

Proposed Wind Development off Smeath Lane, Retford



Prepared by JHWalter LLP on behalf of Tilm Farms Ltd

January 2014

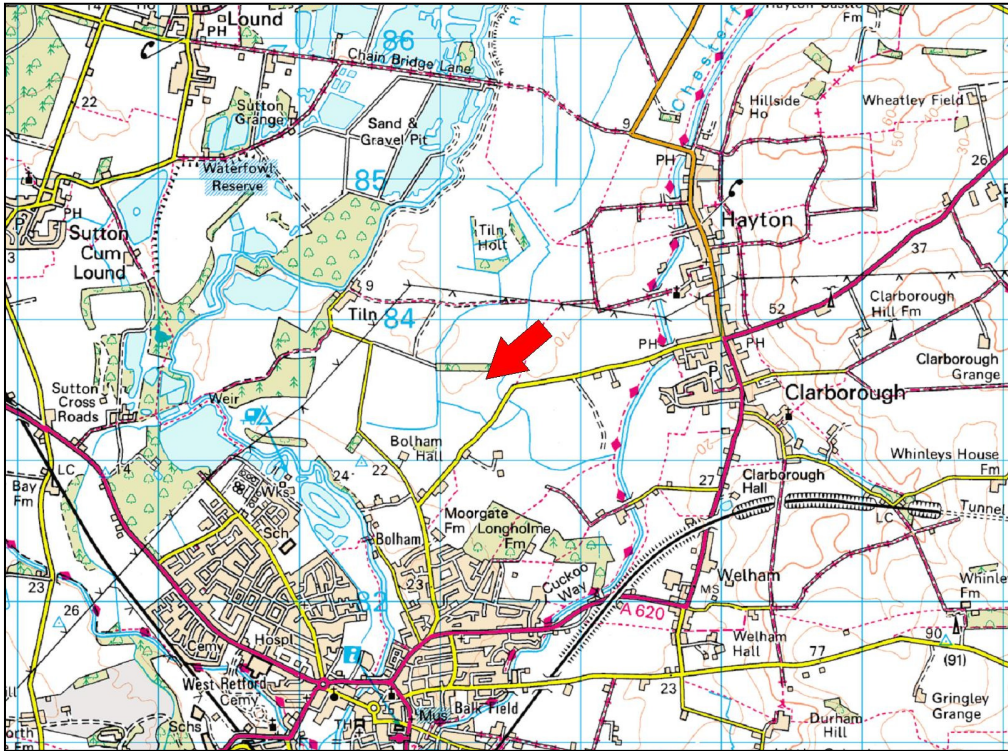
PROJECT DETAILS

PROPOSAL:

Erection of two 77m tip wind turbines and ancillary equipment.

LOCATION:

On farmland off Smeath Lane, Retford (Please see location plan below and enclosed detailed site layout plan).



(N.B: Red arrow shows the field where the turbines will be located)

SIZE OF PROPOSED TURBINES:

Manufacturer: EWT

Model: Direct Wind 54 – 500kW

Output: 500kW

Hub Height: 50m

Rotor Diameter: 54m

Tip Height: 77m

Number of Blades: 3

Technology: Direct Drive (No gearbox)



PROJECT DETAILS

BACKGROUND OF APPLICANT:

Tiln Farms Ltd is situated in the village of Tiln, 3km north of Retford. Tiln Farms is an arable unit growing cereal and root crops across two parcels of land to the north and north west of Retford.

Tiln Farms is looking to erect two wind turbines to:

- Offset rising energy costs across the farm
- Contribute to the drive to tackle climate change by generating renewable energy
- Diversify the farm business

SITE LOCATION PROCESS

SITE CONSIDERATIONS:

In order to establish the best location for the two turbines on Tiln Farms landholding, extensive feasibility work was undertaken. This work included consideration of the following:

- Suitable distance from dwellings to ensure noise and shadow flicker would not adversely affect any residents.
- Suitable access to proposed site for delivery of the turbines components.
- Suitable standoff distance from trees/wooded areas/hedgerows to ensure no adverse impact on ecology.
- Suitable distance from the River Idle to ensure minimal impacts on ecology.
- Close proximity to a good grid connection point.
- Located in a position which would not have an adverse impact on radio and telecommunication links and TV reception.

