

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: SE23208 01228 at 321m AOD. The site situated slightly off a steep sided south facing hillside above Langsett, Midhope & Underbank Reservoirs. There is one major 'A' road within the ZTV, the A616. The ZTV is also bounded at the southern edge by the 'Barnsley Boundary Walk'. The nearest centres of population are Stocksbridge 4km to the southeast, Penistone 2km to the north, with the small communities of Upper Midhope, Langsett and Midhopestones to the south.

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 gentle north sloping walled field, with a steep escarpment to the south. There are a number of isolated residences in the area, none of which have direct visual reception to the proposed site. There is an existing mobile phone mast adjacent to the property at Location 3. The A616 is 112m (approx 336ft below the site). There are also several woodland plantations near the proposed site.

Notes on public amenity areas at Langsett, Peak National Park. etc.

The proposed construction is sited some 112m (336ft approx) above these areas and so is not in direct line of eyesight. The turbine in general will be hidden from view by the wooded areas. Views north to the site from the Peak National Park are limited due to distance and profile of the construction.

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 location

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

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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

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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 2,3,4,5	Moderate/Slight	Moderate/Slight	Slight.
	Middle distance views Loc 1, 6	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 6 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 6 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:

1. Penistone
2. Oxspring
3. Millhouse Green
4. Langsett
5. Upper Midhope
6. Midhopestones
7. Stocksbridge

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Areas 1, 2, 3, 7. Will have no visual reception from the site.

Areas 4, 5 & 6 will have highly restricted views to the site due to terrain elevation heights, distance and the thin profile of the structure in the landscape.

A total of 6 receptors were taken from the desk top research.

The receptors are situated at distances from 346.87m to 2024.94m away from the site.

All photographs were taken from publicly accessible viewpoints.

Near Distant Views (inside 1000m)

Location 2. Hartcliffe Hill Rd

Location 3. Hartcliff Rd.

Location 4. Hartcliff Rd

Location 5. Mossley Rd

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

Location 1. A616.

Location 6. Midhope Cliff Lane.

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.

Along the A616. The site is 112m above this main road. Traffic moving down the road in a southeast/east direction may have transient views up to the site as the construction will be seen on the skyline. However the valley is dominated by tall national grid pylons and the turbine would have no significant effect on the visual amenity along this stretch of road, due to the thinness of its physical profile.

Location 2.

Looking southeast to the construction on Thorncliffe Rd. The buildings to the left of the image in front of the plantation are owned by the applicant. Traffic along this road is very light. There will be a continuous view of the site from location 3 to location 2, but because of the remote location of the site, visual amenity will be only slightly affected.

Location 3.

Looking across to the site towards the southeast. The property to this location has a Mobile Phone mast on its land. Currently this structure dominates the local landscape. The proposed turbine will blend into the background landscape due to it's siting in front of the plantation of trees known as Doubting Plantation.

Location 4.

The site from this location is viewed 'up slope' looking south from Hartcliff Rd. Most of the turbine is masked by the farm buildings on Brockholes Lane. Again due to its location the impact on visual amenity will be slight.

Location 5.

Looking towards the site from a location adjacent to the applicants' property. This is the first point at which traffic/cyclists/walkers etc will have a view to the site. Whilst it is prominent in the landscape it's effect on overall visual amenity will be slight/moderate.

Location 6.

A medium distance view towards the site. The turbine will appear as a very thin structure on the skyline, not easily discernable. The middle line of sight view is again dominated by the national grid pylon line.

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 natural topography woodland etc, lack of residential properties in the area and changes in topography. The landscape is dominated in views to the site from the south by a national grid powerline.

11. Conclusion.

The visual impact and ZTV is limited. Due to the undulating character of the local terrain and woodland areas to the north and east of the site. Views looking north to the site are limited. The overall visual impact will be slight/neutral. The existing national grid power line has great impact than the proposed construction.

Tom Allbrighton

From: Saved by Windows Internet Explorer 8

Sent: 28 March 2011 16:13

Subject: 3DVS Profile Card

Terrain Profile: Location 1 to Turbine.

