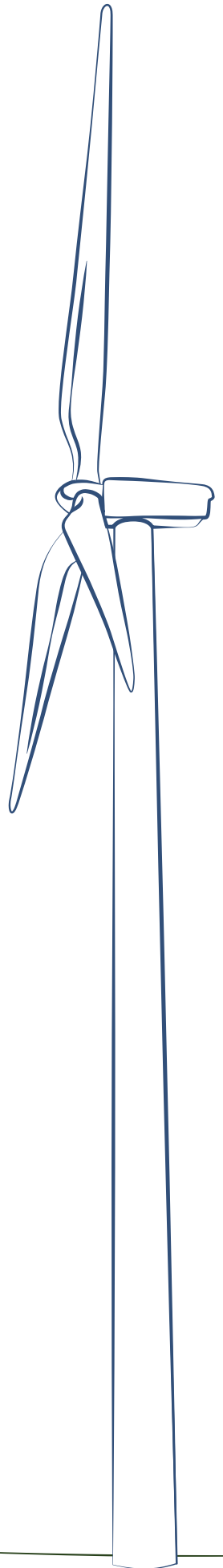


Chapter 4

# Project Area & Land Details



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## CHAPTER 4 - PROJECT AREA & LAND DETAILS

### 4.0 INTRODUCTION

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Chapter 4.0 provides details on the regional and topographical setting, and project area and land details for the Bodangora wind farm. Elements of the project will be located across both private and public land, including road reserves. In addition, a number of easements, power lines, mineral exploration licences and communication facilities are also located within the project area, and are described below.

Specifically, this chapter of the EA provides the following, as per the Director-General's requirements (DGRs):

#### ***Director-General's Requirements:***

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*"A detailed description of the project for both the wind farm and transmission line including:*

- an analysis of the suitability of the project with respect to potential land use conflicts with existing and future surrounding land uses (including rural residential development) building entitlement and subdivision potential, land of significant scenic or visual value, land of high agricultural value, other water users, mineral reserves, forestry and conservation areas) taking into account local and strategic land use objectives"*

## 4.1 REGIONAL AND TOPOGRAPHICAL SETTING

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The project area is located in the Central West region of New South Wales, about 15 kilometres north-east of Wellington, 40 kilometres south-east of Dubbo, and around 45 kilometres north-west of Mudgee.

Major travel corridors in the locality include the Mitchell Highway, which provides a connection between Wellington and Dubbo, and Mudgee Road which runs in a north-eastern direction from Wellington. A number of local roads service homesteads and farming properties.

Bodangora is a small, historical village located approximately 2.5 kilometres south-west of the proposed wind farm site. Although once a township with a history in gold mining and farming, Bodangora today is a small settlement with a small amount of rural residential properties. Besides Bodangora, the region comprises a very low density of scattered farming properties and rural residences.

The land of the region is typically used for grazing or cropping purposes, with crops including wheat, oats, legumes, canola, peas and lucerne. The main grazing activities are cattle, prime lambs and wool.