PROJECT TECHNICAL ASSESSMENTS

ENVIRONMENTAL IMPACT ASSESSMENT (EIA):

An EIA Screening Request was sent to Bassetlaw District Council (BDC) in December 2013. BDC assessed the proposed development and concluded that the proposal does not require an EIA.

NOISE:

In order to accurately assess the potential noise impacts of the turbines, the following work has been completed:

- A full industry standard assessment (ETSU-R-97) featuring 2 weeks of simultaneous background noise monitoring at the two closest dwellings (Bolham Farm & Bolham Cottage Farm).
- Quiet day time and night time noise limits for the 2 dwellings were established for wind speeds from 3 to 12 m/s, after analysis of the background data collected.
- Predicted noise levels were generated for each dwelling for wind speeds 3 to 12m/s by using the manufacturers latest IEC measurements to establish if the noise limits would be exceeded.

Analysis concluded that the noise levels from the turbines will be significantly below the day time and night time noise limits at the two dwellings.



SHADOW FLICKER:

Shadow Flicker occurs under certain combinations of geographical position, time of day and year, the sun may pass behind the rotor of a wind turbine and cast a shadow. It is a very predictable phenomenon that only occurs 130 degrees either side of north relative to a turbine position and is accepted not to be a concern outside 10 rotor diameters.

Only Bolham Farm & Bolham Cottage Farm are located within 10 rotor diameters but as both are located south to south-west of the turbines, they are outside the affected shadow flicker area.

PROJECT TECHNICAL ASSESSMENTS

ECOLOGY:

To assess the potential impact the turbines would have on local ecology, the following surveys have been completed:

- A desktop study to identify all known records for the site and surrounding area.
- Extended Phase 1 Habitat Survey to search for protected species/features and to identify and assess the value of additional features of key interest.
- Breeding Bird Surveys to record bird registrations, important areas/habitats for key species and species abundance and behaviour.
- Spring/Summer & Three Winter Vantage Point Surveys to record any target bird species and secondary bird species.
- Winter Drive Around Surveys to scan across fields and River Idle searching for flocks of feeding/loafing waterfowl and waders.
- Bat Remote Detector Activity Surveys to continuously record bat activity.
- Bat Evening Emergence and Pre-dawn Re-entry Surveys on trees/groups of trees assessed as having potential to support roosting bats around the boundary of the field due to support the turbines.

The findings of the above surveys concluded the two turbines would have a minimal impact on the ecology of the local area. A full copy of the ecological reports will be submitted as part of the planning application.

TRAFFIC AND TRANSPORT:

The transport requirements for the delivery of the turbine are as follows:

- Five 'trombone' trailers for the tower/blades and three standard HGV low loaders for the other turbine components.
- The minimum road requirements for the 'trombone' trailers are a 4m road width, 5.7m clearance width and minimum bend radius of 20m.
- Once erected scheduled maintenance and servicing visits are expected to take place every 6 months requiring only a small van/vehicle.

A traffic statement has been completed, which highlighted the following route as the preferred option (please see enclosed map showing the proposed route):

- A1 Dual Carriageway to Ranby
- A620 (Retford Road/Straight Mile) to near Babworth
- A620 (Babworth Road) to Retford
- A620 (Amcott Way/Moorgate) to Tiln Lane
- Tiln Lane/ Smeath Lane between the A620 and the proposed site access

PROJECT TECHNICAL ASSESSMENTS

FLOOD RISK ASSESSMENT:

The proposed turbines are located in Flood Zone 2, meaning a Flood Risk Assessment (FRA) is required to assess whether the proposed development would have any adverse impact on flood risk in the area.