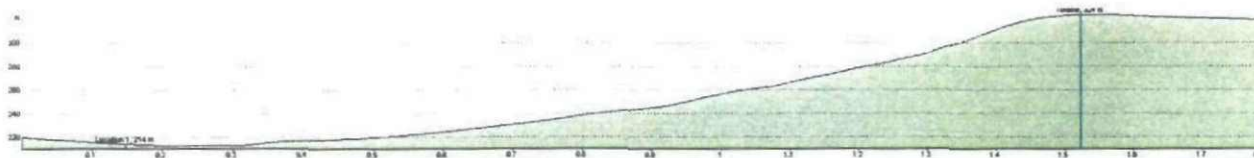
Summary

Profile Distance: 1.79 km

Total Ascent: 111 m

Total Descent: 12 m

Elevation Profile



Waypoints

Leg	Name / Position / Elevation	Bearing	Distance	Ascent	Descent	Comments
0	WP1301 SE 21765 00470 220 m					

1	Location 1 SE 21903 00525 214 m	068°T	148 m	0 m	6 m	
2	Turbine SE 23153 01100 324 m	065°T	1.38 km	111 m	1 m	
3	WP1304 SE 23390 01215 319 m	064°T	264 m	0 m	5 m	
Totals:			1.79 km	111 m	12 m	

Overview Map

Prepared By 3DVS

Tom Allbrighton

From: Saved by Windows Internet Explorer 8

Sent: 28 March 2011 16:20

Subject: 3DVS Profile Card

Terrain Profile: Location 2 to Turbine

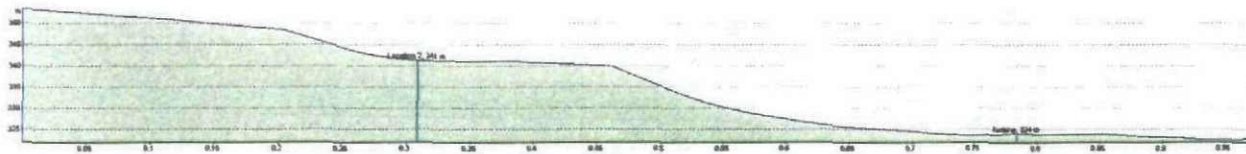
Summary

Profile Distance: 978 m

Total Ascent: 0 m

Total Descent: 31 m

Elevation Profile



Waypoints

Leg	Name / Position / Elevation	Bearing	Distance	Ascent	Descent	Comments
0	WP1401 SE 22660 01710 354 m					

1	Location 2 SE 22851 01467 341 m	142°T	309 m	0 m	12 m	
2	Turbine SE 23153 01100 324 m	140°T	475 m	0 m	17 m	
3	WP1404 SE 23275 00950 323 m	141°T	194 m	0 m	1 m	
Totals:			978 m	0 m	31 m	

Overview Map

Prepared By 3DVS

Tom Allbrighton

From: Saved by Windows Internet Explorer 8

Sent: 28 March 2011 16:19

Subject: 3DVS Profile Card

Terrain Profile: Location 3 to Turbine

Summary

Profile Distance: 1.46 km

Total Ascent: 1 m

Total Descent: 38 m

Elevation Profile



Waypoints

Leg	Name / Position / Elevation	Bearing	Distance	Ascent	Descent	Comments
0	WP1501 SE 22230 01775 358 m					

1	Location 3 SE 22398 01654 348 m	126°T	207 m	0 m	10 m	
2	Turbine SE 23153 01100 324 m	126°T	936 m	2 m	26 m	
3	WP1504 SE 23425 00935 321 m	121°T	319 m	0 m	3 m	
Totals:			1.46 km	1 m	38 m	

