

**3/08/0889/FP – 3 no. wind turbines of up to 119m in height, a permanent meteorological mast, substation, access tracks and ancillary infrastructure at Land east of Walkern Road and north and west of High Elms Lane, Benington for R H Bott and Son.**

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**Date of Receipt: 15.05.08**

**Type: Full**

**Parish: BENINGTON**

**Ward: WALKERN**

### **RECOMMENDATION**

That planning permission be **REFUSED** for the following reasons:-

1. The application site partly lies within the Metropolitan Green Belt as defined in the East Hertfordshire Local Plan wherein permission will not be given, except in very special circumstances, for the material change of use of the land or engineering operations unless they maintain openness and do not conflict with the purposes of including land in the Green Belt. No very special circumstances are apparent in this case that clearly outweigh the harm to the Green Belt, and the proposal would therefore be contrary to policy GBC1 of the East Herts Local Plan Second Review April 2007 and national planning guidance, PPG2 'Green Belts'.
2. The application site lies partly within the Rural Area as defined in the East Hertfordshire Local Plan wherein there is a presumption against development other than required for agriculture, forestry, small scale local community facilities or other uses appropriate to a rural area. The proposed development would be prejudicial to this policy, set out at policies GBC2 and GBC3 within the East Herts Local Plan Review April 2007.
3. The proposal would introduce tall moving structures into a landscape void of such development and would result in significant harm to the landscape character of the surrounding area. The Local Planning Authority are not satisfied that the environmental benefits of these turbines clearly outweighs this harm, and as such the application is considered to be contrary to policies SD3 and GBC14 of the East Herts Local Plan Second Review April 2007, and the adopted Landscape Character Assessment SPD.

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## **1.0 Background**

- 1.1 The application site is shown on the attached OS extract and comprises agricultural land owned and farmed by R H Bott & Son. The site lies approximately 2km south of Benington village, 1.2km southwest of Burn's Green, 1.5km north of Watton-at-Stone, 2km southeast of Aston, and 2.5km east of Stevenage.
- 1.2 The application proposes to erect 3 no. 2MW wind turbines with ancillary infrastructure including a permanent meteorological mast, concrete crane bases, underground cables, electricity sub-station, access tracks and temporary construction compound with access off Walkern Road. The application proposes that the turbines are in place for a period of 25 years, and that the land could then be re-instated for agricultural purposes.
- 1.3 Turbines 2 and 3, the meteorological mast and ancillary infrastructure will be located within the Green Belt, whilst Turbine 1 is within the Rural Area Beyond the Green Belt. There are no other land designations affecting the application site. There is a private airfield approximately 300m north of Turbine 2.
- 1.4 The application intends to use Enercon E82 2MW turbines; however this is dependent on availability. These turbines have a hub height of 78m and a rotor diameter of 82m, giving a total height to the tip of the blade of up to 119m. The maximum installed capacity of the wind farm would therefore be 6MW.
- 1.5 Each of the 3 concrete crane pads will comprise an area of hard-standing that will measure 60m by 18m and are necessary to allow for the assembly and decommissioning of the turbines by crane. They will therefore remain in place for the lifetime of the project. Each of these hard-standings is connected by an access track. The existing site entrance off Walkern Road will also be upgraded to allow for construction.
- 1.6 The meteorological mast will comprise an un-guyed lattice tower 80m high with sensors mounted on booms at 20m intervals. It will be located between turbines 2 and 3, and is required for monitoring performance of the wind turbines throughout the lifetime of the project.
- 1.7 The electrical sub-station will provide the link between the underground cables of the wind farm, and the National Grid through a local electricity provider. The sub-station is proposed to be housed in a building that will measure approximately 4.5m by 5.5m with a shallow pitched roof up to 3.7m high. This will be located adjacent to the construction compound, approximately 250m into the site from Whitehall Farm.

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- 1.8 The compound will comprise a hard-standing of approximately 30m by 40m with parking and storage areas, temporary offices, toilets and a re-fuelling area enclosed by security fencing. This compound is only required for the duration of construction works after which the land will be re-instated using stockpiled subsoil.
- 1.9 The application also proposes an additional permanent permissive bridleway to provide a circular route for horses around the wind farm, and enhanced landscaping.
- 1.10 Based on the annual average capacity of these turbines, enough energy would be expected to power 2,683 dwellings, equivalent to 5.2% of all homes in East Herts. This would also amount to a reduction of carbon dioxide (CO<sub>2</sub>) emissions of between 4,480 tonnes (based on gas generating plant) and 10,800 tonnes (based on coal generating plant) per annum.
- 1.11 The application is accompanied by an Environmental Statement (ES) as required by The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999.

### **2.0 Site History**

- 2.1 Permission was granted in January 2007 for the erection of a 50m high anemometer mast for 1 year to gather wind speed and direction data (our ref: 3/06/2250/FP). A further permission was granted in November 2007 to retain the mast for two more months, until 16<sup>th</sup> March 2008 (3/07/1955/FP). This mast has now been removed from site.
- 2.2 Reference has been made by objectors to an application for a religious retreat including a Unity of Faiths Column at Gregory's Farm in the 1990s. This application was in outline form and was refused by Committee on six grounds (our ref: 3/92/1285/OP), including inappropriate development in the Rural Area, prominence in a Landscape Conservation Area, and highway issues.
- 2.3 There is no other relevant planning history for this site.

### **3.0 Consultation Responses**

- 3.1 The Environment Agency originally objected on the grounds of potential impact on a Source Protection Zone 1 groundwater. However, upon receipt of further information from the applicant, they have removed their objection subject to conditions on infiltration of surface water and contaminated drainage.

- 3.2 Natural England originally objected to the application, but have removed their objection following discussions with the developer. Concerns regarding the loss of connectivity and potential collision hazards for bats appear to have been adequately addressed. Natural England agrees that the removal of a hedgerow close to Turbine 2 would help direct bat flight paths away from the turbines. This hedge appears to be of low quality, and as such its removal is less problematic than if it were of high quality in terms of age, species diversity or structure.
- 3.3 With regards to barometric mortality, it is understood that this is less likely to occur where the rate of pressure drop is lower at the ends of the turbine blades rotating at variable speeds, and higher at constant speeds. The turbines proposed in this application operate at a variable speed. Natural England acknowledge that further research could be undertaken, and as such they recommend that the relocation of turbines to suitable safe distances from linear features or other suitable bat habitats should be the favoured strategy.
- 3.4 The use of bat scarer devices has also been discussed; however this technology is not sufficient to ensure adequate protection for bats flying in close proximity to turbines. Finally, Natural England welcomes the commitment of the developer to undertake post construction monitoring of bat activity, and recommends that this should be covered by planning condition or agreement.
- 3.5 The Herts and Middlesex Wildlife Trusts have removed their initial objection following the submission of further information from the developer. They are now satisfied that the relocation of the hedgerow to a safer distance from the turbines is the most practical strategy. A number of conditions are recommended related to badger, bird, hare, and reptile surveys, lighting and a habitat management plan. Post-construction monitoring for bats should be dealt with by way of a S106 Agreement.
- 3.6 Herts Biological Records Centre (HBRC) also objected on the grounds of insufficient survey data for badgers, great crested newts and reptiles within 1km of the development site. They also state that Turbines 1 and 2 are located too close to hedges and field margins that attract farmland birds. Hand searches for hares and breeding birds are also recommended, and a requirement for post construction monitoring. Although no revised response has been received from HBRC, they indicated their satisfaction at a meeting subject to the requirement for survey work by way of condition.

- 3.7 The Herts and Middlesex Bat Group objects on the grounds of the risk of collision of bats with turbine blades, the turbine tower and associated infrastructure, removal of hedgerows reducing habitat connectivity and disrupting flight paths, and limitations in the bat survey report accompanying the application.
- 3.8 The RSPB raise no objection to the application but recommend a number of conditions on post construction monitoring and good ecological management practice. They also advise that works should take place outside the breeding season of 1<sup>st</sup> March - 31<sup>st</sup> August.
- 3.9 English Heritage raise no objection to the application on the grounds of impact on the setting of important historic sites and buildings. However, they have not been able to survey the surrounding area themselves.
- 3.10 The Council's Conservation Officer considers that there would be no significant detrimental impact on the closest Conservation Areas or the setting of the listed buildings referred to in the Environment Statement.
- 3.11 The Hertfordshire Gardens Trust has some concerns over impact on Woodhall Park, Benington Park, Sacombe Park and Frogmore Park. Sacombe Park has not been mentioned in the Environmental Statement and is an important Bridgeman landscape that lies within the Sacombe-Benington Ridge, greatly affected by the proposed development. The Trust urges that consideration be given to any detrimental effect on these locally important parks themselves and not just as settings for their respective houses.
- 3.12 Engineering services confirm that there does not appear to be a significant likelihood of increase to flood risk.
- 3.13 Planning Policy raises no objection but sets out the legislation and relevant policy in dealing with this application. This is discussed in the policy considerations section below.
- 3.14 Environmental Health do not object to the application subject to conditions on noise, shadow flicker, position of turbines, and construction works. The ES concludes that the predicted noise levels at the nearest residential properties will meet both day and night time noise limits. ETSU-R-97 (the Government recognised methodology for assessing noise impacts from wind farms) has been followed. However, specific noise emission limits are recommended as a condition. In 2006, a Government report concluded that there is no evidence of health effects arising from infrasound or low frequency noise generated by wind turbines.

