PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

Name of Proponent:	**Stockyard Hill Wind Farm Pty Ltd**(a wholly owned subsidiary of Wind Power Pty Ltd)
Authorised person for proponent: **Position:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Peter Lausberg Executive Director Level 3, 765 Glenferrie Road, Hawthorn VIC 3122 p.lausberg@wind-power.com.au (03) 9819 0117 (03) 9819 0120
Person who prepared Referral: **Position:** **Organisation:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Debra Butcher Principal Planner Environmental Resources Management Australia Pty Ltd PO Box 266, South Melbourne, VIC 3205 debra.butcher@erm.com (03) 9696 8011 (03) 9696 8022
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	Stockyard Hill Wind Farm Pty Ltd • *Community Consultation* • *Energy Yield Analysis* • *Landowner Management* • *Wind Farm Design* Environmental Resources Management Australia Pty Ltd • *Landscape/Visual* • *Planning* Brett Lane Pty Ltd • *Ecology (Flora and Fauna)* Biosis Pty Ltd • *Ecology (Fauna)* Tardis Enterprises Pty Ltd • *Cultural Heritage* Neville Rosengren • *Geomorphological Consultant* Socom • *Community Consultation Advisors* Laurie Derrick & Associates • *Electromagnetic Interference Assessment* Marshall Day Acoustics Pty Ltd • *Noise Assessment*

	Digsilent Pty Ltd • *Electrical System Studies and Engineering* Garrad Hassan • *Wind Engineers* HardRock Geotechnical Pty Ltd • *Geotechnical Review*

2. Project – brief outline

Project title:

Stockyard Hill Wind Farm

Project location: (describe location with AMG coordinates and attach A4/A3 map(s) showing project site or investigation area, as well as its regional and local context)

The site proposed for the Stockyard Hill Wind Farm is located approximately 150 km south-west of Melbourne and approximately 35 km west of Ballarat.

The site is located in proximity to the townships of Beaufort (approximately 4.5 km north of the site) and Skipton (approximately 4.0 km south of the site).

The site is generally bounded by Stockyard Hill Road and Dalgleishs Road to the north and to the west, Glenelg Highway in the south and Beaufort - Carngham Road to the west. Skipton Road bisects the subject site.

The site is located within the Shire of Pyrenees.

The subject site has the following co-ordinates:

- 705672, 5852167;
- 705672, 5852167;
- 714906; 5850650;
- 713894, 5844050;
- 716462, 5832558;
- 707076, 5831214;
- 696679, 5836968; and
- 701141; 5843892.

A Site Location Plan is provided in Annex A – Figure 1 and an Indicative Site Layout Plan is located in Annex A – Figure 2.

Short project description (few sentences)**:**

Stockyard Hill Wind Farm Pty Ltd (SHWF) (a wholly owned subsidiary of Wind Power Pty Ltd) proposes to develop the Stockyard Hill Wind Farm in south-west Victoria, which involves the installation of approximately 282 turbines and associated on-site infrastructure (including substations, cabling and access roads).

The site proposed for the Stockyard Hill Wind Farm is freehold agricultural land totalling/comprising approximately 18,683ha. SHWF has entered into commercial agreements with 59 landholders to host the wind farm.

SHWF has commissioned several technical assessments to determine the suitability of this site for the development of a wind farm. The results of these assessments have not identified any significant visual, ecological, or archaeological issues that would prevent this site from hosting a wind farm.

3. Project description

Aim/objectives of the project (what is its purpose / intended to achieve?):

The aim of this project is to provide a source of renewable energy to supplement Victorian and National energy needs.

This project will support the Commonwealth Government's commitment to meeting its Kyoto Protocol target which seeks to reduce greenhouse gas emissions by 60% on 2000 levels by 2050 as well as its commitment to sourcing 20% of electricity from renewable sources by 2020.

In addition, this project will support the Victorian Renewable Energy Target scheme which aims to ensure at least 10% of Victoria's electricity consumption comes from renewable energy sources by 2016 as outlined in the Renewable Energy Action Plan[1].

A preliminary energy estimate undertaken by SHWF indicates that this project should produce approximately 1.482 TWh of electricity per year, which equates to providing the equivalent of more than 211,000 dwellings with electricity.[2] This figure represents approximately 16% of Melbourne homes. It is anticipated that the production of this electricity from renewable sources will result in a reduction of approximately 1,347,000 tonnes of CO_2 per annum.

Background/rationale of project (describe the context / basis for the proposal, eg. for siting):

SHWF is a Melbourne based company dedicated to the development of wind farms throughout Victoria and Australia. SHWF has numerous wind resource sites throughout Victoria and is involved in a number of projects at different stages of development, including Bald Hills Wind Farm, Wonthaggi Wind Farm, Lexton Wind Farm, Tuki Wind Farm (feasibility stage only) and this project.

SHWF identified the proposed site of the Stockyard Hill Wind Farm as a potential location in 2006 and undertook a preliminary feasibility assessment against the following criteria:

- Adequate wind resources;
- Supportive landholders;
- Adequate distance from nearby dwellings (non-stakeholders);
- Adequate distance from sensitive ecological, historical and visual locations;
- Proximity to electricity network connection;
- Suitable land in terms of:
    - Terrain and geology;
    - Land area;
    - Compatible land uses;
    - Zoning and overlay controls;
    - Existing ecological conditions;
    - Freehold land; and
    - Access to the site.

Based on the results of this initial feasibility assessment SHWF has justified investing in undertaking the detailed assessment required to support the application for a planning permit.

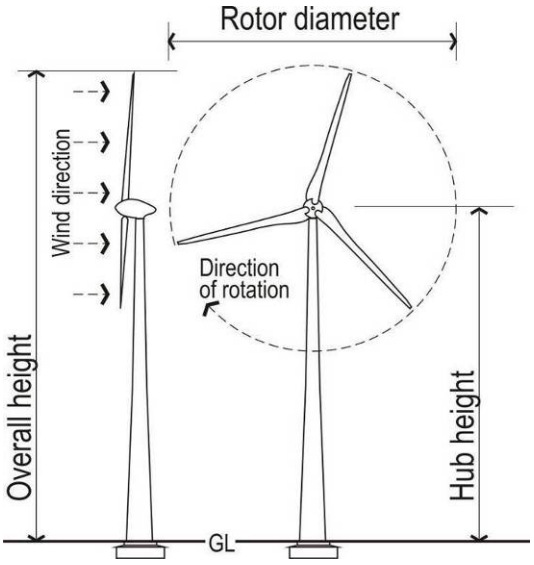
[1] Renewable Energy Action Plan, 2006, Department of Sustainability and Environment. http://secure-au.imrworldwide.com/cgi-bin/b?cg=0&ci=vic-sustainability&tu=http://www.sustainability.vic.gov.au/resources/documents/REAP.pdf

[2] This estimate is based on the MM92 2MW Turbine operating with a capacity factor of 30%. This is a conservative estimate based on a preliminary site analysis and also considering another Wind Power project nearby that has a forecast gross capacity factor of 41%. SHWF expects to report a higher capacity factor for the project once further wind monitoring has been completed. However, figures of between 30% and 35% are typically applied to calculate and model the capacity factor of planned Victorian Wind Farms. See for example, Assessment of Greenhouse Gas Abatement from Wind Farms in Victoria: Report to Sustainability Victoria, McLennan Magasanik Associates, July 2006. p.(i)

Main components of the project (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):

The Stockyard Hill Wind Farm will involve the installation of approximately 282 turbines (the number of turbines may be subject to variation following the results of further technical studies to be undertaken and the micro-siting of the turbines) and associated infrastructure (including substations, cabling and access roads).

