

Bernard Matthews



Creating a sustainable business for the future through:



- Supporting British agriculture and farming
- Educating our young people about food and food sourcing

- Developing young people in the community
- Encouraging local entrepreneurial spirit
- Preserving our local and national environment for the future



Preserving our environment

Climate change - A ballooning problem

Norfolk's population is 800,000 people in some 350,000 households.

Over a year the electricity used by two average households will be responsible for emitting enough CO₂ to fill a hot air balloon.

The equivalent of 175,000 hot air balloons full of CO₂ are emitted as a result of energy consumption in Norfolk households every year.

This means that every 3 minutes another hot air balloon of CO₂ takes flight from Norfolk.



Investing in renewable energies

Why it makes long term business sense for Bernard Matthews

The government has placed an obligation on electricity companies to dramatically increase the proportion of our electricity from renewable sources.

This Renewable Obligation has created a demand for new renewable energy projects to be built.

As a business Bernard Matthews has to pay the Climate Charge Levy on their energy bills. Renewable energy is exempt from this levy.

Like many businesses Bernard Matthews has looked at the potential of its own landholdings and identified suitable sites for developing as small wind farms.

Small wind farms can provide Bernard Matthews with a long term hedge against energy price fluctuations, and demonstrates our proactive attitude to the clear and emerging environmental challenges.

Why wind energy?

It's clean

Wind power does not produce dangerous waste, or contribute to global warming.

It's abundant and reliable

The UK is one of the windiest countries in Europe and this resource is much greater in the colder months of the year, when energy demand is at its highest.

It's affordable

The UK Government's figures show that all wind power including offshore wind will be cheaper than nuclear power by 2020.



For further information about our wind energy projects please contact us at consumer.relations@bernardmatthews.com or call us FREE on 0800 413640.

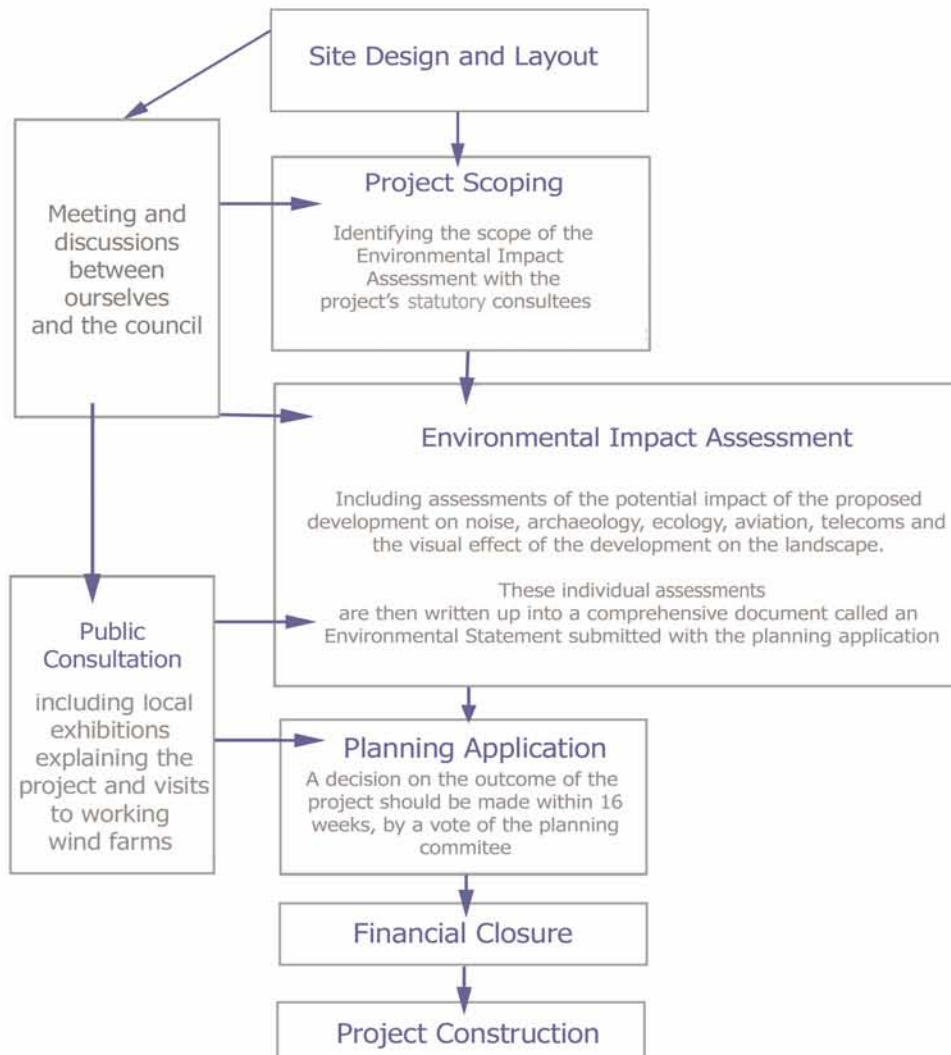
Who we are and What we do

engena

Engena are a renewable energy consultancy with over 22 years worth of combined experience in the wind farm industry.