- 3.15 The Landscape Agency have been commissioned by EHDC to assess landscape and visual impacts. They conclude that the wind farm would have a significant effect upon the landscape character and visual amenity of the surrounding area. The turbines would introduce new landscape features that are not characteristic of the area and which would affect views from a wide range of receptors. Whilst the site and surrounding countryside are of a strong rural character, there are a number of villages, hamlets, farmsteads and individual dwellings located close to the proposed turbines and within a 5km radius. There is also an extensive network of Public Rights of Way and local roads.
- 3.16 Having reviewed the Landscape and Visual Assessment submitted to support the application, The Landscape Agency consider that the applicant has not provided sufficient information relating to the effects of the proposed development upon the visual amenity of residents, walkers and other sensitive visual receptors within close proximity of the site. Furthermore, in order to gain an understanding of the residual effects, clarification is sought regarding mitigation measures employed to reduce the landscape and visual impacts of the proposal. The applicant has since confirmed that mitigation by way of a planting scheme was formulated in discussion with the Council's previous Landscape Officer.
- 3.17 County Highways do not wish to restrict the grant of permission subject to a number of conditions. Concern has been raised over the potential for driver distraction from the turbines. Whilst it is likely that there may be some distraction, this is not considered to differ significantly from other forms of distraction which the driver is faced in any journey. PPS22 states that "wind turbines should not be treated any differently from other distractions a driver must face and should not be considered particularly hazardous. There are now a large number of wind farms adjoining or close to road networks and there has been no history of accidents at any of them."
- 3.18 Shadow flicker may also occur for short durations as the sun passes behind the hub of the turbine. However, shadow flicker already occurs for drivers on a regular basis due to adjacent trees and hedges, and as such the effect of the development should not be a significant hazard.
- 3.19 In terms of construction, Highways advise that it is not unreasonable for minor works to be carried out on the highway. Conditions are recommended that the construction vehicle route, remedial works and traffic management is agreed with the highway authority prior to the commencement of development. In relation to construction vehicle numbers, whilst there will be

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an increase in HGVs using the route through Watton-at-Stone, this will be a short term impact that should be mitigated through a Construction Traffic Management Plan and Construction Method Statement.

- 3.20 The largest level of impact is likely to occur during the construction of the concrete bases when 39-52 deliveries could occur each day, although this will only be around a 3% impact considering overall vehicle movements through Watton-at-Stone. The Management Plan and Method Statement should identify final methods and numbers.
- 3.21 This proposal involves the manoeuvring of abnormal loads that will need to cross a number of highway structures. The applicant has confirmed that they have specialist plant to undertake this task including machinery to cross weak bridges. A condition is recommended that a full route access report be prepared considering the weight limit of any structures and the methodology for how the load will cross the structure. HCC Officer presence may be required during movements of the larger loads.
- 3.22 In terms of amended and new vehicular accesses, it is proposed to widen the existing site entrance from Walkern Road, provide a new access south of the existing RUPP on High Elms Lane, and provide a new access to turbine 1 from High Elms Lane. Mitigation measures should be implemented after construction to re-instate the accesses, although it is acknowledged that future repairs/blade replacement needs to be taken into account. In particular, the new access to the south of the RUPP on High Elms Lane should not remain as this creates an undesirable double access point.
- 3.23 GO-East are unable to comment as the application may come before the Secretary of State and they would not wish to prejudice her consideration of the planning issues involved.
- 3.24 The Ministry of Defence has no objection to the proposal.
- 3.25 BAA has no objection to the proposal.
- 3.26 Three Valleys Water objects on the grounds of interference to radio communication controlling the public water supply.
- 3.27 County Archaeology recommends consent subject to a programme of archaeological work. The area has potential for archaeological remains, particularly those of Prehistoric and Roman date.
- 3.28 Ofcom have provided a list of fixed link frequency bands that are within or have paths that cross a 500m radius coordination area.

- 3.29 The Joint Radio Company does not foresee any potential problems based on known interference scenarios for radio systems operated by utility companies.
- 3.30 The Aircraft Owners and Pilots Association originally objected to the proposal on the grounds of flight safety impacts, but have since removed their objection as they have received confirmation from the airstrip owner that he and his flying colleagues are not concerned.
- 3.31 The British Horse Society set out that there are risks to horses from flicker in bright sunlight, large moving shadows, noise effects and projection of ice particles in freezing weather. They recommend a separation distance of 3 times the overall height with 200m as recommended in PPS22 being the minimum. They strongly object to the access roads following the lines of public bridleways. Conditions are therefore recommended to retain a 200m buffer zone to any bridleway or byway, to separate horses and vehicles with fencing, for vehicles to give way to users of the right of way, and that a new route be constructed to allow horse riders to circumnavigate the site at a safe distance.
- 3.32 The East of England Regional Assembly state that the proposal would make a significant contribution towards renewable energy targets, although they have significant reservations that the integrity of the existing Green Belt would be harmed by the installation of the two turbines that fall within the current boundary.
- 3.33 North Herts District Council consider that the substantive issues in this case relate to visual and landscape impacts and the potential for cumulative effects given that a similar scheme has now been deposited with NHDC at Weston. On landscape impact, NHDC has adopted a Landscape Character Assessment in partnership with Stevenage Borough Council which is used to assess development proposals which have the potential to impact on identified landscape character areas.
- 3.34 The Campaign to Protect Rural England (CPRE) conclude that the application should be refused on the grounds of inappropriate development and significant erosion of the Green Belt, and insufficient justification for a wind farm. The Landscape and Visual Impact Assessment does not follow the Horner + Maclennan Landscape Architect's report to Hertfordshire County Council, and the viewpoint selection is questionable. There will be a significant effect on both Landscape Character Areas in which the site is located, and a major impact on the tranquillity of the area.



3.35 Also, the CPRE are concerned that the projected vehicle movements during construction are substantially underestimated, and abnormal loads will be likely to cause severe disruption to regular road users. Finally, the 25 year period is not considered to be temporary, and the community benefits are little more than a bribe; educational/visitor facilities should not be used to try and justify a development of this nature and scale.

#### **4.0 Parish Council Representations**

4.1 Benington Parish Council objects in the strongest possible terms for the following reasons:-

- A local questionnaire to households in Benington showed 80% against the proposal.
- Development is inappropriate in the Green Belt and Rural Area.
- Visual and environmental impact would be immense, out of scale with the surrounding landscape and out of character with the historical setting.
- Impact on human health through noise, vibrations and flicker.
- Moving shadows may frighten horses and the permissive bridleway would increase danger on High Elms Lane.
- Permanent damage to ecology of the area.
- Construction process will cause enormous disruption.
- Turbines may distract drivers resulting in further accidents.

4.2 Watton-at-Stone Parish Council supports the principle of renewable energy but in this case there is a unanimous resolution to oppose on the grounds of:-

- Visual impact upon an area of outstanding natural beauty.
- Turbines are out of proportion with the landscape.
- The Landscape Character Assessment refers to “the remoteness, tranquillity and continuity and sense that nothing has changed over the centuries” in this area.
- No reasons for departing from Green Belt policy have been put forward.
- Potential unresolved risks to health and noise issues.
- Proposal is contrary to policy SD3.
- Significant damage to the village through building operations.

4.3 Datchworth Parish Council objects on the following grounds:-

- This application will have a profound effect on the appearance of the Beane Valley for at least 25 years.
- Turbines of this size and number with their ancillary structures are

inappropriate in a populated area.

- Significant degree of inconvenience and disruption will be experienced locally during construction work.
- Concern over level of noise during operation but this will not be a factor in Datchworth.

4.4 Aston Parish Council object on the following grounds:-

- Turbines are located in the highest, cleanest location in the area.
- Scale of turbines is totally out of character with the locality.
- The turbines will unavoidably change the nature of the locality and ruin some very impressive views.
- Proposal breaches Local Plan policy SD3 – no other locations have been considered and no mitigating actions can protect mid-distance views.
- Also conflicts with Area 39 ‘Middle Beane Valley’ of EHDC’s Landscape Character Assessment.
- Inappropriate development in the Green Belt.
- Approval would set a precedent for other proposals in the Beane Valley.
- Proposal is contrary to Aston Parish Plan.
- A survey of Parishioners found that 81.5% of those who responded to a handbill were against the proposal (the response rate was 23.3%)

4.5 Little Munden Parish Council object on the following grounds:-

- We have a responsibility to protect countryside for future generations.
- Hertfordshire is the most densely populated county in the UK and one of the least windy.
- Wind farms are only economically viable through Government subsidies (funded by the tax payer).
- Possible adverse health implications.
- Increased road traffic during construction.
- Impact on ramblers, horse-riders and wildlife.

4.6 Great Munden Parish Council objects on the following grounds:-

- It is uneconomic to build wind turbines in one of the least windy counties in the UK.
- Development should not be allowed in the Green Belt – would set a precedent for more unacceptable development.
- Seriously detrimental visual impact for miles around.
- Adverse effect on health.
- Moving structures frighten horses.
- Moving blades have been shown to kill birds and bats.
- Construction process would have a major impact on the local area.
- Distraction to drivers.

4.7 Sacombe Parish Council objects on the following grounds:-

- The turbines would be extremely obtrusive in the local landscape in conflict with policy OSV2 for Category 2 villages.
- Also in conflict with the Landscape Character Assessment SPD.
- It is illogical to site these turbines inland unless there are clearly other beneficial factors.
- The electricity generation would be well below its potential and therefore does not justify the damage to the local community environment.
- There may also be other issues such as noise and vibration but it is difficult to obtain objective information on these.

4.8 Tewin Parish Council also objects on the grounds of setting a serious precedent for similar applications which will have a substantially detrimental effect on the surrounding landscape and environment.

5.0 **Other Representations**

5.1 The application has been advertised by way of press notice, site notices across the area, and direct neighbour notification. Presentations have also been held at a number of local Parish Councils.

5.2 A total of 1,481 letters have been received, comprising 1,023 objections and 458 letters of support.

5.3 Of the letters of support, 84% (387) are standard, and only 6% (27) have been received from addresses within the immediate vicinity (Benington, Watton-at-Stone and Aston). The majority have been received from elsewhere in Hertfordshire and London. A petition of support with 32 signatures from St. Albans addresses has also been received.

5.4 Of the letters of objections, 48% (489) have been received from the same local addresses. A petition of 501 signatures objecting to the proposal has also been received.