The anticipated turbine dimensions are as follows:



Turbine Dimensions (approximate):

Max Height: 132 m
Hub Height: 83 m
Rotor Diameter: 103 m

The proposed turbines will have a capacity of approximately 2 - 3.3 MW resulting in an installed capacity of up to approximately 930MW. The final selection of turbine model will be subject to commercial negotiations, however, it is not anticipated that the dimensions of the turbines will be greater.

In addition to the installation of wind turbines, the project will also involve supporting infrastructure including maintenance facilities, cabling (predominantly underground), access tracks, substation / switchyard facilities and wind anemometers. The location of these will be determined following the detailed technical assessments.

The site proposed for the wind farm comprises 59 landholders and an area of approximately 18,683ha. It is anticipated that the wind farm will use less than 1% of the subject site, with the remainder of land to be retained for agricultural use.

An indicative turbine layout has been prepared as shown in Annex A – Figure 2; however, this layout may be altered in response to the detailed technical assessments to be undertaken and is provided as an 'indicative' layout only.

Ancillary components of the project (eg. upgraded access roads, new high-pressure gas pipe line; off-site resource processing):

The wind farm will require connection to the National electricity grid. Connection options to the grid have been analysed by SHWF (and will be subject to consultation with Vencorp) with current planning suggesting the following as the most suitable option:

The Stockyard Hill wind farm is proposed to be connected to the 500kV transmission line approximately 40 kms to the south of the project. The route for this grid connection is yet to be determined, if planning approval is required it is expected this would form part of a separate planning permit application. Further information regarding the line route will be provided as part of the planning approval process.

Construction of the wind farm will involve the transportation of over-dimensional loads which may require certain upgrades to occur to the existing road network. In addition, it is anticipated that traffic flows during the construction phase may also require certain sections of the existing road to be upgraded. A detailed traffic assessment will be undertaken during the next phase of work to determine the extent of upgrades required.

The construction of the wind farm may also require the use of a temporary concrete batching plant. Should a temporary concrete batching plant be required then approval will be sought from the necessary Environment Protection Authority.

Key construction activities:

It is anticipated that the key construction activities of the proposed Stockyard Hill Wind Farm will be undertaken in three phases as follows:

Phase 1 - Civil Construction: Preparation of the site including construction of access tracks, creation of turbine footings and other minor civil works.

Phase 2 - Installation: This phase involves the installation of towers, turbines, substations, cabling and other wind farm specific equipment.

Phase 3 – Commissioning: The commissioning phase of the works involves ensuring that the turbines are operational (i.e. final safety checks, network tests, etc).

These phases may overlap with installation occurring at locations while civil works continue on the remainder of the site. In addition, it is anticipated that rehabilitation will occur on a 'rolling' basis as turbines are installed.

It is anticipated that all construction activities will be undertaken within a four years period.

Key operational activities:

The operation of a wind farm is considered to be 'self-sufficient' with the operational activities limited to monitoring, maintenance and repairs.

It is noted that the operational life of the Stockyard Hill Wind Farm is anticipated to be 25 years.

Key decommissioning activities (if applicable):

The key decommissioning activities will comprise of the removal of above ground infrastructure (i.e. turbines, substations, etc) and rehabilitation of civil works (i.e. access tracks). Decommissioning work will be undertaken in consultation with the landholders to ensure that the land can be returned to agricultural use (i.e. certain access tracks may be retained at the request of the landholder).

Is the project an element or stage in a larger project?

☒ No ☐ Yes If yes, please describe: the overall project strategy for delivery of all stages and components; the concept design for the overall project; and the intended scheduling of the design and development of project stages).

Is the project related to any other past, current or mooted proposals in the region?

☒ No ☐ Yes If yes, please identify related proposals.

4. Project alternatives

Brief description of key alternatives considered to date (eg. locational, scale or design alternatives. If relevant, attach A4/A3 plans):

Alternatives for the Stockyard Hill Wind Farm have been considered in terms of location, turbine layout, timeframes and turbine selection.

Alternative locations for the wind farm:

As stated previously SHWF has undertaken an initial feasibility assessment for this project, and has in addition, undertaken feasibility assessment for other sites throughout Victoria and interstate. These feasibility assessments have been based on the assessment criteria outlined in Section 3 of this referral. The results of these assessments indicate that the proposed site for the Stockyard Hill Wind Farm is considered commercially suitable for development of a wind farm at the present time.

Other locations remain commercially confidential at this stage as they may be suitable for development in the future dependent on numerous factors (including favourable legislative support, new network connection options, improvements in market prices etc). At this time these sites are not suitable alternatives.

Alternative turbine layouts:

The turbine layout shown in Annex A – Figure 2 has been developed using the results of the technical studies undertaken to date and the wind monitoring data collected. Modification to the layout may occur in the future based on the results of further technical assessment, as discussed in more detail on the following sections.

Alternative timeframes:

SHWF anticipates commencing construction in late 2011. This timeline is dependent on numerous factors including gaining the necessary approvals in a timely manner and commercial negotiations. SHWF does not have an alternate timeframe and will continue progress this project in the most time efficient manner.

Alternative turbine selection:

SHWF proposes to use the most efficient, proven and commercially available wind turbine technology in the market. The final turbine selection will be dependent on commercial negotiations, however, the maximum turbine dimensions outlined in Section 3 of this referral will not be exceeded.

Brief description of key alternatives to be further investigated (if known)**:**

As stated previously the layout provided in Annex A – Figure 2 is considered 'indicative' and may change following the results of further detailed investigation planned to be undertaken in the next phase of assessment.

The turbine layout provided may be subject to micro-siting changes which could be influenced by the following factors:

- community and other stakeholder consultations;
- ecological studies;
- cultural heritage studies;
- visual impact studies;
- geotechnical studies;
- energy yield calculations; and
- any other relevant issues arising from detailed studies.

5. Proposed exclusions

Statement of reasons for the proposed exclusion of any ancillary activities or further project stages from the scope of the project for assessment:

This project is not part of a staged development and accordingly permits for additional components will not be required at a later date.

The one exception to this is the connection of the wind farm to the national electricity grid.

At this stage in the project the route for the connection between the proposed wind farm and the national electricity grid has not been determined.

The route will be subject to detailed discussions with Vencorp. Relevant planning permits will be sought for this powerline connection (i.e. vegetation removal, if required) once a route has been agreed.

6. Project implementation

Implementing organisation (ultimately responsible for project, ie. not contractor)**:**

The implementing organisation for the Stockyard Hill Wind Farm is SHWF.

Implementation timeframe:

It is anticipated that the construction of the Stockyard Hill Wind Farm will commence in late 2011 with a construction program of approximately 4 years. As stated previously this timeline is dependent on numerous factors including gaining necessary approvals in a timely manner and commercial negotiations.

The wind farm operational life is anticipated to be 25 years.

Proposed staging (if applicable):

This project is not part of a larger staged project.

7. Description of proposed site or area of investigation

Has a preferred site for the project been selected?

☐ No ☒ Yes If no, please describe area for investigation.

If yes, please describe the preferred site in the next items (if practicable).

