

Small Scale 20kW Wind Turbine

Paradise Farm
Horton in Craven
Lancashire
BD23 3JT

320120700P

Landscape and Visual Impact Assessment



Windle
Beech
Winthrop
CHARTERED SURVEYORS

Windle Beech Winthrop Limited
Chartered Surveyors
Skipton Auction Mart
Gargrave Road
Skipton BD23 1UD
+44 01756 692 900
www.wbwsurveyors.co.uk

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1 Introduction

This report provides a visual assessment of the landscape surrounding the proposed installation of a wind turbine at Paradise Farm, Horton in Craven. It is written to provide supplementary information to the planning application, design and access statement and detailed drawings.

The screening opinion for the original proposal (50kw, 40m tall) turbine at this site identified that the proposed turbine may be visible from the Forest of Bowland AONB. As the proposal is now for a much reduced turbine size 27m tall.

The following sections describe the site and surrounding landscape in order to provide as much information as possible as to the visual impact of a wind turbine on the surrounding landscape. It is not a definitive document and should be read in conjunction with all the additional information supplied with the planning application. In order to achieve the aim of the report it is divided into the following sections:

Site Location

Contains information pertaining to the proposed site in terms of the location, height and the visibility from the surrounding area. Location information is provided from Landmark Information Group Ltd.

Landscape and Visual Impact Assessment

An assessment of the visual and landscape impact that the proposed turbine is likely to have. This has been carried by Mr R.Preston MRTPI of WBW Ltd in accordance with following recommended guidance.

- *Landscape Character Assessment Guidance for England and Scotland (2002), Countryside Agency and Scottish Natural Heritage.*
- *Lancashire Landscape Character Assessment.*
- *Guidelines for Landscape and Visual Impact Assessment (2002), Landscape Institute and Institute of Environmental Management and Assessment.*

2 Site Location

The site location is on agricultural land 1.1km from the Lancashire Village of Horton in Craven and 4.1km from the town of Gisburn, to the North East of Paradise Farm. The site of the turbine is at location reference E: 386251, N: 451127 192m above mean sea level¹. Access to the site is from Pendleton Lane opposite Laneside Farm.

3 Landscape and Visual Impact Assessment Methodology

The following sections describe the analysis tools used in order to assess the landscape and visual impact of the proposed turbine. Although inextricably linked the landscape and visual impacts are, for the purposes of this report, considered separately in accordance with the following good practice and guidance documents:

- *Landscape Character Assessment Guidance for England and Scotland (2002), Countryside Agency and Scottish Natural Heritage.*
- *Lancashire Landscape Character Assessment.*
- *Guidelines for Landscape and Visual Impact Assessment (2002), Landscape Institute and Institute of Environmental Management and Assessment.*

Zone of Theoretical Visibility

The Zone of Theoretical Visibility Map (ZTV) in Plan 1, Appendix A, has been produced to show the theoretical visibility of the proposed wind turbine based on the tip height of the structure. The ZTV map produced has taken into account obstructions such as trees and buildings. The ZTV 'with obstructions' is calculated with addition of obstructions in the form of woodlands (OS data, assigned a conservative 10m height) and buildings (OS data, assigned 8.5m height). This presents a more realistic impression of the actual visibility, although it does not demonstrate additional screening effects of hedgerows, individual trees and any taller buildings. Note also that the landscape around the site contains many scattered mature trees, which do not constitute woodland and therefore do not influence this ZTV. They would, however, provide significant visual screening effects for a 21-27m high turbine.

Similarly as it is produced based upon the tip height of the proposed turbine, the full extent of the turbine may also not be visible from all the areas on indicated on the ZTV map.

¹ Landmark Information Group Ltd, OS Explorer Ref OL21

Visual Representation

Through consultation with the Ribble Valley planning Authority a selection of viewpoints has been selected by the Planning Authority that will represent a variety of receptors from a range of viewpoints surrounding the proposed turbine site. These viewpoints have been indicated on Plan 2 in Appendix A. Where a selected viewpoint was not within the ZTV or where other obstructions prevented visibility of any part of the turbine a photo has been produced showing the outlook and where possible a wire frame of the turbine superimposed on the photo. From these locations a series of photomontages have been produced that assist with determining the impact of the proposed turbine at each of the selected viewpoints.

Sensitivity of Visual Receptors

The visual receptors are those people to whom the proposed wind turbine would be visible and the change in outlook would have some level of impact. The sensitivity of the receptors is dependant on the following:

- Location and context of the viewpoint
- The expectations and occupancy or activity of the receptor
- The importance of the view (popularity/appearance in guidebooks etc)

The sensitivity of receptors for the purposes of this assessment is set out in Table 1 below:

Visual Sensitivity	Receptors
High	• Occupiers of residential properties with views affected by the development. • Users of outdoor recreational facilities including public rights of way whose attention or interest may be focused on the landscape.
Medium	• Occupiers of residential properties where views towards the development are restricted. • People travelling through the area in cars, trains or other transport routes
Low	• People engaged in outdoor recreation/sport where an appreciation/awareness of the landscape is less important to the activity. • People at their place of work

Table 1 – Sensitivity of Visual Receptors²

² Guidelines for Landscape & Visual Impact Assessment 2nd Edition, 2006

Assessment of the Perceived Magnitude of Change a Development may have on Visual Receptors

This classification system is used as a basis to ascertain the level or magnitude of change the visual receptors were likely to experience and may be modified by other factors such as distance, obliqueness, elevation, size, context, weather. The classification for the visual magnitude of change is set out in Table 2 below.

Visual Magnitude of Adverse Change	Definition
High	The proposed turbine would cause permanent, long term fundamental alteration of the view.
Medium	Partial loss or alteration of the view or a one or more key characteristics of the view.
Low	Minor loss or alteration of the view or one or more key characteristics of the view.
No Change	No perceived change to the view or its key characteristics.

Table 2 – Visual Magnitude of Change³

Significance of Visual Impact

The potential significance of the visual impact of the turbine is a correlation between the sensitivity of the receptor (Table 1) and the magnitude of visual change (Table 2) and is set out in Table 3 below. The categorisation of the significance is drawn from Guidelines for Landscape & Visual Impact Assessment 2nd Edition, 2006 and Volume 11 of Highways Agency Design Manual For Roads And Bridges as referred to in the aforementioned text. For the purposes of this analysis the categories shown in Table 3 are defined as follows:

Substantial: Major changes to the view for which a key consideration must be made due to the sensitivity of the receptors.

Moderate: The effects may be an important consideration, but more likely when considered as part of a cumulative effect with other developments within the viewpoint.

Slight: The effects are unlikely to be critical.

Negligible: No effects or those that are beneath levels of perception

		Significance of Impact		
		Magnitude of Change		
Visual Receptor Sensitivity		High	Medium	Low
	High	Substantial	Moderate	Slight
	Medium	Moderate	Moderate	Slight
	Low	Slight	Slight	Negligible

Table 3 – Significance of Visual Impact

³ Guidelines for Landscape & Visual Impact Assessment 2nd Edition, 2006

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4 Visual Impact Assessment

The following visual impact assessment has been carried out in accordance with the methodology set out in Section 3 of this document.

Viewpoint A

The location of Viewpoint A is on the lane to Hoover Farm, Horton in Craven located on the bridleway (LCC Ref: BW7) on the approach to Hoover Farm. The viewpoint position is at E:384993, N:450879 at a position below the proposed site of 149 metres above mean sea level. The viewpoint is 1274 metres from the proposed site and is viewed in an east/north easterly direction.

From the current view towards the proposed site the immediate foreground is of rough pasture land; the mid ground is better quality sloping pasture land lined with post and wire fencing and contains a line of telegraph poles and overhead wire; the background is also of sloping agricultural land and contains sporadic mature trees sloping up towards the skyline. The skyline backdrop contains a partial view of the proposed turbine. The predicted view is illustrated by the photo montage visualisation in Appendix B (JL-VPA viewpoint A). The proposed turbine at 27 metres tall is partially visible against the skyline backdrop. The hub and blades are the elements of the turbine that are visible over the top of the hill in the background. The main receptors from this viewpoint would be users of the local footpath and bridleway and residents of Hoover Farm when travelling towards the farm either in a vehicle or by foot. These receptors would be classed as having a high visual sensitivity to this turbine. The magnitude of change from this viewpoint would be low as the structure is barely visible above the hilltop and does not dominate a large proportion of this view.

The significance of visual impact is therefore determined as *slight* from this viewpoint. This could be mitigated further if a light colour was selected for the turbine hub and blades.

Viewpoint B

The location of Viewpoint B was selected to demonstrate the outlook of the turbine in conjunction with the listed farmhouse at Pasture House Farm. The viewpoint position is at E:387447, N:450785 at a position above the proposed site of 179 metres above mean sea level. The viewpoint is 1242 metres from the proposed site and is viewed in a west/north westerly direction. The site selected for this viewpoint has resulted in the proposed turbine not being visible from this viewpoint. However it is indicated with an outline to give an indication of the scale on which the turbine exists when viewed at this distance. The viewpoint is representative of users of footpath 17 (LCC Ref: FP17). A visual assessment of the impact of the turbine from this viewpoint is not possible due to the fact it is obscured by Pasture House Farm therefore the significance of impact from this viewpoint is *nil*. However as suggested by the Planning Officer when selecting this viewpoint a photograph to indicate the outlook would still prove useful.