Our core skills are initial project design, environmental impact assessment and project implementation.

Onshore Wind Projects : The Process



Environmental Impact Assessment

Environmental Impact Assessment or EIA, is the process by which a development is assessed in terms of its likely impact upon the baseline environment.

The scope of an EIA for a wind farm is set by the local planning authority and their statutory consultees through a scoping response and is also advised by national planning guidance.

Environmental impacts, both positive and negative can be classified in terms of their significance according to best practice guidelines and methodologies and it is those impacts classified as significant which an EIA is intended to identify (EIA regulations, 1999).



Important aspects of wind farm EIA

NOISE ASSESSMENTS

Background noise levels at various wind speeds are measured at locations representative of the closest dwellings to the proposal.

Using guaranteed noise emissions figures from the turbine supplier and the results of the background noise study, predictions are made on noise levels from the wind farm at the nearest properties.

Wind farms must comply with guidance known as ETSU-R-97 and if permitted the Council will enforce this by strict planning condition.

ECOLOGICAL SURVEYS

Natural England and the RSPB are consulted to determine ecological interests on site.

Based on their responses, an extensive number of surveys are designed and carried out. The predicted impacts of the wind farm are then assessed.

Assessments include:
Breeding, migrating & wintering birds
Flora
Mammals
Amphibians

ARCHAEOLOGICAL SURVEYS

Archeological surveys are conducted to identify the history and value of the proposed site, both through desk-based assessment of historical data sources and through field survey.

Where there is potential for presently unknown archeology a programme of archeological monitoring will be put in place during construction, to ensure proper investigation and recording of resources.

TELECOMS & UTILITIES ASSESSMENTS

LANDSCAPE & VISUAL ASSESSMENT

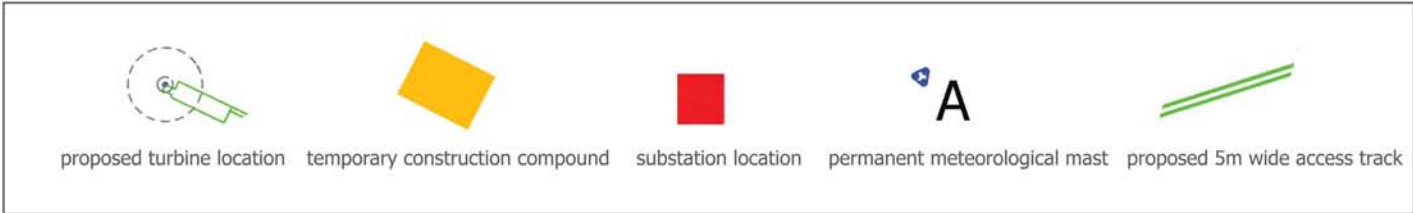
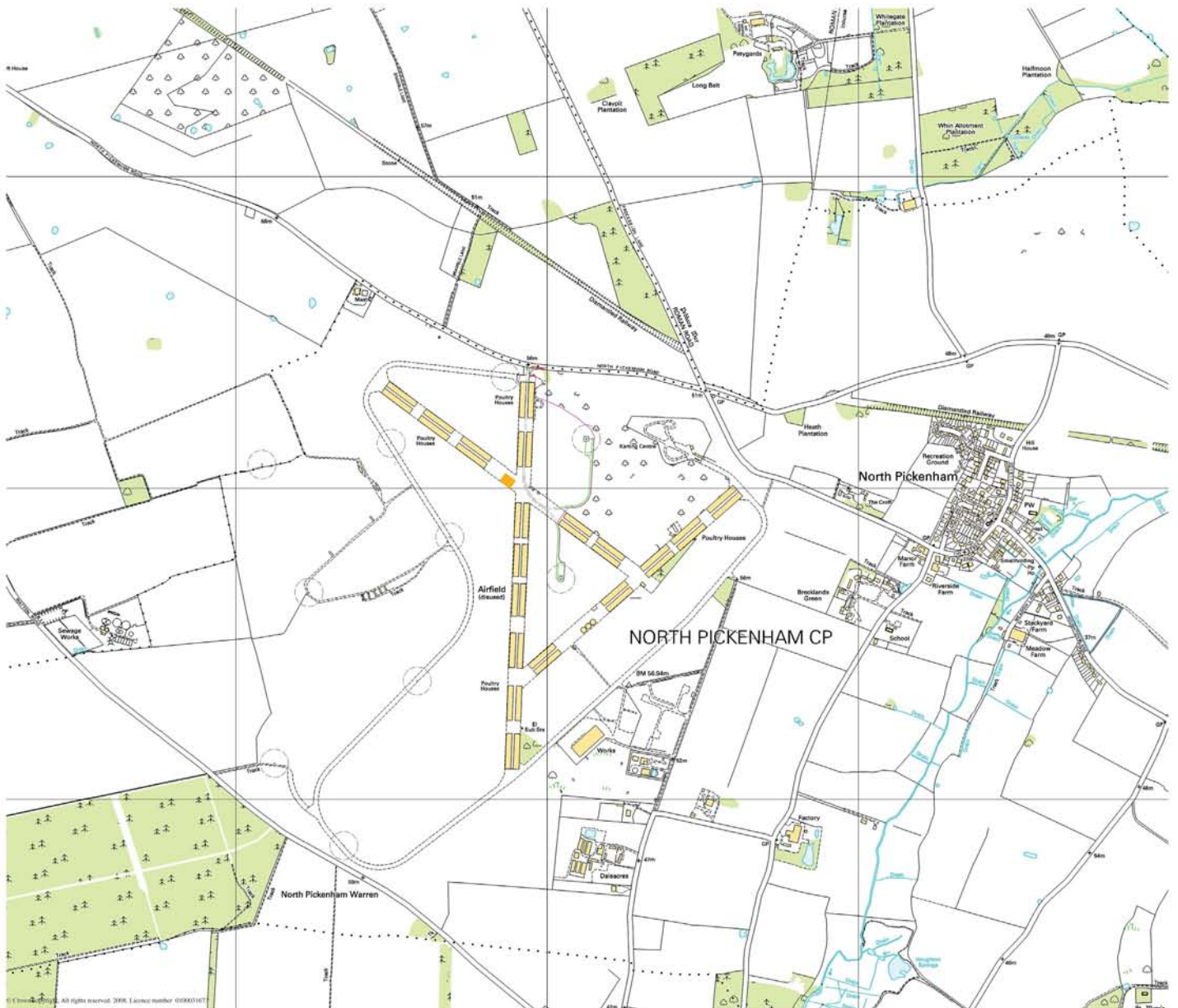
Bernard 
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North Pickenham
Wind Farm