General description of preferred site, (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site & surrounds, showing project footprint):

The proposed Stockyard Hill Wind Farm is located on agricultural land between the townships of Beaufort and Skipton in south-west Victoria. A site location plan is provided in Annex A – Figure 1.

The proposed wind farm can be generally divided into two sections, the northern and southern sections, which are roughly divided by Lake Goldsmith. The northern section begins about 4.5 km south of the edge of the Beaufort township and extends approximately 10 km to the west and 5 km to the east. The southern section begins approximately 4 km north of the Skipton township and extends north to Lake Goldsmith and approximately 15 km to the west and 10 km to the east. The Indicative Site Plan provided in Annex A – Figure 2 shows the site boundary.

The primary use of the land is agriculture with the majority cultivated for grazing and cropping. The site has a long history of agricultural use and accordingly is highly modified with little remnant vegetation remaining on the site.

The site is located principally in the Victorian Volcanic Plain bioregion, with parts of the northern section lying within the Central Victorian Uplands. The whole site lies within the boundary of the Glenelg Hopkins Catchment Management Authority.

The local geology is quaternary basalt derived from ancient eruption points, such as Stockyard Hill, which is an extinct volcano and its crater currently holds Black Lake which is an ephemeral semi-saline water body (dry). Low stony rises, including surface and embedded rock are also common across the site, especially in unimproved and uncultivated areas of pasture. Some of these areas support remnant native grassland.

There are several State parks within proximity to the site; namely Langi Ghiran State Park located approximately 10 km north west of the nearest wind farm site boundary and Mount Buangor State Park located approximately 8 km north west of the nearest wind farm site boundary;

Several wetlands are located either abutting the wind farm site boundary or occurring within the site and include Lake Goldsmith and Black Lake, both of which are semi-saline water bodies (dry). Several other smaller wetlands, such as freshwater meadows and shallow freshwater marshes are scattered within the site, in addition to minor drainage lines and creeks which traverse the site, mostly in the west and north. Some areas of pasture also become seasonally inundated or waterlogged.

The relevant local government authority is the Pyrenees Shire.

Site area (if known):

The site of the proposed Stockyard Hill Wind Farm comprises an area of approximately 18,683ha.

Route length (for linear infrastructure)

Not applicable

Current land use and development:

The primary use of the land is agriculture with the majority cultivated for grazing and cropping. The site has a long history of agricultural use and accordingly is highly modified with little remnant vegetation remaining on the site.

Description of local setting (eg. adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

As above.

Planning context (eg. strategic planning, zoning & overlays, management plans):

The proposed Stockyard Hill Wind Farm is subject to the provisions of the Pyrenees Planning Scheme, as detailed below.

The site may be subject to the relevant policies from the State Planning Policy Framework as listed below:

- Clause 11.03 – Environment;
- Clause 11.03 – Infrastructure;
- Clause 15.01 – Protection of Catchments, Waterways and Groundwater;
- Clause 15.05 – Noise Abatement;
- Clause 15.07 – Protection from Wildfire;
- Clause 15.09 – Conservation of Flora and Fauna;
- Clause 15.11 – Heritage;
- Clause 15.14 – Renewable Energy;
- Clause 17.05 – Agriculture; and
- Clause 18.04 – Airfields.

The Municipal Strategic Statement (MSS) and Local Policies section of the Pyrenees Planning Scheme include the following polices which may be relevant to this proposal:

- Clause 21.02 – Municipal Profile;
- Clause 21.03 – Key Issues;
- Clause 21.04 – The Shire's Vision;
- Clause 22.02 – Agricultural Policies;
- Clause 22.03 – Environmental Policies;
- Clause 22.05 – Employment Policies; and
- Clause 22.06 – Specific-Purpose Policies.

The site is predominantly located in the Farming Zone (FZ). Under the provisions of the FZ a planning permit is required for a '*Wind Energy Facility*'. In addition, the Schedule to the FZ stipulates that a permit is required for all earthworks occurring within the FZ that change the rate of flow or the discharge point of water across a property.

Lake Black is located within the central area of the subject site and is located in a Public Conservation and Resource Zone (PCRZ), which identifies a wind energy facility as a Section 2 use.

The Geelong Road and Skipton Road both bisect the subject site and are designated as within a Road Zone Category 1 (RDZ1). Within the southern area of the site, just off the Skipton Road there is a sewerage treatment plant which is designated as Public Use Zone (PUZ1).

A map outlining the zoning controls is provided in Annex A – Figure 3.

The site is also covered by an Environmental Significance Overlay – Schedule 1 (ESO1) which relates to areas included within a designated water supply area. A planning permit is required to remove, destroy or lop native vegetation and building and works except in particular circumstances. It is not anticipated that a permit will be required under this overlay.

Sections of the site are covered by a Wildfire Management Overlay (WMO) and Heritage Overlays (HO32, HO33 and HO37). It is not anticipated that a permit will be required pursuant to these overlays.

The areas covered by overlays are shown in Annex A – Figure 4.

Local government area(s):

The subject site is located within the Pyrenees Shire Council.

8. Existing environment

Overview of key environmental assets/sensitivities in project area and vicinity
(cf. general description of project site/study area under section 7)**:**

Refer to the above sections and in Section 11 of this form.

9. Land availability and control

Is the proposal on, or partly on, Crown land?

☒ No ☐ Yes If yes, please provide details.

Current land tenure (provide plan, if practicable):

Private ownership

Intended land tenure (tenure over or access to project land):

SHWF will enter into lease agreements with the landholders.

Other interests in affected land (eg. easements, native title claims):

Other interests that may affect the subject site have not been determined at this stage and will be investigated during the next phase of the project. It is not anticipated that other interests will impact on this development.

10. Required approvals

State and Commonwealth approvals required for project components (if known):

The proposed Stockyard Hill Wind Farm could require approval under the following Victorian legislation:

- *Environment Effects Act 1978;*
- *Planning & Environment Act 1987;*
- *Flora & Fauna Guarantee Act 1988;*
- *Heritage Act 1995; and*
- *Aboriginal Heritage Act 2006.*

It is anticipated that this project will not trigger the requirement for an Environment Effects Statement (EES) to be prepared under the *Environment Effects Act 1978*. It is considered that assessment under the *Planning and Environment Act 1987* will be sufficient to adequately consider this application.

An application will be lodged for a Planning Permit under the *Planning and Environment Act 1987* for the use and development of a wind energy facility. Various applications may also be required for vegetation removal, creating or altering access to a Road Zone – Category 1 or under the various overlay controls. The requirement for these permits will be determined through the technical assessment phase. It is noted that the removal of native vegetation will be avoided via micro-siting where possible.

If native vegetation removal is required in the road reserves (subject to more detailed investigation) then a licence may be required under the *Flora & Fauna Guarantee Act 1988*.

A Cultural Heritage Management Plan (CHMP) will be prepared in the next stage of assessment and will be undertake in consultation with the relevant Registered Aboriginal Party. Non-Aboriginal historical heritage should be assessed under the Heritage Act 1995.

It addition to assessments under relevant Victorian legislation, the proposal may also require assessment under the *Environment Protection and Biodiversity Act 1999*. A referral will be lodged with the Department of Environment, Water, Heritage and the Arts (DEWHA). It is anticipated that the proposal will not be considered as a 'controlled action' and will not require further assessment under the *Environment Protection & Biodiversity Conservation Act 1999*.

Have any applications for approval been lodged?

☒ No ☐ Yes If yes, please provide details.

