Queanbeyan-Palerang LGAs (formerly Palerang) and Goulburn Mulwaree divided by Boro Road. The project site is zoned either E3 – Environmental Management (33%) or RU1 – Primary Production (66%) under the relevant Local Environmental Plans (LEPs) (see Figure 7).

Part of the project (all of the central cluster and a small portion of the northern cluster) is zoned RU1 – Primary Production under the *Palerang LEP 2014* and *Goulburn Mulwaree LEP 2009* respectively.

Development for the purposes of electricity generating works within land zoned RU1 is permissible with consent under the *Goulburn Mulwaree LEP 2009*, however, it is prohibited under the *Palerang LEP 2014*.

Under the *Goulburn Mulwaree LEP 2009*, development for the purposes of electricity generating works is prohibited on land zoned E3 – Environmental Management.

However, the *Palerang LEP 2014* expressly references the *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP) and acknowledges that electricity generating works and solar energy systems are regulated by the Infrastructure SEPP, rather than the LEP.

Under the Infrastructure SEPP electricity generating works are permissible with consent within prescribed rural zones (including RU1), but not on land zoned E3.

Hence, the project is permissible with consent on land zoned RU1 – Primary Production, but is prohibited within the land zoned E3 under the *Goulburn Mulwaree LEP 2009*.

However, under Section 89E(3) of the EP&A Act, development consent may be granted for a State Significant Development despite the development being partly prohibited by an environmental planning instrument. As such, despite the provisions of the LEP and *Infrastructure SEPP*, consent could be granted for the development.

While the consent authority has the power to grant consent, it must assess the merits of any such decision in accordance with Section 79C of the EP&A Act. This includes an evaluation of the proposed development against the aims and objectives of the applicable zoning and any other provisions of relevant planning instruments which apply to the land. This is discussed further in Section 5.3 below.

### 3.3 Integrated and Other NSW Approvals

Under Section 89J of the EP&A Act, a number of other approvals are integrated into the SSD approval process, and consequently are not required to be separately obtained for the project. These include:

- various approvals relating to heritage required under the *National Parks and Wildlife Act 1974* and *Heritage Act 1997*;
- an authorisation under the *Native Vegetation Act 2003* for the clearing of native vegetation; and
- certain water approvals under the *Water Management Act 2000*.

Under Section 89K of the EP&A Act, a number of further approvals are required, but must be substantially consistent with any development consent for the project. These include:

- an Environment Protection Licence under the *Protection of the Environment Operations Act 1997*; and
- approvals for various road upgrades under the *Roads Act 1993*.

The Department has consulted with the relevant government authorities responsible for these integrated approvals (see Section 4), and considered their advice in its assessment of the merits of the project (see Section 5).

### 3.4 Commonwealth Approvals

JWF also needs to obtain approval from the Commonwealth Minister for the Environment and Energy under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), because the project is a “controlled action” under that Act because it could have a significant impact on Commonwealth listed threatened species, vegetation communities and migratory species.

The Commonwealth Department of the Environment and Energy (DoEE) determined that the project could be assessed under the bilateral agreement with NSW. However, while the EIS for the project contains a detailed assessment of the project on relevant Commonwealth matters, the Department has not considered these matters in any detail in this report because it is recommending refusal of the application, and does not consider these matters (i.e. impacts on Commonwealth listed threatened species, vegetation communities and migratory species) to be material to the decision on the application, as discussed further in Section 5.

## 4. CONSULTATION

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### 4.1 Department's Engagement

During the assessment process, the Department visited the site and surrounds on several occasions, held a community information session, and consulted with local residents, community groups, Councils, public authorities and JWF.

In total, the Department visited 32 properties around the site to get an appreciation of the potential impacts of the project and further understand the concerns of individual landowners. These site visits were undertaken with the Department's independent visual expert, as discussed further in Section 5.2 below. The Department also met with host landowners accompanied by JWF.

A Community Consultative Committee (CCC) for the project was established by the Department in June 2015 comprising an independent chairperson, seven representatives from the local community, a representative from each of the two Councils and three JWF representatives. The CCC has met 11 times since it was established, and the minutes of these meetings are available at <http://www.epyc.com.au/community-consultative-committee-ccc/>.

The Department has also written to JWF on a number of occasions raising concerns about the adequacy of its community consultation and the lack of mitigation measures to address the visual impacts of the project on local residences, including the absence of agreements with the most affected landowners. These matters led to the rejection of the initial development application and EIS in October 2015, in accordance with Clause 51 of the *Environmental Planning and Assessment Regulation 2000* (see Appendix F).

The Department considers that the reasons for rejecting the original development application in 2015 remain largely the same as the reasons why the Department is recommending the project (as amended) be refused (see relevant extracts below – emphasis added):

*"Inadequate consultation with affected non-host landowners, particularly in relation to the development of potential mitigation measures to address predicted exceedances of relevant criteria or significant impacts. This is particularly important given the fact that there are 59 non-host residences and 4 approved non-host residences located within 2 kilometres of the project's turbines.*

*Inadequate landscape and visual impact assessment:*

- *the assessment does not include a detailed assessment and photomontages of the potential impacts of the project on all of the non-host residences within 2 kilometres of any turbine, as required by the Secretary's Environmental Assessment Requirements, nor some of the critical non-host residences beyond this area where high visual impacts are predicted (particularly the Roseview Road and Lakeview Road areas);*
- *there is insufficient consideration of the specific mitigation measures that could be implemented to avoid and / or minimise the high or moderate - high visual impacts of the project: the assessment relies on generic planting measures and there is little evidence of any meaningful consultation with the affected landowners or the consideration of alternative mitigation measures such as the use of negotiated agreements."*

*"Under the Goulburn Mulwaree Local Environmental Plan (LEP), the northern portion of the project is prohibited. While Section 89 of the Environmental Planning and Assessment Act 1979 allows a consent authority to approve a State Significant Development application that is not wholly prohibited, the EIS contains insufficient consideration of:*

- *the project against the aims, objectives and other provisions of the LEP, or reasons why the project should be approved notwithstanding the prohibitions in the LEP; and*
- *the suitability of the site, paying particular attention to the growing rural - residential character of the surrounding area.*

*For these reasons, the Department has decided to reject the DA under Clause 51 of the Environmental Planning and Assessment Regulation 2000."*

The Department's engagement during the assessment process is summarised in Table 4.

**Table 4: Summary of Department's community engagement**

<b>Date</b>	<b>Description</b>	<b>Attendees</b>
5 June 2015	<ul style="list-style-type: none"> <li>Visit to site and surrounds to understand impacts</li> </ul>	<ul style="list-style-type: none"> <li>Department planning officers</li> </ul>
5 August 2015	<ul style="list-style-type: none"> <li>Attend CCC inaugural meeting</li> </ul>	<ul style="list-style-type: none"> <li>Department planning officers</li> <li>JWF</li> <li>CCC</li> </ul>
2 March 2016	<ul style="list-style-type: none"> <li>Attend CCC via teleconference</li> </ul>	<ul style="list-style-type: none"> <li>Department planning officer</li> <li>CCC</li> </ul>
8 July 2016	<ul style="list-style-type: none"> <li>Visit to surrounds and non-associated residences</li> </ul>	<ul style="list-style-type: none"> <li>Secretary</li> <li>Department planning officers</li> <li>Residents Against Jupiter Wind Turbines</li> </ul>
7 December 2016	<ul style="list-style-type: none"> <li>Meetings with Councils</li> <li>Community Information Session held at Tarago Community Hall</li> </ul>	<ul style="list-style-type: none"> <li>Department planning officers</li> <li>Independent facilitator</li> <li>Approx. 150 members of the community</li> </ul>
23 January 2017	<ul style="list-style-type: none"> <li>Visit to project site</li> <li>Meeting with host landowners</li> </ul>	<ul style="list-style-type: none"> <li>Department planning officers</li> <li>Independent visual expert</li> <li>JWF and hosts</li> </ul>
23 January 2017	<ul style="list-style-type: none"> <li>Meeting with Residents Against Jupiter Wind Turbines</li> </ul>	<ul style="list-style-type: none"> <li>Department planning officers</li> <li>Independent visual expert</li> <li>Department noise technical expert</li> <li>Residents Against Jupiter Wind Turbines</li> </ul>
15-16 February 2017	<ul style="list-style-type: none"> <li>Visit to site, surrounds and 32 non-associated residences to confirm impacts and discuss issues</li> </ul>	<ul style="list-style-type: none"> <li>Department planning officers</li> <li>Independent visual expert</li> <li>Non-associated landowners</li> </ul>

## 4.2 Exhibition

The Department:

- publicly exhibited the development application and accompanying Environmental Impact Statement (EIS) from 30 November 2016 until 1 March 2017 (92 days);
- advertised the exhibition in the Goulburn Post Weekly, Canberra Times, Daily Telegraph and Sydney Morning Herald; and
- notified affected landholders, relevant State government authorities, Councils, relevant electricity supply and transmission authorities.

This satisfies the notification requirements of Section 89F of the EP&A Act and *State Environmental Planning Policy (Infrastructure) 2007*.

## 4.3 Response to Submissions

In October 2017, JWF provided a detailed response to the issues raised in submissions on the EIS (see Appendix B), and subsequently supplemented this with a range of additional information to address matters raised by the Department and other agencies during the assessment process.

The response to submissions (RTS) was made publicly available on the Department's website, and provided to key government agencies for comment.

Since the RTS was submitted, the Department has consulted further with JWF and key public authorities including Councils, the Roads and Maritime Service (RMS), the NSW Office of Environment and Heritage (OEH) and the NSW Department of Industry – Lands and Water (DoI L&W – formerly DPI-Water), Division of Resources and Geosciences (DRG) to inform the assessment of the merits of the project.

The Department has also received numerous further representations from members of the community raising concerns about the amended project layout, and the adequacy of JWF's response to the issues raised in submissions.

#### 4.4 Summary of Submissions

During the exhibition period of the EIS, the Department received 452 submissions on the project. This included:

- advice from 12 government agencies
- 9 submissions from special interest groups; and
- 431 submissions from the general public.

A summary of submissions is provided in Table 5, and a full copy of the submissions is attached in Appendix C.

**Table 5: Summary of submissions**

<b>Submitters</b>	<b>Number</b>	<b>Category</b>
<b>Government Agency</b>	<b>12</b>	
<ul style="list-style-type: none"> <li>• Queanbeyan-Palerang Regional Council</li> <li>• Goulburn Mulwaree Council</li> </ul>		Object Object
<ul style="list-style-type: none"> <li>• Office of Environment and Heritage</li> <li>• Environment Protection Authority</li> <li>• Department of Primary Industries</li> <li>• Division of Resources and Energy, Department of Industry (now Division of Resources and Geosciences, Department of Planning and Environment)</li> <li>• WaterNSW</li> <li>• Civil Aviation Safety Authority</li> <li>• Rural Fire Service</li> <li>• Murrumbidgee Local Health District</li> <li>• Airservices Australia</li> </ul>		Comment
<b>Special Interest Group</b>	<b>9</b>	Object
<ul style="list-style-type: none"> <li>• Australian Wind Alliance</li> <li>• Heron Resources Limited</li> <li>• Mulloon Matters Group</li> <li>• Parkesbourne/Mummel Landscape Guardians Inc</li> <li>• Residents Against Jupiter Wind Turbines</li> <li>• Roseview Estate Residents Group</li> <li>• St. Bakhomios Coptic Orthodox Monastery</li> <li>• Tarago &amp; District Progress Association Incorporated</li> <li>• Tarago Parents and Citizens Association</li> </ul>		
<b>Community Submissions</b>	<b>431</b>	391 - Object 38 - Support 2 - Comment

#### 4.5 Government Agencies

**Queanbeyan-Palerang Regional Council** and **Goulburn Mulwaree Council** objected to the original and amended development application.

Both Councils considered that the potential visual impact of the project would be unacceptable in regard to both the public and private domains.