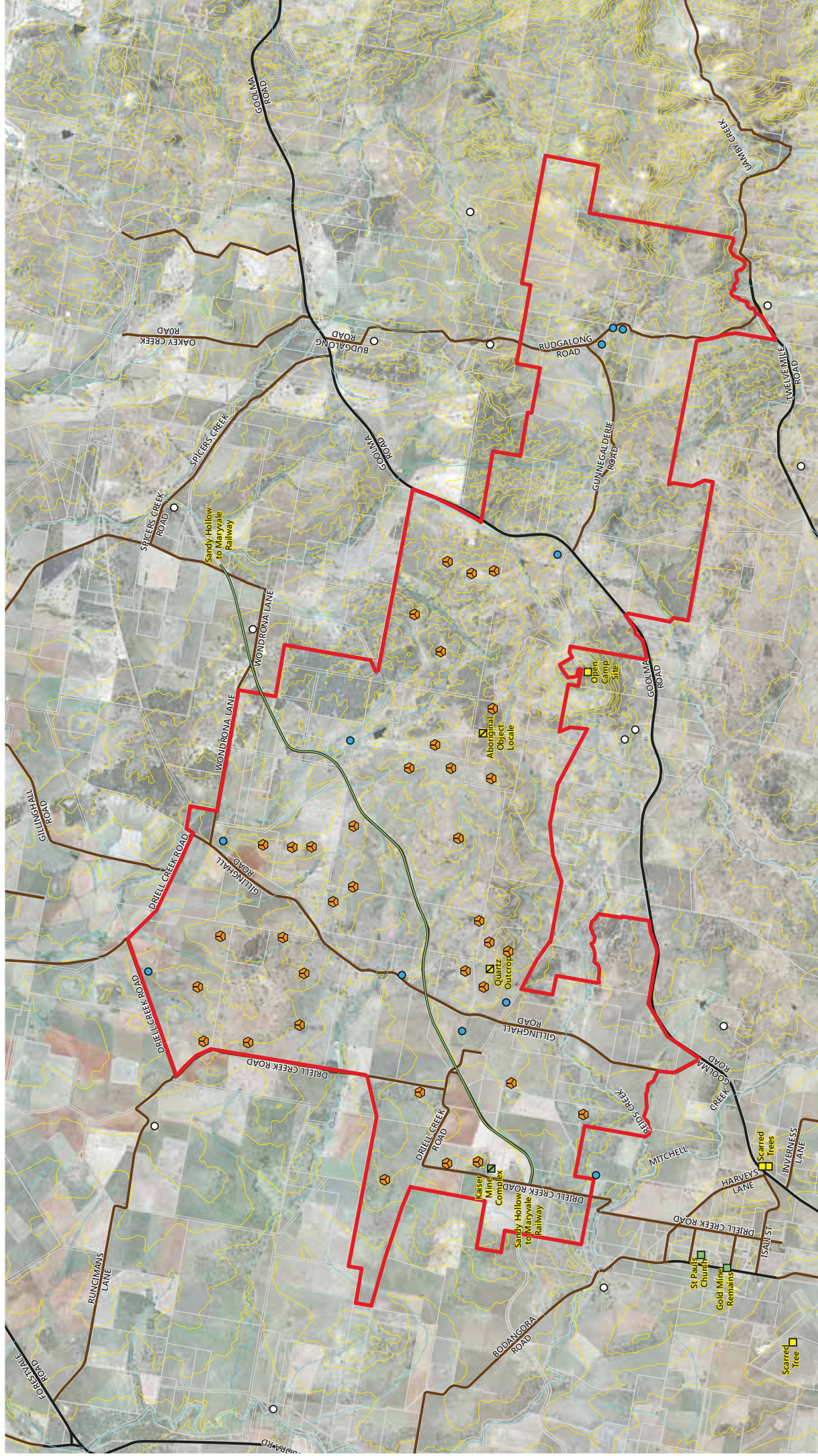
The land form of the project area is typically sloping to undulating topography with local rises. Mount Bodangora is the main feature of the landscape at an elevation of approximately 743 metres, and is visible at most points within the project area. Spicers Pinnacle is located north of Spicers Creek Road and has a pinnacle of elevation 521 metres.

A number of minor creeks run throughout the project area forming part of the Macquarie River Catchment, draining into Lake Burrendong. Mitchell Creek, Spicers Creek and Mullion Creek are tributaries of the Talbragar River and transect the project area with a moderate coverage of riparian vegetation. A number of smaller, intermittent creeks also pass through the project area however generally lack vegetation and do not feature prominently in the landscape.

The landscape of the region is predominately cleared, open grazing land although there are scattered groupings of remnant native vegetation, generally along those areas deemed too steep for agricultural use, along creek lines and roadsides and along property boundaries.

Figure 4.1 provides a spatial context for the landscape at this location, and an identification of some of the constraints associated with the land. The following photographs provide an indication of the landscape context in which the wind farm is located.





**Figure 4.1**  
Constraints

BODANGORA WIND FARM

- Project Area
- Turbine locations
- Sealed road
- Unsealed or minor road
- Contour line @ 20 metres
- Watercourse
- Dwelling (Land Owner Agreement)
- Dwelling (Neighbour)
- Registered heritage places - Aboriginal
- Registered heritage places - non Aboriginal
- Unlisted heritage places - Aboriginal
- Unlisted heritage places - non Aboriginal
- Listed heritage Railway

1:60000 @ A3

0 1km



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PLATE 4.1 – VIEW WEST FROM SOUTHERN RANGE FROM NEAR TO TURBINE LOCATIONS 35 AND 37.