Approval agency consultation (agencies with whom the proposal has been discussed):

The following agencies have been consulted:

Department of Sustainability and Environment

- Jason Taylor (Planning Manager Grampians Region)
- Shannon Meadow (Regional Planner)
- Nicholas Wynn, Garry Peterson, Richard Hill, Nick Jaschenko, Rod Davison and Andrew Pritchard (In relation to Flora and Fauna matters)

Pyrenees Shire Council

- Stephen Cornish (Shire CEO)
- Pyrenees Shire Councillors
- Kevin Porter (Shire Senior Planner)

Other agencies consulted:

Other agencies and individuals that have also been consulted/contacted include:

- CFA;
- Victorian State Ministers; and
- Air Services Australia.

For more information regarding consultation that has been undertaken refer to Annex G - Community Consultation Plan.

PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

11. Potentially significant environmental effects

Overview of potentially significant environmental effects (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

SHWF has commissioned the following studies to assist with determination as to whether this project requires an EES to be prepared under the *Environment Effects Act 1978*:

- Flora and Fauna Assessment – prepared by Brett Lane & Associates Pty Ltd dated May 2008 [Ref: 7132(4.1)].
- Targeted Brolga Investigations – prepared by Brett Lane & Associates Pty Ltd dated May 2008 [Ref: 7132(2.1)].
- Preliminary Landscape and Visual Assessment – prepared by ERM dated May 2008 [Ref: 0081729RP1].
- Desktop Cultural Heritage Assessment – prepared by Tardis Enterprises Pty Ltd dated May 2008.
- Geotechnical Review, HardRock Geotechnical Pty Ltd dated March 2008

Flora and Fauna Assessment – Brett Lane & Associates Pty Ltd

The results of this assessment are summarised below with a copy of the report contained in Annex B.

- The southern study area is mostly cleared of native vegetation and the land use is agricultural, i.e. cropping and grazing. Some native vegetation remains, associated with wetlands scattered across the floodplain. Some of these wetlands are considered high quality fauna habitat. In addition, some uncultivated areas support remnant Plains Grassland, a threatened vegetation community.
- The north of the study area contains remnant patches of heathy dry forest amongst cleared grazing land. In this section, there is less agricultural development because of the poor nature of the sandy soils, and therefore some pastures still contain remnant vegetation.
- A number of threatened flora species have potential to exist within these areas. These include the nationally threatened (EPBC Act listed) Small Milkwort, Australian Anchor Plant, Clover Glycine, Glen Major Grevillea, Adamson's Blown-grass, White Sunray, Salt Paperbark, Spiny Rice-flower, Salt-lake Tussock-grass, Hairy Tails, Button Wrinklewort and Swamp Everlasting.
- The study area is known or likely to support 148 species of fauna, including 23 species of mammal (six introduced), 104 species of birds (six introduced), 11 species of reptile and 10 species of frog. Additionally one threatened invertebrate, the Golden Sun Moth, was predicted to occur. During the field survey of the wind farm site, four species of mammals, 35 species of birds, one species of reptile, but no amphibians were observed on the site.
- Literature review and site inspection found potential habitat for several listed threatened fauna species. These include the nationally threatened (EPBC Act listed) Striped Legless Lizard and the (FFG listed) Brolga.
- The bird utilisation survey found bird use was comparable in species and numbers to similar agricultural wind farm sites surveyed elsewhere in Victoria. No threatened bird species were found during these surveys and the avifauna of the site is dominated by common farmland birds, including introduced species.
- The native vegetation mapping has shown that un-vegetated areas (introduced pasture and cropping) cover the majority of the area where wind turbines, access tracks and other infrastructure are proposed to be located. Only very limited areas of native vegetation should therefore need to be removed. If any native vegetation is unavoidably removed then a spring survey for rare and threatened species, as well as a habitat-hectare assessment under the state Native Vegetation Management Framework is recommended before vegetation is removed. Detailed habitat-hectare assessments are planned to ascertain how the provisions of the framework can be met., Importantly, a priority will be placed on avoiding the removal of native vegetation where possible, and pn minimising the unavoidable removal of native vegetation through sensitive layout design.
- Annual bird collision mortality is likely to be between 0.4 and 4 birds per wind turbine per year, based on figures for other wind farms elsewhere in southern Australia and overseas. The birds most likely to be affected regularly are the most abundant species in the area, such

as common farmland birds. This impact is not expected to be of conservation significance.

- A bat survey is planned in 2008-09 to confirm the status and occurrence of bat species on the wind farm site. Habitats across much of the wind farm site are generally unsuitable for bats with the exception of small areas of remnant vegetation in the northern part of the site and some waterways and small wetlands. It is unlikely that the site supports any threatened bat species in significant numbers due to a lack of extensive suitable habitat.
- Remnant native grassland in the southern part of the proposed wind farm site may support the threatened Striped Legless Lizard (Delma impar), particularly in areas contiguous with an adjacent state nature reserve. A targeted survey (using the accepted tile-grid method) is planned for the coming spring to confirm the status of this species in this part of the site and to develop guidelines for sensitive layout design.

Targeted Brolga Investigations – Brett Lane and Associates Pty Ltd

The results of this assessment are summarised below with a copy of the report contained in Annex C.

- The Brolga is well known from the Streatham–Skipton area and breeds in smaller, seasonal and permanent wetlands throughout this area. Within 20 km of the boundary of the proposed wind farm, there are at least five historically known Brolga flocking sites (AVW records).
- Historically (1970–2003), there have been 60 breeding records from at least 13 nesting sites within the search area. At least 15 of these breeding records were from three sites within or close to the wind farm site.
- No pairs of Brolgas were found breeding within the boundary of the Stockyard Hill Wind farm site during this survey. However, one pair of Brolgas nested on the edge of Lake Goldsmith. Sites where Brolgas have been observed in the past (AVW, DSE data), such as Buln Gherin Swamp and Black Lake did not support Brolgas this breeding season. Six other confirmed breeding sites during the current survey were located west and south of the wind farm.
- It is likely that some Brolgas in this region would fly across the proposed Stockyard Hill Wind Farm site when moving from flocking to breeding sites and back again.
- 38 Brolgas were sighted in the search area, of which seven pairs were nesting. The Victorian population is of Brolgas currently estimated at approximately 650 individuals (Du Guesclin 2003). During the current survey, at least 6 percent of the state population was observed in the search area (within 20kms of the wind farm).
- Subsequent work during the flocking season found a total of 58 birds at Blue Lake, south east of Streatham and over 10 km from the southern part of the proposed wind farm site. These birds probably represented the entire population in this part of its range in Victoria.
- The principal means of mitigating the potential impacts of the proposed wind farm on Brolgas is through appropriate separation distances between turbines and birds. Turbine exclusion distances have been determined in consultation with DSE and recommended to ensure that the risk to Brolgas from the proposed wind farm is reduced to negligible levels. These exclusion distances have reduced to likely direct (e.g. collision) and indirect impacts of the proposal on the species to negligible levels and no significant reduction in the availability of breeding and flocking habitats is expected as a result of the project.(see Annex A – Figure 5 – Wind farm layout and Brolga habitat exclusion zone.
- As a precautionary measure, collision risk modelling is being commissioned, with a particular focus on residual risks to birds during the migration seasons.
- The impacts of the proposed wind farm on the Brolga are being assessed in cooperation with DSE, which has commissioned the development of a population viability assessment, which will enable the impacts of the proposed wind farm on the state Brolga population to be modelled. This will assist in determining the population-scale consequences of the proposal, as well as in the development of robust mitigation measures, if required.