5.5 The main issues raised in support of the application are as follows:

Climate Change	<ul style="list-style-type: none"><li>- Government is committed to supporting wind energy.</li><li>- Climate Change Bill commits the UK to a 60% CO<sub>2</sub> reduction by 2050 and pushing for an 80% target.</li><li>- UK strategy is to produce 10% electricity generation from renewable sources by 2010.</li><li>- Land has been identified as suitable for wind energy in the Hertfordshire Renewable Energy Study.</li></ul>
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	<ul style="list-style-type: none"><li>- Must take steps to tackle climate change and develop renewable energy sources.</li><li>- Hertfordshire is lagging behind in renewable energy.</li><li>- Urgent need for this type of infrastructure to support housing growth.</li><li>- Need to make provisions for future generations.</li><li>- PPS1 and PPS22 encourage renewable energy.</li></ul>
Energy Generation	<ul style="list-style-type: none"><li>- Long distance electricity generation loses voltage along the way, therefore need more local sources</li><li>- Locals currently draw their energy from coal or nuclear power stations which have much greater impact and are somebody else's problem.</li><li>- Wind generation does not require 100% back-up.</li><li>- Existing gas turbines are able to quickly vary their output.</li><li>- Wind power is predictable on an hour by hour basis.</li><li>- Objectors have used unsound technical arguments.</li><li>- Best option compared to biomass and biogas plants which rely on deliveries.</li><li>- Turbines will pay back energy in less than 1 year.</li></ul>
Landscape/Visual Impact	<ul style="list-style-type: none"><li>- Landscapes evolve and change over time – climate change will also have a huge impact on the landscape.</li><li>- Land will be restored after 25 years.</li><li>- Turbines will be well screened by terrain and woodland.</li><li>- Turbines will clearly be visible but soon become part of the landscape.</li><li>- Turbines are majestic and elegant.</li><li>- Will soon become an accepted and attractive part of the landscape.</li><li>- The turbines are sited well away from the villages.</li><li>- BWEA surveys shows that 70-80% of the British public support wind farms.</li></ul>
Residential Amenity	<ul style="list-style-type: none"><li>- Modern turbines are now much quieter.</li><li>- Aerodynamic noise is generally unobtrusive – similar to noise of wind in trees.</li><li>- No evidence about turbines causing health problems.</li></ul>
Traffic & Construction Impact	<ul style="list-style-type: none"><li>- Construction will have limited impact.</li><li>- Little danger to drivers as people would get used to seeing them in the distance.</li><li>- Public will still be able to use Rights of Way</li></ul>
Economy	<ul style="list-style-type: none"><li>- Economic benefits to Hertfordshire.</li><li>- Will maintain and diversify farm business.</li><li>- Anemometer readings show that there is enough wind to make the scheme viable.</li></ul>

	<ul style="list-style-type: none"><li>- No long term effect on property values.</li><li>- Community benefit through annual payments to Parish Councils.</li><li>- The project is self-funded and will cost tax-payers nothing.</li></ul>
Ecology	<ul style="list-style-type: none"><li>- Turbines have no impact on birds.</li><li>- Impact on local ecology is limited and largely short-term.</li><li>- Livestock are happy to graze close to turbines.</li><li>- No effect on horses riding near turbines.</li><li>- Global warming is the biggest threat to British birds.</li></ul>

5.6 The main issues raised in objection of the application are as follows:

Climate Change	<ul style="list-style-type: none"><li>- Minute rises in carbon dioxide (CO<sub>2</sub>) do not account for global warming.</li><li>- Turbines will result in increased CO<sub>2</sub> emissions.</li><li>- Global warming is natural - man cannot change nature.</li><li>- We should concentrate on proven efficient nuclear power plants.</li><li>- Renewable energy is needed, but in the right place.</li></ul>
Landscape/ Visual Impact	<ul style="list-style-type: none"><li>- The Beane Valley is beautiful and unspoilt.</li><li>- Turbines will be a huge intrusion on the landscape.</li><li>- Will inevitably lead to further applications being made leading to industrialisation of the landscape.</li><li>- Wind turbines should be put in light industrial areas.</li><li>- Turbines would have much less impact elsewhere.</li><li>- Significant visual impact over 100 square miles.</li><li>- Wind farms are ugly and disruptive.</li><li>- Impact on walkers, cyclists and horse riders.</li><li>- The land can never be returned to its former use.</li><li>- Beane Valley is one of Hertfordshire's finest views.</li><li>- Visual impact on historic village of Benington – not in-keeping with the age and beauty of the village.</li><li>- Loss of beautiful countryside is much greater than a minimal CO<sub>2</sub> saving.</li><li>- Huge disruption with service roads, cable trenches and lorry movements.</li><li>- Loss of views.</li><li>- No other form of industrial development would be permitted on this site.</li><li>- Turbines would be out of scale with the surroundings.</li><li>- County has placed the highest level of protection on this area.</li></ul>

	<ul style="list-style-type: none"><li>- New car park would cause further visual impact.</li><li>- Tree screening is mostly lost in the landscape in the winter.</li><li>- Vertical lines are unnatural in the landscape.</li><li>- Electricity pylons were refused permission and cables had to be placed underground.</li><li>- Conflict with Council's Landscape Character Assessment for Area 39: Middle Beane Valley.</li><li>- Major harm to setting of listed buildings, in particular Gregory's Farm.</li><li>- Significant impact on Haultwick Hall</li><li>- Impact on surrounding Conservation Areas.</li><li>- Impact on historic gardens of Benington.</li><li>- An application to erect a temple many years ago was refused on the grounds of visual impact.</li></ul>
Green Belt	<ul style="list-style-type: none"><li>- Green Belt is already under threat.</li><li>- Application would set a dangerous precedent for loss of Green Belt and for other wind farms.</li><li>- Unnecessary and inappropriate development in the Green Belt.</li><li>- Designation should not be relaxed in order to appease government pressure to meet targets.</li><li>- The site will become brownfield in the future – suitable for further industrial development.</li><li>- Recent appeal dismissed as benefits did not outweigh harm to the Green Belt.</li></ul>
Residential Amenity	<ul style="list-style-type: none"><li>- Complete loss of amenity for nearby dwellings.</li><li>- Located too close to dwellings.</li><li>- France has stopped building turbines in rural areas.</li><li>- Scotland recommends a minimum of 2km to the nearest dwelling.</li><li>- The Danish Government has stopped erecting on-shore wind turbines due to health problems from noise.</li><li>- In Germany a growing number of people living near wind farms are unfit for work.</li><li>- All expert reports recommend a separation distance of 1.5km.</li><li>- Concern over impact on health and work – headaches, tinnitus, sleep problems, stress, anxiety &amp; depression (Wind Turbine Syndrome).</li><li>- Constant noise intrusion and low frequency sound.</li><li>- Turbines should not be permitted until there is conclusive evidence of health effects.</li><li>- Houses could be affected by flicker.</li><li>- Noise monitoring period was too short and with low</li></ul>

	<p>wind speeds.</p> <ul style="list-style-type: none"><li>- Noise, vibrations and sight of moving blades will exacerbate existing illnesses.</li></ul>
Traffic & Construction Impact	<ul style="list-style-type: none"><li>- Small country lanes are not designed for heavy traffic.</li><li>- Increase in the number of accidents due to distraction, flicker and glare, particularly on the A602.</li><li>- The A602 at Heath Mount School is a particular accident hot-spot.</li><li>- There have been more than 100 accidents recorded along the A602 with 3 fatalities over the last 10 years.</li><li>- Danger for cyclists.</li><li>- Increased vehicle emissions using the roads.</li><li>- Construction traffic will pass through Watton-at-Stone and cause a nuisance – estimated 1000 lorry loads.</li><li>- High Street is not designed for large vehicles - a woman was killed several years ago by a lorry.</li><li>- Lorry vibrations will affect historic buildings.</li><li>- Lack of information to protect the medieval bridge.</li><li>- No information on when the dummy-run would take place as much street furniture has to be removed.</li></ul>
Energy generation	<ul style="list-style-type: none"><li>- Off-shore wind has far greater potential where there is no destruction to the environment.</li><li>- Actual energy produced will be small – Hertfordshire is one of the least windy counties.</li><li>- Huge amounts of energy are required in construction and concrete hard-standings.</li><li>- Conventional power back-up is still required so no existing generating capacity can be removed.</li><li>- Turbines produce no energy when there is not enough or too much wind.</li><li>- Power cuts will affect central heating.</li><li>- Land based wind farms are not nearly big enough to provide a viable and consistent contribution to energy requirements.</li><li>- Running power stations on part-load with frequent powering up and down to meet demand increases CO<sub>2</sub> emissions.</li><li>- Calculations are not based on actual on-site readings, but on East of England average.</li></ul>
Ecology	<ul style="list-style-type: none"><li>- A wind farm in Scotland has been turned down on environmental reasons.</li><li>- Danger to horses due to noise and moving blades.</li><li>- British Horse Society recommends turbines should be located 360m away from bridleways.</li></ul>

	<ul style="list-style-type: none"><li>- Massive impact on local natural wildlife – Beane Valley is well known for its local wildlife.</li><li>- Birds and bats are killed by turbines – turbines tips travel at 185 mph.</li><li>- New research shows air pressure from turbines blades is responsible for killing bats.</li><li>- Wildlife including red kites, barn owls, little owls, buzzards, kestrels, brown hares, great crested newts, heron and deer in the area.</li><li>- Loss of mature oak trees and hedgerows.</li><li>- Tons of concrete will adversely affect the hydrology of the area and increase flooding.</li></ul>
Community	<ul style="list-style-type: none"><li>- Huge resentment in local community.</li><li>- The only winner is the developer who will make millions of pounds profit.</li><li>- De-valuing of local property – this has recently been proven in court with council tax reduced for affected property.</li><li>- No benefits to the local community, not even cheaper electricity.</li><li>- Sums offered to local Councils could never make up for the loss of peace and beauty.</li><li>- 80% of Benington Parish are against the proposal (vote on 21<sup>st</sup> June 2008).</li><li>- Loss of television reception.</li></ul>
Economy	<ul style="list-style-type: none"><li>- Wind energy is up to 3 times more expensive than that produced from conventional means.</li><li>- Huge profit from government subsidies and council tax.</li><li>- On-shore wind turbines have no economic value.</li><li>- Local environmental cost far outweighs marginal short-term profits of producing cheaper electricity.</li><li>- Decline in tourism in the area – people will visit elsewhere.</li><li>- Other European countries have reduced/removed their subsidies for wind power.</li><li>- Unlikely to provide employment opportunities for local people.</li><li>- Money would be better spent on improving energy efficiency of dwellings.</li></ul>
Safety	<ul style="list-style-type: none"><li>- Turbines are known to have mechanical faults, spin freely and catch fire, and are prone to lightning strike where fires cannot be put out because of their height.</li><li>- Hazard from leaky hydraulic fluid and oil.</li><li>- Safety impact for aircraft and hot air balloons.</li></ul>



	<ul style="list-style-type: none"><li>- Regular maintenance will be necessary and will cause disruption.</li><li>- Blades are toxic and difficult to dispose of.</li></ul>
Miscellaneous	<ul style="list-style-type: none"><li>- Contrary to policy SD3 - no other locations have been considered and no possible mitigation measures.</li><li>- Proposal is in breach of the Aston Parish Plan.</li><li>- Loss of agricultural land for food production.</li><li>- Previous applications for electricity pylons and a 50ft Column of Faith were refused permission.</li></ul>

5.7 Oliver Heald MP objects on the grounds of:

- Proposal is on a very large scale relative to the landscape.
- Photos are all taken with trees in full leaf. In the winter the turbines will be very prominent.
- Beane Valley is one of the few without other impediments, such as pylons.
- Hertfordshire is one of the most heavily populated counties.
- Heavy traffic will have to use the centre of Watton-at-Stone which will cause considerable inconvenience.
- Concern over 'flicker effect' as vehicles approach the turbines creating a traffic hazard.