Viewpoint C

The location of Viewpoint C is on the edge of Horton in Craven located on the bridleway (LCC Ref: BW15) adjacent to Horton Manor. The viewpoint position is at E:385667, N:450320 at a position below the proposed site of 145 metres above mean sea level. The viewpoint is 926 metres from the proposed site viewed in a north/north easterly direction. The immediate foreground is of grazed agricultural land interspersed with trees and hedges. The mid-ground is of fence lined agricultural land also lined with mature trees. The background is heavily defined by the mature trees surrounding Paradise Farm above which the top section of the proposed turbine would be visible. The predicted view is illustrated by photo montage visualisation in Appendix B (JL-VPA viewpoint C). The proposed turbine at 27 metres tall projects against a skyline backdrop. Only the hub and blades of the proposed turbine are visible from this viewpoint due to the mature trees in the background. The remaining receptors from this viewpoint would be recreational users of the footpaths and bridleways running past this viewpoint and also users of Raikes Lane travelling in a north easterly direction to gain access to the few farms and dwellings that Raikes Lane serves. The sensitivity of these receptors would be classed as high for the footpath and bridleway users and medium for those travelling in vehicles along Raikes Lane. The visual magnitude of change from this viewpoint given the partially obscured view of the turbine would lead to a medium magnitude of change.

Therefore the significance of visual impact from this viewpoint would be *slight* for the vehicular users and medium for those using the footpath and bridleways for recreational purposes. However due to the obscure nature of the turbine this may be reduced to slight for all users.

Viewpoint D

The location of viewpoint D is on the public right of way at the intersection of two public bridleways (LCC Ref: BW7 and BW 2) at the head of Needless Hall Lane. The viewpoint position is at E:385654, N:451966 at a height just above the proposed site of 173 metres above mean sea level. The viewpoint is 1030 metres from the proposed site and is viewed in a south easterly direction. The immediate foreground is of agricultural grassland. The mid-ground is of fence lined rolling agricultural land and contains the proposed site of the wind turbine. The backdrop is of the distant hills of Kelbrook Moor against which the turbine partially projects. The predicted viewpoint is illustrated by photo montage visualisation in Appendix B (JL-VPA viewpoint D). The proposed turbine at 27 metres high projects against the backdrop of Kelbrook Moor. The main receptors to this viewpoint would be recreational users of the footpaths and bridleways and therefore the visual sensitivity of receptors from this viewpoint should be classed as high. The visual magnitude of change from this viewpoint could be classed as medium due to the scale and distance of the turbine from this viewpoint.

Therefore the significance of visual impact from viewpoint D should be considered to be *moderate* and this could be mitigated further if a dark colour was selected for the turbine tower and blades.

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Viewpoint E

The location of viewpoint E is located to the south of Swindon Moor Head Farm on a North Yorkshire Footpath (NYCC Ref: 05.40/9/1) in the parish of Swindon. The viewpoint position is that of E:387065, N:452935 at a height above the proposed site of 204 metres above mean sea level. The viewpoint is 1975 metres from the proposed site viewed in a south/south westerly direction. The immediate foreground and mid-ground is of grazed agricultural land lined with dry stone walls and scattered trees. The background is of the proposed site which is hidden behind a large cluster of trees located to the north of the proposed site. The background is of panoramic views across to the foothills of Pendle Hill and the Ribble Valley. The predicted view is illustrated by photo montage visualisation in Appendix B (JL-VPA viewpoint E). The proposed turbine at 27 metres tall is barely visible so is largely obscured by trees that surround the site from this viewpoint. The tip of the turbine blades may be seen above these trees. The main receptors to this viewpoint would be recreational users of the footpaths and therefore the visual sensitivity of receptors from this viewpoint should be classed as high. The visual magnitude of this viewpoint is significantly reduced largely due to the obscured nature of the turbine but also due to the scale and distance from this point and therefore the visual magnitude of change should be classed as low/no change.

Given the above significance of visual impact from this viewpoint should be classed as **slight/negligible** and again this could be mitigated further if a dark colour was selected for the turbine head and blades.

Viewpoint F

The location of viewpoint F is taken from Settle Lane as viewed in an east/south easterly direction. The viewpoint position is at E:382234, N:453244 at a height similar to that of the proposed site of 168 metres above mean sea level. The viewpoint is 4555 metres from the proposed site and is viewed in an east/south easterly direction. The viewpoint has been chosen to represent road users of Settle Road travelling in a south and easterly direction. The immediate foreground is of medium quality agricultural land containing sporadic trees and rushes. The mid-ground is of the distant hills including those surrounding the proposed site which is heavily laden with trees. The background is of expansive views across to Thornton Moor and Kelbrook Moor. The predicted view is illustrated by the photo montage visualisation in Appendix B (JL-VPA viewpoint F). The proposed turbine at 27 metres tall is only partially visible from this viewpoint with a large proportion of the lower half of the turbine hidden behind trees and the surrounding land. The head and blades of the turbine project against the backdrop of Thornton Moor. The main receptors from this viewpoint would be road users on Settle Road which are deemed to have a medium visual sensitivity. The visual magnitude of change from this viewpoint due to the scale of the turbine and distance from the viewpoint and also the partially obscured nature of the turbine should be classed as low/no change.

Therefore the significance of visual impact from this viewpoint should be classed as **slight/negligible**. This could be mitigated further if carefully selected colours were chosen and again a dark gray would reduce the visual impact of the turbine to receptors from this viewpoint make it virtually undetectable at this range.

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Viewpoint G

The location of viewpoint G is taken from the roadside on the outskirts of the Village of Paythorne. The viewpoint position is at E:382997, N:451798 at a height below the proposed site of 132 metres below mean sea level. The viewpoint is 3284 metres from the proposed site viewed in an easterly direction. The viewpoint has been chosen to represent not only road users of Kiln Lane and also users of the Ribble Way Bridleway (LCC Ref: BW8) and similar to the outlooks from the properties of Blencathra, Belvedere and Manor Laithe on the south side of Paythorne Village. It is also similar to the outlook from Paythorne Chapel which is a listed building.

The immediate foreground is of good quality agricultural land containing trees of various maturity and quality and the mid-ground is of rolling agricultural land and agricultural buildings, intersected by the Clitheroe to Hellifield Railway Line and also contains a large number of trees. The background is of the farmstead of ??? Hall Farm in Newsholme. The proposed site sits behind the farm buildings and trees and therefore is not visible from this viewpoint. The predicted view is illustrated by the photo montage visualisation in Appendix B (JL-VPA viewpoint G). The turbine at 27 metres tall is not visible from this viewpoint and therefore the significance of impact from this viewpoint should be classed as *nil*. However as suggested by the Planning Officer when selecting this viewpoint a photograph to indicate the outlook would still prove useful.

Viewpoint H

The location of viewpoint H is taken from footpath (LCC Ref: FP11) on the side of Heber Hill. The viewpoint position is located at E:386616, N:449328 at a height below the proposed site of 150 metres above mean sea level. The viewpoint is taken 1843 metres from the proposed site and is viewed in a north/north westerly direction. The viewpoint has been chosen to represent not only footpath users but also nearby residents of Stock House who have similar outlook towards the proposed site. The site is designated as the site of a scheduled ancient monument described as:

*"Stock medieval settlement and part of its associated medieval open field system"*⁴

The immediate foreground is of the track running to Stock House and Stock Green Farm which run through good quality agricultural land. The mid-ground is similar of rolling agricultural land lined with trees of various height and maturity. The backdrop is of the tree lined agricultural land of Hortonber Hill. The predicted view is illustrated by the photo montage visualisation in Appendix B (JL-VPA viewpoint H). The proposed turbine at 27 metres tall is obscured from this viewpoint by the trees on top of Hortonber Hill. Therefore the significance of visual impact from this viewpoint of the turbine should be classed as *nil*.

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⁴ English Heritage Listing Entry Number: 1020367

Viewpoint I

Viewpoint I is taken from the road side of Brogden Lane as viewed in a north/north easterly direction and is taken 4116m from the proposed site. The viewpoint is at position E:385541, N:447057 at a height similar to the proposed site of 173 metres above mean sea level.

The viewpoint has been chosen to represent the outlook encompassing the listed building of Brogden Hall. The predicted view is illustrated by the photo montage visualisation in Appendix B (JL-VPA viewpoint I). The proposed turbine at 27 metres tall is not visible from this viewpoint and therefore the significance of impact from this viewpoint is *nil*. However as suggested by the Planning Officer when selecting this viewpoint a photograph to indicate the outlook would still prove useful.

Viewpoint J

Viewpoint J is taken from the side of Greenber Field Locks, Barnoldswick as viewed in a north westerly direction and is 3837m from the proposed site. The viewpoint is at position E:389022, N:448507 at a height below the proposed site of 144 metres above mean sea level.

The viewpoint has been chosen to represent the outlook encompassing Greenber Field Locks of which canal lock gate 42 which has a Grade II listing. The predicted view is illustrated by the photo montage visualisation in Appendix B (JL-VPA viewpoint J). The proposed turbine at 27 metres tall is not visible from this viewpoint and therefore the significance of impact from this viewpoint is nil. However as suggested by the Planning Officer when selecting this viewpoint a photograph to indicate the outlook would still prove useful.

Viewpoint K

Viewpoint K is taken from the road side adjacent to Gledstone Hall, West Marton, taken at 2268m from the proposed site as viewed in a westerly direction. The viewpoint is at position E:388599, N:451225 at a height above the proposed site of 198 metres above mean sea level.

The viewpoint has been chosen to represent the outlook from Gledstone Hall which has a Grade II listing⁵. The predicted view is illustrated by the photo montage visualisation in Appendix B (JL-VPA viewpoint K). The proposed turbine at 27 metres tall is not visible from this viewpoint and therefore the significance of impact from this viewpoint is nil. However as suggested by the Planning Officer when selecting this viewpoint a photograph to indicate the outlook would still prove useful.