In particular, Queanbeyan-Palerang Regional Council stated that:

*“Council considers that while this area is zoned rural land, the configuration of land and housing results in a more rural residential character with the result that more properties are affected. Given this character and the resultant density Council believes this is not a suitable site for the wind farm.”*

Goulburn Mulwaree Council stated that:

*“The potential visual impact on existing residential development in the area is not acceptable. The proposed topographical location and size of turbines will create significant visual impacts on view corridors and the rural vista from both public and private land.”*

Both Councils also raised concerns about the noise and traffic impacts of the project, and the potential risks associated with bushfires and the ability to effectively deploy aerial firefighting assets in the vicinity of wind turbines.

Goulburn Mulwaree Council also raised concerns about the potential impacts of the wind farm on the E3 – Environmental Management zone, stating that:

*“Council is concerned that the proposed location of the wind farm towers is on an E3 Zoning which should be protected because of its environmental significance. We are aware that the Infrastructure SEPP can override the endorsed LEP but we would hope that the Planning Assessment Commission would not override the general intent of Council, the Department of Planning and most importantly the community.”*

**OEH** originally requested removal of 13 turbines due to unacceptable risks to biodiversity, relocation of 14 turbines to reduce biodiversity impacts, further consideration of a number of flora and fauna species, hollow bearing trees, raptors and migratory species, impact of turbines on connectivity between areas of remnant vegetation, avoidance of all high constraint biodiversity areas and further justification of the width of access roads in the assessment; and further consideration of the impacts on areas with potential for Aboriginal archaeology and additional information on the methodology. In its advice on the amended layout, OEH largely maintained its original concerns, and recommended the removal of 2 turbines and relocation of 12 turbines that were identified in its original submission to avoid/reduce impacts on biodiversity, particularly the risk of blade strike on threatened species such as the Glossy Black Cockatoo.

**DRG** (formerly the Division of Resources and Energy) raised concerns about sterilisation of mineral deposits in an exploration licence area overlying the project site, and recommended that the northern cluster be excluded from the development.

The **EPA** provided recommended conditions relating to noise (if the project is approved), including specific noise criteria for residences surrounding the project.

**RMS** originally raised concerns regarding the lack of information provided in the EIS regarding potential traffic impacts. However, following receipt of the amended DA, RMS advised that it was satisfied that these impacts could be managed through suitable conditions, including in regard to the transportation of oversize loads, the number and design of access points, and site-specific works.

**RFS** made a number of recommendations relating to minimising fire risk, including requirements for asset protection zones, access for emergency services, adequate water access and aerial firefighting.

**DoI L&W** raised concerns about the level of information provided regarding current agricultural productivity of the site and activities within waterways and riparian corridors, and provided recommended conditions relating to waterway crossings, activities on waterfront land and water supply.

**WaterNSW** raised concerns about erosion and sediment controls, and advised that JWF had not demonstrated that the project would achieve a ‘neutral or beneficial’ impact on water quality in accordance with *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011*.

**NSW Health** did not raise any concerns, but noted a number of requirements for drinking water supply under relevant standards and legislation.

The **Civil Aviation Safety Authority** advised that the wind turbines would need to be lit and referred to the *National Airports Safeguarding Framework - Guideline D* which provides advice on lighting requirements.

The concerns and objections of agencies remained substantially unchanged following consideration of the amended layout presented in the RTS.

However, in broad terms, the Department considers that, apart from the concerns raised by the Councils, the matters raised by the various government agencies are similar to those raised on other wind farm projects, and that it would be possible to manage, mitigate or offset these impacts to achieve a reasonable level of environmental performance through further amendments to the project and/or imposing suitable conditions of consent.



Hence, the Department has not assessed these matters in detail in this report because it is recommending refusal of the application on other grounds, and does not consider these matters to be material to the final decision on the merits of the project.

#### 4.6 Community Submissions

Of the 431 submissions from the general public received, 391 objected to the project, 38 supported the project and 2 provided comments.

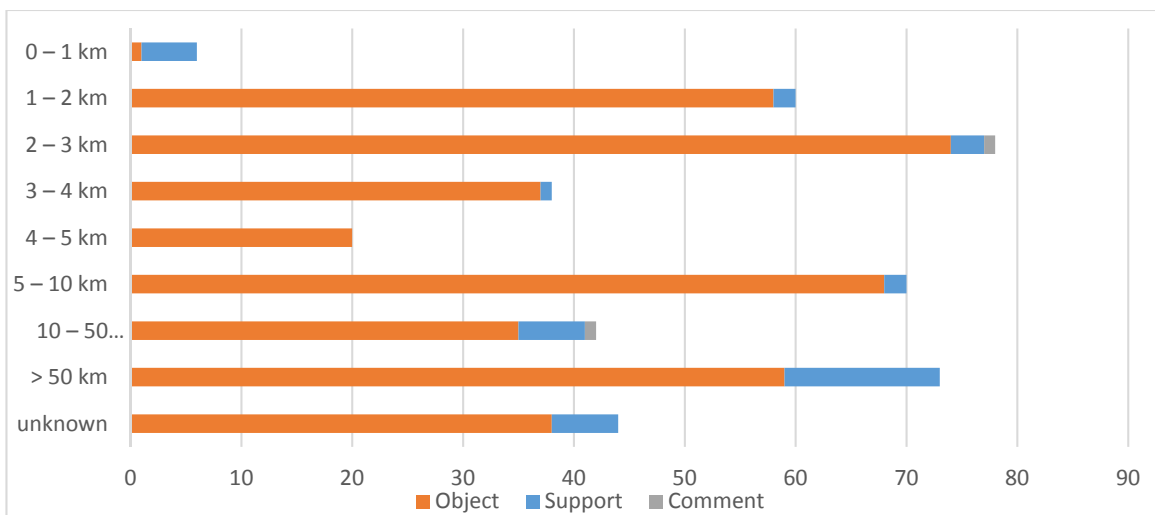
Submissions from the general public predominantly came from residents residing within 5 km of the project site, and surrounding locality (within 10 km of the project site) as shown in Figures 8 and 10.

Submissions objecting to the project were received from approximately 78% of residences within 1 to 3 km and 50% of residences located within 5 km of a proposed turbine in the EIS.

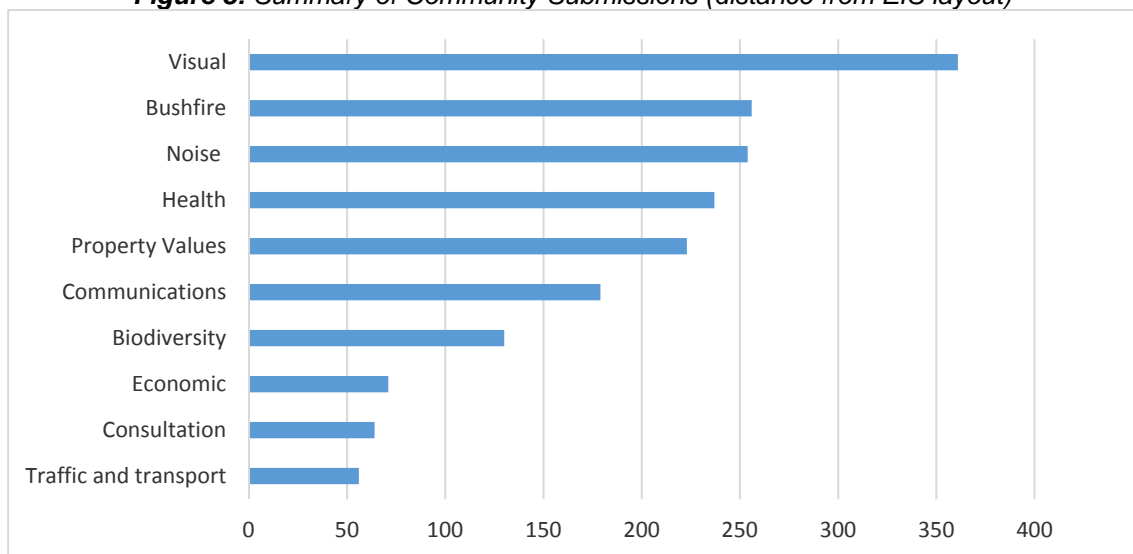
While a broad range of issues were raised in submissions, the key concerns related to:

- loss of visual amenity;
- bushfire risk;
- noise impacts; and
- impacts on health and property values.

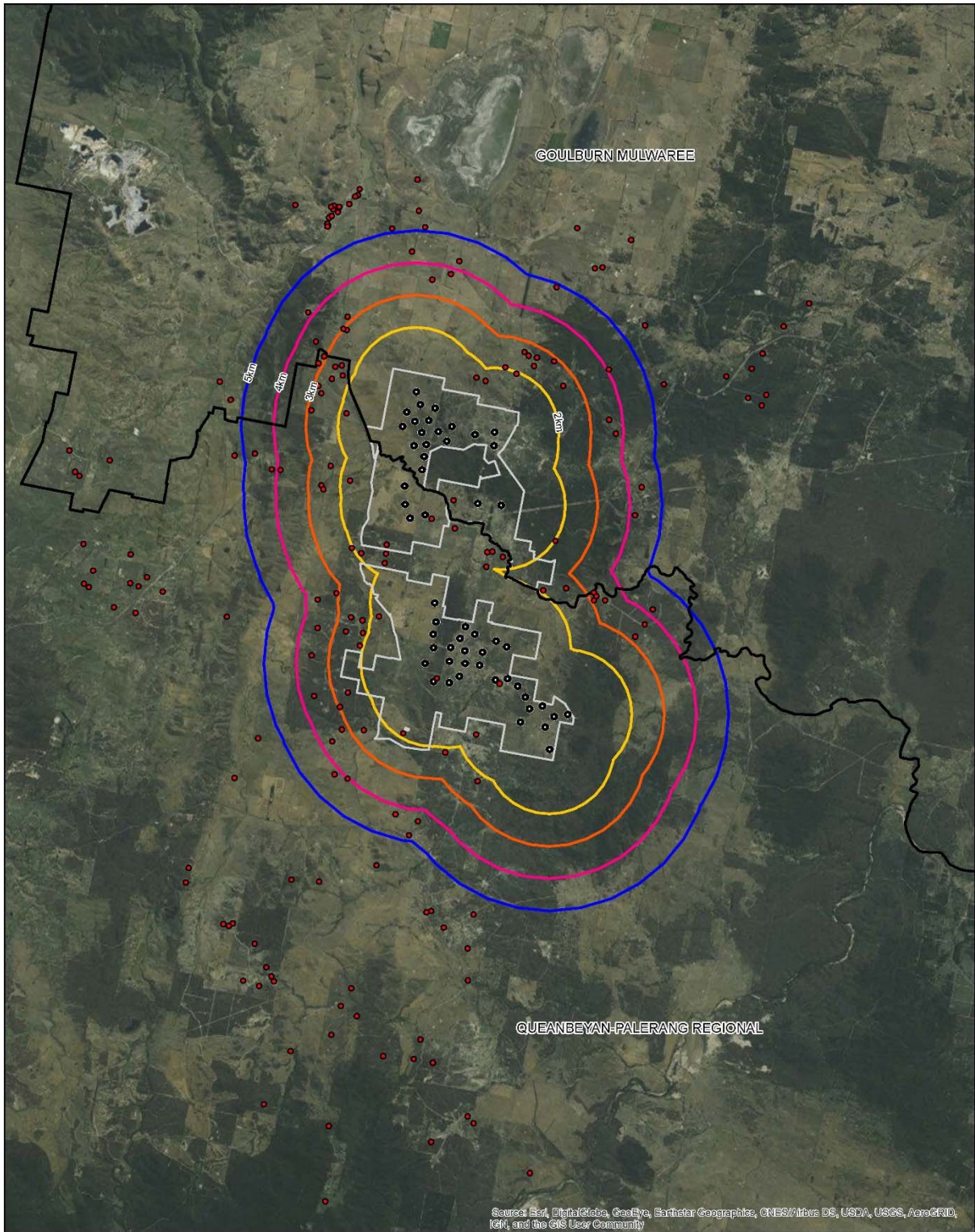
A breakdown and summary of the key issues raised by special interest groups and individuals is provided in Figure 9 and summarised in Table 6.