5.8 Oliver Heald has also provided information from the House of Commons which confirms that there is no fixed distance within which a wind turbine is prohibited in Scotland. Guidance is set out in Scottish Executive Planning Advice Note 45 'Renewable Energy' and suggests that 350m might be considered a suitable distance. The Parliamentary Library in Paris has also been contacted with regards to French rules for wind farms but no response has yet been received.

5.9 Stop Benington Wind Farm Action Group (SBWFAG) is an action group that has formed specifically to oppose this application. They have submitted an objection document raising the following points:

- Proposal is totally out of scale with the surrounding villages and rural landscape, and will adversely alter the existing landscape character.
- Two turbines will be on Green Belt land.
- Significant visual impact up to 10km and adverse impact on the setting of a number of listed buildings, conservation areas, registered parks and Scheduled Ancient Monuments.
- Local residents would be adversely affected by shadow flicker and various types and levels of noise.
- The enjoyment of the countryside would be compromised due to the strong and well used network of public Rights of Way in the area.

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- Driver distraction and accidents will increase.
- Ecology of the area will be adversely affected, particularly bats.
- The proposal contravenes a wide range of national, regional and local planning policies.

5.10 SBWFAG also commissioned LizLake Associates to produce a landscape assessment, which raises the following points:-

- The ES does not make professional judgements as to the nature of the landscape and visual impacts. It is therefore not possible to reach an evidence based conclusion on whether this is an appropriate location for wind turbines.
- Not consistent with methodology recommended in Guidelines for Landscape and Visual Impact Assessment as the nature of the effects should also be addressed (as either positive, negative or neutral).
- The ES fails to acknowledge that the proposal would result in a significant loss of local landscape character given there would be a significant effect on 8 local landscape character areas.
- The exact location of viewpoints in the photomontage is unclear due to the scale and the photomontages underestimate the visual impact of the turbines.
- The landscape is currently free from large prominent structures – pylons are more than 7km from the site.
- The ES fails to recognize the character of the landscape as a series of ridges and valleys, which would accentuate the visibility of the turbines.
- There is no indication that the site has been chosen after a careful consideration of other locations.
- Due to the varied character of the local landscape, the existing lack of visual clutter and the increased visibility due to the series of ridges, there will be a significant loss of local landscape character.
- Impacts from viewpoints are generally considered to be more adverse than set out in the ES.
- Considers that there would be a moderate to major adverse impact on the setting of the Aston Conservation Area, Gregory's Farm and Haultwick Hall.
- Impact on the setting of Benington Lordship Gardens, Benington Park and Frogmore Hall is considered to be moderate adverse.

5.11 An ecological assessment was also undertaken by Jones & Sons Environmental Sciences Ltd. on behalf of SBWFAG in September 2007. Their report raises the following points:-

- There is potential for great crested newts to disperse across the site of the proposed wind turbines.

- A total of 75 bird species have been recorded within a 4km area, and of these, 10 are on the RSPB Red List of high conservation concern.
- 26 mammal species have also been recorded within 4km, including brown hares, Hazel dormice and badgers that are protected species.
- 11 bat species have been recorded within 10km, representing 92% of species in Hertfordshire. There are also 75% of Hertfordshire's bat species found within 2km.
- Construction works will result in damage to habitats.
- Turbines could cause bird and bat fatalities by collision with moving blades, disruption of flight paths, and change or loss of habitats.

5.12 Communication has also been submitted by both SBWFAG and the applicant related to various complaints to the Advertising Standards Agency (ASA) regarding SBWFAG's printed material. The decision from the ASA has also been submitted; however this is not a material planning consideration.

## **6.0 Policy**

6.1 The main policies relevant to this application are East Herts Local Plan Second Review April 2007 policies:

SD3	Renewable Energy
GBC1	Appropriate Development in the Green Belt
GBC3	Appropriate Development in the Rural Area Beyond the Green Belt
GBC12	Agricultural Land
GBC14	Landscape Character
TR2	Access to New Developments
TR15	Protection of Equestrian Routes
TR20	Development Generating Traffic on Rural Roads
ENV1	Design and Environmental Quality
ENV2	Landscaping
ENV10	Planting New Trees
ENV11	Protection of Existing Hedgerows and Trees
ENV13	Development and SSSIs
ENV14	Local Sites
ENV16	Protected Species
ENV17	Wildlife Habitats
ENV20	Groundwater Protection
ENV21	Surface Water Drainage
ENV24	Noise Generating Development
BH1	Archaeology and New Development
BH6	New Developments in Conservation Areas

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BH12	Development Affecting the Setting of a Listed Building
BH16	Historic Parks and Gardens
LRC10	Tourism

6.2 Of further relevance are adopted East England Plan (Regional Spatial Strategy) policies:

ENG1	Carbon Dioxide Emissions and Energy Performance
ENG2	Renewable Energy Targets

6.3 Government Guidance is also provided in the following guidance notes:

PPS1	Delivering Sustainable Development
PPS1	Supplement: Planning and Climate Change
PPG2	Green Belts
PPS7	Sustainable Development in Rural Areas
PPS9	Biodiversity and Geological Conservation
PPG15	Planning and the Historic Environment
PPG16	Archaeology and Planning
PPS22	Renewable Energy
PPG24	Planning and Noise

## 7.0 Considerations

### **Principle of Development**

7.1 The site lies partly within the Metropolitan Green Belt, and partly within the Rural Area Beyond the Green Belt. Turbines 2 and 3 are proposed approximately 235m and 230m inside the Green Belt boundary respectively. Turbine 1 is located outside the Green Belt, and hence within the Rural Area Beyond the Green Belt.

7.2 Within the Green Belt there is a general presumption against inappropriate development unless very special circumstances can be demonstrated that clearly outweigh the harm. The erection of wind turbines is clearly operational development, but is not considered to constitute a building operation. The construction of the wind turbines is therefore considered to constitute an engineering operation, which is defined as inappropriate development unless they maintain the openness of the Green Belt, and do not conflict with the purposes of including land in the Green Belt. A recent appeal decision also supports this interpretation of policy.

7.3 In terms of openness, it is acknowledged that a degree of permeability would remain through the site given the moving nature of the blades. However, these are large structures with a base diameter of 4.3m and a

height of 82m to the hub. The three turbines will be scattered across the site and will be clearly visible from the surrounding area. On this basis, it is the Officer's view that this proposal cannot be considered to maintain the openness of the Green Belt.

- 7.4 In terms of whether there is conflict with the purposes of including land in the Green Belt, this follows the five purposes set out in paragraph 1.5 of PPG2. Of these, the only purpose considered to be relevant is "to assist in safeguarding the countryside from encroachment". Whilst there is no definition of 'encroachment' in PPG2, it is considered to involve development that advances beyond the limits of built settlements into the undeveloped countryside. In this case, the construction of 3 no. wind turbines and ancillary infrastructure within an open rural area would represent encroachment into the countryside. As such, this proposal is considered to conflict with the purposes of PPG2, and policy GBC1, and is therefore defined as inappropriate development in the Green Belt. A recent appeal for 4 no. similar turbines in Cheshire also supported this view.
- 7.5 With regards to the third turbine located within the Rural Area Beyond the Green Belt, policy GBC3 sets out what constitutes appropriate development, and wind turbines do not fall within any of these categories. Therefore, this third turbine is also considered to be unacceptable in principle.
- 7.6 The construction of ancillary infrastructure, including an anemometer mast, sub-station, tracks, construction compound and crane pads, is also considered to constitute inappropriate development by definition. However, it is acknowledged that, in relation to the turbines themselves, the impact of these structures on openness would be limited.
- 7.7 Very special circumstances must therefore be demonstrated to override this in-principle policy objection. Paragraph 13 of Planning Policy Statement 22 'Renewable Energy' states that in relation to Green Belts, "such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources." PPS22 goes on to say that "the wider environmental and economic benefits of all proposals for renewable energy projects, whatever their scale, are material considerations that should be given significant weight in determining whether proposals should be granted planning permission."

### **Renewable Energy Considerations**

- 7.8 The Government's renewable energy policy has been clearly set out in recent years in a number of key documents. These include The Energy White Paper 2007 which aspires to achieve 10% electricity from renewable sources by 2010, 20% by 2020, and also supports a reduction of CO<sub>2</sub>

emissions by 60% by 2050. This White Paper also sets out that the planning process can be an especially difficult process for the deployment of renewable energy infrastructure in the UK. A clear steer is therefore given to local authorities to look favourably on renewable energy developments.

- 7.9 The Government's national planning policy advice for renewable energy projects is set out in PPS22 and its Companion Guide (both 2004), which support an increased deployment of renewable energy resources in order to meet Government targets. PPS22 also provides advice on considerations in determining applications for renewable energy infrastructure.
- 7.10 Planning Policy Statement 1 (PPS1) and its recent supplement 'Planning and Climate Change' provide further advice on dealing with applications for renewable energy and highlights that tackling climate change is a key priority for the planning system. Contributions towards the Government's Climate Change Programme and energy policies are listed as the first Key Planning Objective of the PPS1 Supplement.
- 7.11 In terms of regional targets, policy ENG2 of the East of England Plan, the Regional Spatial Strategy (RSS) adopted in May 2008, sets out that 10% of the region's energy should come from renewable sources by 2010, and 17% by 2020. This is equivalent to an installed capacity of at least 1,192 MW by 2010 and 4,250 MW by 2020, excluding energy from offshore wind.
- 7.12 However, policy ENG2 of the RSS sets no sub-regional targets for renewable energy. Further, there is no clear policy framework or targets at County level as the Hertfordshire Structure Plan has expired. However, Herts County Council commissioned the *Hertfordshire Renewable Energy Study* in July 2005, which considers the barriers and potential opportunities for renewable energy within the county. The study sets out that the opportunity exists for at least 10MW of installed onshore wind power capacity in Hertfordshire. On this basis, the 6MW scheme proposed in this application would contribute a significant 60% towards this target.
- 7.13 This study also identifies potentially attractive areas for wind farm developers, and although the map is not clear in its detail, the Benington area appears to broadly fall on the edge of this area. However, this map does not seek to identify acceptable areas, nor does it seek to eliminate sites that fall outside this area, it merely sets out where may be attractive for wind farm developers.
- 7.14 At the local level, policy SD3 of the East Herts Local Plan Second Review April 2007 states that "the development of facilities for the harnessing of renewable energy sources is supported in principle." However, it also

acknowledges that proposals for wind power schemes can also create problems of visual intrusion and loss of amenity; “whilst such schemes will enjoy support in principle, they will need to be carefully located and employ all reasonable mitigating measures.”