PLATE 4.2 – VIEW NORTH-WEST FROM GILLINGHALL ROAD TOWARDS TURBINE LOCATIONS 33 AND 36.



PLATE 4.3 – EXAMPLE OF EXISTING ROADSIDE VEGETATION ALONG GILLINGHALL ROAD.



PLATE 4.4 – VIEW EAST FROM CLOSE TO PROPOSED LOCATION OF WTG 31, WITH MOUNT BODANGORA IN BACKGROUND.





PLATE 4.5 – VIEW OF SOUTHERN RANGE, LOOKING SOUTH-EAST FROM NEAR TO WTG 31 WITH MOUNT BODANGORA IN BACKGROUND.



PLATE 4.6 – VIEW LOOKING SOUTH ALONG BODANGORA ROAD THROUGH TOWNSHIP OF BODANGORA.

## **4.2 WIND FARM PROPERTIES AND DISTRIBUTION OF PROJECT ELEMENTS**

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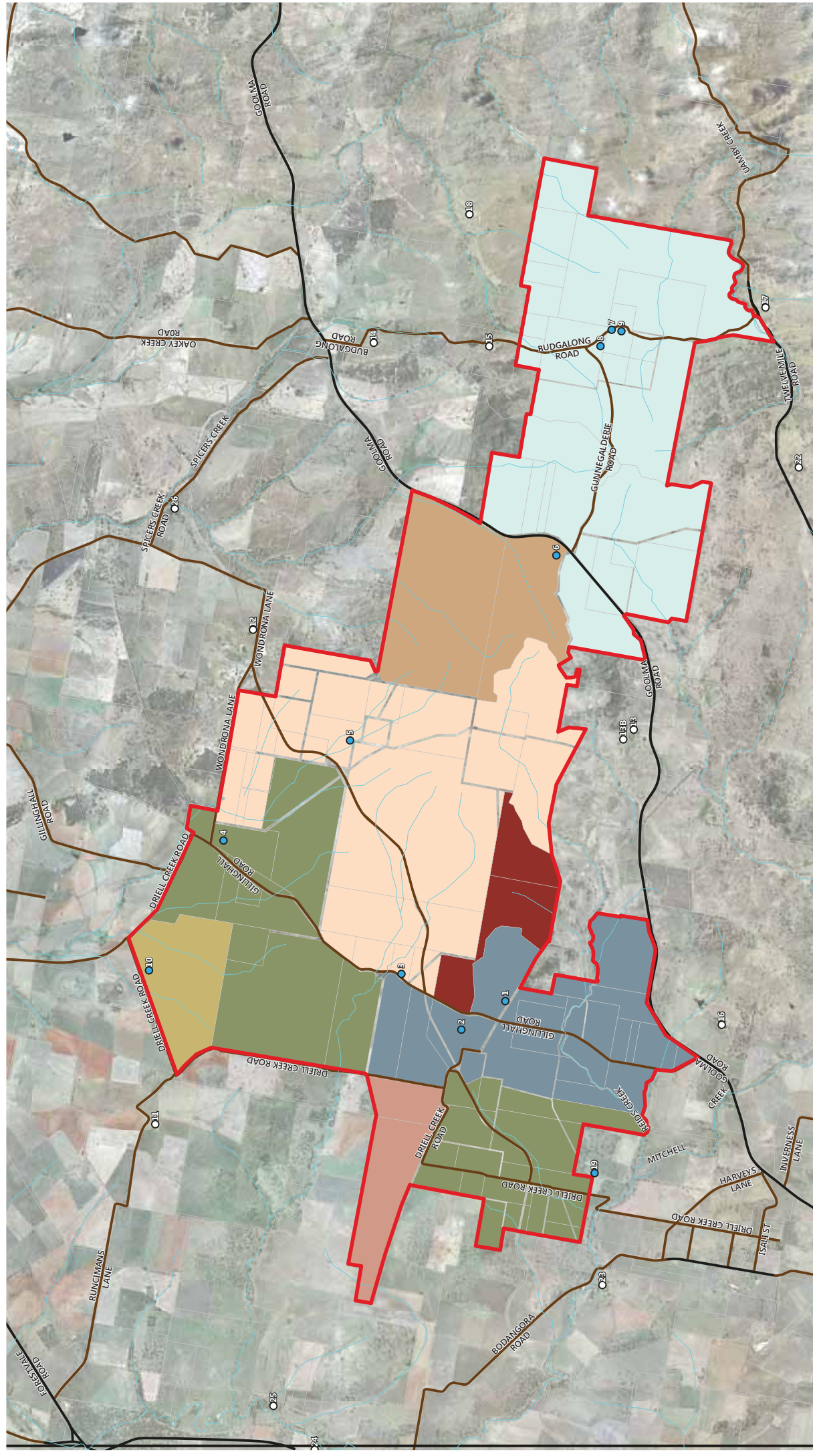
The proponent for the project, Bodangora Wind Farm Pty Ltd has entered into leases agreements with the landowners of the properties. Under the terms of these leases, Bodangora Wind Farm Pty Ltd has the consent of the landowners in lodging this Project Application and the submission of this Environmental Assessment. The lease agreements also provide landowner agreement for Bodangora Wind Farm Pty Ltd to lease the land to construct, operate and decommission the wind farm.