**Figure 8:** Summary of Community Submissions (distance from EIS layout)

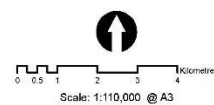


**Figure 9:** Key Issues Raised in Submissions



- Legend**
- Submission Addresses
  - Turbine Location
  - Project Boundary
  - LGA Boundary
- Turbine Proximity Lines**
- 2km
  - 3km
  - 4km
  - 5km

**Jupiter Wind Farm Submissions**



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**Figure 10: Location of Objectors to the Amended Layout (where property address provided)**

**Table 6: Summary of community and special interest group issues**

<b>Issue</b>	
<b>Visual</b>	<ul style="list-style-type: none"> <li>- Visual impact on a high number of surrounding residences</li> <li>- Impact on residences oriented towards the site and at a similar elevation to the proposed turbine hub heights</li> <li>- Validity of the methodology used to determine visual impacts</li> <li>- Impact of large size, scale and number of turbines</li> <li>- Proximity of the turbines to residences</li> <li>- Impact of industrial structures in a rural setting and impacts on landscape character</li> <li>- Impact of shadow flicker and night lighting</li> </ul>
<b>Bushfire</b>	<ul style="list-style-type: none"> <li>- Increased risk of bushfires, including reference to recent bushfires in the area</li> <li>- Interference with aerial firefighting operations</li> </ul>
<b>Noise &amp; Health</b>	<ul style="list-style-type: none"> <li>- Health impacts from low frequency noise and infrasound</li> <li>- Validity of the noise monitoring approach</li> <li>- Impacts from electro-magnetic fields</li> </ul>
<b>Property values</b>	<ul style="list-style-type: none"> <li>- Depreciation of property values</li> <li>- Limitations to future development of properties located in close proximity to the project, including sub-divisions</li> </ul>
<b>Communications</b>	<ul style="list-style-type: none"> <li>- Interference with telecommunication signals</li> <li>- Impact on television, radio, mobile phone and internet coverage</li> </ul>
<b>Biodiversity</b>	<ul style="list-style-type: none"> <li>- Potential for bird and bat strike</li> <li>- Impacts on flora, fauna and ecological communities, including:               <ul style="list-style-type: none"> <li>- Wedgetail eagles and Glossy Black Cockatoos;</li> <li>- Eastern Bentwing Bats; and</li> <li>- White Box-Yellow Box-Blakeley's Red Gum Woodland.</li> </ul> </li> </ul>
<b>Land Use</b>	<ul style="list-style-type: none"> <li>- Project should not be located on land zoned E3 Environmental Management</li> <li>- Impact on rural residential properties</li> </ul>
<b>Social &amp; Economic</b>	<ul style="list-style-type: none"> <li>- Negative impacts on the social fabric of the local community, including sense of community and conflict between host and non-host landowners</li> <li>- Jobs are unlikely to go to locals and the number of predicted jobs generated is inaccurate</li> <li>- Impacts on local infrastructure and services</li> <li>- Compensation for the entire community needed</li> <li>- Interference with farming operations</li> <li>- Projected capital investment inaccurate</li> </ul>
<b>Consultation</b>	<ul style="list-style-type: none"> <li>- Dissatisfaction with the level of community consultation undertaken by JWF</li> <li>- Concerns about approach to land access and seeking agreements with local residents as part of the neighbour benefit sharing program</li> </ul>
<b>Traffic and transport</b>	<ul style="list-style-type: none"> <li>- Impact of construction traffic on the local road network, including Goulburn-Braidwood Road</li> <li>- Safety of other road users, including conflict with school bus routes</li> <li>- Increased traffic and delays</li> <li>- Unsuitable site access points</li> </ul>
<b>Heritage</b>	<ul style="list-style-type: none"> <li>- Potential impacts on Aboriginal heritage sites and cultural heritage values</li> </ul>
<b>Decommissioning</b>	<ul style="list-style-type: none"> <li>- Responsibility and ability to decommission after the operational life of the project</li> </ul>
<b>Water and Soil</b>	<ul style="list-style-type: none"> <li>- Water use requirements for construction</li> <li>- Impact on water quality and use of boreholes</li> </ul>
<b>Renewable Energy</b>	<ul style="list-style-type: none"> <li>- Questioning energy efficiency of wind farms</li> <li>- Impact of wind farm to NSW energy security</li> <li>- Positive benefits of the project as a source of renewable energy</li> </ul>
<b>Other issues</b>	<ul style="list-style-type: none"> <li>- False or misleading information provided by JWF</li> <li>- Cumulative impacts with nearby projects, including operational and approved wind farms, a solar farm, bioreactor and approved zinc and copper mine</li> <li>- Failure of EIS to identify all affected residences</li> <li>- Lack of analysis of alternative options, including alternative locations and energy sources</li> <li>- Deficiencies in the aeronautical assessment, including calculation of wake turbulence and nearby airstrips</li> <li>- Concerns regarding blade throw</li> <li>- Micro-siting up to 100 m should not be allowed due to close proximity to residences</li> </ul>

#### 4.7 Special Interest Group Submissions

All 9 submissions from special interest groups objected to the project.

The Australian Wind Alliance, a pro-wind farm special interest group, objected to the project and had concerns about the lack of consultation and adequacy of the proposed neighbour agreements. As far as the Department is aware, this is the first time that the Australian Wind Alliance has objected to a wind energy project.

Five of the special interest group submissions were local community/residents' groups and included Residents Against Jupiter Wind Turbines, Roseview Estate Residents Group, Mulloon Matters Group, Parkesbourne/Mummel Landscape Guardians Inc, and Tarago Parents and Citizens Association. These groups raised similar concerns to the broader community concerns.

Heron Resources Limited operates the nearby Woodlawn Mine and holds an exploration licence for high-grade base-metal silver deposit (Boro Prospect) covering the northern area of the project site. Heron objected as it is concerned construction and operation of the wind farm would limit its ability to conduct exploration activities in its licence area.

One additional community group, Saint Bakhomios Monastery (located east of the project beyond Mayfield Road) objected and expressed concern about noise impacts and impacts on the general amenity of the area.

## 5. ASSESSMENT

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In accordance with Section 79C of the EP&A Act, the Department has considered the following in its assessment of the project:

- the environmental, social and economic impacts of the project, including JWF's EIS and advice from the independent visual expert commissioned by the Department;
- submissions on the EIS, including advice from State government agencies and the local councils;
- JWF's response to submissions (RTS) and amended development application;
- the suitability of the site for the project;
- the objects of the EP&A Act; and
- the public interest.

The Department acknowledges that the Jupiter Wind Farm would generate a range of economic benefits in the local area and more broadly for NSW, including generating up to 240 MW of renewable energy, attracting up to \$300 million in capital investment, and creating up to 230 jobs during construction and up to 22 jobs during operations.

The project would also contribute to the Commonwealth Government's *Renewable Energy Target* and is broadly consistent with the NSW Government's *Renewable Energy Action Plan* and *Climate Change Policy Framework*.

While all these policy settings are designed to promote the development of renewable energy in NSW and reduce greenhouse emissions, each project must be assessed on its merits on a case by case basis having regard to the matters for consideration under Section 79C of the EP&A Act.

In this case, the Department considers that the changes to the project in the amended DA have gone some way towards reducing the impacts of the project, particularly the removal of the southern cluster (13 turbines) and the removal of 21 turbines in the northern and central clusters.

Further, JWF has reached agreement with 10 landowners in the vicinity of the wind farm to accept the impacts of the project, and the Department concedes that (with the exception of visual) the impacts of the project (e.g. noise, traffic, water resources, heritage, aviation, etc.) do not significantly differ from other wind farms in the region and are likely to be able to be managed, mitigated and/or offset to achieve an acceptable level of environmental performance, subject to minor amendments to the project and/or suitable conditions of consent.

However, the Department considers that even with the proposed changes and the negotiated agreements, the project would result in significant and unacceptable visual impacts on a large number of residences in the vicinity of the project, and that it is not possible to effectively mitigate these impacts to acceptable levels. This is supported by the nature and number of submissions opposing the project, with more than 95% of the 270 submissions from residents within 10 km objecting to the project and raising visual impacts as the principal reason for their opposition.

The project is prohibited on a significant portion (33%) of the site, and while the consent authority may still grant consent for a partially prohibited State Significant Development, it must also consider the compatibility of the proposed development with the statutory planning framework applying to the land.

The Department does not consider that the project is consistent with the objectives of the E3 - Environmental Management zone, or that the benefits of the project are so significant or essential to the State that the consent authority should override the strategic planning intentions for this portion of the site.

The Department also notes that the relevant the *Infrastructure SEPP* only makes electricity generating works permissible with consent in prescribed rural, industrial or special use zones, and does not promote or say that these types of development should be approved within environmental zones.

In summary, following its assessment of the project, the Department considers that the environmental impacts of the project outweigh its benefits, the project is not compatible with the statutory land use planning framework, and that the site is fundamentally unsuitable for a large-scale wind farm.

This position is supported by Queanbeyan-Palerang and Goulburn Mulwaree Councils, both of which have objected to the project.

Consequently, the Department considers that on balance the Jupiter Wind Farm is not in the public interest, and **should not be approved**. The specific grounds for this recommendation are described in more detail below.

## **5.1 Submissions – the project is not supported by the majority of local residents, the local councils and key interest groups**

### ***Number and Location of Submissions***

The nature and extent of submissions are a mandatory consideration under Section 79C of the EP&A Act.

The project has generated significant opposition within the community, particularly from residents close to the wind farm. While the assessment under Section 79C is a merits-based assessment, the project received the largest number of objections for any wind farm in NSW. More than 90% of submitters were objectors and the 391 objections received were more than double the next most received for a wind farm project.

While there were supporters of the project (38 submissions), they comprised less than 10% of submissions overall, and of these, 50% were host landowners or located more than 50 km from the project.

A significant proportion of directly affected residents and nearby members of the community objected to the project with more than 95% of the 270 submissions from residents within 10 km objecting to the project, and 50% of the total number of objections from residents within 5 km of the project and almost 50% of all residents located within 5 km of a turbine objecting to the project.

Both Queanbeyan-Palerang and Goulburn Mulwaree Councils objected to the project, and is the first wind energy project that is not supported by the Australian Wind Alliance, which is a key advocacy group for the wind energy industry in Australia.

Three local resident action groups were formed specifically to oppose the project, Residents Against Jupiter Wind Farm, Roseview Estate Residents Group and Mulloon Matters, with Residents Against Jupiter Wind Farm reporting that it has 150 members.

The Department acknowledges that while there are supporters of the project, the consultation and community engagement undertaken by the Department indicates a local community largely united in its opposition to the project.

Importantly, since the amended development application and RTS were made publicly available in October 2017, correspondence from the community has continued and indicates that members of the local community are still opposed to the revised project layout.

### **Key Issues Raised in Submissions**

Almost 90% of submissions raised visual impacts as a key issue.

In particular, concerns were raised in regard to visual impact on surrounding residences; visual impacts on residences oriented towards the site (particularly those on the surrounding ridgelines); the validity of the methodology used to determine visual impacts; impacts due to the large size, scale, proximity and number of turbines; impacts of industrial structures in a rural setting; impacts on landscape character; and impacts associated with night lighting and shadow flicker.

### **Issues with the Community Consultation**

The community has also raised concerns about the adequacy of consultation undertaken by JWF since the original assessment requirements were issued in 2014. This has been raised in a number of forums including at the community information session, submissions, and direct correspondence with the Department since the beginning of the project.

The Department raised this with JWF on a number of occasions and formally wrote to JWF on two occasions (letter from the Secretary on 3 June 2014 and letter from Executive Director on 16 October 2015), advising that its consultation was inadequate. The lack of consultation was also one of the key reasons why the Department did not accept an earlier version of the development application and EIS in October 2015.

While JWF has presented summaries of the consultation undertaken (which includes documenting the phone calls, meetings, emails and newsletters), the Department considers that this consultation has not been effective in engaging with the community or developing potential mitigation measures to address significant impacts. This is likely to have contributed to the limited number of negotiated agreements JWF has been able to secure with the most affected landowners. The Australian Wind Alliance also raised the lack of consultation by JWF as a key reason for its objection to the project.

## **5.2 Unacceptable Environmental Impacts - the project would result in unacceptable visual impacts on the landscape and residences in the local area**

### **Approach to Assessment**

JWF commissioned Clouston Associates to prepare the Landscape Visual Impacts Assessment (LVIA) for the original layout and ERM to prepare a 'revised LVIA' for the amended layout (see Appendix F of the EIS and Appendix E of the RTS respectively).