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⁵ English Heritage Listing Entry Number: 1001312

Viewpoint L

Viewpoint L is taken from the road side adjacent to Ellenthorpe Farmhouse, taken at 4917m from the proposed site as viewed in an east north easterly direction. The viewpoint is at position E:381920, N:449909 at a height below the proposed site of 119 metres above mean sea level.

The viewpoint has been chosen to represent the outlook from Ellenthorpe Farmhouse which has a Grade II listing⁶. The predicted view is illustrated by the photo montage visualisation in Appendix B (JL-VPA viewpoint L). The proposed turbine at 27 metres tall is not visible from this viewpoint and therefore the significance of impact from this viewpoint is *nil*. However as suggested by the Planning Officer when selecting this viewpoint a photograph to indicate the outlook would still prove useful.

Summary of Viewpoint Analysis

Table 4 below is a summary of the previous viewpoint analysis and shows the significance of the visual impact of the proposed turbine upon each viewpoint.

Viewpoint	Receptor Sensitivity	Visual Magnitude of Change	Significance of Visual Impact
A	High	Low	Slight
B	<i>Not Visible from this Viewpoint</i>		
C	High/medium	Medium	Moderate
D	High	Medium	Moderate
E	High	Low/No Change	Slight
F	Medium	Low/No Change	Slight
G	<i>Not Visible from this Viewpoint</i>		
H	<i>Not Visible from this Viewpoint</i>		
I	<i>Not Visible from this Viewpoint</i>		
J	<i>Not Visible from this Viewpoint</i>		
K	<i>Not Visible from this Viewpoint</i>		
L	<i>Not Visible from this Viewpoint</i>		
Table 4 - Summary of Significance of the Landscape Impact			

The summary of the results shown in Table 4 above demonstrates that the viewpoints selected in consultation with the planning authority, that from many viewpoints the turbine is difficult to detect. From those where the turbine is visible the significance of visual impact would be no worse than moderate and is often slight.

The primary mitigation measure would be to select a colour for the turbine which is dark and would reduce its impact against the viewpoint various backgrounds.

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⁶ English Heritage Listing Entry Number: 1072123

5 Landscape Impact Assessment

The methodology used to assess the significance of impact on the landscape character is very similar to that of the Visual Impact Assessment in Section 4 of this document.

An assessment has been made in order to determine the impact of a turbine, not just in its immediate landscape but also on the neighbouring character areas deemed to be impacted.

The sensitivity of the landscape is combined with a written subjective judgement of the magnitude of impact to provide an assessment of the potential significance of any impact the turbine will have on the local landscape character. Consideration of the landscape character has been taken from the following assessments:

- *National Character Assessment*
- *A Landscape Strategy for Lancashire - Landscape Character Assessment*

The landscape sensitivity and capacity to wind energy development has been determined by the *LCC Study Landscape Sensitivity to Wind Energy Development in Lancashire (2005)*. Although this study was aimed at larger scale turbines the methodology behind the analysis is the same. An allowance for the smaller scale of this application has been made in the subsequent section of this assessment. The sensitivity of the landscape and the magnitude of landscape impact for the purposes of this assessment is set out in the subsequent Tables 5 & 6 below:

Level of Sensitivity	
High	Characteristics of Landscape Character Area indicate that wind energy development will not generally be appropriate 
Moderate - High	
Moderate	
Moderate - Low	
Low	Characteristics of Landscape Character Area indicate potential for wind energy development at an appropriate scale.

Table 5: Level of Sensitivity to Wind Energy Development⁷

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⁷ Landscape Sensitivity to Wind Energy Development in Lancashire (2005)

Visual Magnitude of Adverse Change	Definition
High	The proposed turbine would cause permanent, long term fundamental alteration of the Landscape.
Medium	Partial loss or alteration of the landscape or a one or more key characteristics of the Landscape.
Low	Minor loss or alteration of the view or one or more key characteristics of the Landscape.
No Change	No perceived change to the Landscape or its key characteristics.

Table 6 – Landscape Magnitude of Change⁸

Significance of Landscape Impact

The potential significance of the landscape impact of the turbine is a correlation between the sensitivity of the landscape (Table 5) and the magnitude of landscape change (Table 6) and is set out in Table 7 below. The categorisation of the significance is drawn from Guidelines for Landscape & Visual Impact Assessment 2nd Edition, 2006 and Volume 11 of Highways Agency Design Manual For Roads And Bridges as referred to in the aforementioned text and the definitions closely relate to those in the Visual Impact Assessment as set out in Section 4 of this report.

		Significance of Impact		
		Magnitude of Change		
Landscape Sensitivity		High	Medium	Low
	<i>High</i>	<i>Substantial</i>	<i>Moderate</i>	<i>Slight</i>
	<i>Moderate</i>	<i>Moderate</i>	<i>Moderate</i>	<i>Slight</i>
	<i>Low</i>	<i>Slight</i>	<i>Slight</i>	<i>Negligible</i>

Table 7 – Significance of Landscape Impact

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⁸ Guidelines for Landscape & Visual Impact Assessment 2nd Edition, 2006

Assessment of the Landscape Character

The turbine lies within the National Character Area 33 - **Bowland Fringe and Pendle Hill**: as described by Natural England in the Character Map of England. The key characteristics of this National Character Area are described as:

- Undulating rolling landscape with local variation created by both the numerous river valleys and outlying upland features of Beacon Fell, Longridge Fell and Pendle Hill.
- Strong outcrops of 'reef knolls' and limestone form distinct landscape features to the Ribble and Hodder Valleys.
- Meandering, commonly tree-fringed rivers with oxbow lakes form prominent features within the predominantly pastoral landscape.
- Predominantly Grade 3 agricultural land supporting permanent pasture, mostly improved, for dairy and livestock farming.
- Intensively managed landscape, with lush hay meadows in small- to medium-scale fields defined by well maintained hedgerows with mature hedgerow trees. Some rough grazing at higher elevations.
- Extensive semi-natural woodland, much of which is ancient, on both main valley bottoms, side valleys and ridges.
- Dense north - south communication corridor, comprising the M6, the railway line and the Lancaster Canal, defining the western boundary and providing a physical and psychological barrier.
- Numerous water courses and bodies including the rivers Ribble, Hodder, Calder, Wyre, a number of reservoirs, and field ponds north of Preston.
- Small villages, hamlets and scattered farmsteads mostly in local stone are well integrated into the landscape and connected by a network of winding hedge-lined country lanes.
- Bowland Fells provide a dramatic backdrop to the east and north with extensive views possible from high ground across the Lancashire and Amounderness Plain and across open valley bottoms.

Regional Character.

At regional level the various landscape character types are identified by the **Lancashire County Council Landscape Character Assessments**. Landscape Character Areas and the given alpha-numeric codes in order to categorise them.

LCA 13a, Gargrave Drumlin Field (Proposed Site)

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The proposed turbine would be located within landscape character area 13a – Gargrave Drumlin Field, an area of moderate to high sensitivity to Wind Energy Development. ***"This distinctive landscape type is characterised by a field of rolling drumlins. The consistent orientation of the hills gives the landscape a uniform grain, which is sometimes difficult to appreciate from within the field. The regular green hillocks are between about 100m and 200m high with steep sides and broad rounded tops."*** This undulation combined with the tree cover does not allow long distance views of turbines

and in terms of cumulative effects with other developments reduces the impact significantly.

"Pasture predominates and fields are bounded by clipped hedges and lines of mature trees, stone walls, which rise up over the hillocks accentuating the relief of the hills." Again this topography and vegetation provides a natural screening from many viewpoints for a small scale turbine such as the one proposed in this application.

"Major roads often cross or skirt the edge of the drumlin fields; settlement is dispersed, with small hamlets and farmsteads in sheltered sites on the mid-slope of the drumlins." As the proposed sites sit close to a farmstead the impact again is reduced especially given the sheltered nature of the site.

The landscape character provides natural screening and as the turbine is located on a less prominent position to that of the surrounding drumlins its impact on the general landscape leads to a **visual magnitude of adverse change that should be classed as medium.**

The sensitivity to wind energy development is classed as moderate-high by the assessment in the Landscape Sensitivity to Wind Energy Development in Lancashire (2005). As this study was aimed at turbines of a larger scale than the one proposed in this application it would be logical to reduce this sensitivity to **moderate sensitivity to wind energy development.**

The significance of impact of the proposed turbine on this landscape character area (13a) is therefore deemed as moderate.

6 SUMMARY

The proposed site lends itself readily to the use of renewable wind energy. As is the nature of small scale wind developments the sites are required to be elevated. Thus the proposed turbine projects against the skyline and is visible from a number of surrounding viewpoints.

Other long distance views have been provided from the surrounding viewpoints and the impact of the turbine demonstrated from these viewpoints.

Given the rolling nature of the surrounding countryside, the turbine has the most significant impact on the landscape and visual amenity at close range. Mid-Long range views set the turbine against surrounding agricultural land backdrop. Many of the long distance views render the proposed turbine undetectable due to the size of the turbine, the topography and natural screening afforded by the vegetation.

It is suggested that the optimum colour to mitigate any visual effects would be a galvanised tower with matt grey hub, tail and fins for the remainder of the turbine. This would reduce the impact against the agricultural backdrops and also when the turbine projects against surrounding hillsides.