The assessment concluded that as the development is classified as 'essential infrastructure', it is appropriate in Flood Zone 2. The site also benefits from existing flood defences for the River Idle and all electrical equipment and switchgear should be housed 150mm above the existing ground level.

LANDSCAPE & VISUAL ASSESSMENT:

A Landscape and Visual Impact Assessment has been completed by a fully qualified third party landscape architect to address the potential impact of the proposed turbines on the local landscape. This assessment considered the following:

- A study area of 8km based upon consultation with planning officer at BDC in October 2013, best practice guidelines, height of the turbines and the nature of the topography.
- Analysis of where the turbine will be visible from (Zones of Theoretical Visibility – ZTV).
- National, Regional and local Landscape Character Assessment.
- Visual Impact Assessment.
- Cumulative Impact Assessment with any other turbines in the immediate surrounding area to the proposed site.

The LVIA concluded that the proposal will become neither a 'significant' or 'defining' feature of the landscape and as such in terms of Landscape & Visual Impact, the minimal impact of this development does not outweigh the significant benefits of a sustainable renewable scheme.

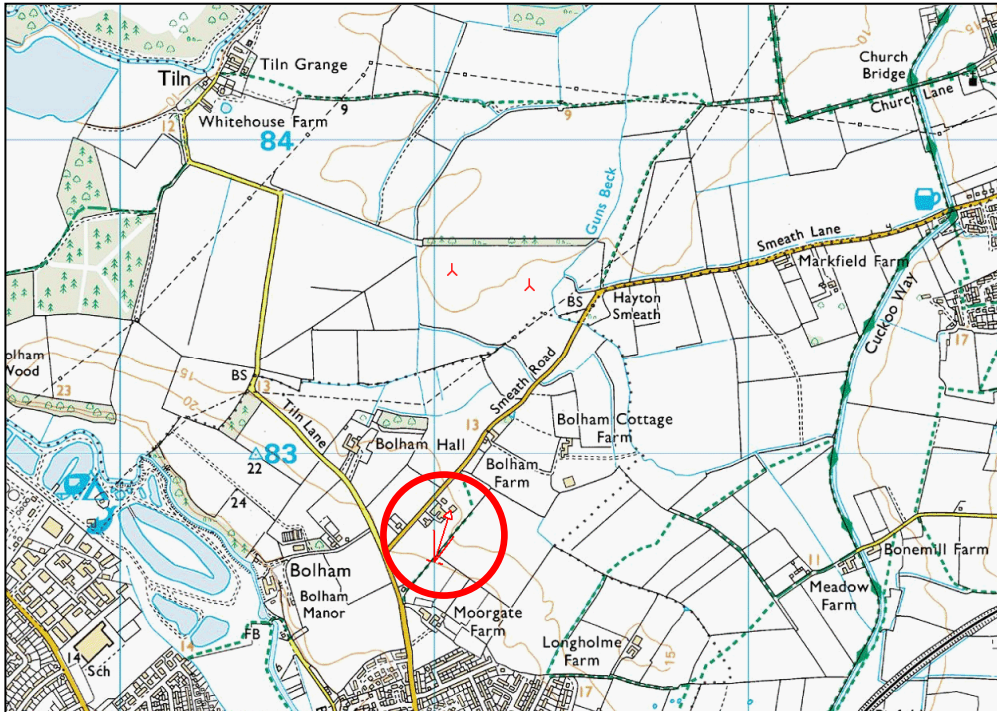
PHOTOMONTAGES:

A number of photomontages have been completed to submit the Landscape and Visual Impact Assessment. Viewpoints were selected after analysis of the ZTV map, sensitive receptors and consultations with a planning officer at BDC in October 2013.

The photomontages are shown on the following pages. Please note, the reproduction of the longer distance photomontages at this scale can make identification difficult – larger scale images will be made available in due course.