Given the importance of visual impacts for this project, the Department commissioned an independent visual expert, Mr Terry O'Hanlon of O'Hanlon Design (OHD), to review the documentation submitted by JWF, visit the site and surrounds, inspect potentially affected residences, and provide independent advice to the Department about the landscape and visual impacts of the project (see Appendix D).

Based on this review, the OHD report concluded that the methodology applied in the initial LVIA provides a more robust, transparent and reliable assessment of the impacts of the project compared with the revised LVIA. There are a range of detailed reasons in OHD's report to justify this conclusion, but the principal reasons relate to the evaluation of the sensitivity of the landscape and its ability to absorb change, and distance from a residence where a turbine may result in a significant visual impact as discussed further below.

Accordingly, OHD largely adopted the LVIA methodology (rather than the revised LVIA) in its review with an appropriate adjustment to ensure the advice was relevant to the amended project layout.

### **Avoidance Measures**

JWF has deleted 34 turbines including removing the entire southern cluster (13 turbines), 12 from the northern cluster and 9 from the central cluster (see Figure 11).

In the northern and central clusters, the turbines removed are mostly located around the edges of the proposed layout, and have therefore focused on increasing the setback from non-associated residences and reducing visual impacts (albeit some of the turbines were removed primarily to address biodiversity impacts).

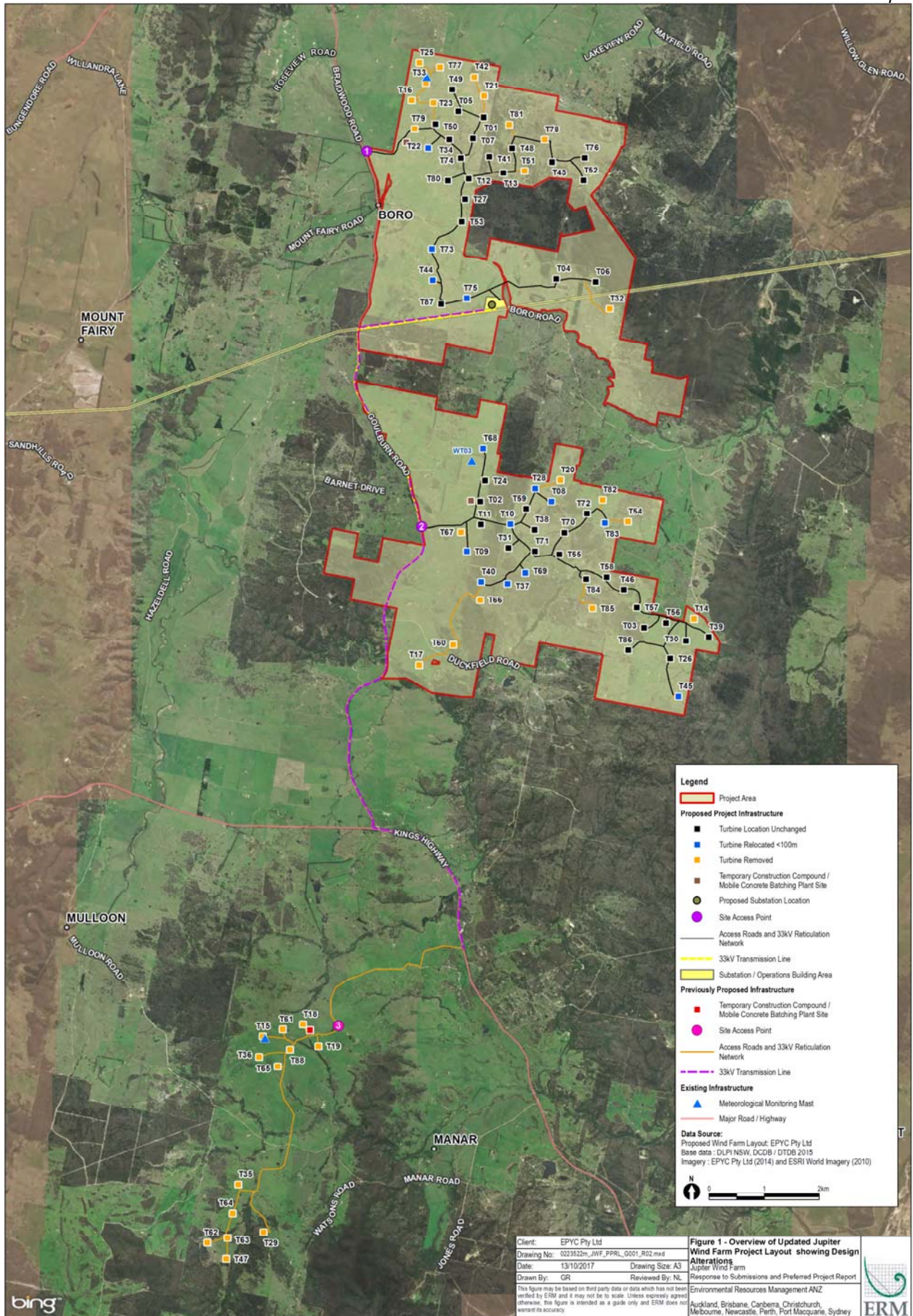


Figure 11: Changes to Project Layout

Previously, the nearest turbine was approximately 1.1 km from residences. However, even with the changes in the amended turbine layout, the nearest turbines remain at 1.1 km from non-associated residences (albeit from different residences).

From a visual perspective, these changes have essentially removed the visual impacts on the landscape and residences in proximity to the southern cluster. However, the Department does not consider that the changes have significantly changed the nature and extent of the visual impacts on the landscape and residences around the remaining northern and central clusters, as discussed further below.

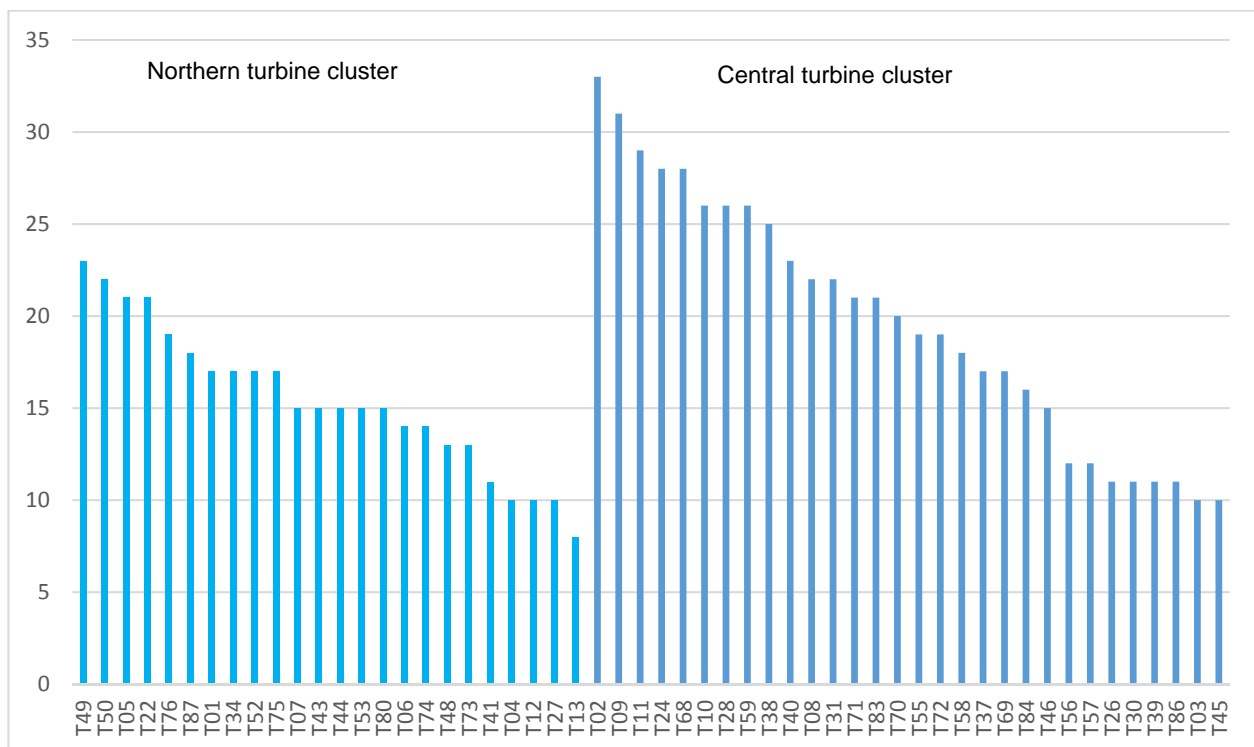
**Landscape Impacts**

The landscape character for the project is a combination of pastoral / agricultural and woodland, and is not characterised by areas identified as sensitive land use designations of National or State significance, or areas with high scenic quality.

However, the Department considers that there are fundamental differences that increase the sensitivity of the landscape surrounding the Jupiter Wind Farm and the ability of the landscape to absorb change when compared to other wind farms in the region.

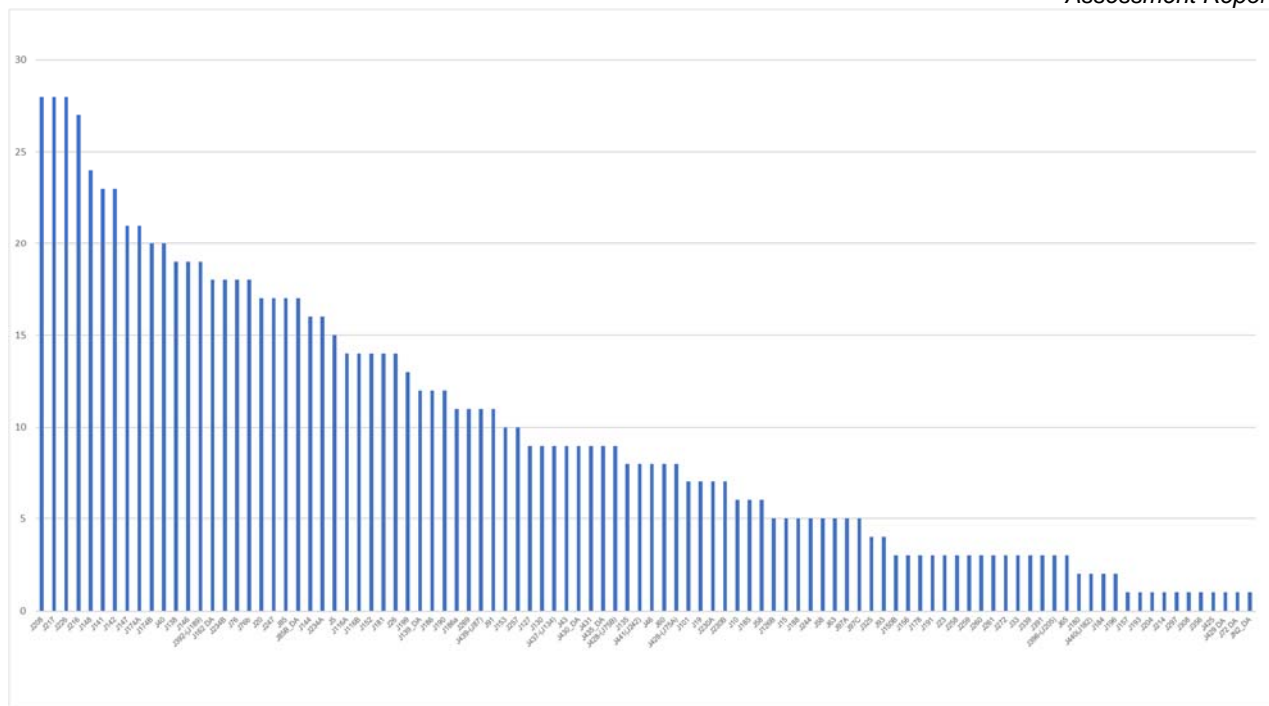
The sensitivity of a landscape and its ability to absorb change is not only determined by designated sensitive land uses, but also by the number and nature of sensitive receivers that may be exposed to changes associated with a particular development, and the values that these receivers and the broader community place on the landscape.