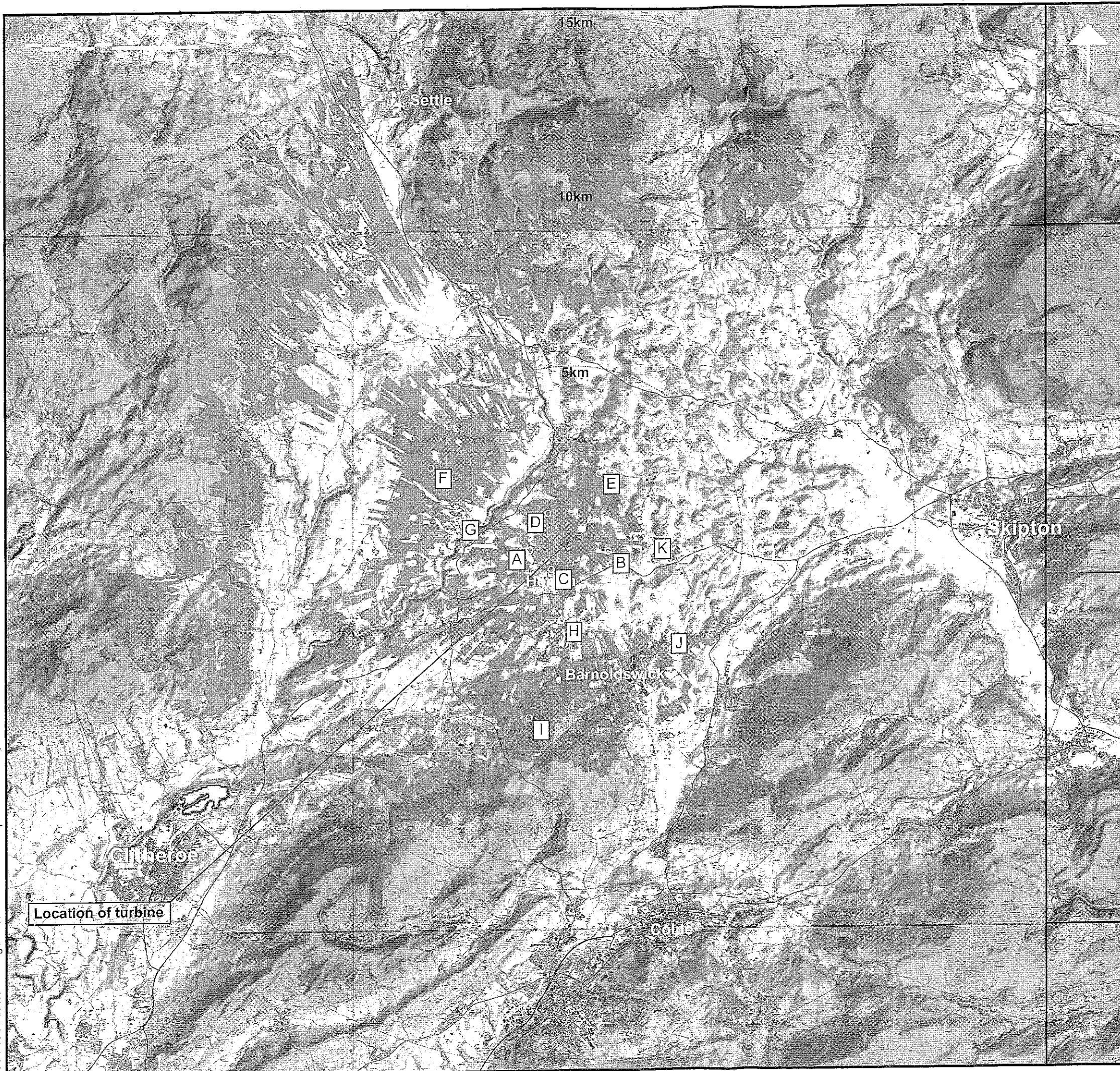
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Appendix A – ZTV Plans

Plan 1–Turbine Tip Height with Obstructions

Plan 2 –Viewpoint Locations

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Key:

- Proposed turbine location
(E 386251 N 451127)
- ZTV for hub and tip
- ZTV for tip only
- Woodland areas
- Range rings at 5km intervals

Notes:

ZTVs generated from hub height of 20.58m, tip height of 27.1m. Receptor eye height 1.8m.

The ZTV 'with obstructions' is calculated with addition of obstructions in the form of woodlands (OS data, assigned a conservative 10m height) and buildings (OS data, assigned 8.5m height). This presents a more realistic impression of the actual visibility, although it does not demonstrate additional screening effects of hedgerows, individual trees and any taller buildings. Note also that the landscape around the site contains many scattered mature trees, which do not constitute woodland and therefore do not influence this ZTV. They would, however, provide significant visual screening effects for a 21-27m high turbine.

See Fig 01 for ZTV without obstructions

Revision: **320120700P**
Scale: 1:106000 see also barscale and grid

Sheet Size:
A3

Date:
March 2012

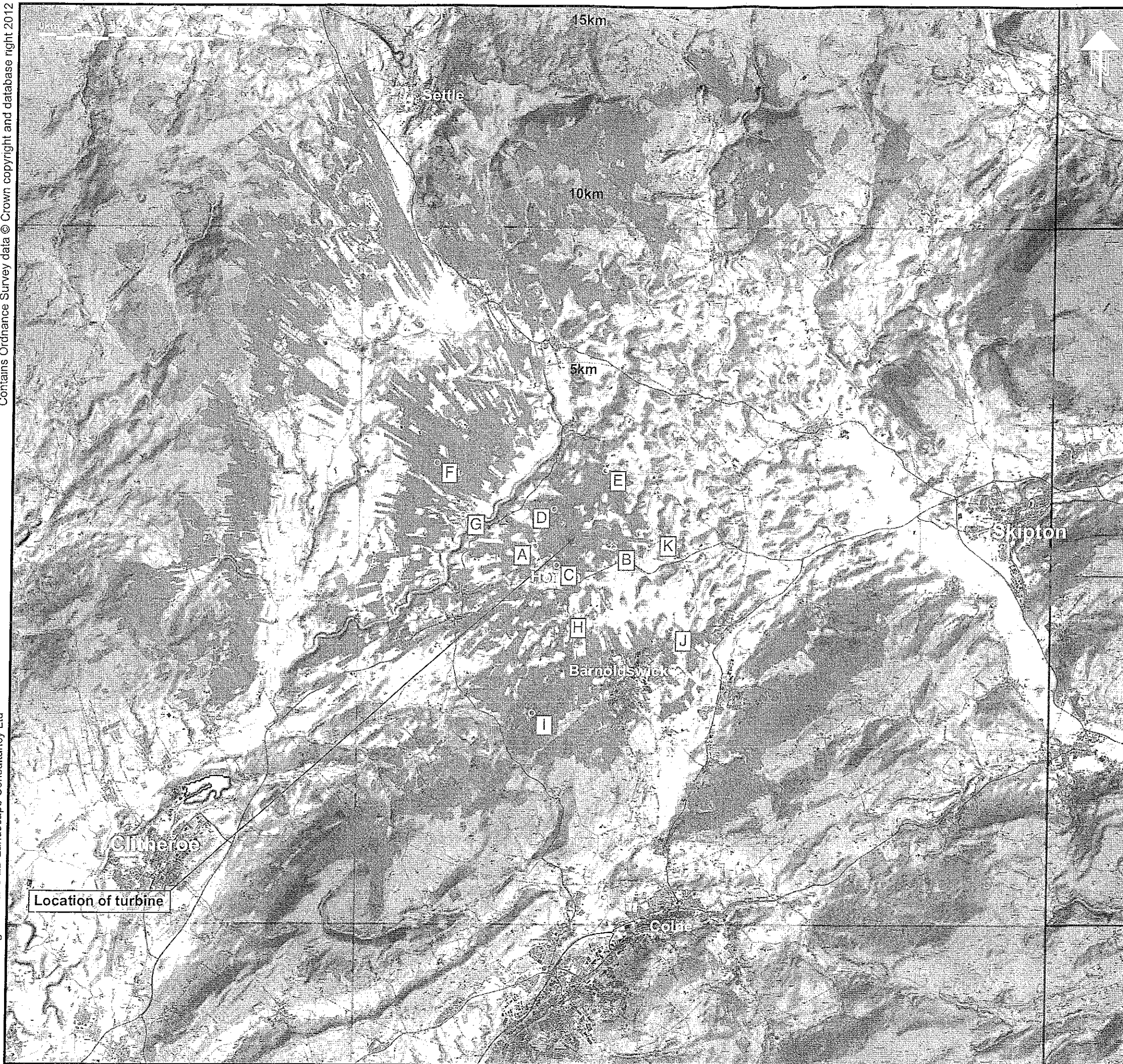
Filename:
2012-194-RibbleZTV-Fig02.pdf

Project:
Proposed turbine, Paradise Farm,
Horton-in-Craven

Client:
Diamond Renewables

Drawing title:
Zones of Theoretical Visibility:
Turbine hub and tip 'with obstructions'

Figure:
02



2B Landscape Consultancy Ltd

assessment - design - visualisation - realisation

12 Everthorpe Lane North Cave, East Yorkshire, HU15 2LF
Tel: 01430 423204 <http://www.2bconsultancy.co.uk>

Key:

- Proposed turbine location
(E 386251 N 451127)
- ZTV for hub and tip
- ZTV for tip only
- Woodland areas
- Range rings at 5km intervals

Notes:

ZTVs generated from hub height of 20.58m, tip height of 27.1m Receptor eye height 1.8m.