- 7.15 Several objectors have questioned the merits of the Government’s energy policy, and the efficiency of onshore wind turbines; however it is not for this application to question the Government’s policy or Climate Change Programme. Assessment of this application should follow existing Government guidance as set in its Planning Policy Statements, and the District Council’s own adopted planning policy.
- 7.16 Several concerns have also been raised over the amount of energy that would actually be produced by the turbines. However, PPS22 advises that small-scale projects can provide a limited but valuable contribution to overall outputs of renewable energy and “planning authorities should not reject planning applications simply because the level of output is small”.
- 7.17 Government policy and guidance therefore advises that considerable weight should be placed on the contribution of renewable energy projects to its energy policy. However, this benefit needs to clearly outweigh any adverse impacts, as discussed below.

### **Landscape & Visual Impacts**

- 7.18 The landscape and visual impact of the development is without doubt one of the main issues in this case. Both PPS22 and Local Plan policy SD3 recognise that of all renewable technologies, wind turbines are likely to have the greatest visual and landscape effects. However, the impact of turbines on the landscape will vary according to the size and number of turbines proposed, and the type of landscape involved.
- 7.19 PPS7 also sets out that protection of the countryside is one of the Government’s key aims. This is for the sake of “its intrinsic character and beauty, the diversity of its landscapes, heritage and wildlife, the wealth of its natural resources and so it may be enjoyed by all” (Key principle 1.iv).
- 7.20 The application was accompanied by a full Landscape and Visual Impact Assessment (LVIA) including a review of local landscape character areas, preparation of Zones of Theoretical Visibility (ZTV) maps, and photomontages from various viewpoints. The Study Area covers a 15km radius, previously agreed in consultation with Officers at EHDC. This includes 5 neighbouring authorities: North Herts District Council, Stevenage Borough Council, Borough of Broxbourne Council, Welwyn Hatfield Council, and St. Albans District Council.

- 7.21 There are no national landscape designations within the Study Area. It is not for instance an Area of Outstanding Natural Beauty. Although the site partly lies within the Green Belt, this is not indicative of landscape quality. The applicant refers to two local landscape designations in the ES: Landscape Conservation Areas in Stevenage Borough and St. Albans District. However, the Landscape Conservation Area policy (EN23) has been deleted from the Stevenage Borough Local Plan Second Review and is therefore no longer relevant. The Landscape Conservation Area in St. Albans is covered by policy 104 of the St. Albans District Plan; however as this locally designated site lies approximately 11km from the proposed turbines, there would be no significant effect on this designation.
- 7.22 In assessing the landscape and visual effects of wind turbines, there is no consensus of opinion regarding the extent to which adverse effects on visual amenity should be considered acceptable or unacceptable. The applicant states that some significant effects on landscape and visual amenity are inevitable for a wind farm development. However, the ES goes on to state that “significant effects are not necessarily adverse, and adverse effects are not necessarily unacceptable.” The significance of determining impact from wind turbine schemes differs significantly from other forms of development, given the tall, moving nature of the structures. The assessment of this application is therefore based on a balance of professional judgements.
- 7.23 It is also noted that public opinion is largely polar in its support or objection to proposals for wind turbines. Recent surveys by the British Wind Energy Association (BWEA) indicate a consistently high level of support, on average 70-80%, for the development of wind farms. However, a household survey by Benington Parish Council found that 80% were opposed to this application. Other surveys have found that perceptions of wind farms become more positive once a scheme is implemented.
- 7.24 In terms of landscape fabric, I do not consider that the proposal would have a significant adverse impact. Landscape fabric includes all physical components of the site, such as landform, vegetation etc. Whilst there will be some temporary disruption during construction, the land will be reinstated and vegetation enhanced around the site upon completion. A number of new hedges and trees are proposed to improve the landscape on site. This could be secured through a planning condition.
- 7.25 In terms of landscape character, this includes an assessment of the impact of the development on physical, biological and social components, combined with aesthetic and perceptual factors. In September 2007, EHDC adopted a Landscape Character Assessment Supplementary Planning



Document (SPD), which classifies the distinct Landscape Character Areas (LCAs) within the East Herts district by describing their key characteristics, and natural, historical and cultural features. The document provides a framework for assessing planning applications that may impact on landscape character. This follows the criteria set out in policy GBC14 'Landscape Character', which requires development proposals to improve and conserve local landscape character. Where damage to local landscape is unavoidable, the SPD will inform the nature of appropriate mitigation measures.

- 7.26 The site lies on the boundary of three LCAs: Area 39 (Middle Beane Valley), which extends mostly north to include Walkern and west up to the edge of Stevenage, Area 71 (Benington-Sacombe Ridge) which extends north and east to include Burn's Green and Benington village, and Area 70 (Woodhall Park and Watton-at-Stone Slopes) which extends to the south and east to the boundary of Watton-at-Stone and down to Woodhall Park.
- 7.27 Area 39 is characterised by open arable farmland with small grouped woodlands linked by hedges over strongly undulating valley slopes. The area is described as having "overwhelming impressions of remoteness, tranquillity and continuity, a sense that nothing has changed much over the centuries." There are extensive views, particularly from the west. The condition of the landscape is assessed as being *good* with a *moderate* strength of character.
- 7.28 Area 70 is also defined as tranquil, but is largely contained within woodland which reduces views to the north. One of the criteria for managing change in this area is to resist development that would affect the integrity and historic value of this landscape area.
- 7.29 Area 71 is described as an area of ancient countryside with extensive views over surrounding countryside. It is characterised by a narrow, undulating plateau landform with small woodlands and ribbon development settlements. The condition of this landscape is assessed as *moderate* with a *strong* sense of character.
- 7.30 In assessing impact on the landscape character, the ES confirms that these tall, moving structures will become one of the defining characteristics of the site and result in a significant change to its landscape character. The proposal would therefore have a significant change upon the following Landscape Character Areas (LCAs):-
- Area 38: Aston Estate Farmland
  - Area 39: Middle Beane Valley
  - Area 40: Bramfield-Datchworth Sloping Farmland

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Area 71: Benington-Sacombe Ridge

Area 133: Danesbury-Rabley Heath (within North Herts)

7.31 Further, the proposal would result in significant change to limited parts of the following LCAs:-

Area 70: Woodhall Park and Watton-at-Stone Slopes

Area 73: High Cross Plateau

Area 140: Cottered/Ardeley Settled Plateau

7.32 Overall, the Landscape Agency advises that the proposal would introduce a number of vertical elements into a landscape void of this type of development, and which would have a significant visual impact from a wide area, and for a variety of residential and recreational receptors. The turbines would be visible across open countryside from a number of locations within the Study Area, and would result in a significant impact on the landscape character.

7.33 The visual effect of these structures is further exacerbated, particularly from Watton-at-Stone, by the difference in land levels. Whilst it is noted that the site is not nationally or regionally protected for its landscape quality, the area is characterised by a settled countryside of intimate scale, which I do not consider capable of supporting wind turbines of this scale. The application is therefore considered to result in an unacceptable effect on landscape and visual amenity, to the detriment of the surrounding Green Belt and Rural Area, contrary to policies GBC1, GBC3 and GBC14 of the Local Plan.

7.34 The applicant sets out that any change to the landscape would be temporary as the application is only for a standard 25 year period, after which the land could be re-instated. However, it is my Officer view that a 25 year period cannot reasonably be considered as temporary as it forms a substantial proportion of many people's lives. Further, it is noted that the applicant may wish to re-apply after this 25 year period for more advanced wind turbines. The possible re-instatement of the land therefore carries little weight in this assessment.

7.35 The Landscape Agency, appointed to advise the Council, have made a number of criticisms in relation to the methodology for assessing landscape and visual impact in the ES, and a response has been received from the director of the applicant's consultant, e4environmental. Overall, the methodology appears to follow Government guidance, and published Guidelines for Landscape and Visual Assessment. However, there is clearly some disagreement in assessing the impact on sensitive visual receptors.

- 7.36 The Landscape Agency consider that the magnitude of change is not high enough for some of the receptors assessed, and that the resulting overall significance of change may not be high enough in some cases. They also raise concern that insufficient information was submitted relating to the effects of the proposed development upon the visual amenity of residents, walkers and other sensitive visual receptors within close proximity of the site. It is my Officer view that sufficient information has been submitted to enable a determination of this application, and that although there may be some disagreement in the methodology, the resultant level of impact would not differ such as to reach a different judgement.
- 7.37 In terms of receptors within the site, there are a number of public footpaths, byways, and permissive rights of way running across the site, which are well-used by walkers, cyclists and horse riders. This includes two byways (BOATS), three bridleways to the southeast of the site, a bridleway between Walkern Road and Burn's Green north of the site, and The Hertfordshire Chain Walk (long distance footpath) to the southeast of the site. There are a further four long distance footpaths, and two Sustrans national cycle routes within the Study Area.
- 7.38 The site is therefore host to a number and variety of recreational receptors, and a considerable number of objections have been received from walkers, bikers and horse-riders who visit the area from elsewhere in the county, from London, and further afield. There is also a small amount of access land within the Study Area where a significant change in view may occur where there are clear and uninterrupted views. Overall, the LVIA concludes that users of these public access routes would experience a significant effect on their visual amenity due to the proximity of the turbines. This in itself would not necessarily imply that the significant effect is unacceptable. However, due to the number and variety of recreational receptors in the immediate area, and the size and scale of the turbines, it is my Officer view that this visual impact is unacceptable in this case.
- 7.39 There are also a number of roads and rail routes within the Study Area where the proposal would have the potential to impact on visual amenity. The ES sets out that there would be no significant effect on motorists along any motorways or B roads within the Study Area, and only limited significant effect on users along a short section of the A602 at Woodhall Park. The proposal would also result in a significant change to views along a short section of the mainline railway from Stevenage to Hertford. However, this would be restricted to a 3km section, which forms only a part of the overall route. It is therefore not considered that this change in view would be significant in relation to the route, and passenger experience, as a whole. Issues relating to highway safety are discussed in paragraphs 7.79-7.80 below.

