

UW Ref: 1001234 Mount Pleasant

Landscape and Visual Impact Assessment

Land adjacent to Mount Pleasant Farm
Stonebridge Lane
Great Houghton
Barnsley
S72 0BX

This report is prepared in accordance with:-

- 'Guidelines for Landscape and Visual Impact Assessment' published by the Landscape Institute and the Institute of Environmental Management & Assessment; and
- 'Visual Representation of Windfarms: Good Practice Guide' published by Scottish Natural Heritage and other guidance

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Section 1: Introduction

3DVS have undertaken this VIA study on behalf of UrbanWind which is intended to form part of an application for the determination of the erection of 2No. Northern Power Systems NPS100-24 wind turbines on land adjacent to Mount Pleasant Farm, Stonebridge Lane, Great Houghton, Barnsley, S72 0BX.

The easting and northing for the proposed structures are as follows:-

T1: 443535E, 407240N
T2: 443555E, 407125N

The specifications for the proposed turbine are as follows:-

Turbine No.:	2
Hub Height:	23m
Rotor diameter:	24m
Height to tip:	35m
Blade No.:	3
Colour:	Traffic White (matt)

Section 2: Site Context

Background

Landscape Description & Use	Agriculture
Green Belt	Yes
National Park	No
A.O.N.B	No
Local Planning Authority	Barnsley Metropolitan Borough Council
Distance from site to nearest residential property owned by customer.	N/A
Distance to nearest non-involved property	T1 = 468m T2 = 300m
Distance from nearest commercial property	T1 = 468m T2 = 300m
Centres of residence	• Great Houghton • Thurnscoe • Clayton
Public Highways	• B6411 • Moor Lane • Thurnscoe Road • Howell Lane
Public Footpaths/Bridleways	• Footpaths to the west & southeast of the site. • Bridle way to the east.

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. 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.

Terrain & Site Context

The application site is on a gently sloping south facing hillside. There are a number of small copses and areas of woodland nearby; these are Miles Wood, West Haigh Wood, Howell Wood, incorporating Howell Wood Country Park.

The Natural England, National Character Area Profile is: 30 Southern Magnesian Limestone, which is defined as follows:-

- Underlying limestone creates an elevated ridge with smoothly rolling landform; river valleys cut through the ridge, in places following dramatic gorges. There are also some dry valleys.
- Fertile, intensively farmed arable land, with large fields bounded by clipped hawthorn hedges, creating a generally large-scale, open landscape.
- Semi-natural habitats, strongly associated with underlying limestone geology, include lowland calcareous grassland and limestone scrub on the freedraining upland and gorges with wetland habitats associated with localised springs and watercourses, but all tend to be small and fragmented.
- Large number of abbeys, country houses and estates with designed gardens and parklands, woodlands, plantations and game coverts.
- Long views over lowlands to the east and west, and most prominent in the south.

- Woodlands combining with open arable land to create a wooded farmland landscape in places, where traditionally coppiced woodlands support dormouse populations.
- Unifying influence of creamy white Magnesian Limestone used as a building material and often combined with red pantile roofing.
- Localised industrial influences, especially in the Aire and Don valleys, and in the south and along the fringe of the Coal Measures to the west, with former mines and spoil heaps (many now restored), power lines, settlements, industry and transport routes.
- Influenced by the transport corridor of the A1 which is apparent in an otherwise undisturbed rural countryside.
- Archaeological evidence, with some notable prehistoric sites, reflects the longstanding importance of the area for occupation and transport.

Landscape Character is defined as D2 East Dearne Settled Arable Slopes, the village of Great Houghton has its southern and western edges on the boundary of the adjacent character area E3 Grimethorpe Settled Wooded Farmland. The residential areas are all previous colliery villages, these settlements occupy areas of the highest ground which boast wide ranging and open views.

Page 122 of the Barnsley Borough Landscape Character Assessment states:

'Great Houghton is separated from the larger settlements of Thurnscoe, Goldthorpe and Bolton upon Dearne but has developed in a linear fashion, following the line of the B6411 or Thurnscoe Lane. This ribbon development threatens its integrity as an individual settlement with future development having the potential, over time, to merge Great Houghton with Thurnscoe. It is therefore considered inappropriate for further development to occur on Great Houghton's southeast edge. Similarly development on its southern edge, along Rotherham Road, is not advised as this threatens an extension of the settlement towards Billingley and Middlecliffe with the potential to reduce the sense of place of all three settlements. In addition, development here would mean encroachment onto much flatter and more exposed ground – untypical of settlement form within the area as a whole.'

The proposed site is to the north of Great Houghton.

Section 3: 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 No. 1: Sensitivity Classification

Sensitivity of Landscape Resource	Sensitivity
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 No.2: Magnitude Classification

Magnitude of Change	Magnitude
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 No. 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 No. 4: Predicted Visual Impact over the next 5 years

A summary of predicted visual impact upon completion of installation and construction.

Activity	Effect upon landscape resource	Sensitivity	Magnitude	Significance of visual impact
Increase in traffic during construction works	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

Section 4: 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.

Please note that 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.