The ZTV 'with obstructions' is calculated with addition of obstructions in the form of woodlands (OS data, assigned a conservative 10m height) and buildings (OS data, assigned 8.5m height). This presents a more realistic impression of the actual visibility, although it does not demonstrate additional screening effects of hedgerows, individual trees and any taller buildings. Note also that the landscape around the site contains many scattered mature trees, which do not constitute woodland and therefore do not influence this ZTV. They would, however, provide significant visual screening effects for a 21-27m high turbine

See Fig 01 for ZTV without obstructions

Revision:

Scale:
1:106000, see also barscale and grid

Sheet Size:
A3

Date:
March 2012

Filename:
2012-194-RibbleZTV-Fig02.pdf

Project:
Proposed turbine, Paradise Farm,
Horton-in-Craven

Client:
Diamond Renewables

Drawing title:
Zones of Theoretical Visibility:
Turbine hub and tip 'with obstructions'

Figure:
02

Appendix B – Viewpoint Photo Montages

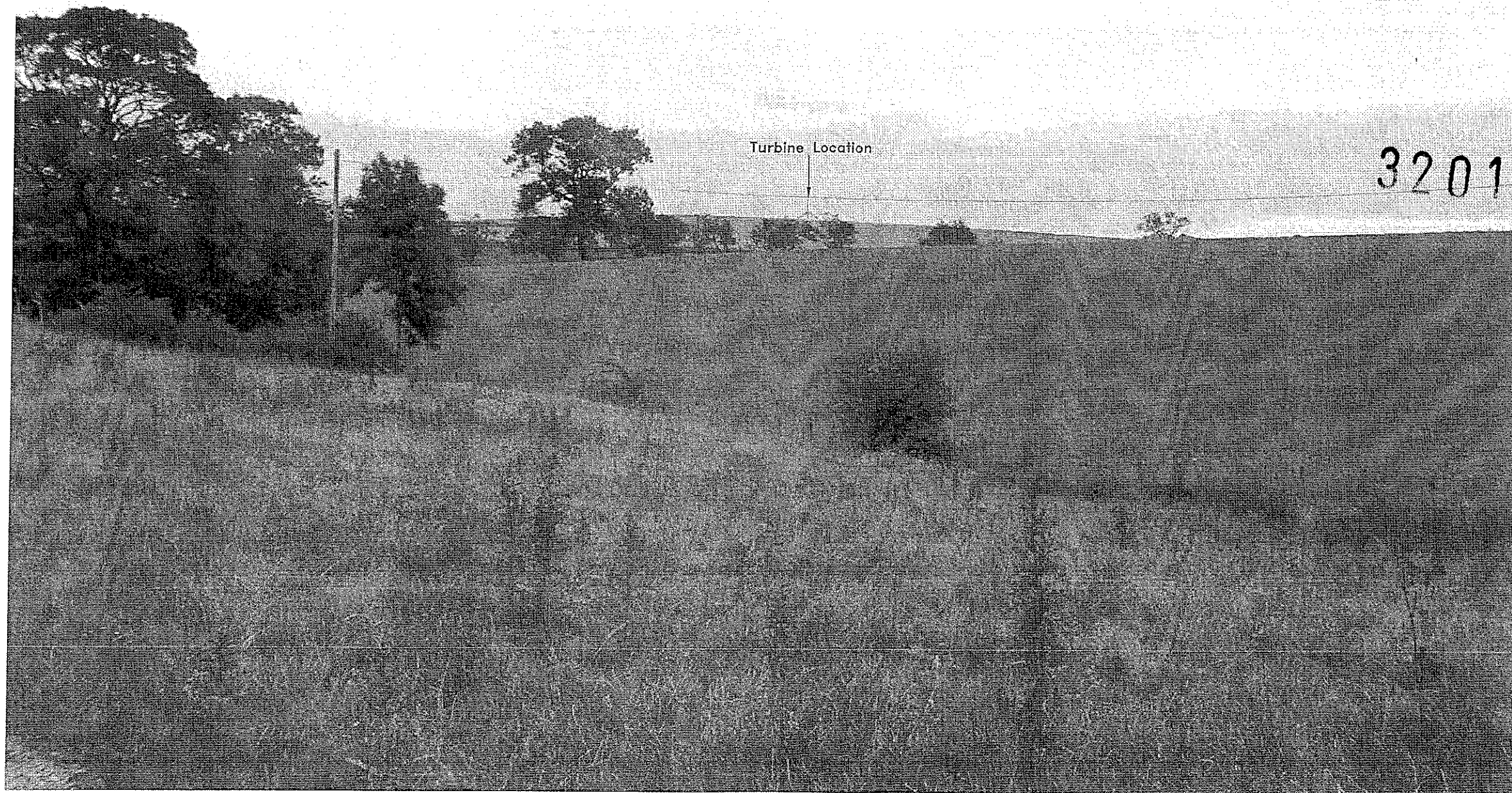
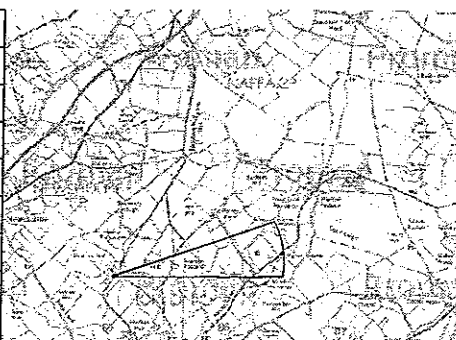


PHOTO MONTAGE SPECIFICATION	
Focal Length:	42mm
Range:	1274m
Direction:	ENE
Height Above Ground:	1.6m
Date Taken:	26th July 2012
Camera:	Olympus EPL112.3mp
Lens:	m-Zuiko Digital 14-42mm
Viewing Distance on A3:	400mm



wbw Windle Beech Winthrop	
Dwg No.: JL - VPA	
Title: Viewpoint Analysis Viewpoint A	
Range:	1274m
Direction:	ENE
Date:	27th July 2012
Produced by:	P. Mason
Issue Number:	1

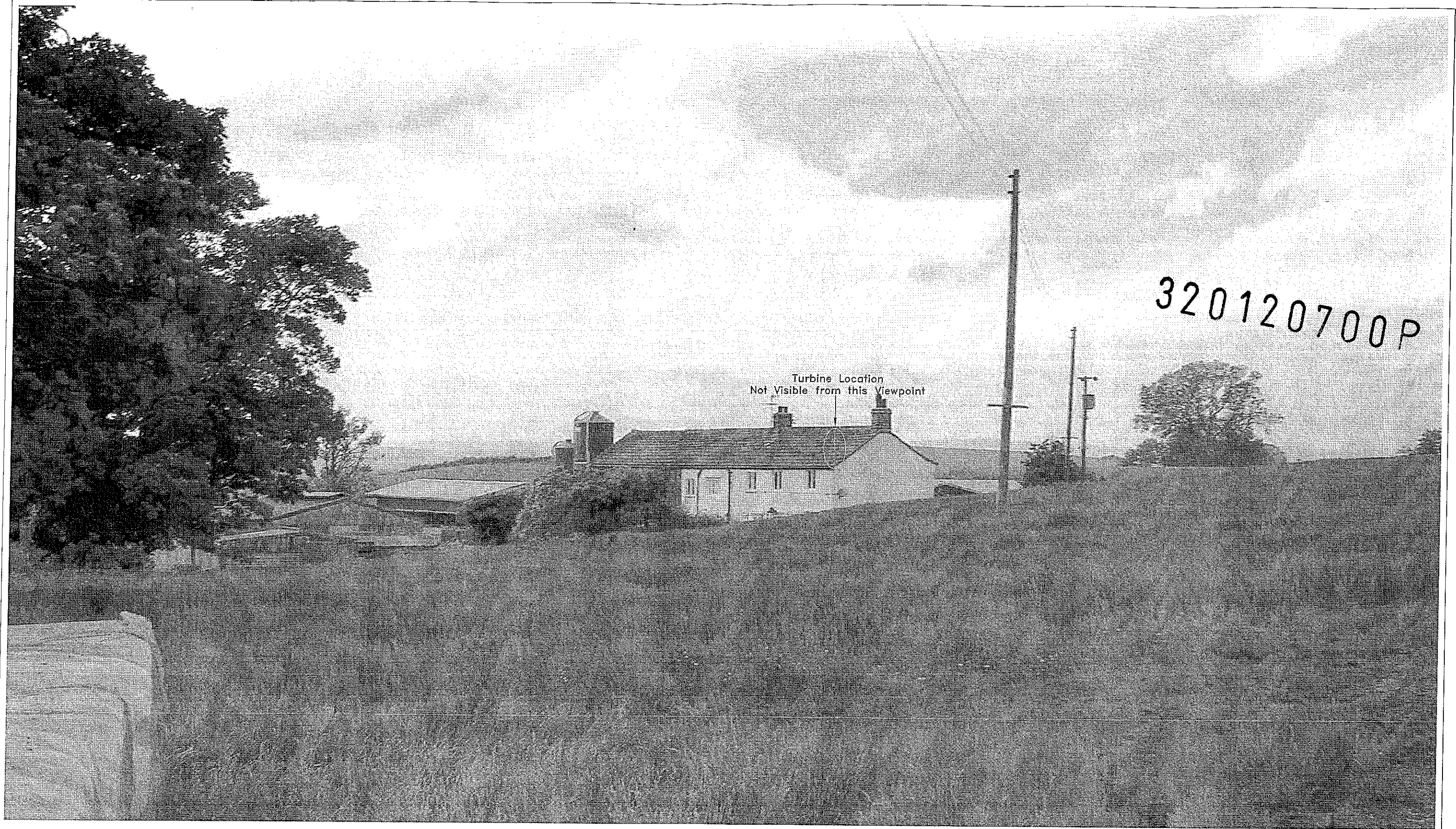
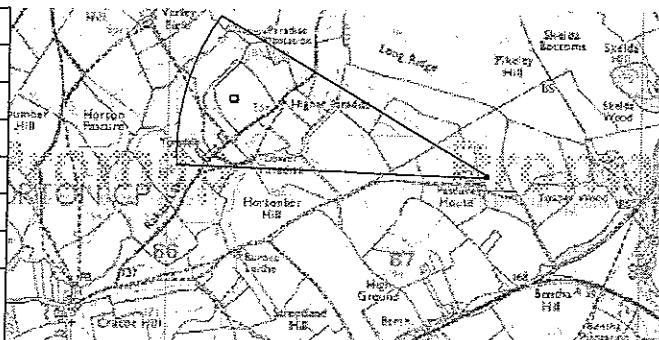


