Landscape and Visual Impact Assessment.

1. Introduction

3DVS have undertaken this EIV-VIA study on behalf of *Philip S. Ryley & Co,* which is intended to form part of an application for the determination of the erection of a Proven P35-2 turbine on a 15m mast. The report identifies the visual impact of this turbine through photography and other digital processes.

2. Site Context.

The site is located in an area of agricultural land at OSGB Ref: SE22497 - 04619 at 255m AOD. The site situated close to Royd Moor & Scout Dike Reservoirs. There is an existing commercial wind farm on land adjacent to Spicer Hill (SE20493 - 04872 349m AOD). There is one major 'A' road within the ZTV, the A629. The ZTV is also bounded by the 'Barnsley Boundary Walk' & the 'Penistone Boundary Walk'. Nearest centre of population is Ingbirchworth.

3. Existing Environment.

A desktop study was undertaken to gather information on the existing baseline landscape conditions, location of visual receptors and geographical context to establish the area over which the wind turbine development may have a visual impact approx 5km radius from the site due to the height of the turbine. In addition to the desktop study, site survey work was undertaken to verify the findings of the data collection, to identify specific landscape features and to undertake a detailed visual analysis. Photographs were taken from viewpoints from potential visual receptors.

4. Terrain.

The turbine is situated on a gently sloping walled field with one residence nearby. The A629 is on the edge of the ZTV (Location 6).

Note: Consideration is given to all possible visual receptors within the range 0 to 5000m during the desktop study. However, it would be impractical to examine all visual vantage points for a project of this size and we accept that the turbine could be seen from other locations.

5. Methodology for Assessment of Landscape Resource and Visual Impacts.

The assessment of the visual impacts were conducted in accordance with current guidance, namely The Landscape Institute and Institute of Environmental Management and Assessment *Guidelines for Landscape and Visual Impact Assessment*, (Second Edition) 2002, as described below.

In defining the landscape visual impact Tables 1, 2 & 3 below have been used as guides.

Table 1. Sensitivity Classification

Sensitivity of Landscape Resource	
Landscape of particularly distinctive, character susceptible to relatively Small changes e.g. National Park	**High**
Landscape with relatively ordinary characteristics reasonably tolerant of changes	**Medium**
Landscape with few features of value or interest, potentially tolerant of Significant change.	**Low**

Table 2. Magnitude Classification.

Magnitude of Change	
Substantial change in landscape characteristics over an extensive area, ranging to very intensive change over a limited area. Permanent, long term.	**High**
Moderate change in landscape component over a wide area and/or moderate change in localised area.	**Moderate**
Discernable but slight change in any landscape component. Short term, temporary	**Slight**
Virtually imperceptible change. Insignificant scale to affect the integrity of the landscape component	**Negligible**

Table 3. Impact Significance.

	Low Sensitivity	**Medium Sensitivity**	**High Sensitivity**
Substantial Magnitude	Moderate Impact	Substantial Impact	Substantial Impact
Moderate Magnitude	Slight Impact	Moderate Impact	Substantial Impact
Slight Magnitude	Slight Impact	Slight Impact	Moderate Impact
Negligible Magnitude	Negligible Impact	Slight Impact	Slight Impact

Table 4 provides a summary of predicted visual impact upon completion of installation and construction.

Table 4. Predicted Visual Impact over the next 5 years.

Activity	**Effect upon landscape resource**	**Sensitivity**	**Magnitude**	**Significance of visual impact.**
Increase in traffic due to construction works and erection of plant	Loss of a small area of grassland	LOW	LOW	SLIGHT
Initial Operation Stage	Continuation of existing conditions – Loss of small area of grassland	LOW	LOW	SLIGHT
Continued full time operation	Continuation of existing conditions – Loss of small area of grassland.	LOW	LOW	SLIGHT

Table 5. Predicted Visual Impacts Upon Completion of Construction.

Activity	**Effect upon Visual Impact**	**Sensitivity**	**Magnitude**	**Significance of visual impact.**
Increased visibility of the site due to the operation of the single wind turbine	Near distance views Loc 1,2,3	Moderate/Slight	Moderate/Slight	Moderate.
	Middle distance views Loc 4,5,6,7	Slight	Slight	Slight
	Far Distant views: None.	Zero	Zero	Zero

6. Methodology for Assessment of Visual Impact.

Visual impact is the result of a change in view from receptors such as residential property, public rights of way, land with public access and roads. Residential properties are considered the most sensitive receptors to changes in view whereas road users are the least sensitive as their experience is transient. The magnitude of impact is assessed according to the scale of the effect, which will depend largely upon the size and type of the development and the distance of the receptor/s from the site. The significance of visual impact depends upon the sensitivity of the receptor and the magnitude and duration of the effect.

Table 6. Sensitivity of Visual Receptors.

Sensitivity of Visual Receptor.	
Residential properties less than 1 km from the development with direct views from ground floor and first floor windows towards the development. Public Rights of Way less than 1 km from the development with direct views.	**HIGH**
Residential properties over 1 km from the development or with more restricted views towards the development. Public Rights of Way more than 1 km from the development, or with restricted views. Local side roads and lanes. Sporting and recreational facilities, allotments.	**Medium**
Offices, commercial developments and industrial sites. Main roads and rail routes.	**Low**

Table 7. Classification of Magnitude of Visual Receptors.