PROJECT TECHNICAL ASSESSMENTS - PHOTOMONTAGES

Viewpoint 1: Public Right of Way close to Moorgate Farm, Bolham



N.B: Red Arrow stipulates viewpoint location



PROJECT TECHNICAL ASSESSMENTS - PHOTOMONTAGES

Viewpoint 2: Public Right of Way close to Tilm Grange, Tilm

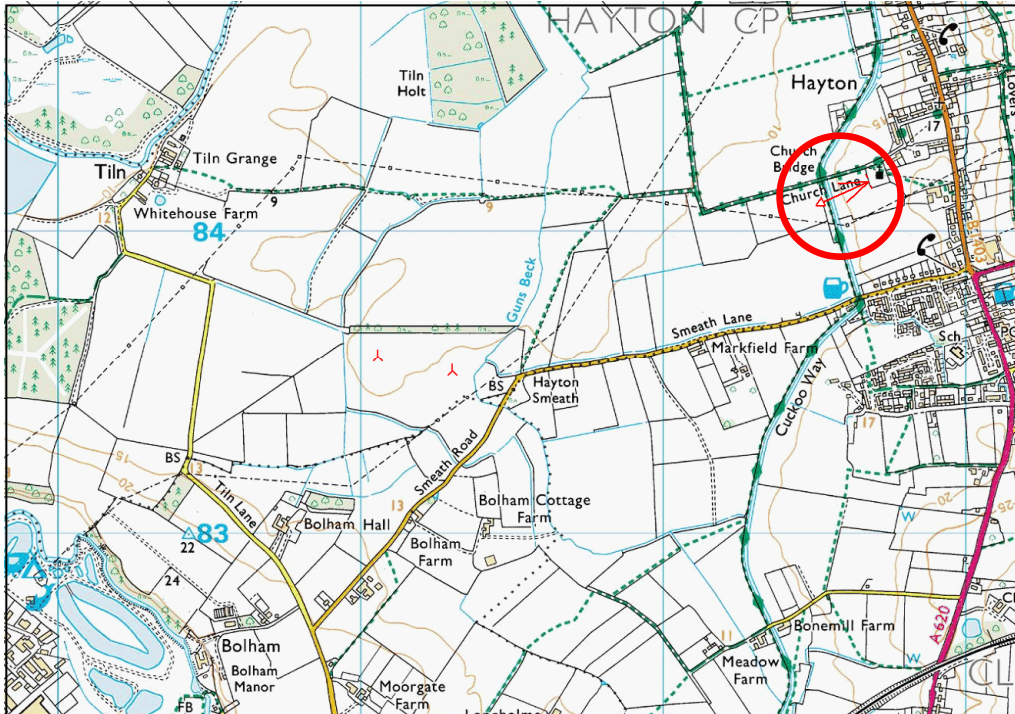


N.B: Red Arrow stipulates viewpoint location