PHOTO MONTAGE SPECIFICATION	
Focal Length:	42mm
Range:	1242m
Direction:	WNW
Height Above Ground:	1.6m
Date Taken:	14th June 2012
Camera:	Olympus EPL112.3mp
Lens:	m-Zuiko Digital 14-42mm
Viewing Distance on A3:	400mm

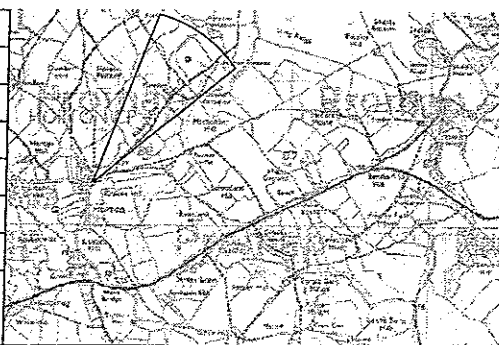


Windle Beech Winthrop	
wbw	
Dwg No.: JL - VPA	
Title: Viewpoint Analysis Viewpoint B	
Range:	1242m
Direction:	WNW
Date:	17th July 2012
Produced by:	P. Mason
Issue Number:	1



PHOTO MONTAGE SPECIFICATION

Focal Length: 42mm
Range: 926m Direction: NNE
Height Above Ground: 1.6m
Date Taken: 14th June 2012
Camera: Olympus EPL112.3mp
Lens: m-Zuiko Digital 14-42mm
Viewing Distance on A3: 400mm

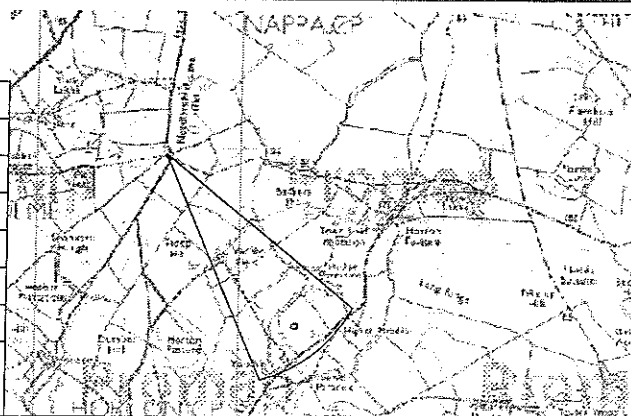


Windle Beech Winthrop	
Dwg No.: JL - VPA	
Title: Viewpoint Analysis Viewpoint C	
Range: 926m	Direction: NNE
Date: 17th July 2012	
Produced by: P. Mason	
Issue Number: 1	



PHOTO MONTAGE SPECIFICATION

Focal Length: 42mm	
Range: 1030m	Direction: SE
Height Above Ground: 1.6m	
Date Taken: 26th July 2012	
Camera: Olympus EPL112.3mp	
Lens: m-Zuiko Digital 14-42mm	
Viewing Distance on A3: 400mm	

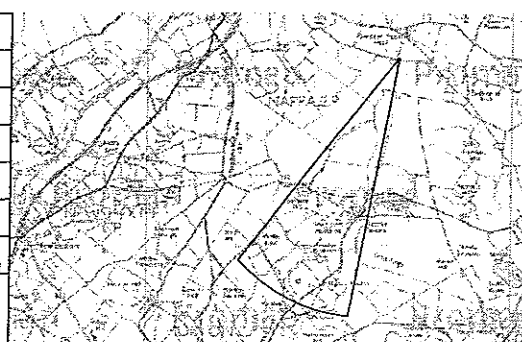


wbw Windle Beech Winthrop	
Dwg No.: JL - VPA	
Title: Viewpoint Analysis Viewpoint D	
Range: 1030m	Direction: SE
Date: 27th July 2012	
Produced by: P. Mason	
Issue Number: 1	

320120700P

Turbine Location
Only Blade Tip Visible

PHOTO MONTAGE SPECIFICATION	
Focal Length: 42mm	
Range: 1975m	Direction: SSW
Height Above Ground: 1.6m	
Date Taken: 26th July 2012	
Camera: Olympus EPL112.3mp	
Lens: m-Zuiko Digital 14-42mm	
Viewing Distance on A3: 400mm	

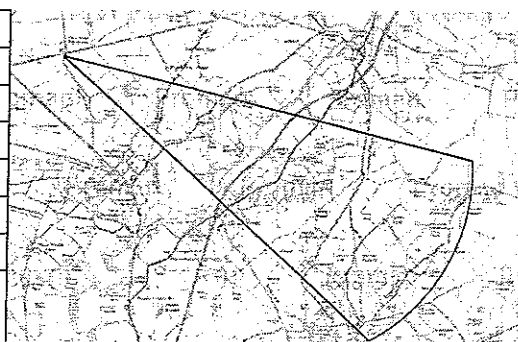


Windle Beech Winthrop	
wbw	
Dwg No.: JL - VPA	
Title: Viewpoint Analysis Viewpoint E	
Range: 1975m	Direction: SSW
Date: 27th July 2012	
Produced by: P. Mason	
Issue Number: 1	

320120700P

Turbine Location

PHOTO MONTAGE SPECIFICATION
Focal Length: 42mm
Range: 4555m | Direction: ESE
Height Above Ground: 1.6m
Date Taken: 14th June 2012
Camera: Olympus EPL112.3mp
Lens: m-Zuiko Digital 14-42mm
Viewing Distance on A3: 400mm



**Windle
Beech
Winthrop**
wbw
Dwg No.: JL - VPA
Title: Viewpoint Analysis
Viewpoint F
Range: 4555m | Direction: ESE
Date: 17th July 2012
Produced by: P. Mason
Issue Number: 1

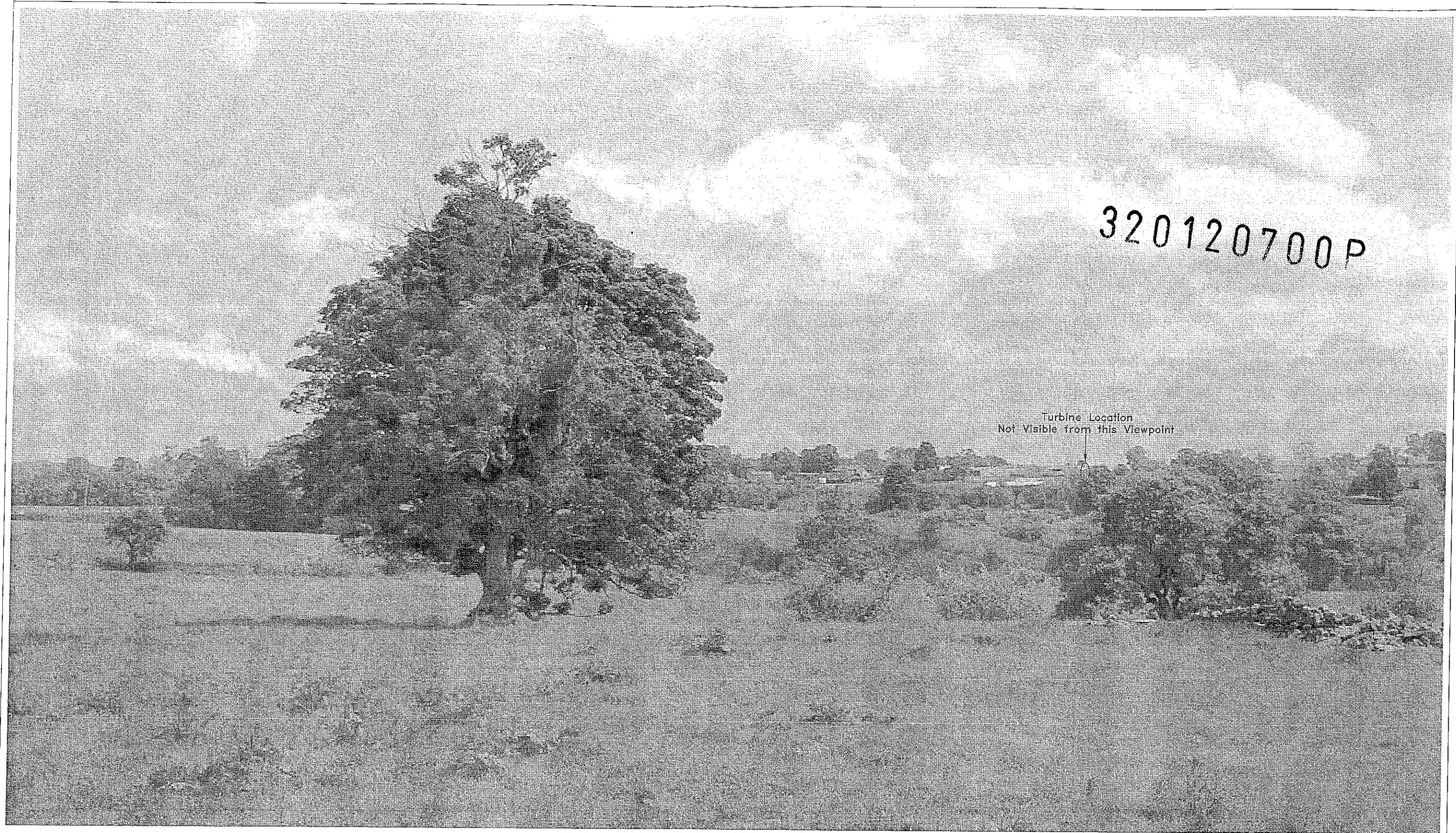
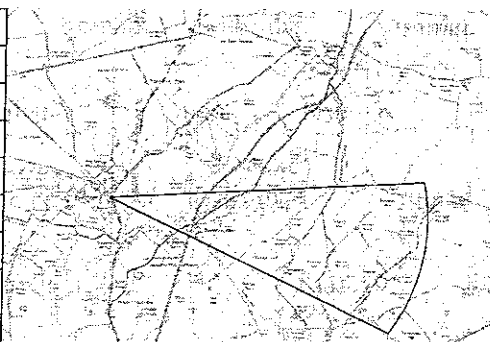