Proposal

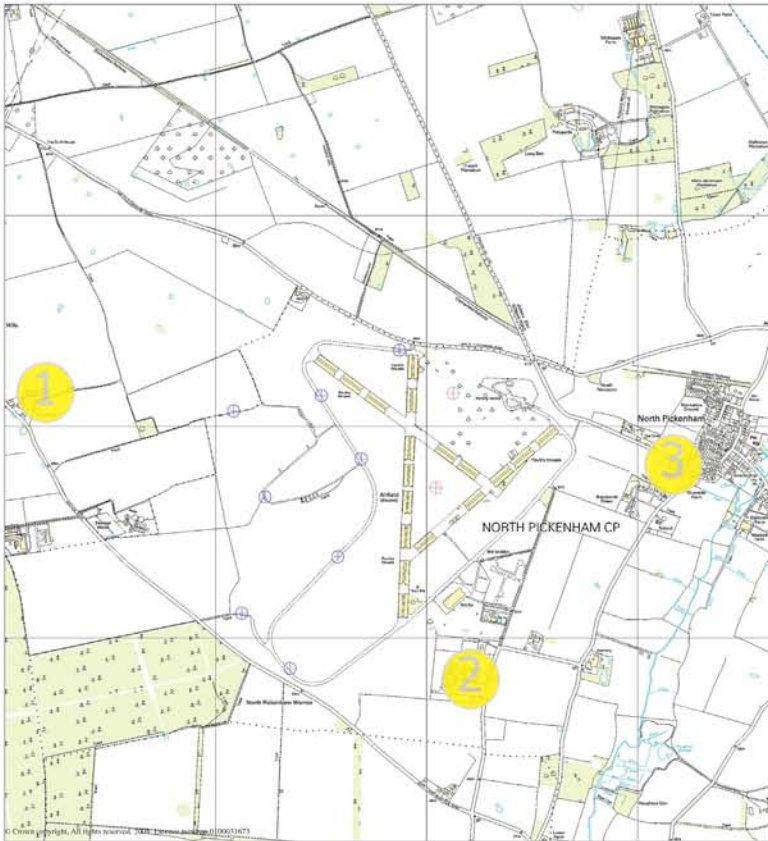
North Pickenham Airfield Wind Farm

Proposed Layout



North Pickenham Airfield Wind Farm

Noise Assessment Results



Guidelines produced by the Government, known as ETSU-R-97, provide the relevant noise criteria for wind farm developments.