PROJECT TECHNICAL ASSESSMENTS - PHOTOMONTAGES

Viewpoint 3: Grounds of St Peters Church, Hayton

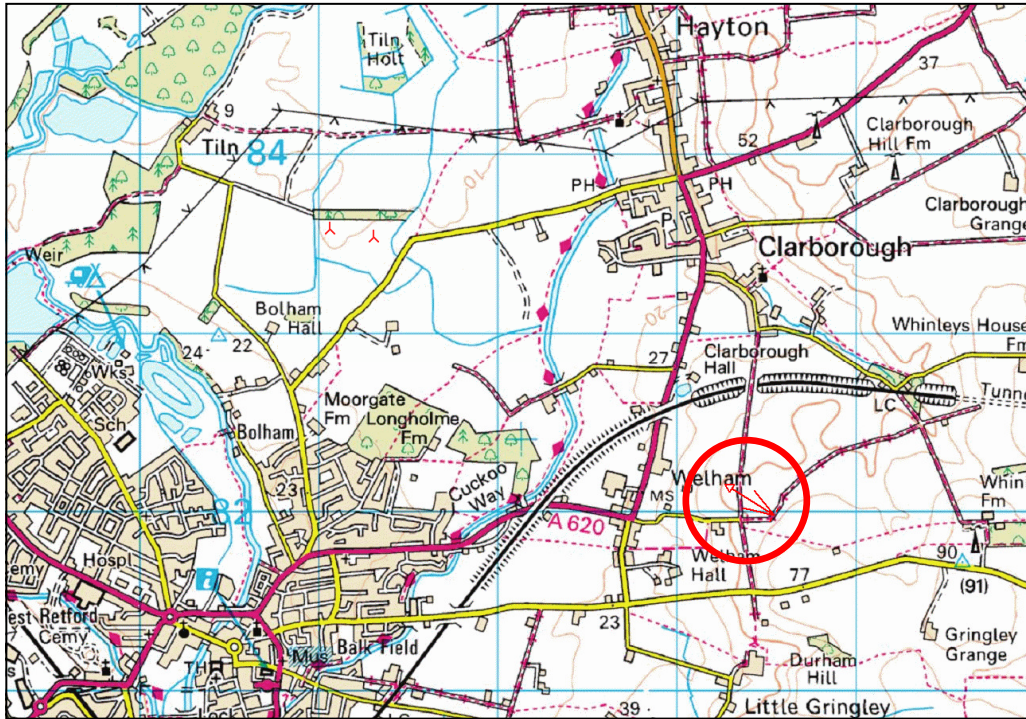


N.B: Red Arrow stipulates viewpoint location



PROJECT TECHNICAL ASSESSMENTS - PHOTOMONTAGES

Viewpoint 4: Public Byway, Pinfold Lane, Welham

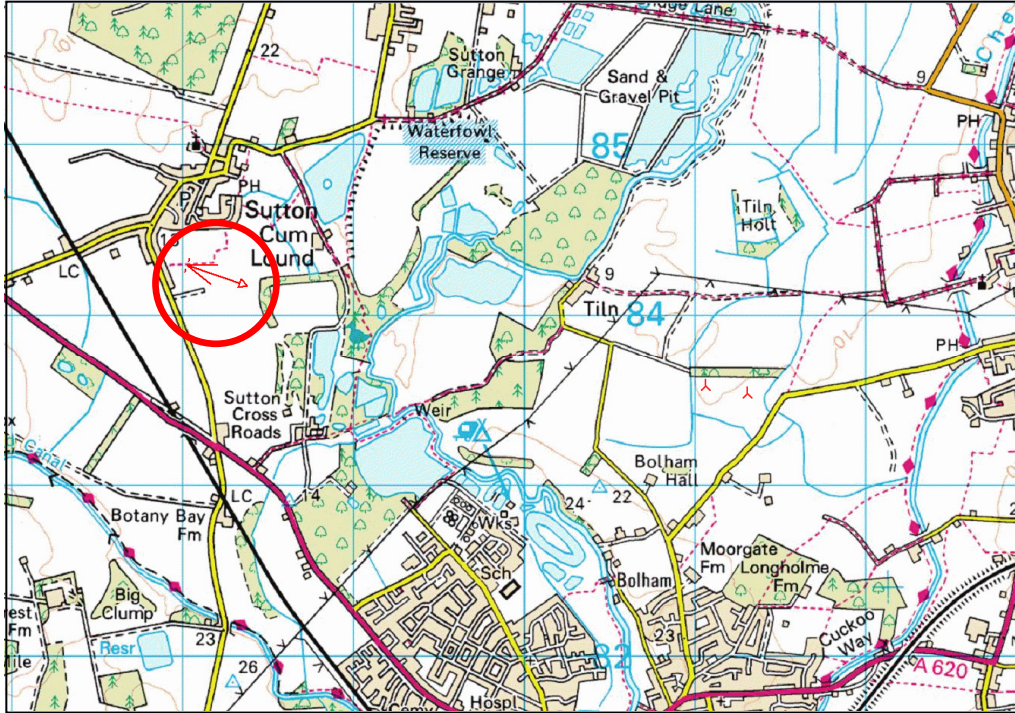


N.B: Red Arrow stipulates viewpoint location