Preliminary Landscape and Visual Assessment – Environmental Resources Management Australian Pty Ltd

The results of this assessment are summarised below with a copy of the report contained in Annex D.

- The proposed wind farm site is located within a highly modified landscape. Rural activity, associated structures and other infrastructure have created a landscape that can readily absorb change.
- Perception studies consistently show that the majority of viewers do not object to the construction of wind turbines on any but the most sensitive landscapes.
- This preliminary assessment has not identified any location within publicly accessible locations within the viewshed that have a high degree of visual impact.
- There is low level of visual impact from roadside vantage points on the Western and Glenelg Highways within 3-4 km of the proposed wind farm. For many viewers this impact may well be positive.
- There is no visual impact to the Beaufort township due to existing eucalypt woodland and landform.
- There may be additional visual impact on residences adjacent to the proposed wind farm site. However, analysis of this will be undertaken in the final Landscape and Visual Assessment.

Preliminary Cultural Heritage Assessment – Tardis Enterprises Pty Ltd

The results of this assessment are summarised below with a copy of the report contained in Annex E.

- This desktop assessment was prepared for discussion purposes and reviews the Aboriginal and historic cultural heritage of the area and the potential impact the proposed activity may have on known and potential cultural heritage values.
- No Registered Aboriginal Party (RAP) has yet been appointed for the activity area, the area is currently administered by the Department of Planning and Community Development (DPCD) for Aboriginal cultural heritage and Heritage Victoria (HV) for historic cultural heritage. The Ballarat and District Aboriginal Cooperative Ltd. have a RAP application pending that includes the activity area. If successful, this group will be the primary indigenous consultation group and will evaluate any cultural heritage management plans.
- Aboriginal archaeological sites can occur on any landform, but the highest density is found in close proximity to water sources. In addition, historic sites can be found throughout the region, though earliest sites are associated with pre-emptive rights, which are mostly situated adjacent to reliable water sources.
- There are two previously recorded Aboriginal sites within the activity area. One of these is an earth mound located near Nerring (AAV7523-0027), and the other a post-Contact site; the Stockyard Hill Honorary Correspondent Depot (Historic Place Report 5.4-67). This appears to be the site identified on the Pyrenees Shire Planning Scheme Heritage Overlay as the Old Homestead at Mawkwallock (HO32).
- There are four historic structures previously recorded within the activity area. These include the Stockyard Hotel ruins (H7522-0001), a Boundary Riders Hut (HO33), the Old Homestead at Mawkwallock (HO32) and the remnants of the Lake Goldsmith School (HO37).
- The possibility of further sites is summarised in the following table:

Heritage Type	Potential Deposits	Level of Potential
Aboriginal	Small numbers of previously disturbed low-density (n<10/m) stone artefact scatters throughout the activity area	Moderate
	Low to moderate density (10-100/m) stone artefact scatters within 200m of current & previous water courses/drainage lines, hill crests and flood plain perimeters. Elevated locations that offered a dry campsite, adjacent to former wetlands/water sources are the most likely landform for Aboriginal material.	Moderate - High
Historic	Historic Small numbers of previously disturbed artefacts throughout the activity area and/or remains of stockyards, fences & other minor features	Very Low
	Artefacts in close proximity to previously identified historic structures (i.e. Stockyard Hill Hotel site)	Moderate - High

- This assessment also provides preliminary management recommendations regarding the mitigation of possible impact to heritage values and obligations under the Aboriginal Heritage Act 2006.

12. Native vegetation, flora and fauna

Native vegetation

Is any native vegetation likely to be cleared or otherwise affected by the project?

☐ NYD ☐ No ☒ Yes If yes, answer the following questions and attach details.

What investigation of native vegetation in the project area has been done? (briefly describe)

Refer Section 11 of this Referral and Annex B.

What is the maximum area of native vegetation that may need to be cleared?

☒ NYD Estimated area ……..(hectares)

This will be determined in the next stage of assessment but is anticipated to be minimal.

How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?

☒ N/A …… approx. percent (if applicable)

Which Ecological Vegetation Classes may be affected? (if not authorised as above)

☐ NYD ☒ Preliminary/detailed assessment completed. If assessed, please list.

The following EVC's have been identified on the site:

- Heathy Dry Forest (EVC 20);
- Stoney Rises Woodland (EVC 203);
- Plains Grassland / Plains Grassy Woodland Mosaic (EVC 897);
- Creekline Grassy Woodland (EVC 68); and
- Aquatic Herbland (EVC 653).

Due to the nature of development it is anticipated that this remnant vegetation can be avoided through micro-siting. Should this not be possible, permits will be sought at the next stage of assessment.

Have potential vegetation offsets been identified as yet?

☒ NYD ☐ Yes If yes, please briefly describe.

Other information/comments? (eg. accuracy of information)

Refer to Annex B.

NYD = not yet determined

Flora and fauna

What investigations of flora and fauna in the project area have been done?
(provide overview here and attach details of method and results of any surveys for the project & describe their accuracy)

As discussed at Section 11, the following ecological assessments have been undertaken.

- Flora and Fauna Assessment – prepared by Brett Lane & Associates Pty Ltd dated May 2008 [Ref: 7132(4.3)].
- Targeted Brolga Investigations – prepared by Brett Lane & Associates Pty Ltd dated May 2008 [Ref: 7132(2.1)].

Copies of these are provided in Annex B and C.

It is considered that these assessments are equivalent to the literature review and site inspection component of level one and two risk assessments in accordance with "Wind Farms and Birds: Interim Standards for Risk Assessment".

Have any threatened or migratory species or listed communities been recorded from the local area?

☐ NYD ☐ No ☒ Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.
- Indicate which of these have been recorded from the project site or nearby.

Flora:

A number of threatened flora species have potential to exist within the study areas. These include the Nationally threatened (EPBC Act listed) Small Milkwort, Australian Anchor Plant, Clover Glycine, Glen Major Grevillea, Adamsons's Blown-grass, White Sunray, Salt Paperbark, Spiny Rice-flower, Salt-lake Tussock-grass, Hariy Tails, Button Wrinklewort and Swamp Everlasting.

The majority of the site is cleared of native vegetation and accordingly it is considered that there is minimum risk to these species, should they exist on the site, from this proposal. If native vegetation is required to be removed then a spring survey for rare and threatened species, as well as a habitat-hectare assessment under the Native Vegetation Management Framework will be undertaken.

Fauna:

The literature review and site inspection found potential habitat for several listed threatened fauna species. These include the nationally threatened (EPBC Act listed) Striped Legless Lizard and (FFG listed) Brolga.

Additional survey work for Brolga has been undertaken and further work is planned to be undertaken in consultation with DSE.

If known, what threatening processes affecting these species or communities may be exacerbated by the project? (eg. loss or fragmentation of habitats) Please describe briefly.

No threatening processes are known.

Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the project?

☐ NYD ☒ No ☐ Yes If yes, please:

- List these species/communities:
- Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) Comment on likelihood of effects and associated uncertainties, if practicable.

Is mitigation of potential effects on indigenous flora and fauna proposed?

☒ NYD ☐ No ☐ Yes If yes, please briefly describe.

Mitigation of potential impacts will be examined should it be determined that impacts can not be avoided. Any mitigation measures will be determined in consultation with DSE. The efficacy of mitigation measures will be tested through DSE's population viability assessment model, and agreed with DSE.