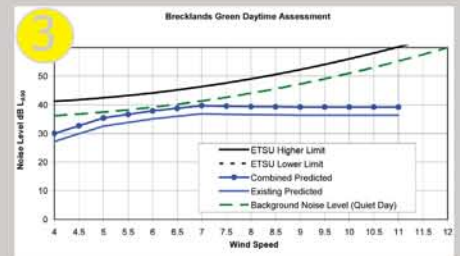
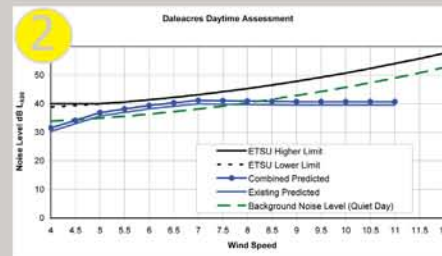
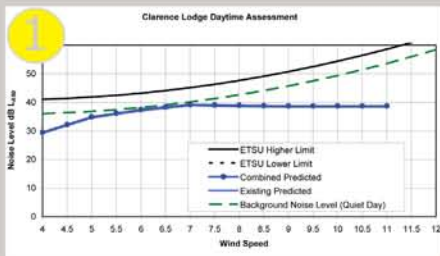
These criteria limit all noise emitted from wind turbines to:

- 35-40dB(A) or 5dB(A) above the prevailing background noise level for daytime and amenity periods (evenings 6-11pm, Saturdays 1-6pm & Sundays 7am-6pm) and
- 43dB(A) or 5dB(A) above the prevailing background noise for night-time periods (11pm - 7am).

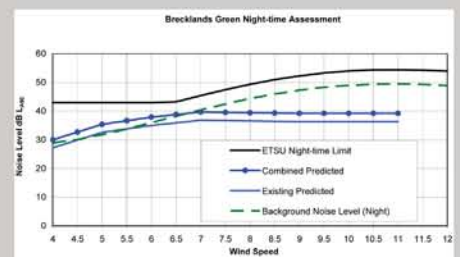
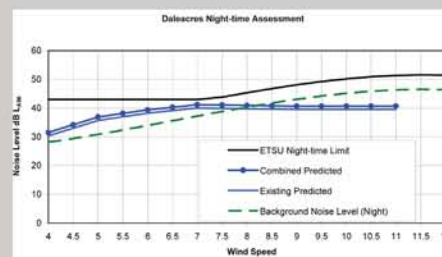
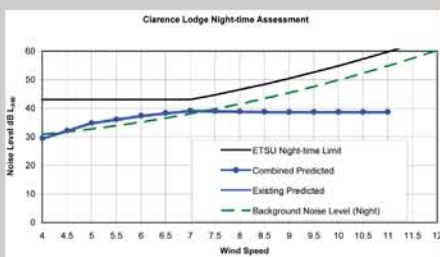
The warranted noise levels from the proposed two wind turbines have been applied to the existing background noise, to determine if the proposal will meet the guidelines, both alone and in conjunction with the existing scheme.

The proposed scheme will meet the ETSU-R-97 criteria under both conditions.