PROJECT TECHNICAL ASSESSMENTS - PHOTOMONTAGES

Viewpoint 5: Public Right of Way at the edge of Sutton Cum Lound

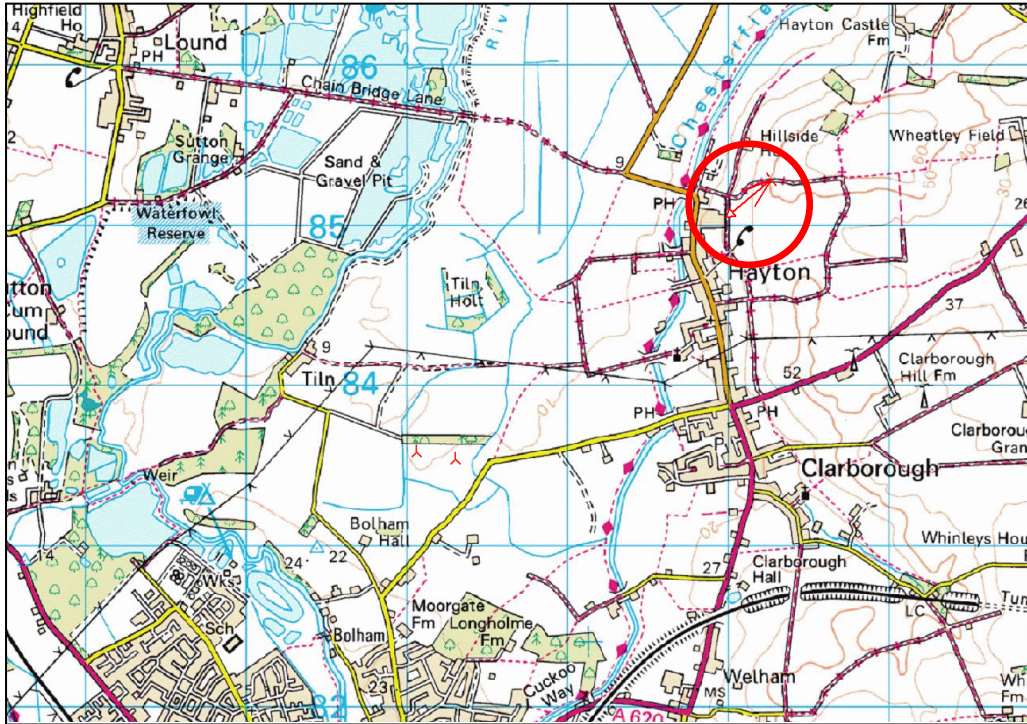


N.B: Red Arrow stipulates viewpoint location



PROJECT TECHNICAL ASSESSMENTS - PHOTOMONTAGES

Viewpoint 6: Public Byway, Hollinhill Lane, Hayton

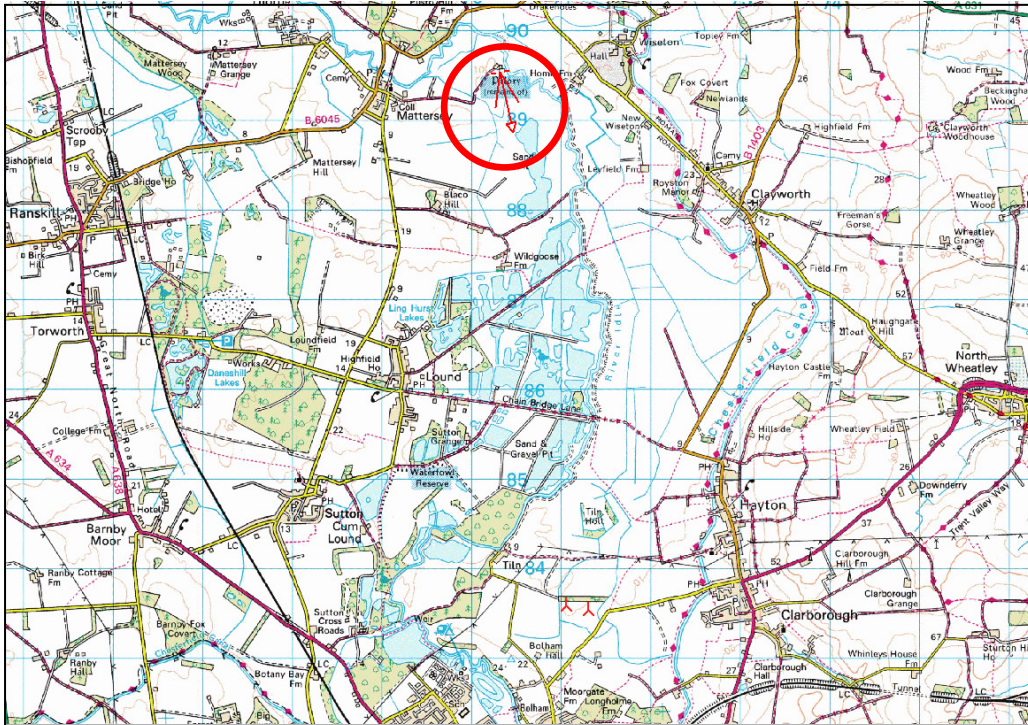