Magnitude of Impact (Scale).	
The majority of viewers affected/major changes over a large proportion of the view.	**Substantial**
Many of the potential viewers affected/ major changes over a smaller proportion of the view/moderate change in view/partial view.	**Moderate**
Few viewers affected / minor change in view/glimpsed view.	**Slight**
Indiscernible change in the view.	**Negligible**

Table 8. Significance of Impact (Relationship Between Sensitivity and Magnitude).

	Low Sensitivity	**Medium Sensitivity**	**High Sensitivity**
Substantial Magnitude	Moderate	Substantial	Substantial
Moderate Magnitude	Slight	Moderate	Substantial
Slight Magnitude	Slight	Slight	Slight
Negligible Magnitude	Neutral	Neutral	Slight

The photomontage images have been produced to predict the proposed views of the site post construction. Photograph Locations 1 to 7 were taken using a digital camera with a 35mm lens. The images are comparable to those observed by the human eye. The photomontages were produced using 3d Studio Max an industry standard visualisation package, part of the Autodesk AutoCAD group and PhotoShop. Photographs 1 to 7 were taken from **publicly accessible viewpoints**, to illustrate the site on completion. Map references were taken using a Garmin GPS (accurate +/- 1m). Maps are OS Digital, Flat & 3D Relief and GIS is Google Earth.

7. Visual Baseline Conditions.

A visual analysis was undertaken in March 2011 when weather conditions and visibility were considered to be acceptable.

The Zone of Theoretical Visibility (ZTV) is defined as the area from within which the proposed development would be visible (***assuming an eye level of 1.6 m above ground level***). The ZTV and potential visual receptors are shown in Part 2 of this report.

8. Visual Receptors.

Careful consideration was given to local visual receptors:

Ingbirchworth
Thurlstone
Millhouse Green
Penistone.

None of the above would be affected by the construction of the Turbine due to distance and changes in local topography and existing woodland and hedgerows and the thin profile of the turbine.

A total of 7 receptors were taken from the desktop research.

The receptors are situated at distances from 260.12m to 1555.99m away from the site.

All photographs were taken from publicly accessible viewpoints.

Near Distant Views (inside 1000m)

Location 1. Ingbirchworth Lane. (Footpath)
Location 2. Folly Lane.

Middle Distance Views (Between 1000m & 2500m).

Location 3. Royd Moor Rd
Location 4. High Bank Lane.
Location 5. Annat Royd Lane.
Location 6. A629.
Location 7. Recreation Area, Scout Dike Reservoir

Distant Views (Between 2500m & 5000m.)

None.

9. Predicted Visual Impacts.

A summary of the visual impacts from the above receptors, using the methodology described in Section 6 is summarised in Section 11. The receptor locations are shown in Part 2 of this report. (GIS Image & Shaded relief OS Map).

The description of the views and the potential impact on individual receptors is summarised as follows below:

Location 1.

From the highpoint on the footpath running northwest from site. The site will clearly be seen to walkers moving in a southeastern direction. The turbine will have a moderate/slight impact on the local landscape. However any view to the site will be dominated by the commercial wind farm at Spicer Hill.

Location 2.

Looking north west to the site from Folly Lane. The visual impact will only be slight as this road is only used for access to the applicants' house, a house on Ingbirchworth Lane and a further property to the northeast of the applicants' residence.

Location 3.

Looking north east down slope. The site is almost shielded from view by the wooded area. Visual impact will be slight.

Location 4.

High Bank Lane, close to the commercial wind farm. The visual receptor is again looking down slope to the site. The Turbine will be barely discernable from this position due to the line of trees approximately half way to the site. Visual impact will be very slight or zero depending on season.

Location 5.

Annat Royd Lane. This is the furthest point of the VIA survey (1555m, 1.5km). Again due to the thin profile of the turbine and the interceding woodland the site will be barely discernable or not seen at all depending on season.

Location 6.

An open view looking towards the site from the A629. The site will be openly seen against the hillside. However the site is perpendicular to the movement of traffic along this road and would not normally be seen to moving vehicles.

Location 7.

Recreation Area at the northern side of Scout Dike Reservoir. The turbine is partly masked by the trees adjacent to the applicants' property and again the visual reception to the site will alter depending on season. The skyline is dominated by the commercial windfarm in the background of the image. The visual impact on the area will be slight.

10. Summary of Predicted Visual Impact.

Fundamental change at the site will result from the erection of the turbine as a new vertical structure in the landscape.

The *aggregated visual impact* for the visual amenity assessment is slight/neutral due to the thin profile of the turbine, the topography, lack of residential properties in the area and changes in topography. The landscape is dominated by the commercial windfarm.

11. Conclusion.

The visual impact and ZTV is limited. Due to the undulating character of the local terrain and woodland areas. The overall visual impact will be slight/neutral. The commercial wind farm has a greater impact than the proposed construction.