Overview Map

Prepared By 3DVS

Tom Allbrighton

From: Saved by Windows Internet Explorer 8

Sent: 28 March 2011 16:23

Subject: 3DVS Profile Card

Terrain Profile: Location 4 to Turbine

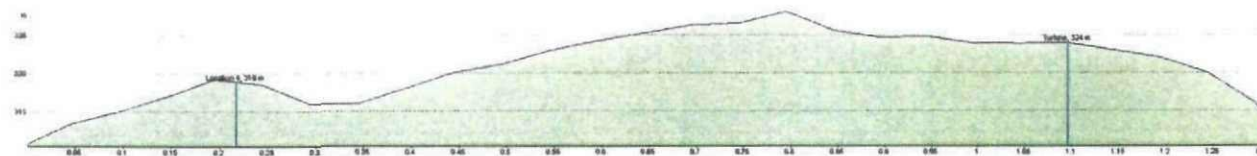
Summary

Profile Distance: 1.31 km

Total Ascent: 20 m

Total Descent: 16 m

Elevation Profile



Waypoints

Leg	Name / Position / Elevation	Bearing	Distance	Ascent	Descent	Comments
0	WP1601 SE 23165 02195 311 m					

1	Location 4 SE 23169 01978 319 m	179°T	217 m	8 m	0 m	
2	Turbine SE 23153 01100 324 m	181°T	879 m	11 m	6 m	
3	WP1604 SE 23150 00890 314 m	180°T	210 m	0 m	10 m	
Totals:			1.31 km	20 m	16 m	

Overview Map

Prepared By 3DVS

Tom Allbrighton

From: Saved by Windows Internet Explorer 8

Sent: 28 March 2011 16:26

Subject: 3DVS Profile Card

Terrain Profile: Location 5 to Turbine

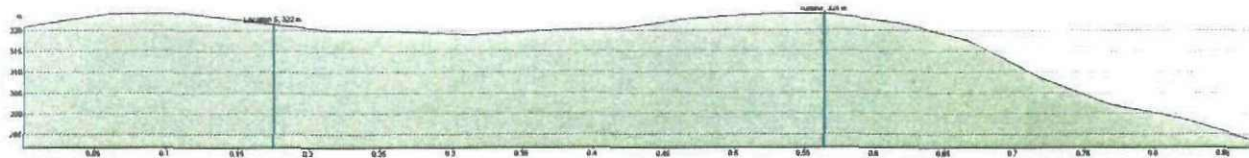
Summary

Profile Distance: 878 m

Total Ascent: 8 m

Total Descent: 36 m

Elevation Profile



Waypoints

Leg	Name / Position / Elevation	Bearing	Distance	Ascent	Descent	Comments
0	WP1701 SE 23710 01180 321 m					

1	Location 5 SE 23538 01150 322 m	260°T	175 m	3 m	3 m	
2	Turbine SE 23153 01100 324 m	262°T	389 m	5 m	2 m	
3	WP1704 SE 22840 01065 293 m	263°T	315 m	0 m	31 m	
Totals:			878 m	8 m	36 m	

Overview Map

Prepared By 3DVS

Tom Allbrighton

From: Saved by Windows Internet Explorer 8

Sent: 28 March 2011 16:28

Subject: 3DVS Profile Card

Terrain Profile: Location 6 to Turbine

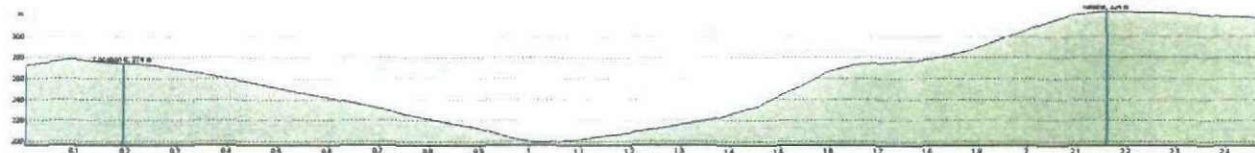
Summary

Profile Distance: 2.48 km

Total Ascent: 129 m

Total Descent: 85 m

Elevation Profile



Waypoints

Leg	Name / Position / Elevation	Bearing	Distance	Ascent	Descent	Comments
0	WP1801 SK 21610 99590 272 m					

1	Location 6 SK 21753 99721 274 m	047°T	194 m	6 m	4 m	
2	Turbine SE 23153 01100 324 m	045°T	1.97 km	125 m	75 m	
3	WP1804 SE 23365 01340 316 m	041°T	321 m	0 m	8 m	
Totals:			2.48 km	129 m	85 m	

Overview Map

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