7.40 In terms of cumulative visual impacts, it is noted that a similar scheme for 3 no. 2MW wind turbines at Weston Hills is currently under consideration with North Herts District Council. The Zones of Potential Visibility (ZPV) maps for this application have been considered and compared to those submitted for this application. It is clear that there are likely to be several locations from which both sites would be partly visible. However, given that the sites are located approximately 6 miles away, it is not considered that the partial views of 2 no. wind farms potentially in opposite directions would result in significant harm to visual receptors or residential amenity.

### **Conservation Areas**

7.41 There are nine Conservation Areas within a 5km radius of the proposed turbines, from which the setting and views may be affected. The closest include Benington (at a distance of 1.5km), Watton-at-Stone (at 1.6km) and Aston (at 2km). The submitted ES and LVIA provide a full appraisal of each of these nine Conservation Areas, and concludes there would be no significant visual effect on the character, appearance, setting, or important views into or out of any of them.

7.42 Local Plan policy BH6 for new developments in Conservation Areas only refers to 'new developments in or adjacent to a Conservation Area'. In this case it is not considered that the site lies within or adjacent to any Conservation Area, and as such this policy is not considered to be material.

7.43 However, consideration is given in PPG15 to development proposals which are 'outside a Conservation Area but would affect its setting or views into or out of the area'. Consideration should therefore still be given to the desirability of preserving or enhancing the character or appearance of these nine Conservation Areas.

7.44 The ES considers that the character and appearance of all Conservation Areas will be preserved. Whilst it is acknowledged that there would be clear views from various locations within these nine Conservation Areas, particularly those that lie closest to the development, these are considered to be incidental views, rather than the important intrinsic historical views, which PPG15 serves to protect.

7.45 The Council's Conservation Officer has visited the closest Conservation Areas and concludes that none would experience a significant effect.

### **Listed Buildings**

- 7.46 There are a total of 311 listed buildings within 5km of the site, of which 23 have the potential for views of the turbines within their setting. These 23 have therefore been studied in detail in the ES, and include 3 no. Grade I listed buildings (Church of St. Peter, the remains of Benington Castle, and Woodhall Park), 4 no. Grade II\* (The Bell Public House, Benington Lordship, 43 & 45 Benington Road, and the Church of St. Andrew and St. Mary), and 16 no. Grade II listed buildings.
- 7.47 It has been concluded in the ES that of these 23, there would be a significant effect upon the setting of three: Gregory's Farm, the Waggon and Horses public house, and the entrance gates to Frogmore Farm. These buildings are all Grade II listed, and are located within 2km of the application site.
- 7.48 Gregory's Farm is located approximately 0.7km to the southeast of the site, on a raised and open land ridge. The building dates from the late medieval era, but was remodelled in the early 17<sup>th</sup> Century and extended in the 19<sup>th</sup> and 20<sup>th</sup> Centuries. It is a two storey timber framed building with a plain tiled gable pitched roof. The principal elevation of the building faces southeast, and as such the turbines would be visible from the rear of the building across an open valley with no obstructions to view.
- 7.49 The turbines would be located on even higher ground and would therefore appear dominant in relation to this listed building. The ES states that the introduction of wind turbines within this view "is expected to result in visual confusion and competition with the heritage feature" (Vol. 2, p.248). The overall impact on the setting of this Grade II listed building would therefore be considerable and significant.
- 7.50 The Waggon and Horses public house is located approximately 1.6km south of the site, at the junction of Walkern Road and Watton-at-Stone High Street. The building dates from early to mid 17<sup>th</sup> Century with possible earlier origins, and 19<sup>th</sup> Century alterations. It is timber framed and formed of render with a pitched tiled roof and characteristic red brick chimney stack.
- 7.51 The principal views of the pub are when facing north-northwest from the High Street, which would remain unaffected. However, the turbines would be partially visible to the north above existing vegetation. Again, the ES states that "this is expected to result in some visual discordance with the heritage feature" (Vol. 2, p.259), and as such the impact on the setting of this listed building would be significant.

7.52 The entrance gates to Frogmore Hall are located approximately 1.1km southwest of the site on land that gently slopes down to the River Beane. The gates date from the 18<sup>th</sup> Century and are formed of wrought iron with side railings and limestone piers with ornamental finials. The proposed wind turbines would become visible within the setting of these gates, above adjacent hedgerows and again would result in confusion and competition with the heritage feature. The ES concludes that this impact would be considerable and significant.

However, given the distance and orientation of this building in relation to the wind turbines, the Conservation Officer concludes that the setting of this building would not be significantly affected.

7.53 The ES therefore sets out that these three listed buildings will experience a significant effect on their setting; however the Council's Conservation Officer does not consider that this impact would result in detrimental harm to the setting of any of these listed buildings. This is due to the distance and orientation of these listed buildings in relation to the wind turbines. None of these listed buildings currently dominate the landscape or were designed to be seen from other historic sites. The turbines do not therefore interrupt any intervisibility. The turbines would be seen as part of incidental views and would not overly dominate the historic features or their setting. This view is also supported by English Heritage who have raised no objection to the application.

### **Scheduled Ancient Monuments**

7.54 There are also six Scheduled Ancient Monuments (SAMs) within a 5km radius of the site. However, given the location of these SAMs, and the presence of mature screening around many, the ES concludes that there would be no significant indirect visual effect on any of these sites or their setting. No objection has been raised by English Heritage or the Conservation Officer in relation to this aspect of the application.

### **Registered Historic Parks and Gardens**

7.55 There are two Registered Historic Parks and Gardens within the 5km area: Benington Lordship and Woodhall Park. Benington Lordship historic park and garden is Grade II listed and located approximately 1.4km north of the nearest turbine, on the western edge of Benington village. It is in private ownership but open to the public for much of the year. There are two listed buildings within its ground; Benington Lordship, and the remains of Benington Castle, which have been discussed above.

- 7.56 The turbines would be visible from a section of a designed view to the west from the northern part of the park; however they would be partially screened by existing vegetation. The turbines would therefore only occupy a small proportion of an open, panoramic view, which I do not consider would significantly harm the special historic character, appearance or setting. The Landscape Agency suggest that Lordship Gardens should be considered as being affected to a higher degree than considered by the ES; however, it is the Officer's view that the turbines would not significantly harm the setting of the park as set out in policy BH16.
- 7.57 Woodhall Park is a Grade II\* listed historic park and garden located approximately 2.6km southeast of the nearest turbine. There are a number of listed buildings within its grounds, including the Grade I listed Woodhall Park house, which has been occupied by Heathmount School since the 1930s. Given land levels and internal and boundary planting, it is concluded that there would be very limited views of the turbines from within the park. Where there are partial views, these do not disturb historic, designed views and as such the proposal is not considered to significantly harm the setting of the park. The proposal is therefore considered to comply with policy BH16.
- 7.58 It is noted that Sacombe Park has not formed part of the cultural heritage assessment; however this is located outside the 5km Study Area that has been identified for the cultural heritage and historic landscape assessment. There would not be any significant effects on cultural heritage features located more than 5km from the turbines. Again, no objection has been raised by the Conservation Officer or English Heritage.

### **Historic Landscape Characterisation**

- 7.59 The applicant has also considered the Historic Landscape Characterisation (HLC) for Hertfordshire, a review undertaken by Herts County Council to determine the historic character of the landscape based on land use mapping. The application site is located within character type PE (Piecemeal Enclosure of unenclosed common arable land), and is identified as having undergone 'much change' in its historic character. This is the highest level of change and indicates that the character of the area is now highly altered from its 18<sup>th</sup> Century landscape.
- 7.60 It is noted that this conflicts somewhat with the wording of the Landscape Character Assessment; however the LCA is based on a perceived sense that nothing has changed, whereas the HLC results from evidence based mapping.

7.61 This high level of change would be most likely due to intense farming practices which have significantly altered the landscape character and field boundaries. Given the extent to which this landscape has changed since the 18<sup>th</sup> Century, it is my view that the introduction of wind turbines would not, in principle, be a reason to refuse permission.

### **Archaeology**

7.62 The site does not lie within a designated Area of Archaeological Significance; however an archaeological assessment has been carried out which identifies that the area has potential for archaeological remains. Given that the works involve deep excavations to form the turbine foundations, it would be considered reasonable to condition for a programme of archaeological works to be undertaken in accordance with the County Archaeologist's recommendation.

### **Highway Issues**

7.63 In terms of access to the site during construction, the ES indicates that the site could be accessed either from the A10 onto the A602 (Route A) or from the A1(M) onto the A602 (Route B); however Route A has been identified as the preferred option as it would overcome the need to modify a roundabout in Stevenage. In either case, to access Walkern Road from the A602 it will be necessary to travel through Watton-at-Stone High Street.

7.64 Given the abnormal loads (lorries carrying blades will measure up to 42.5m long), some temporary highway works will be required such as the removal of road signs, lighting columns and bollards. Care will also need to be taken in crossing the bridge in Walkern Road with specialist equipment required. Highways have not objected, but advised that a Construction Management Plan and Method Statement should be submitted to set out these details.

7.65 The existing main entrance to the farm is from Walkern Road, opposite Whitehall Farm. There is also an access on the eastern side of the site from High Elms Lane at the northern end of Lamsden Common. Here it is possible to enter the site along the Cotton Lane BOAT (byway) and also the Restricted Byway.

7.66 Construction vehicles bringing plant, materials and equipment to site will enter the site from Walkern Road through the existing farm entrance opposite White Hall Farm. It is proposed to upgrade the existing access onto Walkern Road to facilitate the delivery of the components to site; this will require the removal of a section of hedgerow.



7.67 Access tracks across the site will utilise existing tracks where possible. However, in order to access Turbine 1, construction traffic will then leave the site via an entrance adjacent to the RUPP (Road Used as a Public Path)/Restricted Byway onto High Elms Lane. An additional site entrance will also be constructed to access Turbine 1.

7.68 During construction, the existing farming activity and aviation uses of the site will be able to proceed unhindered.

7.69 In terms of construction, there are 3 principal phases:-

1. Site access tracks are built or upgraded and infrastructure installed.
2. Turbine foundations are constructed.
3. Turbines are erected and commissioned.

7.70 It is envisaged that the construction process will take approximately 9 months, with the most intensive period of works being the installation and upgrading of the site access and the digging, construction and pouring of turbine foundations. This will take approximately 5 of the 9 months.