In this case, there are approximately 110 residences within 3.4 km of the project, which is the distance under the *Wind Energy: Visual Assessment Bulletin* within which 173 m turbines have the potential to result in significant visual magnitude impacts on residences (see Figures 12 and 13).



**Figure 12:** Number of non-associated residences within 3.4 km of a turbine





**Figure 13:** Number of turbines within 3.4 km of a non-associated residence

It is also clear from the consultation undertaken during the assessment process that the existing landscape character is highly valued by local residents, and that the project represents a significant and unwanted change to the landscape values of the area.

This is further supported by the number of subdivisions in the area, particularly to the north and northwest of the northern cluster, which have been created to a significant extent based on the visual and scenic qualities of the locality.

The Department notes the importance of landscape values in this context is further reinforced by:

- the high uptake of allotments in the newer subdivisions;
- the limited use of these allotments for commercial agriculture; and
- the prevalence of recently constructed dwellings on these allotments, many of which are oriented to take advantage of the views across the wind farm site.

The value of the landscape was recognised in the original LVIA which found that the landscape has moderate/high sensitivity with limited ability to absorb change. In contrast, the revised LVIA in the RTS considered that the landscape has low/moderate sensitivity and is able to absorb a greater degree of change.

This difference is significant as it affects the visual impact ratings at each residence, and in general, the ratings at residences in the revised LVIA are lower as a result of the lower underlying values given to the landscape character.

The LVIA characterises the majority of the site as ‘undulating grassland’, and acknowledges the low probability of the landscape absorbing the proposed changes without changing the landscape character.

The OHD report broadly supports the methodology of the LVIA and its consideration of landscape character as being of moderate/high sensitivity with limited ability to absorb change. In regard to the acceptability of the proposed changes to the landscape, OHD states:

*“Currently the pastoral and naturally appearing elements of the landscape are predominant. It is those predominant characteristics that have created the visual environment that is highly valued by the bulk of the residents. The introduction of 54 highly identifiable man-made elements into this predominantly rural landscape will change the visual balance of the landscape to a more industrialised form. While the two proponent’s assessments differ around the degree of sensitivity of the landscape and the ability of the landscape to absorb the proposed changes, it is obvious that the introduction of the proposed wind farm will change the local Landscape Character to a ‘Wind Farm/Pastoral’ Landscape Character.”*

OHD also considers that the sensitivity of the landscape is increased as a result of the E3 – Environmental Management zone which covers a significant proportion of the project site (i.e. 33%), and also extends well to the north of the site.

While the permissibility and compatibility of the project with the objectives of this zone are discussed in detail below (see Section 5.3), OHD notes that the E3 zone has been established to protect, manage and restore aesthetic values (among other matters) of the area, and that only a limited range of development that does not have an adverse effect on those values should be allowed.

OHD also notes that a high proportion of the 80 residences located in 5 of the 8 residential clusters around the site have views into the E3 zone, which includes not only the pastoral landscape, but also a significant area of remnant vegetation which contributes to a higher level of scenic quality and aesthetic value.

A final element considered by OHD that increases the potential impacts of the project on the landscape as a whole relates to the ‘cluttering effect’ of the proposed turbine layout. Generally, turbines are considered less visually intrusive when viewed as distinct elements arranged in a linear manner in the landscape with minimal overlap of turbine rotors when viewed from receiver locations.

In this case, the proposed turbines are arranged in clusters within the valley floor which means that most residential receivers would have views across several layers of turbines. According to OHD, this arrangement would significantly increase the visual cluttering effect and the overall visual impact on the landscape compared with other wind farms that are arranged in linear strings. The cluttering effect would also be exaggerated in the case of the Jupiter Wind Farm for residences which are located on elevated land as they would have views directly into the overlapping turbine rotors spinning at different angles and speeds.

Overall, the Department considers that while the landscape does not have any special values at a National or State level, the number and location of residences surrounding the wind farm site combined with the value placed on the landscape by the local community supports a view that the landscape has at least local or regional significance with moderate/high visual sensitivity.

The local and regional significance of the landscape is further supported by the ‘amphitheatre’ shape of the local topography which unlike other wind farms exacerbates the dominance of the turbines in the landscape, and the fact that 33% of the site is zoned E3 – Environmental Management which aims to protect the environmental and aesthetic values of the area.

In this context, the Department agrees with the original LVIA and OHD that the landscape has a limited capacity to absorb change, and that the amended project would essentially transform the landscape from a ‘pastoral’ landscape to a significantly more industrialised ‘wind farm/pastoral’ landscape.

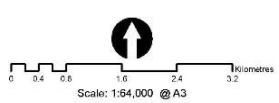
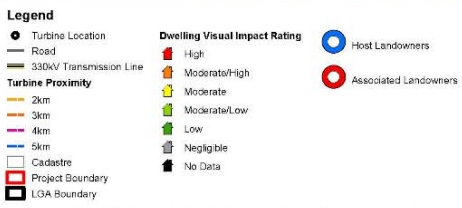
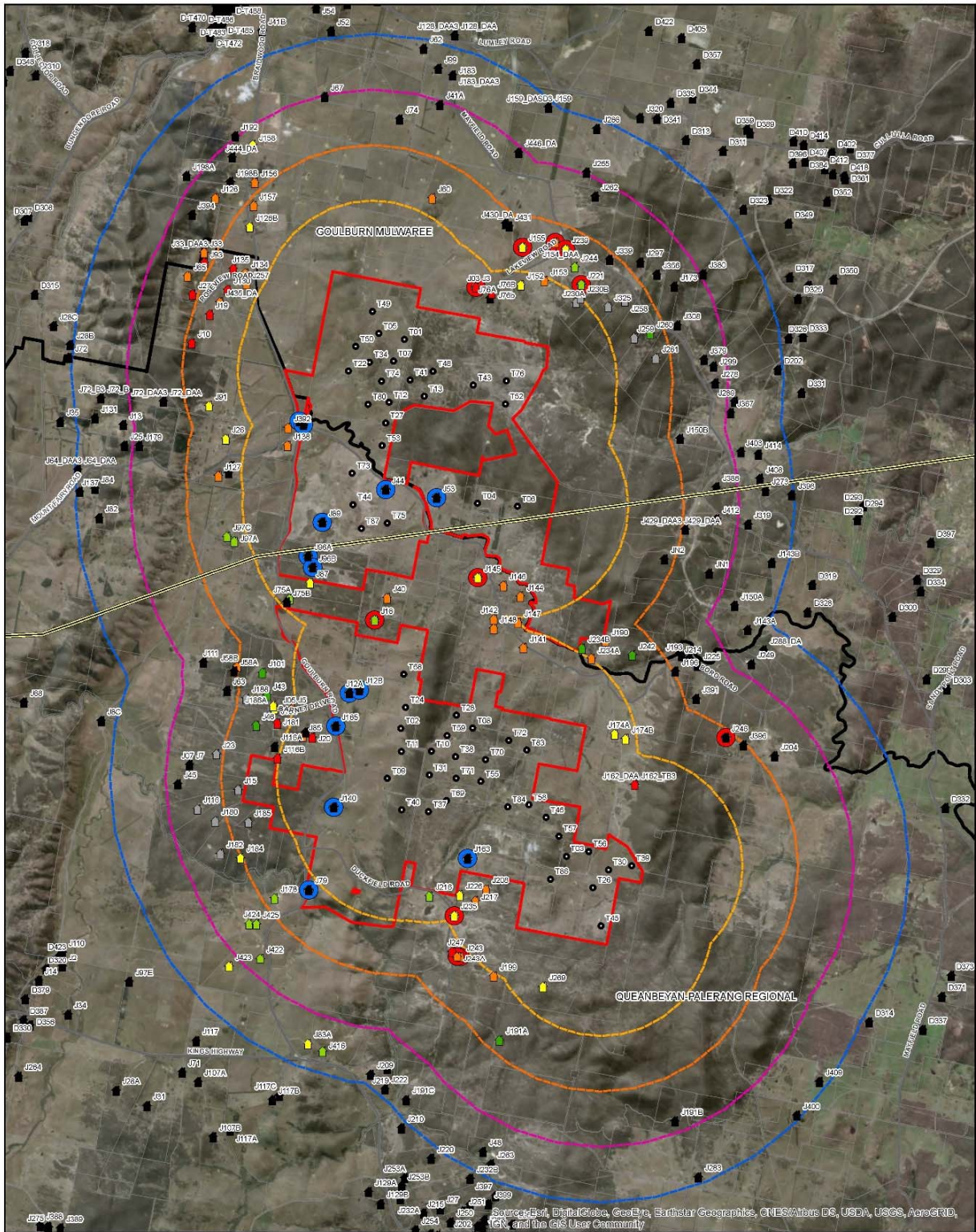
The Department considers this change would be undesirable from both a land use and community perspective, and that the site is fundamentally unsuitable for a large-scale wind farm development.

### ***Visual Impacts on Residences***

The Department does not accept the impact ratings for residences provided in the revised LVIA for the amended layout and considers that the assessment generally underestimates the visual impacts of the project.

With the advice of OHD and site visits attended by Departmental officers, the Department has provided an assessment of the impact at residences surrounding the project (see Figure 14).

Table 7 shows the impact ratings at residences that would have a high or moderate/high impact shown by residence cluster. Additional discussion of the impact on residence clusters is described below and tables of all residences (including those with lower visual impact ratings) are shown in Appendix D.



**Jupiter Wind Farm**  
Dwelling ownership and visual impact ratings  
5km proximity area



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**Figure 14: Visual Impact Ratings**

The visual impact ratings can be summarised as follows (excluding those with landowner agreements):

- 13 residences – high impact;
- 32 residences – moderate/high impacts;
- 17 residences – moderate impacts;
- 7 residences – low/moderate impacts;
- 7 residences – low impact; and
- 13 residences – negligible impact.

The Department notes that the high and moderate/high ratings represent over **50%** of the residences assessed by OHD in proximity to the site.

While the Department acknowledges the revised LVIA generally assessed residences in clusters rather than individually, it is significant that this assessment concluded only 2 residences would have a high impact from the project and demonstrates that the Department has a fundamentally different view of the nature and extent of visual impacts associated with the project to that presented in the RTS.

The Department has also considered the visual impacts on each cluster of residences around the site (see Figure 15).

This analysis shows that while JWF has made changes to the project to reduce the number of turbines, there are residences which are significantly impacted in every cluster, and that the changes have not fundamentally changed the visual impacts of the project for residences around the northern and central clusters.

It also shows that the visual impacts of the project are not confined to just one or two areas around the site and that removing small numbers of additional turbines is unlikely to materially reduce the visual impacts of the project to acceptable levels.