PHOTO MONTAGE SPECIFICATION	
Focal Length:	42mm
Range:	3283m
Direction:	E
Height Above Ground:	1.6m
Date Taken:	14th June 2012
Camera:	Olympus EPL112.3mp
Lens:	m-Zuiko Digital 14-42mm
Viewing Distance on A3:	400mm



Windle Beech Winthrop wbw	
Dwg No.:	JL - VPA
Title: Viewpoint Analysis Viewpoint G	
Range:	3283m
Direction:	E
Date:	17th July 2012
Produced by:	P. Mason
Issue Number:	1

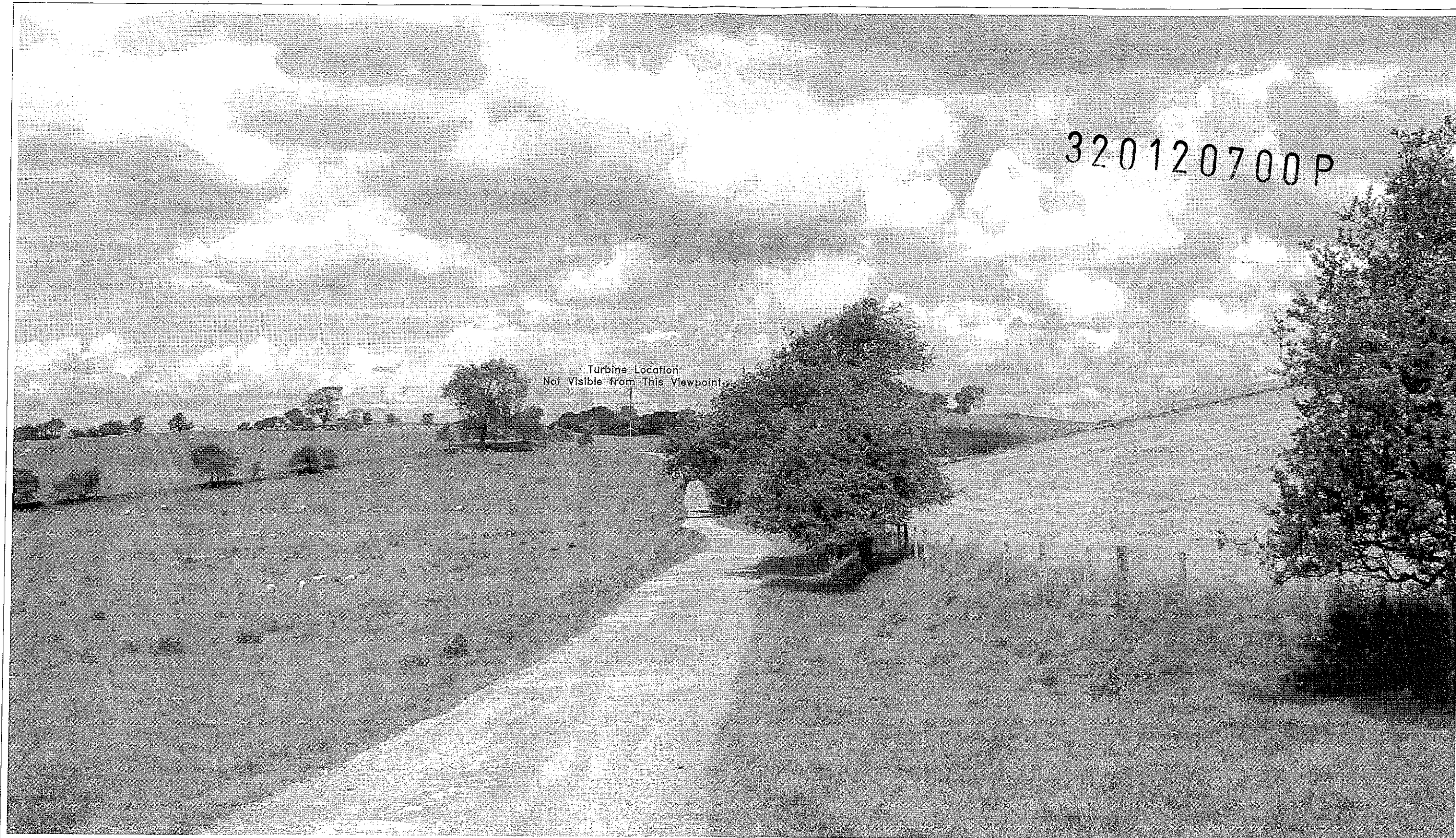
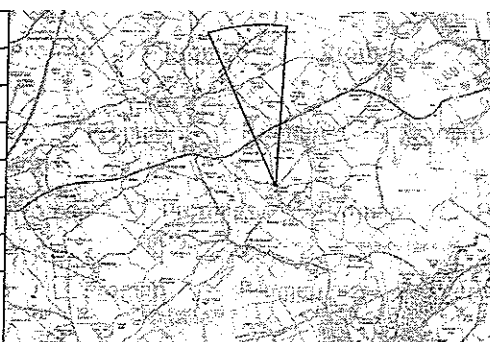


PHOTO MONTAGE SPECIFICATION

Focal Length: 42mm
Range: 1843m Direction: NNW
Height Above Ground: 1.6m
Date Taken: 14th June 2012
Camera: Olympus EPL112.3mp
Lens: m-Zuiko Digital 14-42mm
Viewing Distance on A3: 400mm



wbw Windle
Beech
Winthrop

Dwg No.: JL - VPA
Title: Viewpoint Analysis Viewpoint H
Range: 1843m Direction: NNW
Date: 17th July 2012
Produced by: P. Mason
Issue Number: 1