7.71 Each turbine foundation will have an approximate circular diameter of 17m, rising to a plinth of 4m diameter. Approximately 570m<sup>3</sup> of soil per turbine will need to be excavated and filled with approximately 22 'Redimix' concrete deliveries per foundation. Top and sub soil removed to facilitate the engineering works will be stored in bunds around the temporary construction compound and will, wherever possible, be used in the reinstatement of the site.

7.72 Traffic during construction will consist of the following 3 types, and typical movement numbers are shown in the table below.

1. General construction traffic (including HGVs, crane components etc.)
2. Worker traffic
3. Exceptional load vehicles

<b>Activity</b>	<b>Vehicle</b>	<b>Total number of typical visits to site</b>	<b>Period over which visits occur</b>
Site track & compound aggregates	HGV	336	4 months
Reinforcing steel	HGV	3	8 weeks
Concrete deliveries	'Redimix' vehicle	66	3 non-consecutive days
Substation & electrical infrastructure	HGV	9	6 months

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33kV Transformers	HGV	3	1 day
Crane components	Crane & low loader	22	1 week
Turbine blades	Low loader	9	7 weeks
Turbine tower sections	Low loader	12	7 weeks
Turbine nacelles	Low loader	3	7 weeks
Turbine hubs and control equipment	Low loader	3	7 weeks
Workers	Light vehicles	450	9 months

- 7.73 Aggregate deliveries will take place over a 4 month period involving a total of 336 deliveries, amounting to approximately 4 deliveries per day. This equates to less than 10% of average daily vehicular movements on the A602. Highways have not objected on these grounds as they do not consider this increase to significantly affect traffic levels for this limited time period.
- 7.74 Concrete deliveries will take place on one day per foundation using approx 22 'Redimix' lorries. Again this amounts to less than 10% of movements on A602, High Street and Walkern Road.
- 7.75 In terms of delivery and erection of the turbines, each turbine is delivered as components and assembled on site using cranes. For major turbine components, there will be 10 deliveries per wind turbine, therefore amounting to 30 no. abnormal loads. Whilst the number is small, the loads will be very large and slow moving. During construction and decommissioning, movements of exceptional loads will be restricted to off-peak weekdays wherever possible. Further details of these vehicular movements can be dealt with through the suggested Construction Management Plan and Method Statement.
- 7.76 The longest load would be the turbine blades at 42.5m; the widest load is the bottom tower section with a 4.3m width; and the heaviest load is the turbine nacelle at 66.5 tonnes. In order to erect the turbine a heavy duty crane will be required, which in itself would be delivered in component parts for assembly on site, in approximately 22 loads.
- 7.77 Following completion, associated traffic will be limited. All the operating parameters of the wind turbine can be monitored remotely. Where any parameters are exceeded, such as oil temperature etc., then the turbine will

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shut down automatically. Normally, the issue will resolve itself and the turbine will automatically restart, but when this is not possible, the wind farm operator would be alerted remotely and an engineer dispatched. This reduces the need for visits to the site; normally only one visit per week will be required to check for any obvious defects. This would be carried out by the applicant in a four wheeled vehicle.

- 7.78 Annual servicing will also take place requiring 2 no. people over a 2-3 week period. In the unlikely event of breakdown, it could be necessary to replace major components and again these would have to be delivered through the local highway network along the same access route.
- 7.79 If no consent is sought for a replacement facility, decommissioning would take place in the reverse of the construction phase but lasting only 2 months.
- 7.80 Overall, Highways have raised no objection to the proposal and acknowledge that although there will be significant disruption, particularly through the transport of abnormal loads, the disruption will be temporary and would not amount to a level that would result in unacceptable impact on highway users or highway safety.
- 7.81 Concerns regarding driver distraction are noted; however there is no evidence that traffic accidents are exacerbated by the presence of turbines. Drivers are constantly presented with a variety of distractions, and PPS22 advises that wind turbines should not be treated any differently. There are now a number of turbines in the country, many adjacent to road networks (including motorways), and there is no evidence that they cause traffic accidents.
- 7.82 It is noted that an appeal was dismissed on highway grounds in 2006 (at land southwest of the A14 between Boxworth and Conington); however this was based on a particular combination of circumstances at a complex section of road where a greater level of concentration than usual was necessary. In this case, Highways have raised no objection on these grounds.
- 7.83 It is also important to note that shadow flicker from the turbines would be no different to any other shadow flicker caused by trees and buildings when driving in sunny conditions. This will not result in any further distraction or highway danger.

## **Ecology**

- 7.84 Natural England, Herts Biological Records Centre, and the Herts & Middlesex Wildlife Trusts originally objected to the application, but have since removed their objections following additional information and discussions with the applicant. The main issues related to bats with concern over loss of habitat connectivity and potential collisions. With regards to connectivity at the site entrance, the developer has confirmed agreement to fence the entrance to retain connectivity between hedgerows either side of the entrance. This could be dealt with by way of condition.
- 7.85 The issue of barometric mortality has also been raised since the publication of a recent report from a site in Canada where it was concluded that changes in air pressure were responsible for internal damage to bats. This resulted from various factors particular to the site, including the location of the wind farm on a migratory bat route, and the use of constant speed turbines. The turbines proposed in this location are variable speed, which have less of an impact.
- 7.86 It has also been agreed in discussion with Natural England that an existing poor quality hedgerow should be removed and replaced with a better quality hedgerow elsewhere on site to attract bats away from the turbines and reduce risk of direct collision. The developer has also confirmed agreement to undertake a three year post-construction bat survey, which can be controlled by way of condition.
- 7.87 It is noted that Natural England recommend that the relocation of turbines to suitable safe distances should be the preferred option; however they state that their concerns have been adequately addressed. It is therefore not considered reasonable to pursue a planning objection on these grounds.
- 7.88 An ecological assessment was submitted as part of the ES, undertaken by Wild Frontier Ecology Ltd. This was based on a desk study and field work for a 2km Study Area to determine possible impacts on a variety of species.
- 7.89 The following ecological receptors were identified to consider in the assessment:
- High Wood SSSI
  - County Wildlife Sites
  - Golden Plover and Lapwing (winter)
  - Lapwing (nesting)
  - Owl species
  - Buzzard and Red Kite

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- Red and amber-listed breeding birds
- Common Pipistrelle, Serotine, Brown Long-Eared bat and Natterer's bat
- Badger
- Hedgerows

7.90 The assessment found that impacts on the receptors were not significant, with the exception of badgers, buzzards and red-listed farmland birds. However, mitigation measures are proposed which can reduce the impact on these species. These include timing of construction works, avoiding nesting farmland birds, and avoiding known badger setts. Pre-commencement surveys can therefore be undertaken in order to minimise impact on these species, and appropriate mitigation measures can be dealt with by way of condition.

### **Living Conditions**

#### Noise

7.91 The applicant commissioned Hayes Mackenzie to undertake a noise assessment that forms part of the ES. The assessment has been undertaken in accordance with ETSU-R-97 'The Assessment and Rating of Noise from Wind Farms', the Government recognised methodology for assessing noise resulting from wind farms as suggested in PPS22. Baseline noise levels have been taken close to the three nearest residential properties (Gregory's Farm, Elmdale, and Whitehall Farm), and worst case noise limits based on the Enercon E82 turbine have then been compared with the ETSU-R-97 noise limits.

7.92 Noise is produced from turbines as the blades rotate in the air (aerodynamic noise), and from internal machinery (mechanical noise). Blades are now designed to minimise noise, and modern wind turbines are therefore significantly quieter than their earlier counterparts. However, noise issues are still a principle consideration when assessing applications for wind turbines within close proximity to residential dwellings.

7.93 In this case, the nearest dwelling is located at a distance of 620m from the nearest turbine. There is no set distance at which wind turbines should be sited from residential dwellings in the UK; assessment is based on each individual case. Objectors have made reference to buffer zones in other countries; however there are no such fixed distances. Scottish guidance suggests a minimum distance of 350m to residential dwellings. A distance of 2km has been widely quoted; however this refers to proximity of large-scale schemes to settlements, not individual dwellings.

- 7.94 Aerodynamic noise occurs when the blades are turning, which is usually between wind speeds of 2.5-3.5 metres per second (m/s) to 22-28 m/s. At wind speeds lower than 2.5-3.5m/s there is insufficient power in the wind to turn the blades. At wind speeds greater than 22-28m/s, the wind is too strong, and the turbines are automatically shut down to prevent malfunction.
- 7.95 In order to determine potential noise disturbance, background noise levels need to be monitored and calculated prior to erecting the turbines. The ETSU-R-97 guidelines then require a comparison of existing background noise levels to the proposed noise levels.
- 7.96 Environmental Health have assessed the noise survey in relation to Government guidance and have concluded that the proposal would not adversely affect residential amenity by way of noise disturbance. The proposal is in line with the criteria set out in ETSU-R-97, and the proposal is therefore considered to be acceptable on these grounds. Conditions are recommended to ensure that noise levels do not exceed those specified. It is acknowledged that there are critics of ETSU-R-97; however this remains the Government recommended assessment to be used in determining planning applications for wind farms.
- 7.97 Concerns related to aerodynamic modulation (AM) have also been raised, which relate to the audible modulation of the blades in the air. A Government commissioned study was undertaken in 2005, which concluded that AM was only experienced at 4, and possibly a further 8, of all 133 operational wind farms in the UK at the time.
- 7.98 Of the 4 where AM disturbance was experienced, the particular conditions associated with AM occurred only 7-15% of the time. Therefore, whilst there is no scientific method to predict AM conditions, I consider that the chances of such disturbance are highly unlikely due to the separation distances and limited scale of this wind farm.
- 7.99 Wind turbines have also been found to produce infrasound noise, which is noise at a frequency lower than that at which sound is normally audible. The aforementioned study also investigated infrasound levels at existing wind farms, and found that these noise levels were far below the human threshold for noise perception, even for those with the most sensitive hearing. Further, there is no reliable evidence to suggest that infrasound levels cause physiological or psychological effects.

- 7.100 Concerns have been raised that health problems may arise from low frequency noise emissions, including sleep problems, headaches, nausea, dizziness, depression, and tinnitus (ringing in the ears). This has been dubbed 'Wind Turbine Syndrome' by an American physician-scientist, Dr. Nina Pierpont. However, there is no reliable scientific evidence of such a phenomenon, nor is it recognised in Government policy, or in planning policy guidance. Therefore, it is not an issue that can be given any weight in determining this application.
- 7.101 Noise will also arise from the construction and decommissioning process; however this would be for a temporary period only. Times of working can be controlled by way of condition.
- 7.102 Overall, the ES shows that the predicted noise levels would meet the day-time and night-time noise limits as set out in ETSU-R-97, and no objection has been received from Environmental Health. It is therefore not considered that the proposal would cause unacceptable harm to local residents by way of noise disturbance, in accordance with policy ENV24.