**Table 7: Visual Impacts at Nearby Non-Associated Residences (Moderate/High to High)**

Residence***	LVIA (88 turbines)	Revised LVIA (54 turbines)	OHD Report (54 turbines)	Number of turbines within 3.4 km	Distance to nearest turbine (km)
<b>Lakeview Road</b>					
J60	Moderate- Low*	N/A	Moderate-High	8	2.3
J153	Moderate- High**	N/A	Moderate-High	10	1.9
J76b	High**	N/A	High	18	1.6
J76A	High**	High	High	18	1.6
<b>Braidwood Road / Roseview Road</b>					
J10	High**	Moderate - High	High	6	2.9
J19	High**	N/A	High	7	2.7
J33 DA	N/A	N/A	Moderate-High	3	3.2
J65	High**	N/A	Moderate-High	3	3.3
J93	High**	N/A	High	4	3.1
J126	High**	N/A	Moderate-High	5	2.7
J130	High**	N/A	High	9	2.5
J134	Moderate- High**	N/A	Moderate-High	9	2.4
J135	High	Moderate	High	8	2.6
J156	Moderate- High**	Low	Moderate-High	3	2.9
J157	Moderate- High**	N/A	Moderate-High	1	3.1
J257	Moderate- High**	Low- Moderate	Moderate-High	10	2.3
J272	High	N/A	High	3	3.1
J435	N/A	Moderate -High	Moderate-High	9	2.6
<b>Boro Road</b>					
J144	Moderate- High**	N/A	Moderate-High	16	1.6
J40	High**	Moderate - High	Moderate-High	20	1.3
J142	Moderate- High**	N/A	Moderate-High	23	1.8
J146	Moderate- High*	N/A	Moderate-High	19	1.5
J147	Moderate- High**	N/A	Moderate-High	21	2.0
J75B	Moderate- High*	N/A	Moderate-High	9	1.9
J148	Moderate	N/A	Moderate-High	24	1.7
J141	Moderate**	Low-Mod	Moderate-High	23	1.7
J190	Moderate- High*	N/A	Moderate-High	12	2.4
J234A	Moderate- High**	N/A	Moderate-High	16	2.0
<b>Mount Fairy Road</b>					
J127	Mod-High**	Moderate -High	Moderate-High	9	2.4
J392 (189)	Mod-High**		Moderate-High	19	1.4
J138	Mod-High**		Moderate-High	19	1.3

Residence***	LVIA (88 turbines)	Revised LVIA (54 turbines)	OHD Report (54 turbines)	Number of turbines within 3.4 km	Distance to nearest turbine (km)
J97A	Moderate*		Moderate-High	5	2.2
J139 DA	-	Moderate -High	Moderate-High	12	2.2
<b>Goulburn Braidwood Road / Barnet Drive</b>					
J58B	Moderate- High	N/A	Moderate-High	6	3.1
J5	High**	Mod	Moderate-High	15	2.0
J181	High**	N/A	High	14	2.2
J116A	Moderate- High*	N/A	Moderate-High	14	2.1
J20	High**	Moderate -High	High	17	1.5
J85	Moderate- High*	N/A	Moderate-High	17	1.7
J116B	High**	N/A	High	14	2.0
<b>Duckfield Road</b>					
J208	Moderate- High	Moderate	Moderate-High	28	1.2
J217	Moderate- High	Moderate	Moderate-High	28	1.4
J247	High	Moderate	High	17	2.2
J199	Moderate- High*	N/A	Moderate-High	13	2.0
<b>Lower Boro Road</b>					
J162 DA	High	High	High	18	1.5

Notes: \* LVIA notes residence was assessed by desktop assessment

\*\* LVIA notes residence was assessed from the road

\*\*\*Does not include residences with landowner agreements

#### Lakeview Road (see Figure 16)

Within the Lakeview Road residence cluster, 4 of 13 residences<sup>2</sup> are predicted to experience moderate/high or high visual impacts. Based on topographical analysis, apart from one residence, most of these residences potentially have views of between 43 and 54 turbines, but would predominantly be impacted by turbines in the northern cluster.

These residences are lifestyle lots in elevated locations (around 700 to 720 m), located between 1.6 and 2.3 km from the nearest turbine and orientated towards the project site. There are between 8 and 18 turbines within 3.4 km of this cluster.

The remaining residences in this cluster are located further to the east and in less elevated locations shielded by vegetation and predicted to experience negligible to moderate visual impacts.

#### Braidwood Road / Roseview Road (see Figure 17)

Within the Braidwood Road / Roseview Road residence cluster, 14 of 18 residences<sup>3</sup> are predicted to experience moderate/high or high visual impacts. Apart from 2 residences, all other residences potentially have views of the entire wind farm (all 54 turbines), but would predominantly be impacted by turbines in the northern cluster.

There are 6 residences on elevated lifestyle lots on Roseview Road (around 720 to 790 m) located between 2.7 and 3.3 km from the nearest turbine, and are orientated towards the project site to take advantage of the views. There are between 1 and 10 turbines within 3.4 km of this cluster. Due to their elevation, some residences have panoramic views across the valley and are situated at similar elevations to the hubs and rotors of the turbines.

The remaining residences on Braidwood Road and some on Roseview Road (just off Braidwood Road) are at lower elevations and predicted to experience moderate visual impacts.

#### Boro Road (see Figure 18)

Within the Boro Road residence cluster, 10 of 14 residences<sup>4</sup> are predicted to experience moderate/high visual impacts. All of these residences potentially have views of between 30 and 54 turbines.

Most residences in this cluster are at lower elevations (around 630 to 700 m) and are located between the northern and central clusters at between 1.3 and 2.4 km from turbines. The residences are generally oriented to the northeast towards the northern cluster. There are between 9 and 24 turbines within 3.4 km of this cluster. Due to its location between the northern and central clusters, there would be a significant sense of encirclement for many of these residences.

<sup>2</sup> Lakeview Road: J60, J153, J76B, J76A

<sup>3</sup> Goulburn Braidwood Road/Roseview Road: J10, J19, J65, J93, J126, J130, J33 DA, J134, J135, J156, J157, J257, J272, J435

<sup>4</sup> Boro Road: J75B, J144, J40, J142, J147, J148, J141, J190, J234A, J146

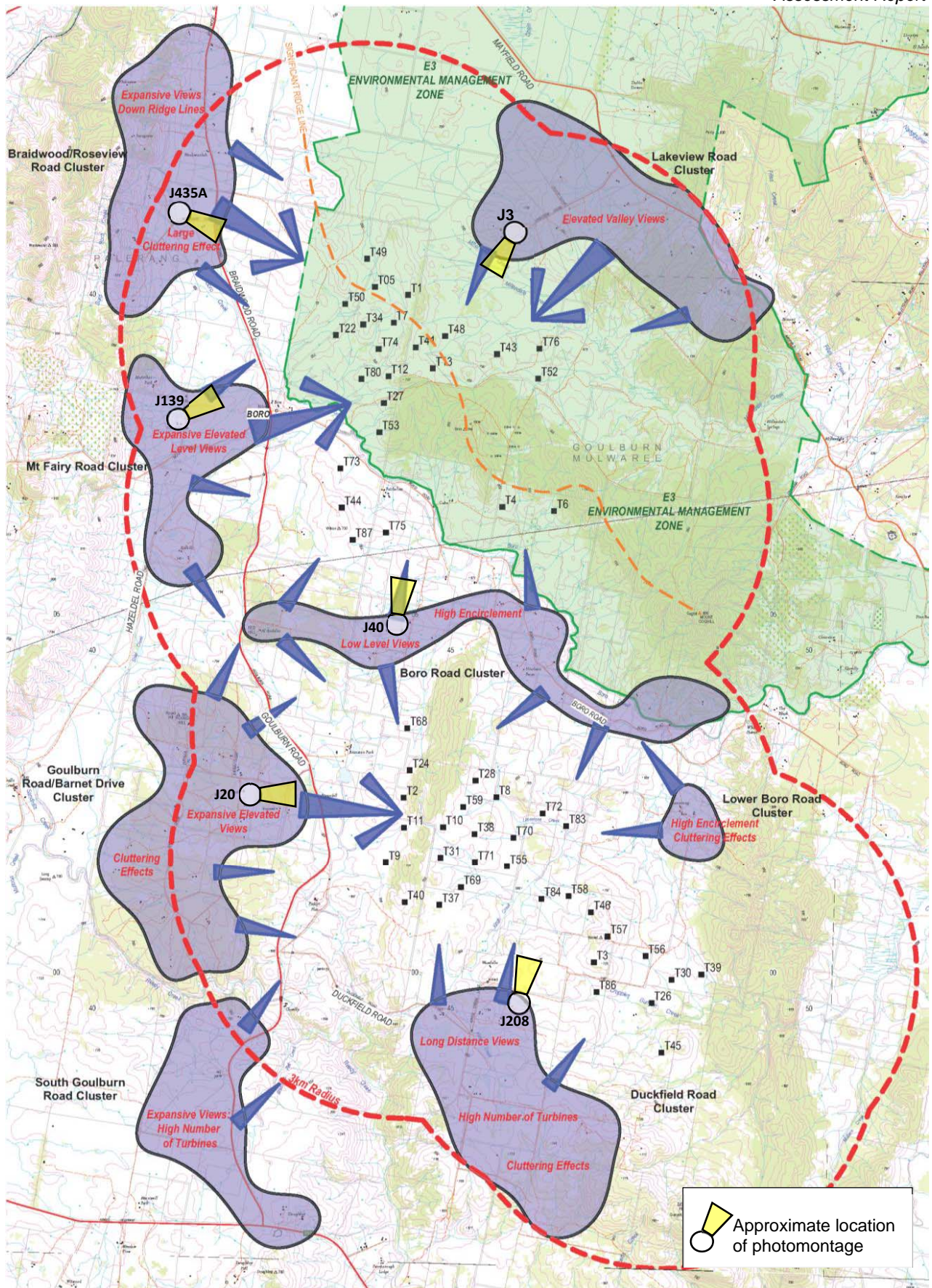


Figure 15: Visual Impacts on Surrounding Residence Clusters

Mount Fairy Road (see Figure 19)

Within the Mount Fairy Road residence cluster, 5 of 8 residences<sup>5</sup> are predicted to experience moderate/high visual impacts, and would have views of between 25 and 38 turbines in both clusters, but would predominantly be impacted by turbines in the northern cluster.

Residences in this cluster range in elevation (around 700 to 740 m), located between 1.3 and 2.4 km from the nearest turbine and generally oriented to the northeast towards the northern cluster. There are between 5 and 19 turbines within 3.4 km of this cluster.

Goulburn Braidwood Road/Barnet Drive (see Figure 20)

Within the Goulburn Road/Barnet Drive residence cluster, 7 of 20 residences<sup>6</sup> are predicted to experience moderate/high visual impacts. Apart from one residence which potentially has views of 39 turbines, all other residences have views of between 45 and 54 turbines, in both clusters, but would predominantly be impacted by turbines in the central cluster.

Most residences in this cluster are elevated (around 720 m to 760 m) and are located 1.5 to 2.2 km from the nearest turbine (with the exception of one located further west at an elevated location located 3.3 km from the nearest turbine). Most residences have between 14 to 17 turbines within 3.4 km of this cluster (except one which has 6 turbines within 3.4 km).

Duckfield Road (see Figure 21)

Within the Duckfield Road residence cluster, 4 of 8 residences<sup>7</sup> would have moderate/high or high visual impacts. All residences have potentially 51 turbines visible and up to all of the wind farm, but would predominantly be impacted by turbines in the central cluster.

Most residences in this cluster are at lower elevations (around 700 to 710 m) and are located 1.2 to 2.2 km from the nearest turbine. There are between 13 and 28 turbines within 3.4 km of this cluster.

Lower Boro Road

Within the Lower Boro Road residence cluster, 1 of 3 residences<sup>8</sup>, an approved DA for a residence, would have high visual impacts, and would potentially have views of the entire wind farm, but would predominantly be impacted by turbines in the central cluster.

The residence in this cluster is at lower elevations (700 m) and is located 1.5 km from the nearest turbine. There are 18 turbines within 3.4 km of this residence.

**Night Lighting**

The Department considers that night lighting would further contribute to the visual impacts of the project, particularly as there are limited existing light pollution sources in the vicinity and many residences value the dark night skies as a feature of the area.

While the Department acknowledges that low intensity lighting and radar activated lighting would reduce the visual impact proposed in the aviation assessment, 30 of 54 turbines may still require night lighting for the project.

These turbines are spread evenly throughout both clusters (16 of 36 turbines in the northern cluster and 14 of 24 turbines in the central cluster) but are generally proposed to be located on perimeter turbines. OHD also notes that there would be a more significant impact on views of the night sky from residences located at a similar elevation to the turbines and associated hubs.