Other information/comments? (eg. accuracy of information)

Refer Annex B and C.

13. Water environments

Will the project require significant volumes of fresh water (eg. > 1 Gl/yr)?

☐ NYD ☒ No ☐ Yes If yes, indicate approximate volume and likely source.

Will the project discharge waste water or runoff to water environments?

☐ NYD ☒ No ☐ Yes If yes, specify types of discharges and which environments.

Are any waterways, wetlands, estuaries or marine environments likely to be affected?

☐ NYD ☒ No ☐ Yes If yes, specify which water environments, answer the following questions and attach any relevant details.

The site contains Lake Goldsmith. It is anticipated that this lake will not be impacted due to the nature of development. There will be adequate set-backs between proposed works areas and the lake shore so indirect impacts from runoff and sedimentation during construction will be avoided. Observations elsewhere in south western Victorian (Brett Lane & Associates Pty Ltd, unpublished data) show that waterbirds generally move about in and within 450m of wetland habitats, with waterbird utilisation rates dropping to background levels for agricultural land beyond this distance. Therefore, no significant collision risk to waterbirds using the lake is anticipated.

Are any of these water environments likely to support threatened or migratory species?

☐ NYD ☐ No ☒ Yes If yes, specify which water environments.

The Targeted Brolga Investigation undertaken by Brett Lane & Associates Pty Ltd (See Section 11 and Annex C) outlined the following wetland environments that may support Brolgas during the flocking season (i.e. in significant concentrations):

- Lake Wongan (7 km to the west of wind farm);
- St Marnock Swamp (approximately 5 km from the north-west corner of wind farm);
- Lake Alexanders Lake (7 km to the west of wind farm);
- Horseshoe swamp (6–8 km to the south and south-west of wind farm; (currently dry); and
- Few scattered wetlands north of Skipton.

It is proposed to set turbines back a sufficient distance to avoid direct impacts on Brolgas using these sites.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?

☐ NYD ☒ No ☐ Yes If yes, please specify.

Could the project affect streamflows?

☐ NYD ☒ No ☐ Yes If yes, briefly describe implications for streamflows.

Could regional groundwater resources be affected by the project?

☐ NYD ☒ No ☐ Yes If yes, describe in what way.

It is anticipated that the foundations of the turbines will have minimal impact on underground water bodies, and/or groundwater. For further information refer to the attached Geotechnical Review (Annex F).

Could environmental values (beneficial uses) of water environments be affected?

☐ NYD ☒ No ☐ Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)

Could aquatic, estuarine or marine ecosystems be affected by the project?

☐ NYD ☒ No ☐ Yes If yes, describe in what way.

Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?

☒ No ☐ Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.

Is mitigation of potential effects on water environments proposed?

☐ NYD ☒ No ☐ Yes If yes, please briefly describe.

Other information/comments? (eg. accuracy of information)

It is anticipated that the development of the proposed wind farm will not impact on the water environment due to the small turbine footprint and the ability to respond to any potential water issues during the micro-siting of the turbines.

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

☐ No ☒ Yes If yes, please attach.

Is the project to be located either within or near an area that is:

- **Subject to a Landscape Significance Overlay or Environmental Significance Overlay?**

☐ NYD ☐ No ☒ Yes If yes, provide plan showing footprint relative to overlay.

The site is affected by an Environmental Significance Overlay – Schedule 1 (ESO1). ESO1 relates to areas included within a designated water supply area, and the objectives of this overlay include the protection and maintenance of water quality and water yield within the designated water supply catchment.

- **Identified as of regional or State significance in a reputable study of landscape values?**

☐ NYD ☒ No ☐ Yes If yes, please specify.

- **Within or adjoining land reserved under the *National Parks Act 1975* ?**

☐ NYD ☒ No ☐ Yes If yes, please specify.

- **Within or adjoining other public land used for conservation or recreational purposes?**

☐ NYD ☒ No ☐ Yes If yes, please specify.

The only land zoned for public use is associated with sewerage treatment plant as shown in Annex A – Figure 3.

Is any clearing vegetation or alteration of landforms likely to affect landscape values?

☐ NYD ☒ No ☐ Yes If yes, please briefly describe.

Is there a potential for effects on landscape values of regional or State importance?

☐ NYD ☒ No ☐ Yes Please briefly explain response.

Is mitigation of potential landscape effects proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

The requirement and options for mitigation measures for neighbouring residential dwellings will be determined in the next stage of assessment.

Other information/comments? (eg. accuracy of information)

Note: A preliminary landscape assessment is a specific requirement for a referral of a wind energy facility. This should provide a description of:

- The landscape character of the site and surrounding areas including landform, vegetation types and coverage, water features, any other notable features and current land use;
- The location of nearby dwellings, townships, recreation areas, major roads, above-ground utilities, tourist routes and walking tracks;
- Views to the site and to the proposed location of wind turbines from key vantage points (including views showing existing nearby dwellings and views from major roads, walking tracks and tourist routes) sufficient to give a sense of the overall site in its setting.

Soils

Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?

☐ NYD ☒ No ☐ Yes If yes, please briefly describe.

Are there geotechnical hazards that may either affect the project or be affected by it?

☐ NYD ☒ No ☐ Yes If yes, please briefly describe.

Other information/comments? (eg. accuracy of information)

It is anticipated that the Stockyard Hill Wind Farm will not have a significant impact on the soil environment as documented within the Geotechnical Review undertaken by Hardrock Geotechnical Pty Ltd (Annex F).

15. Social environments

Is the project likely to generate significant volumes of road traffic, during construction or operation?

☒ NYD ☐ No ☐ Yes If yes, provide estimate of traffic volume(s) if practicable.

The construction phase has the potential to generate significant volumes of traffic over a short time period. The next phase of assessment will determine the impacts associated with the traffic volumes and investigate mitigation and management measures.

Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?

☒ NYD ☐ No ☐ Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

The micro-siting of turbines across the site will ensure that noise and shadow flicker impacts on any adjoining (non-stakeholder) residents are within acceptable standards.

Amenity impacts associated with noise and traffic will be investigated further in the next phase of assessment, however, are anticipated to be acceptable.

Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the hazards and possible implications.

Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?

☐ NYD ☒ No ☐ Yes If yes, briefly describe potential effects.

Are non-residential land use activities likely to be displaced as a result of the project?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the likely effects.

Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the potential effects.

Is mitigation of potential social effects proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

SHWF has identified that they will contribute approximately $140,000 per year over a 25 year period to a community fund that will benefit the whole community.

Other information/comments? (eg. accuracy of information)

SHWF will undertake a comprehensive consultation strategy as per the Community Consultation Plan (Annex G) to ensure the local community is informed of the proposal and has an opportunity to provide feedback on the project.

Consultation mechanisms will also be established through the construction and operation phases.

Cultural heritage

Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?

☒ No If no, list any organisations that it is proposed to consult.
☐ Yes If yes, list the organisations so far consulted.

This area does not have a Registered Aboriginal Party (RAP), however, the Ballarat and District Aboriginal Cooperative Ltd have an application pending. Consultation with the RAP and Aboriginal Affairs Victoria will be conducted in the next phase of assessment.

What investigations of cultural heritage in the project area have been done?

(attach details of method and results of any surveys for the project & describe their accuracy)

A Desktop Cultural Heritage Assessment has been undertaken by Tardis Enterprises Pty Ltd and is attached as Annex E.