There are eight privately owned properties that exist within the Bodangora wind farm project area, comprising 8,469 hectares. Land will be leased for both the construction and operation of wind turbines, and for supporting infrastructure including electrical connections and access.

Within the project area, the project elements comprise less than three percent of the project area. Table 4.1 outlines the elements of the project which are located on each property. As previously outlined in Chapter 3: Project Description, the major elements of the proposal include turbines, access tracks, 33kV underground and overhead cables, a substation, and 132kV switching station for connection to the existing 132kV transmission line, and temporary construction site office and laydown area.

Figure 4.2 identifies the location of 'windfarmer' dwellings (where landowners have a financial interest in the project) and 'neighbouring' dwellings. The size and spatial layout of adjoining landowners has also been identified. Adjoining land holdings are generally large, rural properties as similar to within the wind farm project area.

The project area encompasses road reserves which is Government owned land. The reserve at the peak of Mount Bodangora is also Government owned, but is outside of the project area.



**Project Area**

  Project Area

● Dwelling (Land Owner Agreement)

○ Dwelling (Neighbour)

Major road

Minor or unsealed road

**LAND OWNER AGREEMENTS**

	Owner A
	Owner B
	Owner C
	Owner D
	Owner E
	Owner F
	Owner G
	Owner H

**Figure 4.2**  
Dwellings and Land Ownership

BODANGORA WIND FARM

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**Table 4.1 – Description of Project Elements in relation to Wind Farm Properties**

PROPERTY	LAND TITLE DETAILS		TURBINE NUMBERS	WIND FARM ANCILLARY ITEMS
	LOT/PORTION	DP		
Landowner A	72	754320	32, 38	33kV underground or overhead transmission and new access track
Landowner B	97	754290	43	33kV underground or overhead transmission and new access track
	11	133286	44	33kV underground or overhead transmission and new access track
	2	133286	45	33kV underground or overhead transmission and new access track
	2	133286	-	33kV underground or overhead transmission and new access track
	199	754290	33, 36, 39, 41	33kV underground or overhead transmission and new access track
	151	754290	-	33kV underground or overhead transmission and new access track
	56	754320	26, 27	33kV underground or overhead transmission and new access track
	55	754320	25	33kV underground or overhead transmission and new access track
	74	754320	-	33kV underground or overhead transmission and new access track
Landowner C	1	837502	34, 35, 37	33kV underground or overhead transmission and new access track
	31	754290	10	33kV underground or overhead transmission and new access track
	195	754290	-	New meteorological mast
Landowner D	181	754290	16	33kV underground or overhead transmission and new access track
	161	754290	23	33kV underground or overhead transmission and new access track
	59	754320	20	33kV underground or overhead transmission and new access track
	169	754290	15, 21, 22, 24, 29, 30	33kV underground or overhead transmission and new access track
	168	754290	31	33kV underground or overhead transmission and new access track, existing meteorological mast
Landowner E	89	754320	12, 13, 17, 18, 19	33kV underground or overhead transmission line and new access track, new meteorological mast
	88	754320	-	33kV overhead transmission
Landowner F	71	750557	-	Substation and electrical switching station, new access track, 33kV

PROPERTY	LAND TITLE DETAILS		TURBINE	WIND FARM ANCILLARY ITEMS
				overhead transmission
	45	750776	-	33kV overhead transmission
	12	750776	-	33kV overhead transmission
	13	750776	-	33kV overhead transmission
	77	754320	-	33kV overhead transmission
	52	754320		33kV overhead transmission
	75	754320	-	33kV overhead transmission
	76	754320	-	33kV overhead transmission
Landowner G	2	837502	-	33kV underground transmission and new access track
Landowner H	190	754290	42	33kV underground or overhead transmission and new access track
	98	754327	46	33kV underground or overhead transmission and new access track

### 4.3 LAND USE ASSESSMENT

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The following provides an assessment of the suitability of the project with respect to potential land use conflicts with existing and future surrounding land uses as required within the strategic justification section of the Director-General's requirements for the project.