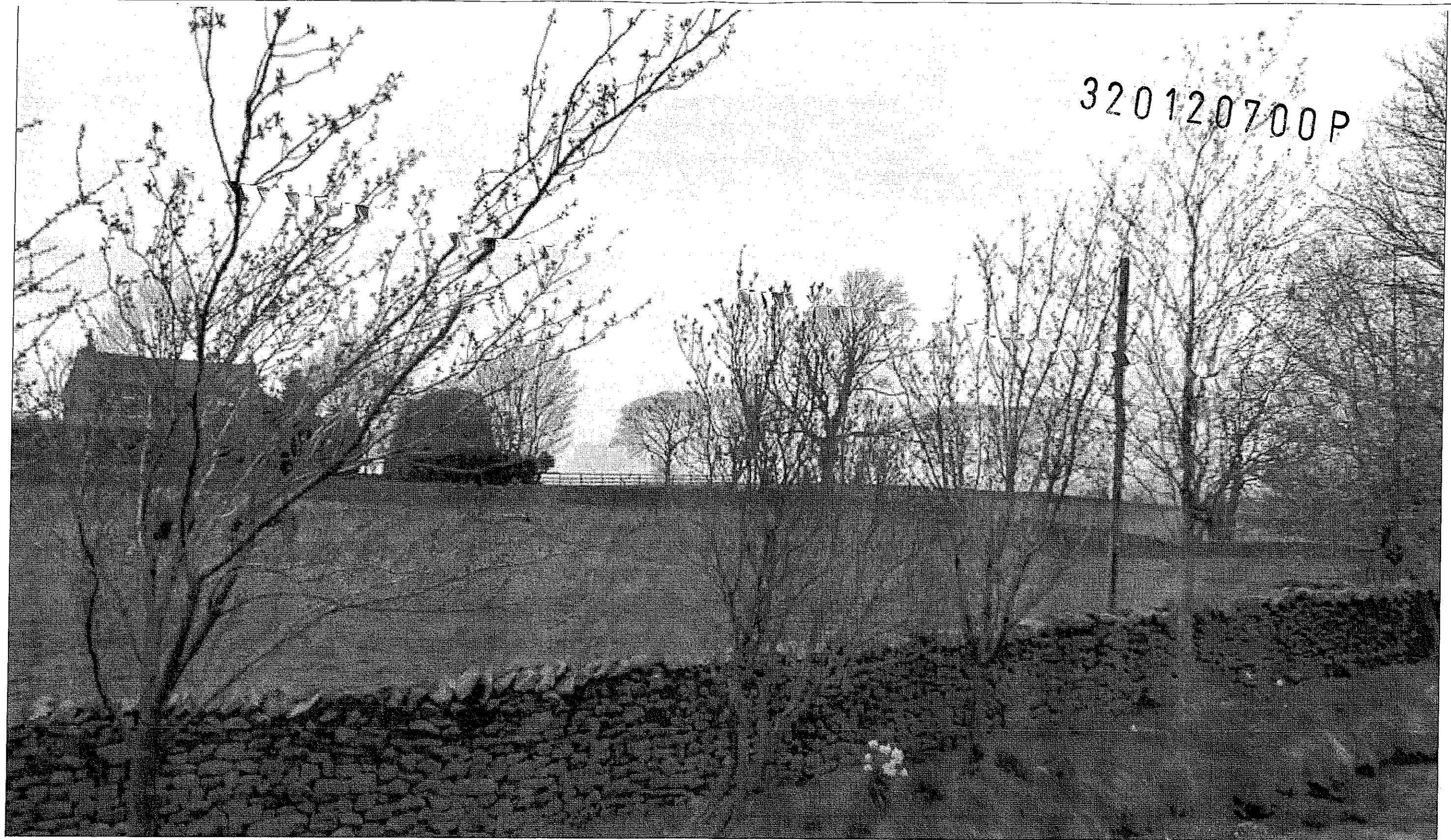


PHOTO MONTAGE SPECIFICATION

Focal Length: 42mm

Range: 4116m Direction: NNE

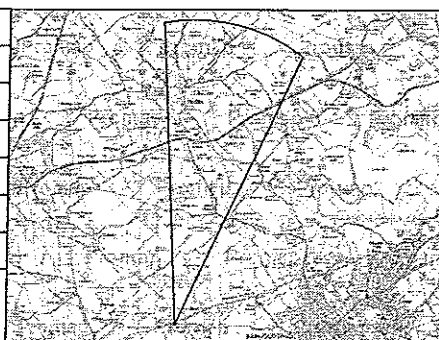
Height Above Ground: 1.6m

Date Taken: 4th March 2012

Camera: Olympus EPL112.3mp

Lens: m-Zuiko Digital 14-42mm

Viewing Distance on A3: 400mm



**Windle
Beech
Winthrop**

Dwg No.: JL - VPA

Title: Viewpoint Analysis
Viewpoint 1

Range: 4116m Direction: NNE

Date: 27th July 2012

Produced by: P. Mason

Issue Number: 1

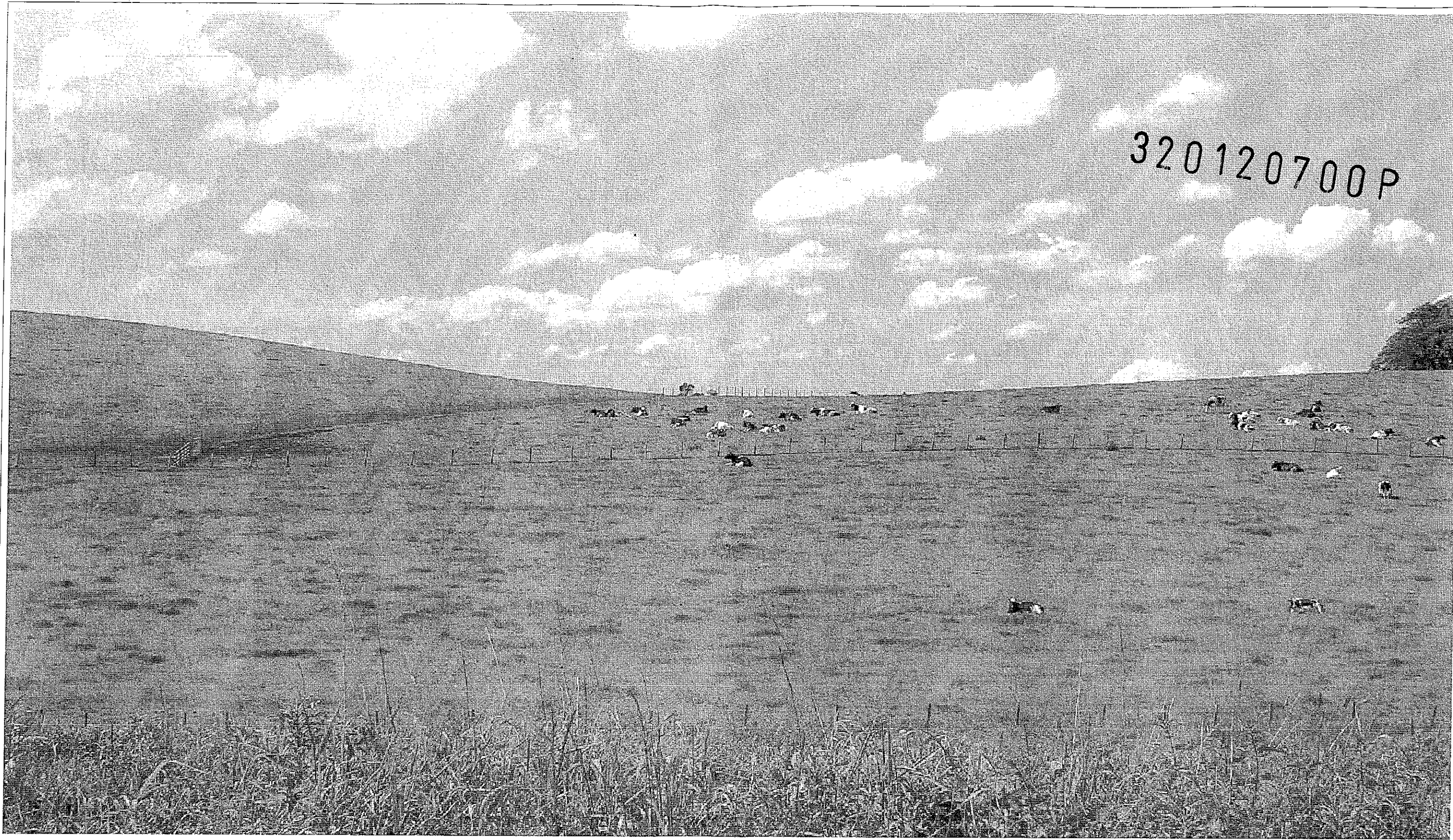
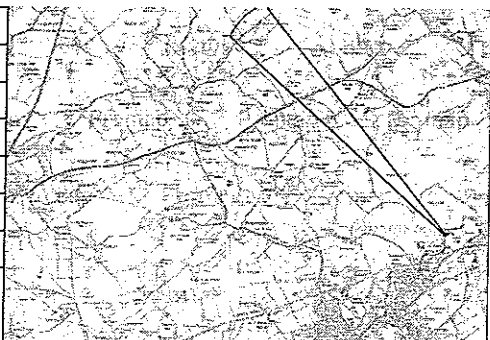


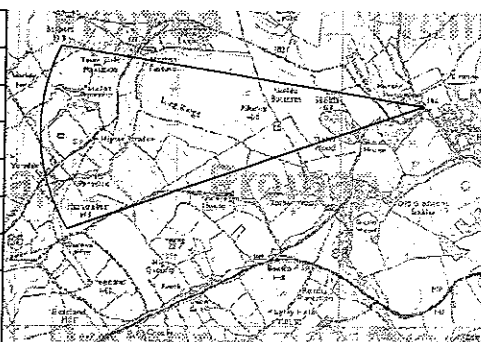
PHOTO MONTAGE SPECIFICATION	
Focal Length: 42mm	
Range: 3837m	Direction: NW
Height Above Ground: 1.6m	
Date Taken: 14th June 2012	
Camera: Olympus EPL112.3mp	
Lens: m-Zuiko Digital 14-42mm	
Viewing Distance on A3: 400mm	



Windle Beech Winthrop	
Dwg No.: JL - VPA	
Title: Viewpoint Analysis Viewpoint J	
Range: 3837m	Direction: NW
Date: 17th July 2012	
Produced by: P. Mason	
Issue Number: 1	



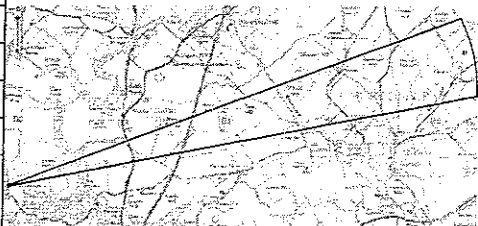
PHOTO MONTAGE SPECIFICATION	
Focal Length:	42mm
Range:	2268m
Direction:	W
Height Above Ground:	1.6m
Date Taken:	4th March 2012
Camera:	Olympus EPL112.3mp
Lens:	m-Zuiko Digital 14-42mm
Viewing Distance on A3:	400mm



wbw Windle Beech Winthrop	
Dwg No.: JL - VPA	
Title: Viewpoint Analysis Viewpoint K	
Range:	2268m
Direction:	W
Date:	27th July 2012
Produced by:	P. Mason
Issue Number:	1



PHOTO MONTAGE SPECIFICATION	
Focal Length:	42mm
Range:	4917m
Direction:	ENE
Height Above Ground:	1.6m
Date Taken:	unknown
Camera:	Olympus EPL112.3mp
Lens:	m-Zuiko Digital 14-42mm
Viewing Distance on A3:	400mm



wbw Windle Beech Winthrop	
Dwg No.: JL - VPA	
Title: Viewpoint Analysis Viewpoint L	
Range:	4917m
Direction:	ENE
Date: 27th July 2012	
Produced by: P. Mason	
Issue Number: 1	