Is any Aboriginal cultural heritage known from the project area?

☐ NYD ☐ No ☒ Yes If yes, briefly describe:

- Any sites listed on the AAV Site Register
- Sites or areas of sensitivity recorded in recent surveys from the project site or nearby
- Sites or areas of sensitivity identified by representatives of Indigenous organisations

There is one previously recorded pre-Contact Aboriginal site within the site (earth mound AAV7523-0027) and another 21 previously recorded sites within 5 km.

There is also one previously recorded post-Contact site within the activity area. This is the Stockyard Hill Honorary Correspondent Depot (Historic Place Report 5.4-67).

These sites will not be impacted from this proposal and micro-siting and further survey work will ensure that other potential sites are avoided, where possible, or managed.

Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the project area?

☐ NYD ☐ No ☒ Yes If yes, please list.

See above

Is mitigation of potential cultural heritage effects proposed?

☒ NYD ☐ No ☐ Yes If yes, please briefly describe.

Mitigation and management measures will be further developed in the next phase of assessment and will be determined in consultation with the Registered Aborginal Party (RAP) and Aboriginal Affairs Victoria (AAV).

Other information/comments? (eg. accuracy of information)

The Desktop Cultural Heritage Assessment prepared by Tardis Enterprises Pty Ltd is contained in Annex E.

16. Energy, wastes & greenhouse gas emissions

What are the main sources of energy that the project facility would consume/generate?

- ☐ Electricity network. If possible, estimate power requirement/output
- ☐ Natural gas network. If possible, estimate gas requirement/output
- ☒ Generated on-site. If possible, estimate power capacity/output (see below)
- ☐ Other. Please describe.

Please add any relevant additional information.

A preliminary energy estimate undertaken by SHWF indicates that this project will produce approximately 1.482 TWh of electricity per year, which equates to providing the equivalent of more than 211,000 dwellings with electricity. This figure represents approximately 16% of Melbourne homes. It is anticipated that the production of this electricity from renewable sources will result in a reduction of approximately 1,347,000 tonnes of CO_2 per annum.

What are the main forms of waste that would be generated by the project facility?

- ☐ Wastewater. Describe briefly.
- ☐ Solid chemical wastes. Describe briefly.
- ☒ Excavated material. Describe briefly.
- ☐ Other. Describe briefly.

Please provide relevant further information, including proposed management of wastes.

The majority of material excavated from the footprint of the proposed turbine foundations will be utilised during the construction of the required access tracks.

There may, however, be small quantities of excavated material to be removed to a licensed landfill facility at the completion of the construction works.

What level of greenhouse gas emissions is expected to result directly from operation of the project facility?

- ☒ Less than 50,000 tonnes of CO_2 equivalent per annum
- ☐ Between 50,000 and 100,000 tonnes of CO_2 equivalent per annum
- ☐ Between 100,000 and 200,000 tonnes of CO_2 equivalent per annum
- ☐ More than 200,000 tonnes of CO_2 equivalent per annum

Please add any relevant additional information, including any identified mitigation options.

A small amount of CO_2 may be generated during the construction and operation phase associated with the operation of machinery and vehicles. This generation is significantly offset by the ability to produce clean renewable energy.

17. Other environmental issues

Are there any other environmental issues arising from the proposed project?

☐ No ☒ Yes If yes, briefly describe.

Shadow Flicker

Shadow flicker results from the position of the sun in relation to the blades of the wind turbines as they rotate. This occurs under certain combinations of geographical location, time of day and prevailing wind.

A shadow flicker assessment will be completed in the next phase of assessment to determine the level of impact against the relevant standard (i.e. dwellings not receiving in excess of 30 hours per year as a result of the operation of the wind farm). This assessment will be completed under 'perfect' conditions (no cloudy days, etc.) along with taking factors such as meteorological averages for cloudy days, topography and vegetation screening into account. SHWF will ensure that the shadow flicker experienced by any dwelling in the surrounding area of the proposed Stockyard Hill Wind Farm will not exceed 30 hours per year, as per the *Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria*.

Blade Glint

Blade glint is the reflection of the sun from turbine blades of the wind turbine during rotation. The Stockyard Hill Wind Farm will use turbine blades finished in a non-reflective matte finish which will minimise or negate any potential impacts from blade glint.

Transport

During both the construction and operation of the Stockyard Hill Wind Farm has the potential to impact on the local road network and other infrastructure surrounding the wind farm site. During the construction phase of the development additional traffic movements may have a temporary impact on the efficiency, capacity and standard of local roads.

The impact of traffic on the surrounding road network and the community will be considered during the next phase of assessment. A Traffic Management Plan will be developed for the proposed Stockyard Hill Wind Farm and implemented during the construction and operational phases of the development. The access arrangements will also be influenced by the need to avoid the removal of native road side vegetation.

Electromagnetic Interference

A review of the Australian Communication & Media Authority's '*Registry Of Radio Communication Licences'* will be completed during the next phase of the assessment to determine whether this project will impact on any communication licences. Should any licences be identified consultation will occur with relevant licence holders.

Noise

Noise impact analysis has not been undertaken at this preliminary stage of the project. This will be undertaken in accordance with *NZ6808 Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators* as specified in the *Policy and Planning Guidelines for the Development of Wind Energy Facilities in Victoria* (Sustainable Energy Authority Victoria 2003) during the next phase of assessment.

It is anticipated that the wind farm will not exceed the standards at any non-stakeholder dwelling, however, this will be confirmed in the next phase of assessment.

Cumulative Impacts

The potential for cumulative impacts between multiple wind farms and suggested methodologies for assessing these cumulative impacts have been frequently debated in recent times; however an agreed methodology has yet to be determined.

The proposed Stockyard Hill Wind Farm may have the potential for cumulative impacts when combined with other wind farms located in the region. The potential for cumulative impacts will be further investigated as part of the next phase of assessment. As part of these investigations a methodology will be developed in consultation with DSE.

18. Environmental management

What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)

☒ Siting: Please describe briefly

The micro-siting of the turbines will take into consideration the technical studies undertaken within the next phase of assessment. It is anticipated that any potential native vegetation removal or heritage sites will be able to be avoided or minimised via micro-siting.

☒ Design: Please describe briefly

The turbine model will ensure that blade glint is minimised via the use of non-reflective materials. Also the turbine will use the most up to date technology to ensure that noise impacts are minimised.

☒ Environmental management: Please describe briefly.

A construction and operational Environmental Management Plan (EMP) will be developed for this project and it is anticipated that this will be a condition of any planning permit that is issued for the proposed development. This EMP will cover environmental risks during both construction and operational phases of the development. The EMP would also incorporate any relevantly applicable conditions of consent.

☐ Other: Please describe briefly

Add any relevant additional information.

19. Other activities

Are there any other activities in the vicinity of the proposed project that have a potential for cumulative effects?

☐ NYD ☐ No ☒ Yes If yes, briefly describe.

The operational Challicum Hills Wind Farm and the approved Lexton and Waubra wind farms will be considered as part of a cumulative assessment. Should any further wind farms, within proximity to the proposed Stockyard Hill Wind Farm be granted planning approval prior to the commencement of any cumulative impact assessment, they will also be considered as part of the assessment.

20. Investigation program

Study program

Have any environmental studies not referred to above been conducted for the project?

☒ No ☐ Yes If yes, please list here and attach if relevant.

Has a program for future environmental studies been developed?