N.B: Red Arrow stipulates viewpoint location



PROJECT TECHNICAL ASSESSMENTS - PHOTOMONTAGES

Viewpoint 7: Priory Remains, Mattersey

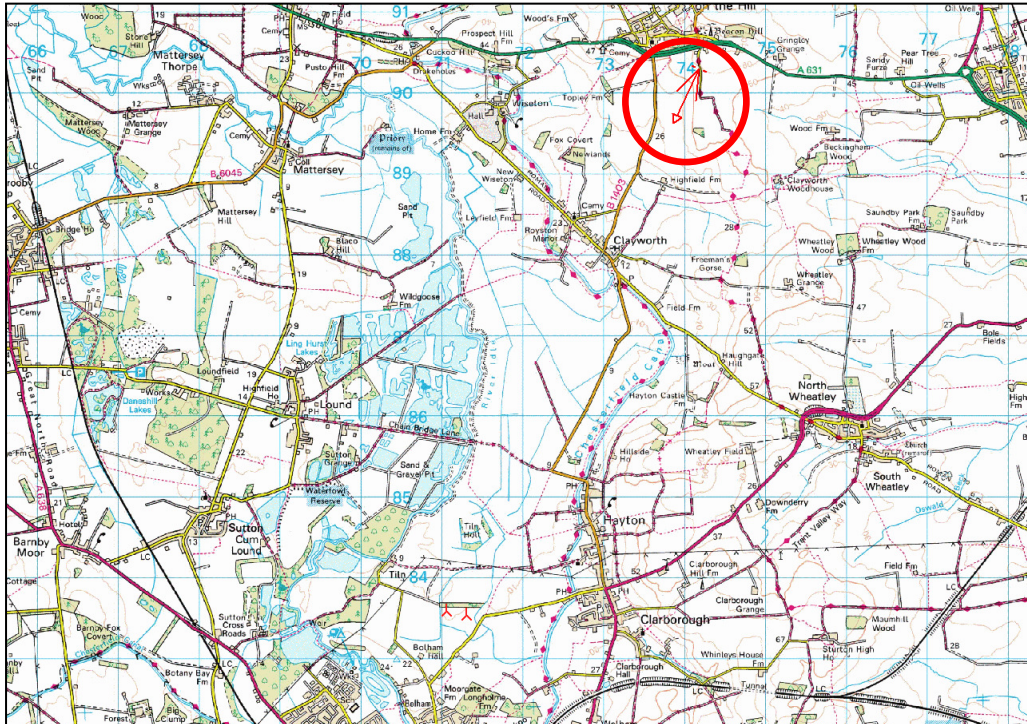


N.B: Red Arrow stipulates viewpoint location



PROJECT TECHNICAL ASSESSMENTS - PHOTOMONTAGES

Viewpoint 8: Trent Valley National Route, Gringley on the Hill



N.B: Red Arrow stipulates viewpoint location