PREDICTED DAYTIME NOISE LEVELS



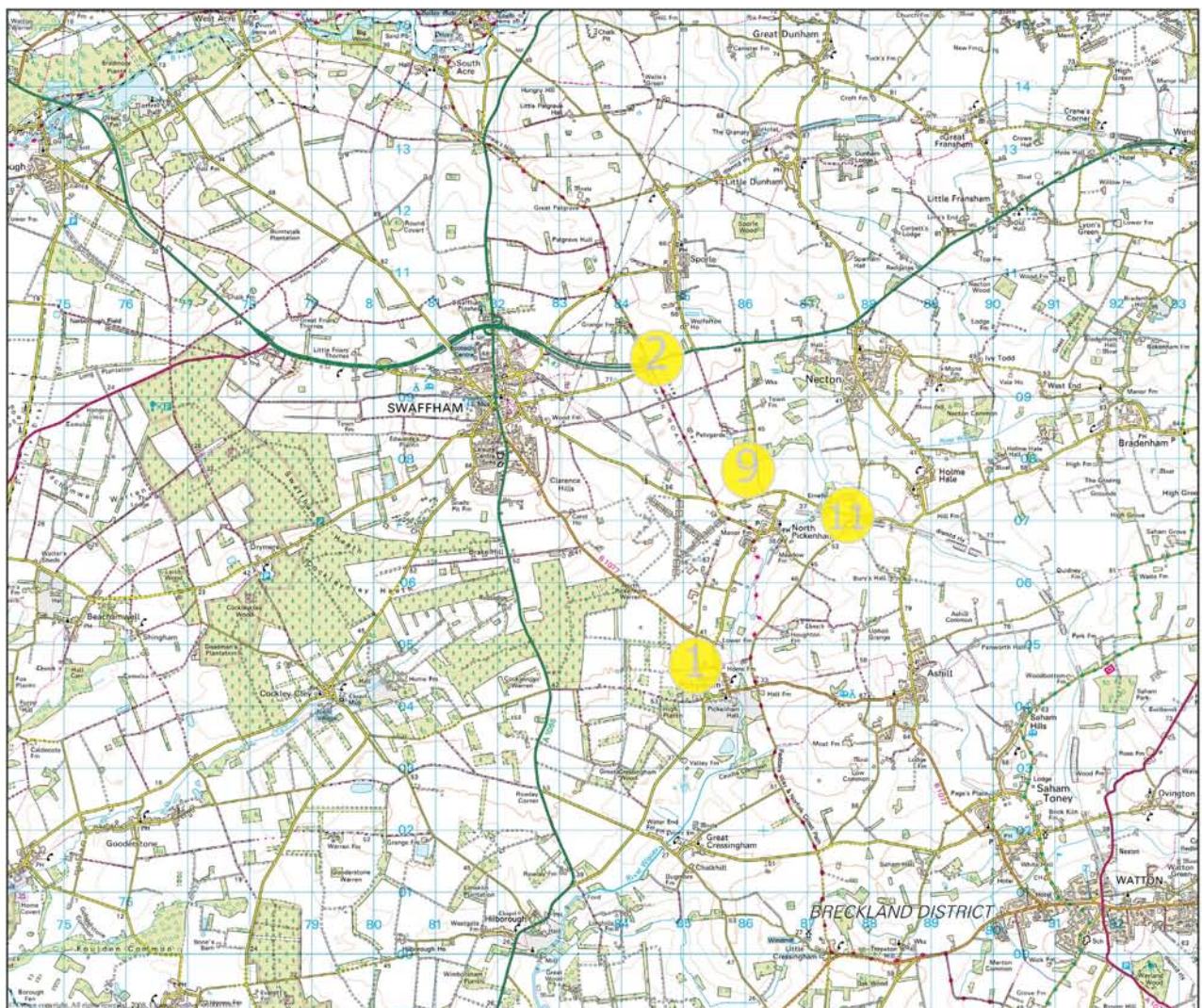
PREDICTED NIGHT-TIME NOISE LEVELS



Photomontages

These photomontages are intended to illustrate the scale and location of the proposal in a representative selection of viewpoints agreed with the local planning authority.

These viewpoints form a small part of a far larger landscape and visual assessment which has been undertaken over a 20km study area around the site to identify all significant impacts upon landscape and visual amenity from the proposal.



1



North Pickenham Wind Farm Extension
 Viewpoint coordinates: 566015E 306490N c.42 m AOD
 Date and time of photograph: 11/05/2008 13:54
 Viewing distance: 350mm at A3, 495mm at A2
 Prepared for Engira Ltd by P D Marsh (www.pdmarsh.co.uk)
 Photography: P D Marsh (www.pdmarsh.co.uk)
Viewpoint 1 **Figure 0.0**
North Pickenham village

2



North Pickenham Wind Farm Extension
 Bernard Matthews Green Energy (North Pickenham) Limited
 Viewpoint coordinates: 564630E 309575N c.71 m AOD
 Date and time of photograph: 02/10/2008 15:35
 Viewing distance: 350mm at A3, 495mm at A2
 Prepared for Engira Ltd by P D Marsh (www.pdmarsh.co.uk)
 Photography: P D Marsh (www.pdmarsh.co.uk)
Viewpoint 2 **Figure 0.0**
A47 trunk road east of Swaffham

9

Horizontal angle of view 64°

Existing View

Distance to nearest turbine: 1.2 km

Predicted View

North Pickenham Wind Farm Extension	Bernard Matthews Green Energy (North Pickenham) Limited	Viewpoint coordinates: 566225E 307745N c 42 m AOD Date and time of photograph: 02/10/2008 11:45 Viewing distance: 350mm at A3, 495mm at A2	Prepared for Engira Ltd by P D Marsh (www.pdmarsh.co.uk) Photography: P D Marsh (www.pdmarsh.co.uk)
			Viewpoint 9 Minor road north of North Pickenham
			Figure 0.0

11

Horizontal angle of view 64°

Existing View

Distance to nearest turbine: 2.6 km

Predicted View

North Pickenham Wind Farm Extension	Bernard Matthews Green Energy (North Pickenham) Limited	Viewpoint coordinates: 567760E 306920N c 48 m AOD Date and time of photograph: 02/10/2008 12:05 Viewing distance: 350mm at A3, 495mm at A2	Prepared for Engira Ltd by P D Marsh (www.pdmarsh.co.uk) Photography: P D Marsh (www.pdmarsh.co.uk)
			Viewpoint 11 Minor road east of North Pickenham
			Figure 0.0