#### Outlook

- 7.103 In planning terms, residents are not entitled to a particular view; however consideration can be given to impact on living conditions where a development dominates a particular outlook. In this case, a number of local residents would have full open views of the wind farm within 5km of the site. Of these, the most significant views would be experienced by Gregory's Farm.
- 7.104 Gregory's Farm is located at a distance of 620m from Turbine 1 with open views out to the proposed wind farm to the northwest. The wind turbines would therefore be clearly visible from the dwelling, including from rear bedrooms and living space. However, it is the Officer's view that this would not result in an unacceptable dominance over Gregory's Farm as the turbines would be restricted to one direction of view. If the turbines were prominent from more than one direction such that residents could not escape the view, then it would be considered unacceptable. The proposal is therefore not considered to result in detrimental harm to residential amenity by way of overbearing or loss of outlook.

#### Shadow Flicker

- 7.105 Shadow flicker can occur within residential dwellings when the sun is in a specific position in the sky in relation to a turbine and a dwelling such that the sun passes behind the moving blades to create a flickering of light. This therefore has the potential to significantly impact on the living

conditions of an occupier; however it depends on a number of factors coinciding, including the time of year, location of sun, location of building, the wind speed and direction, and weather conditions.

- 7.106 The ES sets out that shadow flicker may occur at two dwellings: White Hall Farm and Gregory's Farm. At White Hall, there is 1 no. window facing the turbines which could experience shadow flicker between 1<sup>st</sup> May and 7<sup>th</sup> June, and 5<sup>th</sup> July and 12<sup>th</sup> August from Turbine 2 for a maximum period of 42 minutes a day. However, this window is well-screened by vegetation and as such it is not considered that shadow flicker would adversely impact on living conditions.
- 7.107 At Gregory's Farm, it has been calculated by the applicant that shadow flicker may occur between 24<sup>th</sup> March and 10<sup>th</sup> April, and 1<sup>st</sup> September and 18<sup>th</sup> September from Turbine 3. There are several windows at ground and first floor facing the turbines which may experience shadow flicker at these times. As such a suitably worded condition to mitigate against this impact is recommended. This would require use of a sensor to detect sunlight, wind speed and direction, and could be programmed to switch off the turbine when conditions for shadow flicker exist. It is material to note that the frequency of shadow flicker from turbines of this scale is well below the frequency that would trigger epilepsy.

#### Reflected Light

- 7.108 The external finish of the turbines also has the potential to cause light reflection in sunny conditions. The surface finish and colour of the blades could therefore be controlled by way of condition to ensure that reflection is minimised. A light grey semi-matt finish is usually the preferred option.

#### **Mitigation Measures**

- 7.109 Policy SD3 of the Local Plan requires proposals for wind power schemes to be carefully located and employ all reasonable mitigating measures. In this case, the siting of the turbines has been restricted to land owned by the Bott family, and no alternative sites have been considered in the site selection process. It is noted that the siting of the turbines has been chosen to minimise impacts within the site boundary; however the location of two turbines in the Green Belt, and within such an intimate landscape is not considered to comply with the SD3 policy requirement of being 'carefully located'.
- 7.110 Within the land ownership, the turbines have been sited so as to optimise energy generation, whilst retaining safeguarded distances to roads, telecommunication routes, and residential dwellings. A planting scheme is



also proposed to restrict certain views, as agreed with the Council's previous Landscape Officer.

- 7.111 Various other mitigation measures are proposed to reduce impact on wildlife habitats, archaeology, and disturbance through construction. It is therefore my Officer view that all reasonable mitigating measures have been incorporated in accordance with policy SD3.

## **Socio-Economic Considerations**

### Tourist Attractions

- 7.112 There are a number of visitor attractions within the 15km Study Area of the site, including museums and galleries, which attract a number of tourists to the district every year. Other attractions include Cromer Windmill, Benington Lordship Gardens, the Henry Moore Foundation, Hertford Castle, Knebworth House and Gardens, Ware Priory, Hatfield House and Gardens, Rye Meads Nature Reserve, and Lee Valley Regional Park. However, there is little evidence that tourists stay away from areas that host wind farm development.
- 7.113 Whilst there may be partial views of the turbines from a number of these locations, it is not considered that the proposal would result in any harm to the attraction of these recreational sites. The turbines may even become tourist attractions in their own right by providing environmental and educational interest, but this is not expected to be of a scale that would adversely impact on the area, or the local highway network.

### Local Economy

- 7.114 The applicant sets out that local contractors and businesses will be used where possible, and that this would result in an anticipated £1.8m boost to the local economy. This is clearly a local benefit that should be given some weight in determining this application.

### House Prices

- 7.115 The issue of house prices has been raised by a number of objectors; however this is not a material planning consideration. Although a recent case saw the granting of a lower rate Council tax for a resident who's property had been de-valued by a nearby wind farm, this issue remains to lie outside of the planning system. Further, a recent study by RICS found no definitive relationship between the proximity of wind farms and property prices.

### Energy Balance

7.116 It is acknowledged that a significant amount of energy is used in the manufacture and transport of the turbines. However, it is anticipated that the energy balance would become neutral after 11 months, and thereafter produce electricity without CO<sub>2</sub> emissions.

### Community Benefits

7.117 The applicant proposes to set up a community benefit scheme to provide an annual payment to the community. This would amount to £10,000 per annum for each of Benington, Aston and Watton-at-Stone Parish Councils for the lifetime of the development. On the basis of a 25 years period, this would amount to a total of £750,000. This fund would be used to support local education, energy efficiency and environment projects.

7.118 The requirement of such contributions through a S106 Agreement has been questioned recently, and Scottish guidance now states that such contributions should not be taken as a material consideration in the planning process. It is my Officer view that whilst the developer would be encouraged to support environmental projects within the area, and to fund energy efficiency projects in the villages, this amount of money cannot reasonably be justified under the terms of Circular 5/2005 'Planning Obligations' because it is not reasonably considered necessary or appropriate for this form of development.

7.119 The applicant also proposes to provide a small car park for visitors to the area, and a viewing platform for the wind farm; however this would be subject to a separate planning application.

### **Other Considerations**

#### Loss of Agricultural Land

7.120 A small area of farmland will be removed from production in order to allow the construction of these turbines. Policy GBC12 serves to protect the best and most versatile agricultural land from development and encourages developments to be sited on previously developed or urban land. In this case, it is not considered that there are opportunities to site the turbines on previously developed land, and given that the site area is limited to the ownership of the applicant, it is not considered reasonable to refuse the application on these grounds. It is also noted that the impact on agricultural land would be limited as it would still be possible to continue to farm around the turbine bases.

Proximity to Bridleways

- 7.121 With regards to impact on horses and riders on local bridleways, PPS22 suggests a 200m exclusion zone between turbines and bridleways. The British Horse Society has now reviewed its policy and recommends 200m as a minimum; 3 times the overall height of the turbines is the favoured distance. In this case, Turbines 1 and 3 are located within 150m of the nearest road/bridleway, and Turbine 2 is located at approximately 200m. However, it is material to note that the 200m exclusion zone is not a statutory requirement, nor is it covered by any Local Plan policy.
- 7.122 The British Horse Society recognises that horses can become familiar with wind turbines after an initial period. The applicant is also proposing a new permissive bridleway to the south of the site, at a minimum distance of 280m from the nearest turbine, which would provide a convenient alternative route. It is therefore not considered reasonable to refuse permission on these grounds.

Aviation

- 7.123 In terms of aviation, no objections have been raised by the relevant authorities, and as such it is not considered that this proposal will impact on aviation safety.

Public Water Supply

- 7.124 The objection raised by Three Valleys Water with regards to interrupting radio links that control public water supply is noted. However, a report by PagerPower Aviation Studies has subsequently been submitted, which confirms that the proposed wind turbines will not interfere with any of the existing telemetry links. No further response has been received from Three Valleys Water, and given that technical mitigation solutions exist if interference does occur, it is not considered that the application should be refused on these grounds.

Television Interference

- 7.125 It is noted that wind turbines have the potential to cause electromagnetic interference to television reception for local residents. This can be dealt with by way of planning condition to ensure that alternative reception and/or cable connections are installed.

Ice Build-up

- 7.126 Concerns have also been raised on the potential for ice fall from the build-up of ice on the blades. PPS22 advises that this is unlikely to present problems on the majority of sites in England. The particular weather

conditions that result in ice build-up occur less than one day a year in England. Further, most modern turbines are fitted with vibration sensors that can inhibit the operation of machines where there is an imbalance caused by ice.

### Safety

- 7.127 Several objectors have questioned the safety of these wind turbines; however PPS22 confirms that this is a safe technology. Malfunction is unlikely, and risks are minimised by ensuring a safe separate distance. This safe separation distance is calculated by adding 10% to the fall over distance (the height of the turbine to the tip of the blade), which in this case equates to 130.9m. Within this distance there are no footpaths or roads to minimise safety risks.

## **8.0 Conclusions**

- 8.1 The proposal constitutes inappropriate development in the Green Belt and Rural Area beyond the Green Belt, and as such very special circumstances must be demonstrated that clearly outweigh the harm caused by reason of inappropriateness. It is clear that there are special circumstances evident in this case as the proposal would make a considerable contribution to renewable energy provision in the East of England. Local economic benefits may also arise through construction and decommissioning. However, it is my Officer view that these benefits do not clearly outweigh the harm caused to the openness and integrity of the Green Belt, and the visual amenity of the surrounding countryside.
- 8.2 The proposed wind turbines are to be located in an area that is neither remote, nor fully developed. The surrounding landscape is characterised by intimate countryside with a number of villages, hamlets and individual dwellings within a 5km radius. There is also an extensive network of Public Rights of Way and roads within the site vicinity. The introduction of tall, moving features would therefore result in a significant change to the landscape and visual amenity for a variety of residential and recreational receptors within the surrounding area. Overall, it is the Officer's view that this level of change is unacceptable by reason of the size of the wind turbines that would appear out of scale with their landscape setting, and unacceptably dominant in the surrounding countryside.
- 8.3 The application is therefore recommended for refusal for the reasons set out above.