Sensitivity of Visual Receptor.	Sensitivity
- 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 No. 6: Classification of Magnitude of Visual Receptors

Magnitude of Impact (Scale)	Magnitude
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 No. 7: 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 and 6 were taken using a digital camera with a 50mm lens. The images are comparable to those observed by the human eye. The photomontages were produced using ReSoft WindFarm R4 software. Photographs 1 to 6 were taken from publicly accessible viewpoints, to illustrate the site on completion.

Visual Baseline Conditions

A visual analysis was undertaken when the weather and visual conditions were good.

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).

Visual Receptors

The local authority has not requested any images from specific viewpoints of the subject application. However, a number of possible visual receptors were identified from the desk top study for the initial application on this site and as such these have been amended for the subject proposal.

Details of these are as follows:-

- Great Houghton
- Thurnscoe
- Howell Lane to north
- Moor Lane to the west
- Clayton Lane to the east
- Junction of Rotherham Road, West Kirk Lane and Billingley Lane (elevated position)
- Barnsley Boundary Walk
- Dearne Way
- Billingley
- Little Houghton
- Middlecliffe

Some visual receptors were not affected to screening or changes in terrain levels which lead to steep subtended angles of elevation and line of sight. Those sites where photographs were taken are discussed below.

Cudworth Common was visited as was Grimethorpe and Darfield. Views to the site at these places were extremely limited, and visual impact/harm would be very slight / zero.

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 on the attached GIS Image.

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

Location 1

Residential Housing area on Manor Fields. The site is approx 629m to the northeast. Both turbines are clearly seen. There will be significant visual impact to properties on the north-eastern part of Manor Fields; the rear of the properties on the north eastern side of Hallcroft Gardens will have significant visual impact as will the properties along Pleasant Avenue. In general the site will be seen from all points in this residential area.

- Sensitivity of Receptor: High
- Magnitude of Change: High
- Overall Significance of Effect on Receptor: Significant

Location 2

Moor Lane with Public Footpath. The site is 633m to the west; again visual impact will be significant to properties with direct views to the site. There are no direct views to the site from the greater portion of houses Crabtree Drive and Ashwood Grove. Views from the footpath which travels roughly east/northeast will have significant views to the site along the greater part of its length.

- Sensitivity of Receptor: Moderate
- Magnitude of Change: Moderate
- Overall Significance of Effect on Receptor: Medium

Location 3

Spry Lane, at the north eastern end of the previously discussed footpath. The photograph shows the openness of the surrounding landscape. From this position only the upper parts of the turbines will be seen. Visual impact at this point will be slight/moderate.

- Sensitivity of Receptor: Moderate
- Magnitude of Change: Moderate
- Overall Significance of Effect on Receptor: Medium

Location 4

Thurnscoe Lane. Properties on the southern side of the road will have direct views to the sight, in particular from upper floors. Visual impact will be significant.

- Sensitivity of Receptor: High
- Magnitude of Change: High
- Overall Significance of Effect on Receptor: Slight to moderate

Location 5

Clayton Lane. Both turbines are clearly seen in the middle distance. There is however a number of pylons in the wider view, which lessen the impact of the site in this view. There are no residential properties to consider. Visual Impact is moderate.

- Sensitivity of Receptor: Moderate
- Magnitude of Change: Moderate
- Overall Significance of Effect on Receptor: Medium

Location 6

Looking towards the site from the junction of Rotherham Rd, West Kirk Lane and Billingley Lane. The site at this point is seen slightly above the surrounding properties, below the skyline and against the background woodland. Visual impact is slight/moderate.

- Sensitivity of Receptor: Low
- Magnitude of Change: Low
- Overall Significance of Effect on Receptor: Slight

Section 5: Conclusions

Fundamental change at the site will result from the erection of the 2 turbines as new vertical structures in the landscape.

There is a national grid power line which traverses the area approximately 1.15km to the east of the site and is a prominent established feature in the landscape.

Visual impact is based on a person of average height; approx 1.5 to 1.7m

The site is on a gently sloping south facing hillside. To the north of the site is a wooded area known as Miles Wood. Properties in Great Houghton will have views to the site. The majority of these views will be of high magnitude in sensitivity and significant in visual impact.

An examination of Thurnscoe was carried out during the site visit and no views to the site could be established. This is because of the changes in height and angle of slope of the local terrain. There are two footpaths and one bridal way passing near to the site. There will be variable impact on the amenity of these two footpaths depending on distance to the site. Whilst the bridal way is less than 1km away from the site there will be no significant impact to it which runs in a north easterly direction to the east of the site; this is due to changes in topography and the site may be masked from view.

There is no impact on the visual amenity to the Barnsley Boundary Walk or to the Dearne Way which is to the south of the site.

There is no visual impact to Grimethorpe, Darfield, Goldthorpe, Cudworth, Little Houghton or Billingley.

Visual impact is classed as significant to Great Houghton, and the two footpaths which pass near the site, and moderate/slight elsewhere in the study area.

With regards to cumulative impact, during the desk top survey a turbine was identified on the 1:25000 map Sheffield & Barnsley at OSGB: SE43370 08487, 110m AOD. This could not be found during the site visit. There are no known turbines within 5km of the site.

Cumulative impact is in combination with the national grid power line which runs in a north easterly direction east of the site.