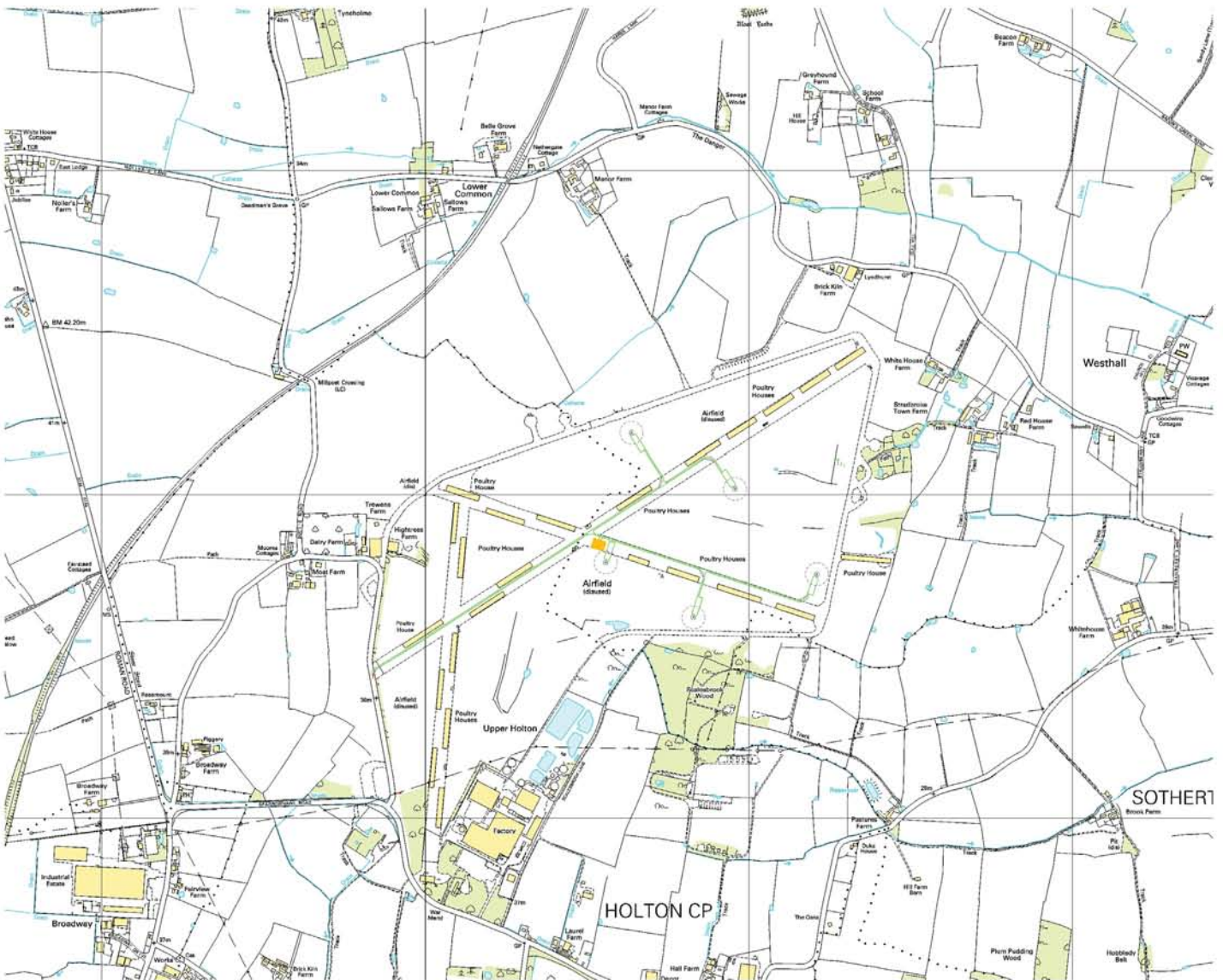
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Upper Holton
Wind Farm

Proposal

The Upper Holton Wind Farm

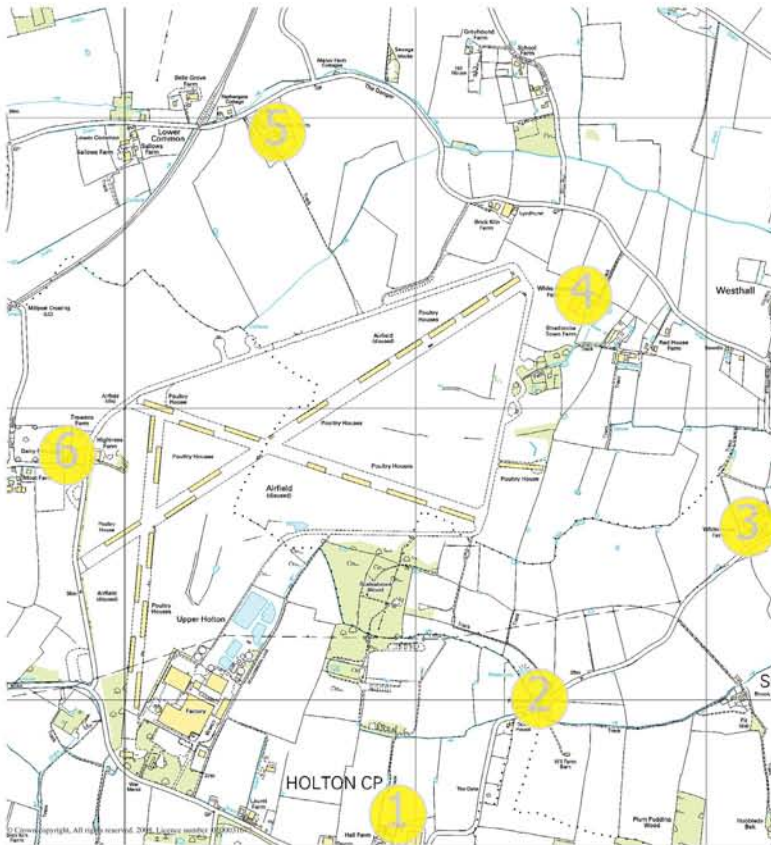
Proposed Layout



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Proposed turbine location	temporary construction compound	substation location	permanent anemometry mast	proposed 5m wide access track