☐ No ☒ Yes If yes, briefly describe.

The scope of future assessments is in the process of development and will be guided by on-going consultation with relevant referral authorities (particularly DSE in relation to ecological assessments).
The current proposed further work is outlined below:

Ecology:
The following investigations are proposed:

- Rare flora searches of the likely zone of development;
- Habitat hectare scoring assessment and net gain analysis of a preliminary layout; and
- Targeted Brolga assessment (as outlined below)
  - Undertake collision risk modeling of the wind farm using Biosis as agreed with DSE.
  - Feed collision risk outcomes into the DSE Population viability assessment (PVA) model to

understand impact on a state level and design appropriate mitigation / offset measures.
    - Undertake a Breeding season assessment for all breeding locations within 3kms of the wind farm boundary for the 2008 season.
    - Undertake a full assessment of wetland quality for all wetlands within the brolga breeding homerange. within 3.2 km of the wind farm
    - Undertake a flocking season study if a flocking site presents near the boundary of the wind farm.
    - Feed outcome of 2008 breeding and flocking study into the PVA if required.
- Golden Sun Moth survey;
- A bat-detector survey; and
- A tile- grid survey for Striped Legless Lizard.

The above listed technical studies will ensure that all potential flora and fauna issues associated with the development are carefully documented and that a detailed and comprehensive impact assessment on flora and fauna can be provided for the planning application.

Landscape and Visual:
A secondary visual assessment will be undertaken which will provide photomontages from selected publicly accessible locations and private residences. The location of these photomontages will be guided by the results of the community consultation process.
This assessment will also be guided by the National Assessment Framework produced by AusWEA.

Cultural Heritage:
The next phase of cultural heritage assessment will involve the on-site assessment of the proposed turbine locations, access tracks and cabling. In addition, areas with a higher likelihood of containing aboriginal sites, i.e. creek lines, will also be investigated. This investigation will be completed in cooperation with the Registered Aboriginal Party and conducted by a qualified Cultural Heritage Advisor in compliance with the *Heritage Act 2006*. SHWF intend to undertake an voluntary Cultural Heritage Management Plan as part of the next phase of the project.

Other technical studies:
Other technical studies that will be undertaken, in accordance with the *Policy and Planning Guidelines for the Development of Wind Energy Facilities in Victoria* (Sustainable Energy Authority Victoria 2003), include the following:

- Noise;
- Shadow flicker;
- Electromagnetic Interference;
- Greenhouse offsets (Air quality);
- Transport;
- Geomorphology;
- Hydrology;
- Socio-economic;
- Telecommunications; and
- Town Planning.

Consultation program

Has a consultation program conducted to date for the project?

☐ No ☒ Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

SHWF have undertaken several consultation activities with the community including:

- Several public meetings;
- Informal BBQ / meeting to discuss the Brolga study;
- Newsletter distribution;
- Numerous visits to neighbouring residencies;
- Presentations to the Pyrenees Shire Council; and
- Ongoing liaison with DSE relating to assessment methodologies.

Has a program for future consultation been developed?

☐ NYD ☐ No ☒ Yes If yes, briefly describe.

The table below identifies some of the consultation activities already undertaken and future events to be held:

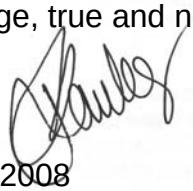
Stockyard Hill Wind Farm Community Consultation	**Week beginning**
Undertake stakeholder and issues analysis and define scope of the consultation	Already completed
Prepare milestones action plan	Already completed
Prepare information for consultation	Already completed
Development of an information page dedicated to the Stockyard Hill project on the website	Already completed
Media monitoring and issues management Local and metropolitan media will be monitored for stories that are relevant to SHWF wind energy and the development of wind farms. This will allow any positive community sentiment to be incorporated into future consultation forums and should the project receive any negative publicity, an appropriate response will be issued in a timely manner.	As required
Landowner Phone survey Inform land owners of project process, feedback on our progress, neighbour information	Began week beginning 31/03/08
Neighbour Visits/Contacts (within 5km boundary)	Underway
Brolga Study barbecue SHWF recently sought public input into the brolga study. Residents were invited to contribute observation details based on personal experience. Questionnaires were made available for completion at the informal brolga BBQ, posted on the website and forwarded to people who expressed an interest.	Already completed
Community Fun Beneficiaries. Community suggestions gathered from personal visits.	Began week beginning 07/04/08
One-on-one meetings (Skipton and Beaufort) One-on-one meetings will provide an opportunity for members of the community to discuss the wind farm with SHWF representatives in a confidential and non-threatening environment. The results of these sessions will be disseminated to the wider community to further inform stakeholders of any issues or concerns raised. These meetings will be held regularly.	13 and 14/05/08

Regular Shire Council Updates At a recent Pyrenees Shire Council meeting, it was suggested and agreed that SHWF will provide a council update every two months. This is an opportunity to keep council informed provide the community with a mechanism to provide feedback to SHWF via the elected council representatives.	19/05/08
Information Day Several information sessions have already been conducted and have been used to inform and the community about different aspects of the project. This process will continue and interested members of the community will continue to be given the opportunity to attend open information sessions where they will have a chance to voice their own opinions and concerns. Knowledge gained from these sessions will further assist SHWF in tailoring their communications.	21/05/08
Determination of Brolga Setback Guidelines/Final layout determination	
• Consulted with landowners that are affected by setbacks	04/06/08
• Held meeting with landowners that lose turbines	25/06/08
• Prepare website update	22/6/08
Post Referral Submission	
Publish referral information on website.	27/6/08
Email to Ministers informing of referral submission	27/6/08
Advertise Information Session	4 & 5/6/08 for 3 weeks leading up to event.
Newsletter	Coincide with information session
Information Session: Project Scope/Brolga Results	26/7/08
Suggestion Box at Skipton and Beaufort Post Offices	27/7/08
Consultation report	Undetermined
Information Session – final design.	Between Referral and Planning Application
One-on-One Meetings to invite feedback on layout.	After above Info Session
Flyer Drop	
Planning Application Submission Information Day	Within 6 weeks of Planning Application Submission

For further information regarding community engagement, refer to the Community Consultation Plan (Annex G).

Authorised person for proponent:

I, Peter Lausberg, Executive Director – Stockyard Hill Wind Farm Pty Ltd, confirm that the information contained in this form is, to my knowledge, true and not misleading.



Signature

Date 26.06.2008

Person who prepared this referral:

I, Debra Butcher, Principal Planner – Environmental Resources Management Australia Pty Ltd, confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature

Date 26.06.2008

ANNEXES:

Annex A Figures:

- Figure 1: Site Location Plan
- Figure 2: Indicative Site Layout Plan
- Figure 3: Zoning Controls
- Figure 4: Overlay Controls
- Figure 5: Wind farm layout and Brolga habitat exclusion zone.

Annex B Flora and Fauna Assessment, *Brett Lane & Associates Pty Ltd*

Annex C Targeted Brolga Investigations, *Brett Lane & Associates Pty Ltd*

Annex D Preliminary Landscape and Visual Assessment, *Environmental Resources Management Australia Pty Ltd*

Annex E Cultural Heritage Assessment, *Tardis Enterprises Pty Ltd*

Annex F Geotechnical Review, *HardRock Geotechnical Pty Ltd*

Annex G Community Consultation Plan, *SHWF Stockyard Hill Wind Farm Pty Ltd*