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<sup>5</sup> Mount Fairy Road: J127, J392, J138, J97A, J139 DA

<sup>6</sup> Goulburn Braidwood Road / Barnet Drive: J58B, J5, J181, J116 A, J20, J85, J116 B

<sup>7</sup> Duckfield Road: J208, J217, J247, J199

<sup>8</sup> Lower Boro Road: J162 DA



**Figure 16:** Wireframes of view looking south from Lakeview Road residence J003 (residence has since made an agreement with JWF but view is indicative of other residences in the cluster)  
 (Top: View looking south east to west, middle: 60 degree view looking south, bottom: 60 degree view looking south west)

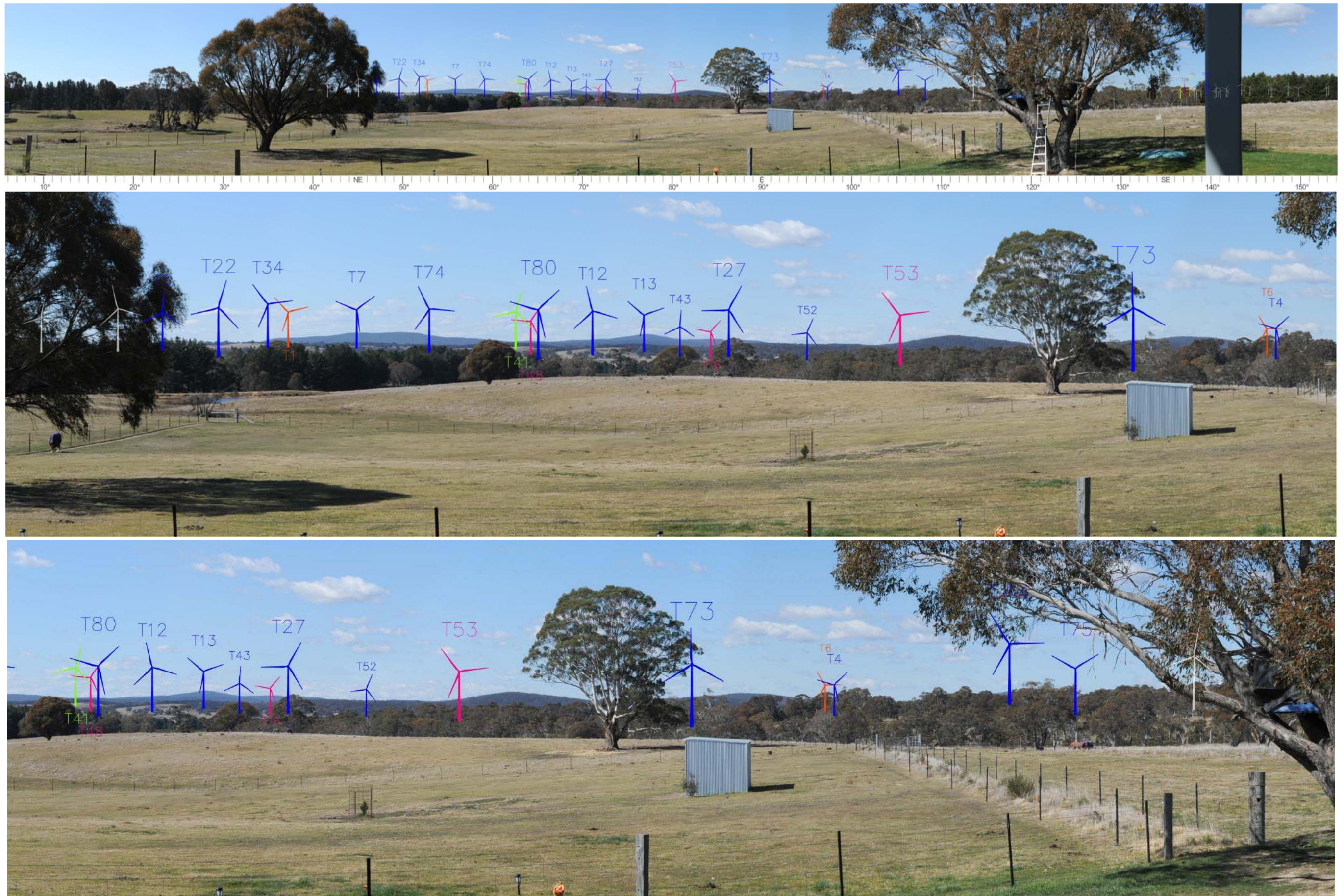




**Figure 17:** Wireframe of view looking east from Roseview Road residence J435A (rated as moderate-high visual impact by OHD)  
 (Top: View looking north east to south east, middle: 60 degree view looking east to south east, bottom: 60 degree view looking south east)



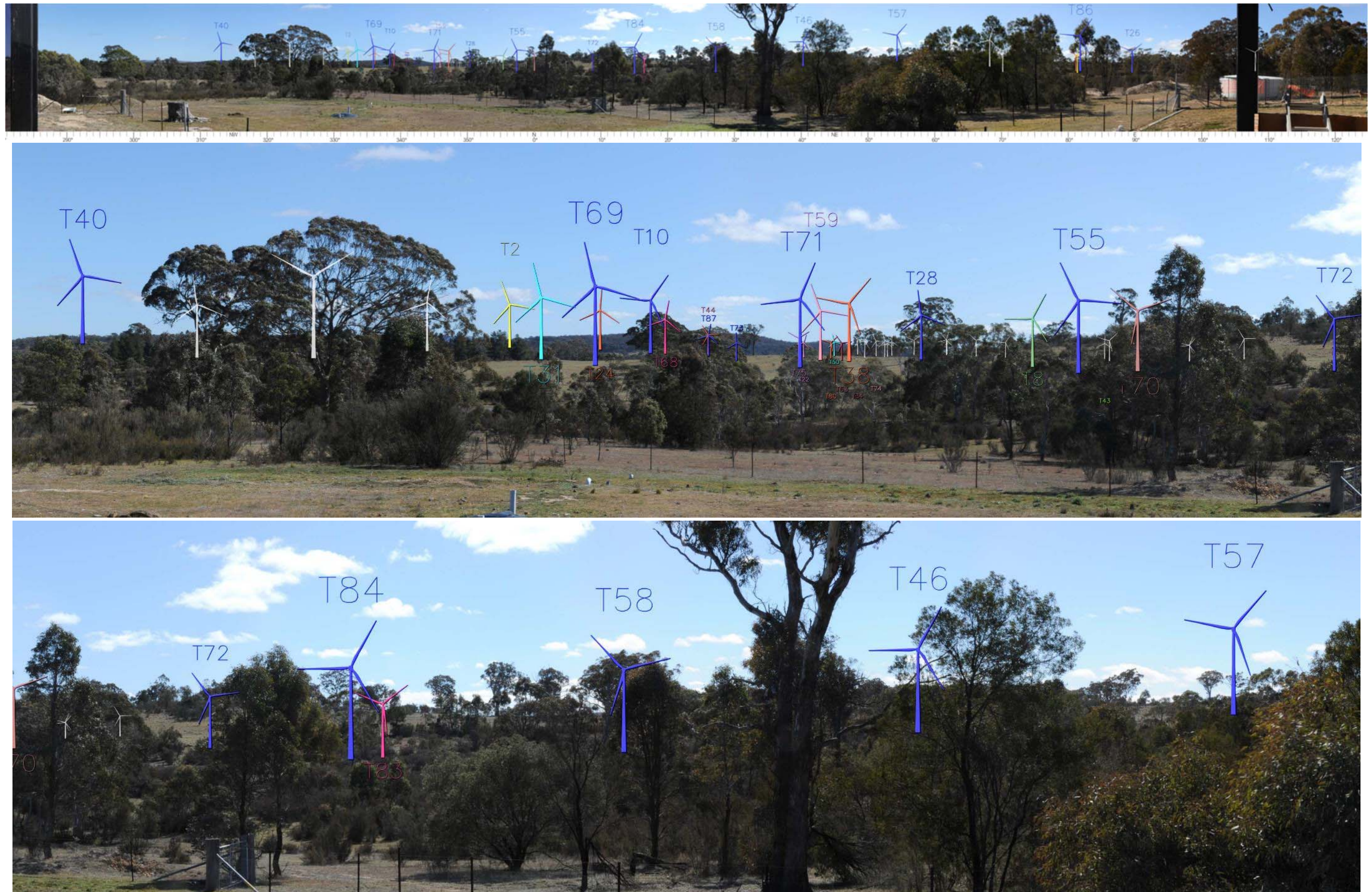
**Figure 18:** Wireframe of view looking north from proxy viewpoint for Boro Road residence J40 (residence rated as moderate-high visual impact by OHD)  
 (Top: View looking north west to east, middle: 60 degree view looking north, bottom: 60 degree view looking north east)



**Figure 19:** Wireframe of view looking east from Mount Fairy Road residence J139DA (rated as moderate-high visual impact by OHD)  
 (Top: View looking north east to south east, middle: 60 degree view looking north east to east, bottom: 60 degree view looking east)



**Figure 20:** Wireframe of view looking east from proxy viewpoint for Barnet Drive residence J20 (residence rated as high visual impact by OHD)  
 (Top: View looking south east to west, middle: 60 degree view looking north east, bottom: 60 degree view looking south west)



**Figure 21:** Wireframe of view looking north from proxy viewpoint for Duckfield Road residence J208 (residence rated as moderate-high visual impact by OHD)  
 (Top: View looking north west to east, middle: 60 degree view north west to north, 60 degree view looking north east)

Note: All photomontages sourced from RTS. Turbines would not be coloured.

## **Mitigation Measures**

While the Department does not accept JWF's assessment of the visual impact of the project, it acknowledges that JWF has considered vegetation screening and landowner agreements to mitigate the visual impacts of the project. However, the Department and JWF have different views about the ability of the additional mitigation to effectively reduce the visual impacts of this project to acceptable levels.

### Visual Screening

The Department acknowledges that vegetation screening can be effective in some circumstances depending on the visual context, and the nature and extent of the impact and number of residences involved.

However, the Department considers that there are significant limitations for vegetation screening in this case due to the large numbers of non-associated residences with significant impacts (45 with high or moderate/high impacts), the elevated position of many of these residences (particularly on sloping land), and the extensive horizontal views. JWF's assessment concluded that for around 30% of those residences, landscaping would have low or moderate-low effectiveness at those residences due to their panoramic views.

In this context, vegetation screening (or other screening) would need to be:

- applied to large numbers of residences (at least 45);
- extensive in nature to effectively screen views of the turbines, particularly those with extensive horizontal views and/or located between the two clusters; and
- located in close proximity to residences and require mature plantings to provide effective screening, particularly on sloping land.

Given that the majority of residences are oriented towards the wind farm, any effective screening of the turbines is also likely to block the vistas and views enjoyed by many of these residences. These practical limitations were also raised in many of the public submissions on the project.

### Landowner Agreements

The Department acknowledges that JWF has proposed a neighbour benefit sharing program open to all residences within 3 km of a turbine. However, it is significant that JWF has only been able to secure agreements with 10 landowners (with one covering 2 residences) and of these residences, 1 is considered to have high visual impacts, 5 with moderate/high impacts, 3 with moderate impacts, 1 with low/moderate impacts and 1 with no impacts.

Even with 10 landowner agreements, there are still 45 residences that are predicted to experience high or moderate/high visual impacts - 13 residences with high visual impacts and 32 with moderate/high impacts.

The Department also notes there are 110 non-associated residences remaining within 3.4 km of the site, and that JWF has only been able to secure agreements with a very small proportion of affected landowners (less than 10%).

Given that JWF has had several years to secure agreements with affected landowners, the Department considers that it is unlikely that JWF will be able to secure a sufficient number of agreements with the most affected residences to adequately mitigate the residual impacts of the project.

### Removal of Turbines

In many cases, where the Department has recommended approval of a proposed wind farm, it has done so with a recommendation that a number of turbines be removed to address the most significant residual visual impacts on residences. In some cases, it has also recommended that the landowners of significantly visually impacted residences be afforded voluntary acquisition rights.

In this regard, the Department notes that these recommendations have generally only been made where there are a limited number of residences potentially affected, and that the visual impacts are not so significant or widespread to warrant the refusal of the entire project.

A similar approach was adopted by the NSW Land and Environment Court in *Taralga Landscape Guardians Inc v Minister for Planning and RES Southern Cross Pty Ltd [2007]*. However, the context for the Court decision in favour of the Taralga Wind Farm is significantly different to the Jupiter Wind Farm.

In the case of Taralga, there were a small number of significantly visually impacted rural residences (up to 3 instead of up to 45), the turbines were significantly smaller (110 m instead of 173 m), wind farms were a permissible use on the land and the judgment was over 10 years ago at a time when there were very few renewable energy projects in NSW, and there were strong public interest arguments that the Court considered outweighed the potential visual impacts on nearby residences.

Given the clustered arrangement of the turbines in the valley, the elevated location of many of the residences, and the fact that there would be highly impacted residences in every residential cluster around the site except one, adequately addressing the residual visual impacts of the project would involve removing the vast majority of proposed turbines.