Noise Assessment Results

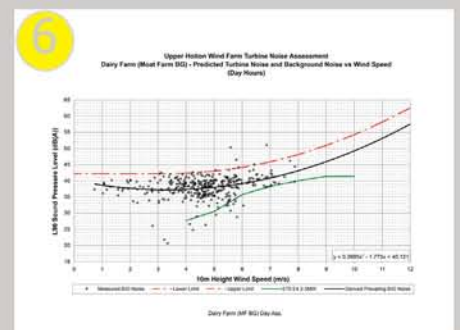
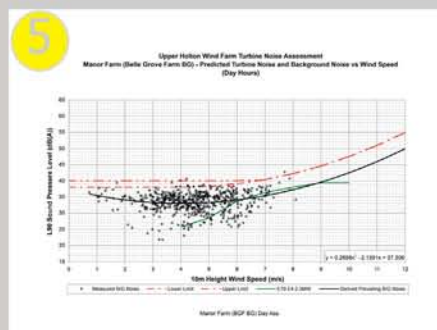
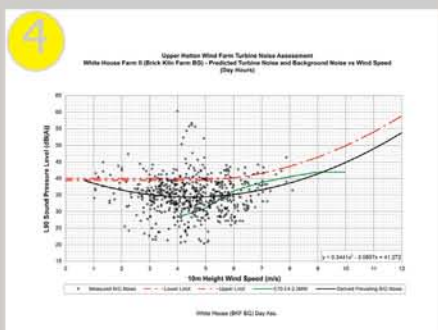
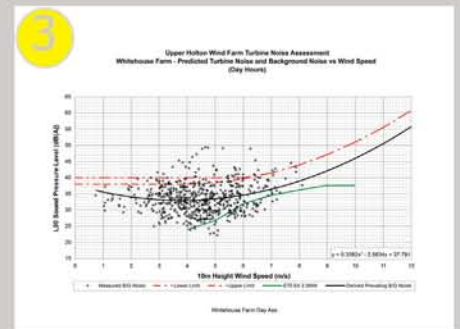
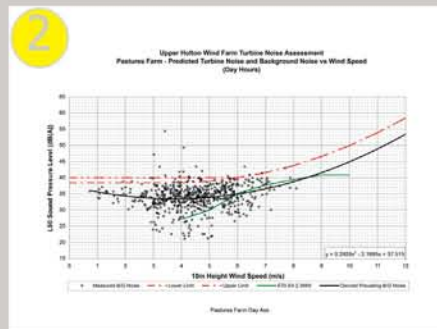
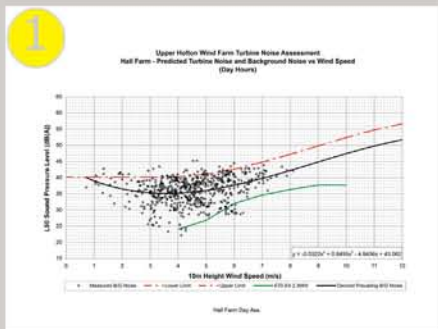


Guidelines produced by the Government, known as ETSU-R-97, provide the relevant noise criteria for wind farm developments. These criteria limit all noise emitted from wind turbines to:

- 35-40dB(A) or 5dB(A) above the prevailing background noise level for daytime and amenity periods (evenings 6-11pm, Saturdays 1-6pm & Sundays 7am-6pm); and
- 43dB(A) or 5dB(A) above the prevailing background noise for night-time periods (11pm - 7am).

A background noise survey has been undertaken to determine the existing noise levels at the nearest properties. These have been matched against wind speeds measured on site. The warranted noise levels from the wind turbines have then been applied to the existing noise, to determine if the proposal will meet the criteria.