The region is predominately rich agricultural land utilised for wheat, beef cattle and sheep farming. A number of rural residential dwellings are also located throughout the region. The majority of properties within the project area have been extensively cleared, with vegetated areas limited to steeper slopes or other areas not suitable for grazing purposes. The density of rural settlement in the vicinity is very low, with the exception of the Bodangora township to the south-west of the project area consists of a low density of dwellings.

A number of other features exist within or nearby to the project area and are described below.

#### 4.3.1 Pastoral Activities

The wind farm is not expected to impact grazing land use activities which occur within and surrounding the project area. This is since, once developed, the area of land required by the wind farm structures will comprise only a very small component of each property; a total estimated land area of less than three percent of the total project area.

During construction, there are likely to be short periods where some areas cannot be grazed if they are nearby to a construction area. Bodangora Wind Farm Pty Ltd will work with the land owners of the project to minimise any disruption and to identify the likely timing of works.

Agricultural activities at neighbouring properties to the wind farm will not be affected.

It is noted that the land is within Zone 1(a) (General Rural) within the Wellington Council Local Environmental Plan, which discourages/prohibits further subdivision and non-rural development.

#### 4.3.2 Dwelling Proximity

Dwellings in the locality consist of either dwellings of which the owners have an agreement with the wind farm proponent, and neighbouring dwellings to the project. Figure 4.1 identifies those dwellings which are either have a land owner agreement (blue), or are a neighbour to the wind farm (white).

Nearly all dwellings in the locality are associated with agricultural land uses to some degree. Table 4.2 provides a summary of the dwellings located in the locality of the wind farm, the distance to turbines, and whether each property has an agreement or is a neighbour to the wind farm.

**Table 4.2 – Proximity of dwellings to turbines**

DISTANCE TO NEAREST TURBINE	NUMBER OF DWELLINGS WITH LAND OWNER AGREEMENTS	NUMBER OF NEIGHBOURING DWELLINGS	TOTAL
0 to 1.0 kilometre	5	-	5
1.0 to 2.0 kilometres	3	-	3
2.0 to 3.0 kilometres	-	5	5
3.0 + kilometres <sup>2</sup>	3	5	8

The closest wind farm neighbour is located at a distance of 2.35 kilometres, being Dwelling 24, and the closest dwelling with a land owner agreement is situated 0.47 kilometres away from the nearest turbine, both of which are identified on Figure 4.1.

Assessments within this EA consider the likely impact and proposed mitigation measures to maintain an appropriate level of amenity for neighbouring dwellings to the wind farm project, for example with regard to noise, visual amenity, shadow flicker, interference with signals and telecommunications, and traffic impacts. The proposal will also be assessed against the general impact of the proposal in the context of the broader region, including the results of the consultation process outlined in Chapter 6 of this EA.

#### 4.3.3 Wellington Aerodrome

The Wellington Council owns and operates the Wellington Aerodrome, located at Bodangora to the south-east of the project area. The nearest wind turbine is located at a distance of approximately 4.5 kilometres to the aerodrome, and the runway operates in a perpendicular direction away from the wind turbines (north-east/south-west).

Based on the distances involved, the topography of the locality, and the height and location of the wind turbines, it is expected that air traffic using the Wellington Aerodrome will be well clear of the wind turbine structures. An assessment of air safety issues pertaining to the airfield is provided in Chapter 15 of this EA.

Consultation has been undertaken with the Wellington Council, and the project made aware to the Civil Aviation Safety Authority (CASA), Air Services Australia, the Aerial Agriculture Association of Australia and the Land Planning and Spatial Information Department of the Department of Defence. The consultation documents are provided in **Attachment E** of this EA.

CASA have responded with no specific requirement for the wind farm in requiring marking or lighting or the turbines.

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<sup>2</sup> As identified on Figure 4.1.