Presumably this would materially reduce the 'benefits' of the project as a whole, and hence diminish the justification for approving the project despite its adverse impacts on the landscape and the local community.

Similarly, the Department considers that the 'benefits' of the project are not so significant from a public interest perspective that the provision of voluntary acquisition rights to large numbers of landowners is justified.

While the NSW Government remains strongly in favour of the development of renewable energy in NSW, over the last 10 years the industry has matured significantly. There are now a large number of wind and solar farms operating, approved or proposed in NSW, and while the approval of additional renewable energy projects remains desirable (subject to detailed assessment), there are a range of suitable alternatives that would deliver similar benefits to the Jupiter Wind Farm without the significant adverse impacts that developing this project entails.

Finally, the Department notes that it has provided formal feedback to JWF on several occasions since 2015 regarding its concerns about the visual impacts of the project, and the need to avoid these impacts where possible and/or provide additional mitigation to reduce these impacts to acceptable levels.

Ultimately, it is not the Department's role to design an 'acceptable' layout for the proponent.

The Jupiter Wind Farm has been under consideration for 5 years, and in the interest of not prolonging the uncertainty for all stakeholders, the Department considers that a timely decision should be made on the revised layout rather than deliberating further on alternative layouts.

## **Conclusion**

Having considered the visual impacts of the project in detail, including both the original LVIA, revised LVIA, independent landscape advice, submissions, several visits to the site and surrounds, the Department considers that the visual impact of the project would have an unacceptable visual impact on the landscape character of the area and on large numbers of residences surrounding the project.

While the reduction in the number of turbines would reduce the overall visual impacts of the project at some non-associated residences, particularly those near the southern cluster, the residual visual impacts of the revised layout on the landscape and surrounding residences would remain high.

The Department considers that the nature and extent of the visual impacts means that vegetation screening as a mitigation measure is unlikely to be effective or practical, and notes that JWF has only secured negotiated agreements to accept the visual impacts of the project with less than 10% of landowners in proximity to the wind farm.

Overall, the Department considers that the site and surrounds is fundamentally not suited to a large-scale wind farm, and that there are limited opportunities to effectively address the visual impacts of the project without removing large number of additional turbines, which would materially reduce the benefits of the project as a whole.

### 5.3 Environmental Planning Instruments – the project is not consistent with the applicable land use zoning provisions

The project site comprises land that is zoned RU1 – Primary Production and E3 – Environmental Management under the respective LEPs. Approximately 33% of the total site area (majority of the northern cluster) is located in the E3 zone, and JWF is proposing 20 of the 54 wind turbines along with ancillary infrastructure in this portion of the site.

As discussed in Section 3, the project is permissible with consent on land in the RU1 – Primary Production under either the applicable LEP or the *Infrastructure SEPP*. However, the project is prohibited in the portion of the project site zoned E3 in the *Goulburn Mulwaree LEP 2009*, and under the *Infrastructure SEPP* only electricity generating works are permissible with consent in prescribed rural, industrial and special use zones.

Given that the land does not fall into one of the prescribed zones under the *Infrastructure SEPP*, it is only by the operation of Section 89E(3) of the EP&A Act (which allows consent authorities to grant consent for partially prohibited State Significant Development) that the Commission may grant development consent for the project.

However, while the Commission has the power to grant consent, it must carefully assess the merits of such a decision in accordance with Section 79C of the EP&A Act. This must include an evaluation of the proposed development against the aims and objectives of the applicable zoning and any other provisions of relevant planning instruments which apply to the land.

In this case, the Department does not consider that allowing the development of a large-scale wind farm within the E3 zone is consistent with the aims and objectives of the applicable zoning and provisions of relevant EPIs.

#### ***Infrastructure SEPP***

The *Infrastructure SEPP* is the key planning policy that regulates infrastructure in NSW, including energy generation facilities (like wind farms).

The aim of the policy is to:

- “...facilitate the effective delivery of infrastructure across the State by:*
- (a) improving regulatory certainty and efficiency through a consistent planning regime for infrastructure and the provision of services, and*
  - (b) providing greater flexibility in the location of infrastructure and service facilities...”*

One of the primary mechanisms for achieving this aim is making certain types of infrastructure development permissible with consent on certain land despite the zoning provisions in LEPs.

However, in the case of electricity generating works, the policy has limited these powers to apply only to land where there is likely to be a lower impact and a greater compatibility and integration of these types of development with existing land uses (i.e. rural, industrial, and special use zones).

The policy has specifically not included other zones where electricity generating works have the potential to result in unacceptable impacts with existing land uses (e.g. residential, recreation, environmental, etc).

In this context, the Department considers that it would not be an appropriate planning outcome to allow a significant proportion of a large-scale wind farm to be developed on land where a State planning policy, designed to facilitate these types of developments, has not sought to provide this level of flexibility to consent authorities.

This is particularly the case where the impacts are significant, and there is limited justification from a broader public interest perspective for overriding the local planning controls, which the Department considers is the case for the Jupiter Wind Farm.



### **Local Environmental Plan**

At the local level, the Department considers that it is the clear objective of the *Goulburn Mulwaree LEP* to only allow a limited range of development within the E3 zone that does not have an adverse effect on the ecological, scientific, cultural or aesthetic values of the area.

This is supported by the fact that land within the E3 zone is also mapped as 'terrestrial biodiversity' under Clause 7.2 of the LEP. The objective of this clause is to protect, maintain or improve the diversity of the native vegetation in designated areas of biodiversity within the local government area.

This clause also states that:

*(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development is consistent with the objectives of this clause and:*

- (a) the development is designed, sited and managed to avoid the potential adverse environmental impact, or*
- (b) if a potential adverse impact cannot be avoided, the development:*
  - i. is designed and sited so as to have minimum adverse impact, and*
  - ii. incorporates effective measures so as to have minimal adverse impact, and*
  - iii. mitigates any residual adverse impact through the restoration of any existing disturbed or modified area on the site.*

The *Goulburn Mulwaree Biodiversity Strategy 2007* also identifies areas of high conservation value within the E3 zone and aims to protect high conservation value vegetation and prevent these values being offset unless the proposed development is considered to have a social and economic benefit of state significance. As this report outlines, the Department does not consider that the project has social and economic benefits of state significance that would outweigh its potential impacts.

Based on detailed biodiversity surveys, JWF argues that the biodiversity values of the land in the E3 zone do not apply to all of the E3 zone, that the area is currently used for rural / agricultural activities, and that the project has been designed to avoid areas of native vegetation wherever possible. Consequently, despite the fact it is prohibited, JWF considers that the project is consistent with the overall objectives of the zone and that the consent authority should be able to grant consent to the project.

The Department acknowledges that portions of the E3 zone within the project area have lower densities of native vegetation and hence have less ecological sensitivity than some other locations within the zone. However, the areas within the project site were mapped as land with high conservation value in the *Goulburn Mulwaree Biodiversity Strategy 2007*, which was prepared by qualified ecological consultants, and was one of the key inputs into the subsequent E3 zoning in the 2009 LEP.

Furthermore, the construction of the project in this area would involve clearing of native vegetation and areas of foraging habitat for the Glossy Black Cockatoo, which is a threatened species listed as a 'vulnerable' under the TSC Act. OEH also raised concerns about the operations of turbines in the E3 zone due to the presence of the Glossy Black Cockatoo.

Overall, the Department considers that even though there is variation in the environmental values across the E3 zone, this is not sufficient justification for allowing developments that are incompatible with the objectives of the zone, even if they are located in the less sensitive parts of the zone. To do so would fundamentally undermine the integrity of the zone as a whole and would be inconsistent with the intent of the land use planning outcomes that the Council is seeking to achieve in this area.

In this regard, Goulburn Mulwaree has made its position clear:

*"Council is concerned that the proposed location of the wind farm towers is on an E3 Zoning which should be protected because of its environmental significance. We are aware that the Infrastructure SEPP can override the endorsed LEP but we would hope that the Planning Assessment Commission would not override the general intent of Council, the Department of Planning and most importantly the community."*

## **Conclusion**

The Department acknowledges that the planning regime allows partially prohibited State Significant Development to be granted consent under the EP&A Act. This reflects the potential economic and social importance of State Significant Developments, and recognises that these developments often cover large areas and can overlap multiple land use zones.

However, the Department considers in this case the consent authority should not exercise its discretion to grant consent to the project as:

- one third of the project area and 20 of the 54 turbines are located within the E3 zone;
- the project is inconsistent with the objectives of the zone and other provisions of the LEP;
- Council objected to the project – as a whole and specifically in the E3 zone; and
- based on its assessment, there is no compelling social or economic benefit to the State that would justify the consent authority overriding the local planning controls.

## **5.4 Public Interest – the project is not in the public interest**

### **Renewable Energy**

The Department acknowledges that the project would contribute to:

- the development of the renewable energy industry in NSW, and implementation of the state's Renewable Energy Action Plan, making efficient use of the region's significant wind resources;
- generate approximately 690 GWh of electricity a year, or enough power for 115,000 homes, and assisting Australia to meet its renewable energy target by 2020; and
- reduce the greenhouse gas emissions associated with electricity production in NSW.

Although there are associated benefits from this renewable energy generation, the Department considers that these benefits cannot be realised without significant adverse impacts on the environment and the local community, particularly in regard to visual impacts.

### **Economic Benefits**

The Department also acknowledges that the project would result in a range of social and economic benefits for the wider community, including:

- making a positive contribution to the local economy by creating jobs, and providing income to for the associated landowners; and
- providing ongoing funding for community enhancement projects in the local area.

However, the Department considers that these social and economic benefits cannot be realised without significant adverse impacts on the environment and the local community, particularly in regard to visual impacts.

The Department also notes that the number of construction (230) and operational (22) jobs for this project may be overestimated as they do not appear to be commensurate (and are in the order of double) those associated with other similar wind farm projects assessed by the Department in recent years.

### **Alternatives**

While the NSW Government supports the development of a sustainable wind energy industry in NSW, the EP&A Act provides a merit based approach to consider the impacts of projects against applicable statutory and policy requirements.

The Department acknowledges the contribution the project would have to renewable energy generation in NSW, however, there is a suite of renewable projects (including both wind and solar) either approved and not constructed or currently in the assessment process that also have the capacity to provide renewable energy in NSW. The number of approved and operational wind farms in the region (shown in Figure 3) demonstrates that there are wind farm sites in the region that can provide renewable energy, making efficient use of the region's substantial wind resources without significant adverse impacts to the local community.

Consequently, the Department considers that this project is not critical to NSW meeting its renewable energy target, and other renewable energy projects in NSW could similarly contribute to the renewable energy industry in NSW and implementation of the *NSW Renewable Energy Action Plan* without the impacts of the project outweighing the benefits to renewable energy generation and social and economic benefits.

This is supported by the NSW Government's *Wind Energy Framework* which clearly recognises the need to balance attracting investment in renewable energy in NSW and providing sufficient protection to the community.

On balance, the Department considers that the Jupiter Wind Farm is a project where the impacts of the project on the local community significantly outweigh its potential benefits to the broader community of NSW.

## 6. CONCLUSION

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The Department has assessed the Jupiter Wind Farm and considers that the environmental impacts of the project outweigh its benefits, and that the site is fundamentally unsuitable for a large-scale wind farm on the following grounds:

- the project would result in unacceptable visual impacts on the landscape and residences in the local area;
- the project is not supported by the majority of local residents, the local councils and key interest groups; and
- the project is not consistent with the applicable land use zoning provisions.

Consequently, the Department considers that the Jupiter Wind Farm is not in the public interest, and **should not be approved**.

The Department has prepared a draft instrument of refusal for the project (see Appendix G).

## 7. RECOMMENDATION

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It is recommended that the Planning Assessment Commission, as delegate of the Minister:

- **considers** the findings and recommendations of this report, noting that the Department considers that the application should be refused;
- if the Commission determines to refuse to grant consent to the application, **signs** the attached Instrument of Refusal (Appendix G).


  
 Mike Young  
 Director  
 Resource Assessments

22/2/18


  
 David Kitto  
 Executive Director  
 Resource Assessments and Business Systems

23/2/18