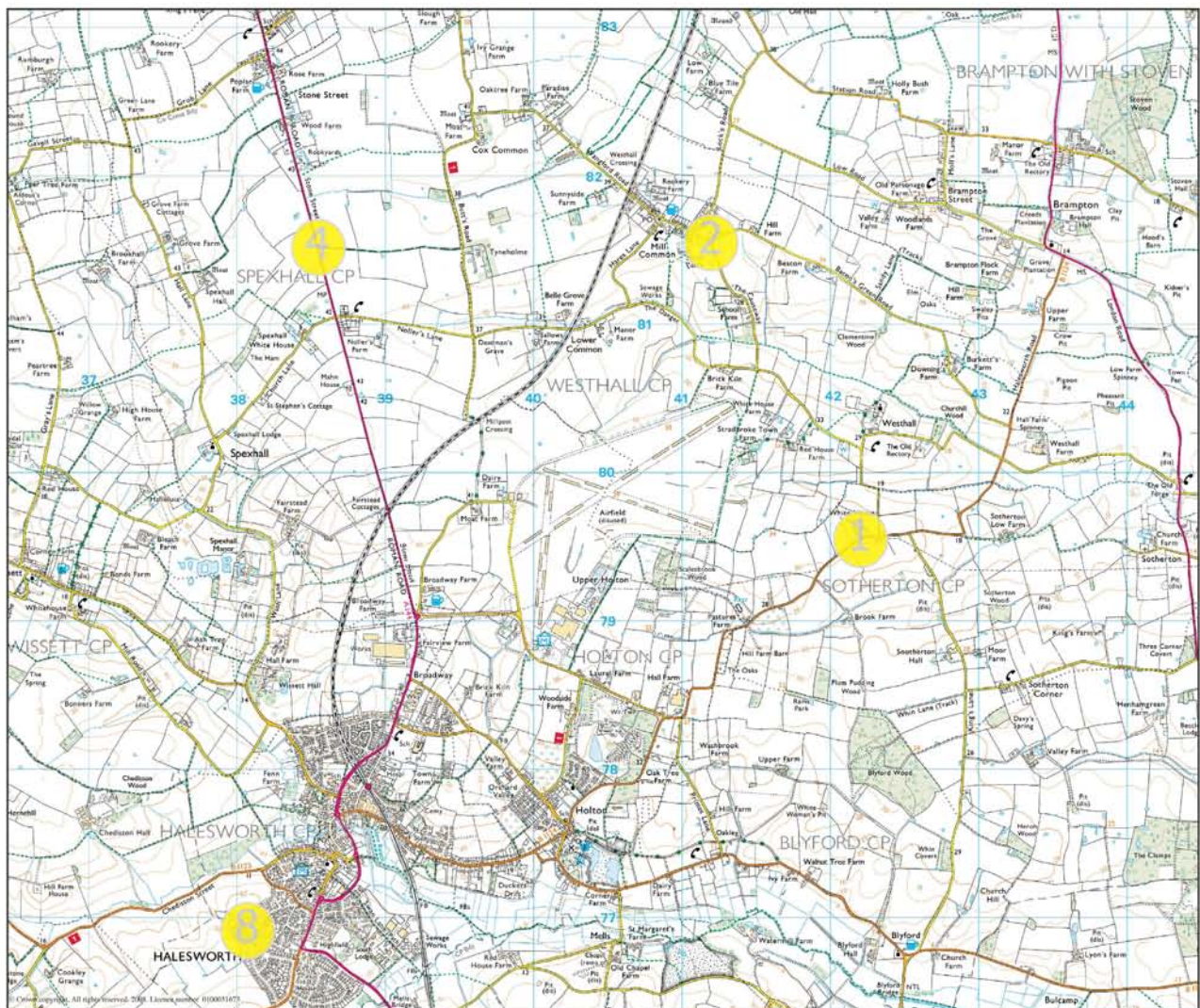
The proposed site will meet the criteria at all nearest properties. The following graphs show the results for the daytime and amenity hours, which reflect the strictest noise criteria.



Photomontages

These photomontages are intended to illustrate the scale and location of the proposal from a representative selection of viewpoints agreed with the local planning authority.

These viewpoints form a small part of a far larger landscape and visual assessment which has been undertaken over a 15km study area around the site to identify all significant impacts upon landscape and visual amenity from the proposal.



Photomontages

prepared on behalf of



Photomontages

prepared on behalf of



Existing View

Horizontal angle of view 64°

Predicted View

Distance to nearest turbine 2.5km

Upper Holton Wind Farm

Bernard Matthews farms

Bernard Matthews Green Energy (Halesworth) Limited

Viewpoint coordinates: 838555E 281519N c. 43m AOD
 Date and time of photograph: 10/08/08 18:30
 Viewing distance: 350m at A3, 495m at A2

Prepared for E4environment Ltd (www.e4environment.co.uk) by P D Marsh (www.pdmarsh.co.uk)
 Photography: P D Marsh (www.pdmarsh.co.uk)

Viewpoint 4 Figure A144, brideway near Spexhall

Existing View

Horizontal angle of view 64°

Predicted View

Distance to nearest turbine 3.8km

Upper Holton Wind Farm

Bernard Matthews farms

Bernard Matthews Green Energy (Halesworth) Limited

Viewpoint coordinates: 639095E 276909N c. 31m AOD
 Date and time of photograph: 10/08/08 17:25
 Viewing distance: 350m at A3, 495m at A2

Prepared for E4environment Ltd (www.e4environment.co.uk) by P D Marsh (www.pdmarsh.co.uk)
 Photography: P D Marsh (www.pdmarsh.co.uk)

Blade tips of two turbines partially visible above rooftops

Horizontal scale: 1" = 6.11m

Viewpoint 8 Figure Barley Meadow, Halesworth